APPENDIX A: FIGURES AND MAPS

Figure A-1 Sites Screened from Further Consideration

Figure A-2 Engineering Plans

Figure A-3 Project Area Map with NEPA-cleared

Federal Standard

Figure A-1a. Initial Sites Screened



Figure A-1b. Initial Array of Alternatives



Figure A-2. Proposed Site TP-10

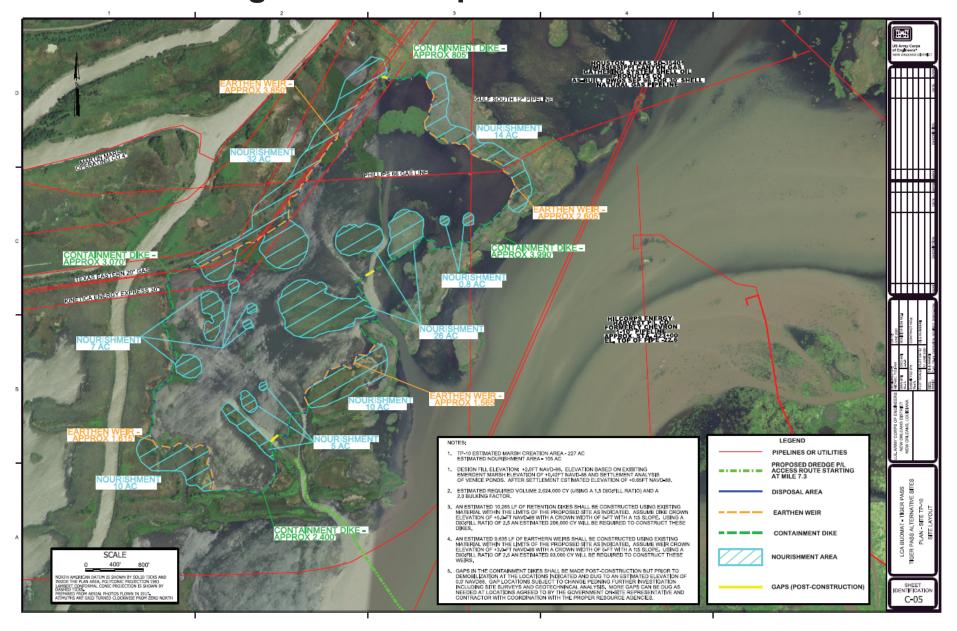


Figure A-3a Operations and Maintenance Dredging Overview (1978 - 2018)

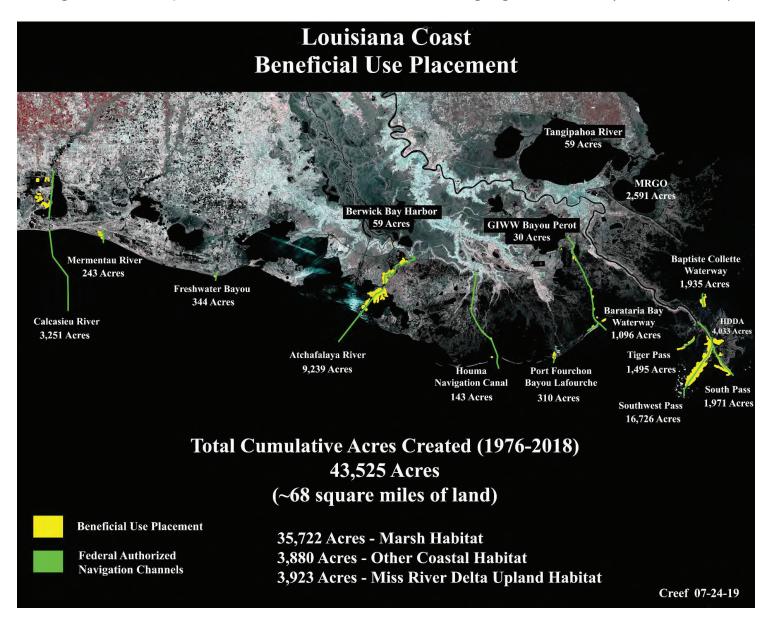


Figure A-3b MROV Project Area with NEPA-cleared Federal Standard disposal areas



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure A-3c LCA BUDMAT acres and AAHU benefits

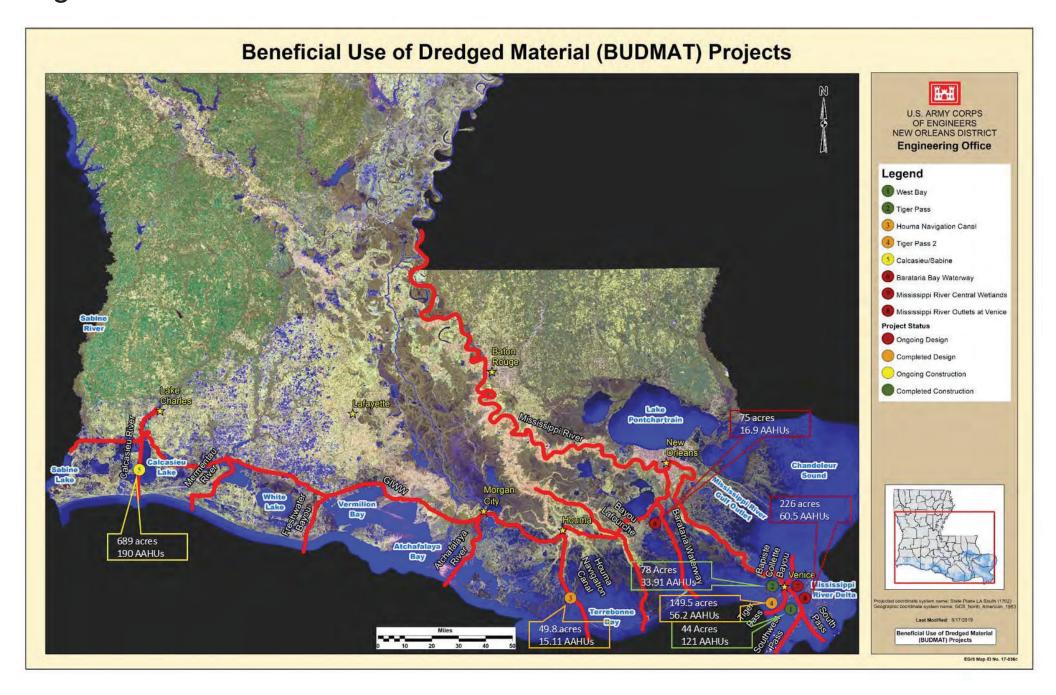


Figure A-4a. Coastal Restoration Project Map

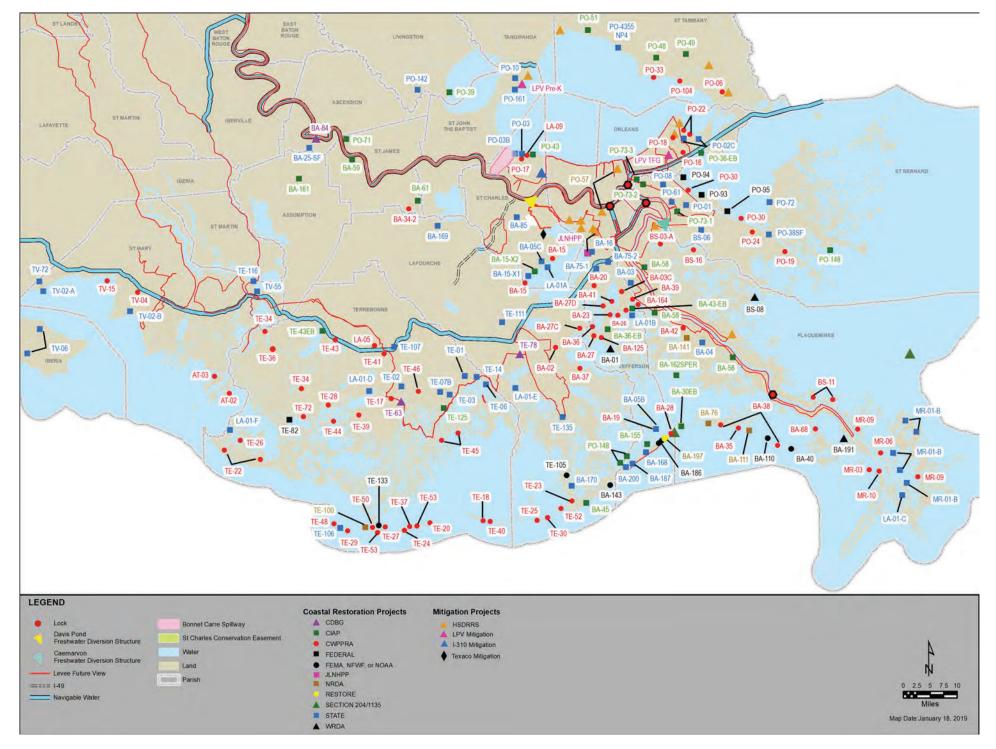


Table 1. Previously Constructed Wetland or Ecosystem Restoration Projects in the Deltaic Plain (From Figure A-4a)

Program	Parish				Extended
		Constructed		Overlap	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 reestablish 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 CWPPRA 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 CWPPRA 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 Bayous Perot and Rigolettes, the project created and/or nourished approximately 1,200 acres of marsh in conjunction with CWPPRA 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	Project Description	Direct	Extended
		Constructed		Overlap	Boundary Overlap
CIAP (PO-48):	St. Tammany	2011	Property acquisition and preservation of approximately 27 acres of cypress swamp and bottomland hardwood forests within	No	No
Green Property Preservation Project			the Bayou Lacombe watershed in St. Tammany Parish, Louisiana. Purchase completed August 2011 (USACE 2013).		
CIAP (PO-49):	St. Tammany	2009	Property acquisition of approximately 40 acres of pine trees and mixed hardwoods to aid in the extension of the wildlife	No	No
French Property Preservation Project			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).		
CIAP (PO-51):	St. Tammany	2010	1-60	No	No
Mandeville Aquatic Ecosystem Restoration Project			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).		
CIAP (PO-73-2):	Orleans	2016	This demonstration project investigates the benefical use of Ferrate as an alternative to chlorine to treat effluent at the East	No	No
Central Wetlands Demonstration	Oricans	2010	Bank Sewer Treatment Plant.^	IVO	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):	Orleans	2016	The project would restore up to 17.2 acres of critical wetlands within the Central Wetlands area. ^	No	No
Central Wetlands Demonstration Expansion					
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	No	No
			Jefferson Parish.^		
CIAP (TE-43-EB): GIWW Bank Restoration of Critical Areas in Terrebonne	Terrebonne	2011	The project restored critical lengths of deterioated channel banks with shoreline stabilization materials. ^	No	No
CIAP (TE-125):	Terrebonne	2007	This project reconstructed the south bank of Bush Canal using material dredged from the canal. The restored bank-line was	No	No
Bush Canal and Bayou Terrebonne Bank Stabilization			then covered with goetextile 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).		
CWPPRA (AT-02):	St. Mary	1998	The enhancement of natural delta growth by re-opening Natal Channel and Castille Pass. Material dredged as a result of	No	No
Atchfalafaya Sediment Delivery	C+ NA	1998	construction was strategically placed at elevations mimicking natural delta lobes.^	No	NI -
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 Reusitte and Lafitte in Jefferson Parish, Louisiana including The Pen. The project goal is to decrease salinities and reduce marsh loss.*^		No
CWPPRA (BA-15): Lake Salvador Shoreline Protection Demonstration	St. Charles	1998	The maintainence 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	Project Description	Direct	Extended
		Constructed		Overlap	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 Chaland 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 adjacdent 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 Chaland 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 barreir 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 marshand 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 form the Mississippi River to create and nourish marsh in the vicinity of Bayou Dupont.^	No	No

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

Program	Parish	Year	Project Description	Direct	Extended
		Constructed		Overlap	Boundary Overlap
CWPPRA (TE-17):	Terrebonne	1996	Vegetation planting and wave dampening devices placed along the Falgout Canal.^	No	No
Falgout Canal Planting Demonstration					
CWPPRA (TE-18):	Terrebonne	1996	The installation of sand fences and vegetation plantings in several areas of Timbalier Island to trap sand and buffer wind and	No	No
Timbalier Island Planting Demonstration			wave energy.^		
CWPPRA (TE-20):	Terrebonne	1999	Restoration of coastal dunes and wetlands of the Eastern Isles Dernieres barrier island chain. Hydraulically filled area on the	No	No
Isles Dernieres Restoration East Island			island to create an elevated marsh platform. Sand fences and vegeation were also installed to stablize the sand and minimize wind-driven transport. ^		
CWPPRA (TE-22):	Terrebonne	1997	The reduction of saltwater intrusion into Point au Fer marshes without reducing freshwater back flooding from the Atchafalaya	No	No
Point au Fer Canal Plugs			River. ^		
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	No	No
			Canal and plugs on the other canals.^		
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):	Lafourche	2001	The placement of sediment in three embayments along the landward shoreline of East Timbalier Island. The project also	No	No
East Timbalier Island Sediment Restoration, Phase 1			included aerial seeding of the dune platform, installation of sand fencing, and dune vegetation plantings.^		
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	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 subsequentlly 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 bankds 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 stablize/armor 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 reestablish 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).	l l	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. A 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):	Jefferson	1995	The purpose of this project was to reduce erosion on the bay side of Grand Isle. Fifteen 300-foot breakwaters were constructed	No	No
Grand Isle Bay Side Breakwaters			on the back-bay side of Grand Isle. This project included construction of segmented breakwaters on bay side of Grand Isle.^		
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 subsudence 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 form 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 commerical 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 Dreding 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 Dreding 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 Dreding Program.^	No	No

Program	Parish	Year	Project Description		Extended
		Constructed		Overlap	Boundary Overlap
LWCRPA (MR-01B):	Plaquemines	1993	The project involved the excavation of 13 crevasses through the levees of the Mississippi River distributary channels within the	Yes	Yes
Small Sediment Diversions			Balize Delta in order to create self sustaining emergent marsh.^		
LWCRPA (PO-01):	St. Bernard	1992	Repair and enlargement of the existing siphon to allow increased flow of freshwater and nutrients into the surrounding marsh	No	No
Violet Siphon			areas to enhance wetland vegetation growth and decrease salinity.^		
LWCRPA (PO-02C):	Orleans	1994	This project installed 2,000 feet of brush fences at the mouth of Bayou Chevee.^	No	No
Bayou Chevee					
LWCRPA (PO-03):	St. Charles	1987	The restoration of the integrity of the shoreline, which separates Lake Pontchartrain from the western edge of Labranche	No	No
Labranche Shoreline Stabilization and Canal	oti ciidiies		wetlands.^		
Closure					
LWCRPA (PO-03B):	St. Charles	1996	A rock breakwater was constructed along the Lake Pontchartrain shoreline, east of Bayou Labranche to inhibit breaching of the	No	No
Labranche Shoreline Protection			hydrologic boundary between the lake and the wetlands.^		
LWCRPA (PO-08):	St. Bernard	1992	This project was designed to provide freshwater, nutrients, and sediment associated with storm water runoff to an area of	No	No
Central Wetlands Pump Outfall	St. Bernara	1332	marsh near the Violet Siphon. ^	140	110
LWCRPA (PO-10):	St. John the	1994	The project involved the construction of a rock-filled gabion breakwater to maintain and protect the Lake Pontchartrain	No	No
Turtle Cove Shore Protection	Baptist	1994	shoreline that shelters "The Prairie" from high wave energies and to encourage sediment deposition behind the gabion	INO	INO
Tuttle cove shore Protection	Барцізі		structure. ^		
LWCRPA (PO-72):	St. Bernard	2014	, , , , , , , , , , , , , , , , , , ,	No	No
Biloxi Marsh LWCRPA (PO-161):	Ct laba tha	1996	Lake Borgne. ^	No	No
	St John the	1996	This project consisted of a near-shore, segmented breakwater system in Lake Pontchartrain parallel to a five-mile reach of the	INO	INO
Lake Pontchartrain Hurricane Mitigation	Baptist		Manchac Wildlife Management Area. The project specifically mitigated for damages resulting from construction of the Lake Pontchartrain Hurricane Protection project. ^		
114600 1 (DO 10551) 114)	C. T	1999	· ·	No	NI -
LWCPRA (PO-4355NP4):	St. Tammany	1999	A mitigation project for impacts associated with the construction of park cabins along the northern Lake Pontchartrain	NO	No
Fontainebleau State Park Mitigation			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).		
LINCORA /TE O4):	T	1993		No	NI -
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	NO	No
9	- 1	1000 1005	Wildlife Management Area southeast of Montegut, Louisiana. ^		
LWCRPA (TE-02):	Terrebonne	1993, 1995	The primary objectives of this project were to protect marsh and cypress-tupelo swamp, reduce saltwater intrusion, and	No	No
Falgout Canal Wetland			improve wildlife habitat by moderating water flux and tidal energy in the deteriorating wetland community. ^		
LWCRPA (TE-03):	Terrebonne	1991, 1996	The goal of the project was to minimize the effects of saltwater intrusion by increasing the retention of freshwater derived	No	No
Bayou Lacache Wetland	Terrebonne	1991, 1990	from local runoff and establish control over saltwater flow into the project area. ^	INO	INO
LWCRPA (TE-06):	Lafourche	2006	Restoration of brackish-intermediate marsh within the Pointe Aux Chenes Wildlife Management Area.^	No	No
Pointe-aux-Chenes Hydrologic Restoration	Latourche	2000	inestoration of practism-intermediate marsh within the Foliate Aux cheries whome Management Area.	140	140
LWCRPA (TE-07B):	Terrebonne	1995, 2007	The objective of this project was to decrease saltwater intrusion into the project area by re-routing freshwater discharge from	No	No
Lower Petit Caillou	Terrebonne	1995, 2007	the Lashbrook pumping station through the project area prior to entry into Lake Boudreaux. ^	INO	INO
LWCRPA (TE-14):	Terrebonne	1995	This project was developed to create bottomland hardwood forest in former Point Farm Refuge Area. ^	No	No
Point Farm Refuge Planting	Terrebonne	1333	This project was developed to create bottomiand hardwood forest in former rollier affilincings Area.	140	140
LWCRPA (TE-106):	Terrebonne	1994	This project was a cooperative effort that utilized dredged material and vegetation to repair storm damage to Raccoon Island.^	No	No
Raccoon Island Repair	Terrepointe	1554	This project was a cooperative errort that utilized dredged material and vegetation to repail stoffi dallage to raction island."	1,10	1
LWCRPA (TE-107):	Terrebonne	1993	Trees planted along approximately 8,000 feet of the GIWW spoilbank in an effort to reduce further bank erosion. ^	No	No
Spoilbank Along the GIWW	Terrebonne	1555	These planted along approximately 9,000 feet of the Grown spondark in all chort to reduce fulfiller bank crosion.	140	140
LWCRPA (TV-02A):	St. Mary	1990	The construction of 28 wave-dampening fences at Hammock Lake in an effort to reduce turbulence and resuspension of	No	No
Hammock Lake	Jan y		sediments by slowing currents and reducing wave action (Bahlinger 1994).		1
LWCRPA (TV-02B):	St. Mary	1992	The objectives of the project were to maintain the integrity of the interior marsh between Jackson Bayou and the British-	No	No
Yellow Bayou	St. Ivial y		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. ^		
LWCRPA (TV-06):	St. Mary	1993	The project objectives were to reduce the rate of land loss, re-vegetate shallow open-water areas, and increase waterfowl food	No	No
	,	1	, , , , , , , , , , , , , , , , , , , ,	1	1
			within the water management units (^: CPRA 2017c).		
Marsh Island Control Structures LWCRPA (TV-72):	St. Mary	1998	within the water management units (^; CPRA 2017c). The project features rock breakwaters along the Vermilion Bay shoreline and foreshore rock dike along the Vermilion Bay/	No	No

Program	Parish		Project Description	1	Extended
		Constructed		Overlap	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

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 coaslescense 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 envirionmental 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 Vencie 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 Vencie 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. Additionaly, 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 antipicated 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

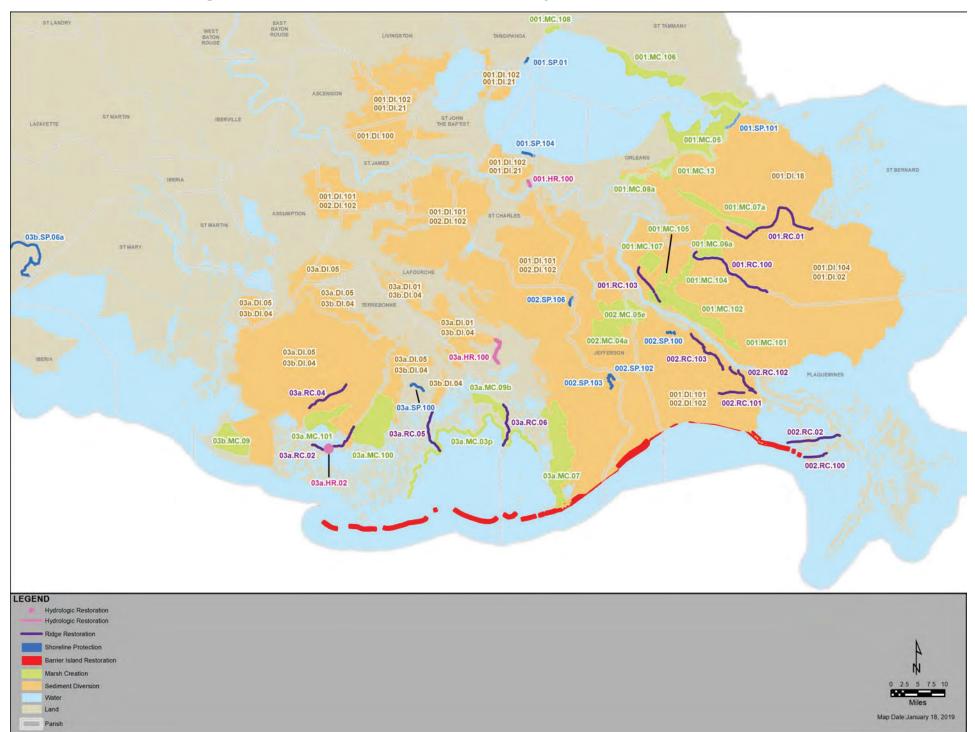
Program	Parish	Description	Direct Overlap	Extended Boundary Overlap
SMP 2017: 001.DI.101 Ama Sediment Diversion	St. Charles	Sediment diversion into Upper Barataria near Ama to provide sediment for emergent marsh creation and freshwater to sustain existing wetlands, 50,000 cfs capacity.#	Yes	Yes
SMP 2017: 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	P	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)

Figure A-4b. Future Without Project Map, State Master Plan



APPENDIX A: FIGURES AND MAPS Figure A-5 Environmental Sensitivity Index Maps

LOUISIANA

SHORELINE HABITAT RANKINGS

1B) EXPOSED, SOLID MAN-MADE STRUCTURES 2A) EXPOSED WAVE-CUT PLATFORMS IN CLAY OR MUD 2B) EXPOSED SCARPS AND STEEP SLOPES IN CLAY OR MUD 3A) FINE- TO MEDIUM-GRAINED SAND BEACHES 3B) **SCARPS AND STEEP SLOPES IN SAND** 4) COARSE-GRAINED SAND BEACHES MIXED SAND AND GRAVEL (SHELL) BEACHES 5) **6A) GRAVEL BEACHES** 6B) RIPRAP 7) EXPOSED TIDAL FLATS SHELTERED SCARPS IN CLAY OR MUD 8A) SHELTERED, SOLID MAN-MADE STRUCTURES 8C) SHELTERED RIPRAP 8E) PEAT 9A) **SHELTERED TIDAL FLATS** 10A) **SALT- AND BRACKISH-WATER MARSHES** 10B) FRESHWATER MARSHES 10C) **SWAMPS**

HUMAN-USE FEATURES

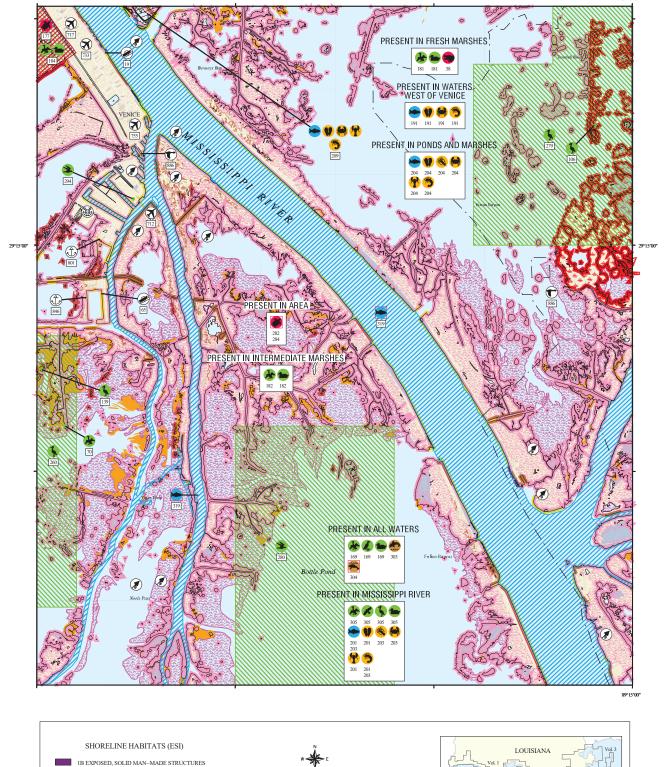
SCRUB-SHRUB WETLANDS, INCLUDING BLACK MANGROVES

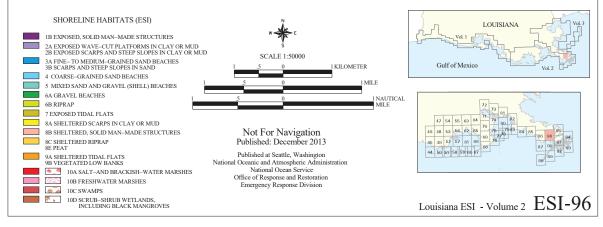
10D)



	COAST GUARD		NATIONAL PARK		STATE BOUNDARY
	;	SENSIT	TIVE BIOLOGICAL RESOURC	ES	
	BIRD		MARINE MAMMAL		REPTILE / AMPHIBIAN
1	DIVING BIRD	D D	OCLPHIN		ALLIGATOR
T	GULL / TERN	M	IANATEE		TURTLE
1	PASSERINE BIRD	W W	VHALE	BENT	HIC MARINE HABITAT
E	PELAGIC BIRD		TERRESTRIAL MAMMAL		AQUATIC VEGETATION
×	RAPTOR	В	BEAR		DEEP SEA CORAL
	SHOREBIRD		INVERTEBRATE		OYSTER REEF
3	WADING BIRD	1 B	RIVALVE	T TT TT TT T TT TT TT	SEAGRASS
1	WATERFOWL	€ c	EEPHALOPOD		SAV
•	NESTING SITE	c c	RAB	123	RAR NUMBER
	FISH	C C	RAYFISH		MULTI-GROUP
	FISH	s s	HRIMP		THREATENED / ENDANGERED

ENVIRONMENTAL SENSITIVITY INDEX MAP





Louisiana: ESIMAP 96

BIOLOGICAL RESOURCES:

RAR#		S F Conc.	J F M A M J J A S O N D	Nesting	Migrating	Molting	,	
							-	
70	Neotropic cormorant	60 PAIRS 5 PAIRS 10 PAIRS 2 PAIRS 40 PAIRS	\times	MAR-MAY	-	-		
106	Little blue heron Snowy egret	5 PAIRS	X X X X X X X X X X X X	MAR-JUL	_	_		
139	Great egret	2 PAIRS	X X X X X X X X X X X X X	FEB-JUL	_	_		
	Roseate spoonbill	40 PAIRS	${\sf x} {\sf x}$	APR-AUG	-	-		
169	Common loon		X X X X X X X	-	-	-		
	Northern gannet	1005	X X X X X X X X X X X X X X X X X X X		_			
181	American coot	UP TO 1063 IND/SQ MI	XXXX XXXX	-	_	_		
	American white pelican	1000s	${\sf x} {\sf x}$	-	-	-		
	American wigeon	UP TO 98 IND/SQ MI	$X X X X \qquad X X X$	-	-	-		
	Blue-winged teal	UP TO 99 IND/SQ MI	XXXX XXXX	_	_	_		
	Gadwall	UP TO 394 IND/SO MI	XXXX XXX	_	_	_		
	Green-winged teal	UP TO 251 IND/SQ MI	$\mathbf{x} \ \mathbf{x} \ \mathbf{x} \ \mathbf{x}$	-	-	-		
	Hooded merganser	UP TO 1 IND/SQ MI	X X X X	-	-	-		
	Mallard	UP TO 338 IND/SQ MI	XXXX XXX	- MAD TIM	-	-		
	Northern pintail	UP TO 259 IND/SO MI	X X X X X X X X X	- MAK-00N	_	_		
	Northern shoveler	UP TO 36 IND/SQ MI	XXXXX XXX	-	-	-		
	Ring-necked duck	UP TO 289 IND/SQ MI	X X X X	-	-	-		
100	Scaup	UP TO 281 IND/SQ MI	X X X X X X X X	-	-	-		
102	American white pelican	100s	X X X X X X X X X X X X	_	_	_		
	American wigeon	UP TO 113 IND/SQ MI	x x x x x x x	-	-	-		
	Blue-winged teal	UP TO 103 IND/SQ MI	$\times \times $	-	-	-		
	Canvasback	UP TO 106 IND/SQ MI	X X X X X X	-	-	-		
	Green-winged teal	UP TO 1492 IND/SQ MI	X X X X X X X X	_	_	_		
	Hooded merganser	UP TO 1 IND/SQ MI	XXXX XXX	-	-	-		
	Mallard	UP TO 32 IND/SQ MI	$\times \times $	-	-	-		
	Mottled duck	UP TO 38 IND/SQ MI	XXXXXXXXXXX	MAR-JUN	-	-		
	Northern shoveler	UP TO 484 IND/SQ MI	X X X X X X X X X X X X X X X X X X X	_	_	_		
	Ring-necked duck	UP TO 403 IND/SQ MI	XXX XX	-	-	-		
	Scaup	UP TO 196 IND/SQ MI	$\times \times $	-	-	-		
184	American coot	UP TO 2 IND/SQ MI	X X X X X X X X	-	-	-		
	American white pelican	HIGH	XXXXXXXXXXX	_	_	_		
	Blue-winged teal	UP TO 12 IND/SQ MI	XXXX XXXX	_	_	_		
	Canvasback	UP TO 2 IND/SQ MI	x x x x x x	-	-	-		
	Gadwall	UP TO 181 IND/SQ MI	$\times \times $	-	-	-		
	Green-winged teal	UP TO 232 IND/SQ MI	XXXX XXX	-	-	-		
	Mallard	IP TO 4 IND/SQ MI	X X X X X X X X X X X X X X X X X X X	_	_	_		
	Mottled duck	UP TO 17 IND/SQ MI	X X X X X X X X X X X X	MAR-JUN	-	-		
	Northern pintail	UP TO 6 IND/SQ MI	$X X X X \qquad X X X$	-	-	-		
	Northern shoveler	UP TO 9 IND/SQ MI	XXXXX XXXX	-	-	-		
	Scaup	IIP TO 468 IND/SO MI	X X X X X X X X X X X X X X X X X X X	_	_	_		
260	Wading birds	250 PAIRS	X X X X X X X X X X X X X	FEB-AUG	-	-		
279	Wading birds	100 PAIRS	${\tt X} {\tt X}$	FEB-AUG	-	-		
280	Terns	500 PAIRS	X X X X X X X X X X X X	MAR-AUG	-	-		
305	Diving birds	90 PAIRS	X X X X X X X X X X X X X	AFK-3EF	_	_		
305	Diving birds Raptors	90 PAIRS	X X X X X X X X X X X X X X X X X X X	-	-	-		
305	Deast Cern Diving birds Raptors Wading birds	90 PAIRS	X X X X X X X X X X X X X X X X X X X		-	-		
305	Deast term Diving birds Raptors Wading birds Waterfowl	90 PAIRS	X X X X X X X X X X X X X X X X X X X	- - - -	-	- - -		
305 FISH	Deast term Diving birds Raptors Wading birds Waterfowl	90 PAIRS	X X X X X X X X X X X X X X X X X X X	- - - -	-	-		
305 FISH RAR#		S F Conc.	X X X X X X X X X X X X X X X X X X X	Spawning	- - - - -	- - - -	Juveniles	Adults
						- - - - Larvae	Juveniles	Adults
						Larvae	Juveniles	Adults
						Larvae MAR-SEP	Juveniles JAN-DEC	Adults JAN-DEC
						Larvae MAR-SEP	Juveniles JAN-DEC JAN-DEC	Adults JAN-DEC JAN-DEC
						Larvae MAR-SEP MAY-SEP	Juveniles JAN-DEC _ JAN-DEC MAR-OCT	Adults JAN-DEC JAN-DEC
						Larvae	Juveniles JAN-DEC JAN-DEC MAR-OCT JAN-DEC	Adults JAN-DEC JAN-DEC JAN-DEC
						Larvae	Juveniles JAN-DEC JAN-DEC MAR-OCT JAN-DEC	Adults JAN-DEC - JAN-DEC - JAN-DEC
						Larvae MAR-SEP MAY-SEP FEB-JUN -	Juveniles JAN-DEC JAN-DEC MAR-OCT JAN-DEC	Adults JAN-DEC JAN-DEC - JAN-DEC
						Larvae	Juveniles	Adults JAN-DEC - JAN-DEC - JAN-DEC
	Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Grav snapper	PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT ABUNDANT COMMON	X X X X X X X X X X X X X X X X X X X	MAR-SEP JAN-JUL FEB-MAY - - - - - - - - - - - - -	MAR-SEP FEB-MAY	Larvae	Juveniles JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC	Adults JAN-DEC - JAN-DEC - JAN-DEC JAN-DEC
191	Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Grav snapper	PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT ABUNDANT COMMON HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	MAR-SEP - JAN-JUL - FEB-MAY	MAR-SEP	MAR-SEP	JAN-DEC JAN-DEC MAR-OCT JAN-DEC JUL-DEC JAN-DEC	JAN-DEC JAN-DEC JAN-DEC - JAN-DEC - JAN-DEC - JAN-DEC
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201	Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted gar Spotted gar Spotted gar Anchovies Black drum Blue catfish Bowfin Bream Buffalo Channel catfish Crappie Flathead catfish Freshwater drum Largemouth bass Largemouth bass Rod Southern flounder Spotted gar Spotted gar Spotted gar Spotted gar Fortied seatrout Striped mullet White trout Alligator gar American eel Anchovies Black drum Blue catfish Bream Buffalo Channel catfish Freshwater drum Largemouth bass Longnose gar Paddlefish Shad Southern flounder Spotted gar Striped mullet	PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE COMMON ABUNDANT ABUNDANT ABUNDANT ABUNDANT ABUNDANT RARE COMMON ABUNDANT COMMON PRESENT COMMON PRESENT COMMON PRESENT COMMON PRESENT COMMON PRESENT		MAR-SEP JAN-JUL FEB-MAY APR-SEP JAN-MAY MAR-APR APR-SEP MAR-SEP APR-SEP MAR-SEP APR-JUL MAR-AUG APR-JUL FEB-MAY JAN-MAY	MAR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
191	Alligator gar Anchovies Antlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted gar American eel Anchovies Black drum Blue catfish Bream Buffalo Channel catfish Crappie Flathead catfish Freshwater drum Largemouth bass Largemouth bass Largemouth bass Largemouth bass Largemouth gar American eel Anchovies Black drum Blue catfish Bream Buffalo Channel catfish Freshwater drum Largemouth bass Longnose gar Paddlefish Shad Southern flounder Spotted gar	PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE COMMON ABUNDANT ABUNDANT ABUNDANT ABUNDANT ABUNDANT RARE COMMON ABUNDANT COMMON PRESENT COMMON PRESENT COMMON PRESENT COMMON PRESENT COMMON PRESENT	X X X X X X X X X X X X X X X X X X X	MAR-SEP JAN-JUL FEB-MAY APR-SEP JAN-MAY MAR-APR APR-SEP MAR-SEP APR-SEP MAR-SEP APR-JUL MAR-AUG APR-JUL FEB-MAY JAN-MAY	MAR-SEP	MAR-SEP	JAN-DEC	JAN-DEC

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. The LDWF-LNHP provided information for some of the federally and state listed species and species of conservation concern for display in the ESI atlas and accompanying digital data in 2013. The available LNHP data sets are to be used for oil spill response and spill response planning only. These data represent existing information known to the LNHP at the time of the request and should never be substituted for consultation with the LNHP. The more spatially generalized 2011 polygonal waterbird colony data was provided by LNHP and the more spatially specific 2006 point waterbird colony data was provided by BTNEP. The display of these two data sets does not imply that EITHER or BOTH sets of polygons and/or points (especially if counts are aggregated) reflect current nest locations OR counts, but rather are to be used as a guide for what species could be present.

Louisiana: ESIMAP 96 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH:	(con	t.)	
DDD# 0			

ADDIDIANT		: (cont.)				_	_		
200 TOTAL PRINCIPLE MARCHANN MARCHAN			S F Conc.						
Alentic spodefish	203		ABUNDANT	$x \times x \times x \times x$	-	-	-	-	-
Albertic spadefish ABBUNDANT			HIGHLY ABUNDAN	TI XXXXX	-	-	-	-	- TAN DEG
Alentic spodefish			ABUNDANT	X X X X X X X X X X X X X X X X X X X	_	-	_	JAN-DEC	JAN-DEC
Alentic spodefish			COMMON	x	APR-SEP	-	-	JAN-DEC	JAN-DEC
Alentic spadefish ABBUNDANT			ABUNDANT	X X X X X X X X X X X X X X X	_	_	_	JAN-DEC	APR-NOV
Alentic spadefish ABBUNDANT			HIGHLY ABUNDA	T X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
Alentic spadefish ABBUNDANT			ABUNDANT	X X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
Alentic spodefish	204	Alligator gar	PRESENT		_	_	_	JAN-DEC	
Alentic spodefish		American eel	PRESENT	$\times \times $	-	-	-	JAN-DEC	JAN-DEC
Largemouth bass Longmose gar		Anchovies	ABUNDANT	X X X X X X X X X X X X	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	
Largemouth bass Longmose gar		Black drum	PRESENT	X X X X X X X X X X X X	JAN-JUL	-	JAN-JUL	JAN-DEC	JAN-DEC
Largemouth bass Longmose gar		Blue catfish	ABUNDANT	X X X X X X X	-	-	-	DEC-MAY	DEC-MAY
Largemouth bass Longmose gar		Bowfin	PRESENT	X X X X X X X X X X X X	- MAD-AIIC	MAD-AIIC	- MAD-NOW	- TAN-DEC	
Largemouth bass Longmose gar		Buffalo	PRESENT	X X X X X X X X X X X X	- MAN-AUG	- MAK-MOG	- PIAIN-INOV	- DAN-DEC	
Largemouth bass Longmose gar		Bull shark	COMMON	$\times \times \times \times \times \times \times \times$	-	-	MAY-SEP	MAR-OCT	-
Largemouth bass Longmose gar		Channel catfish	PRESENT	X X X X X X X X X X X X	APR-JUL	APR-JUL	PPD_TIIN	- TAN-DEC	
Largemouth bass PRESENT X X X X X X X X X X X X X X X X X X X		Croakers	HIGHLY ABUNDA	T X X X X X X X X X	- ED-PIAI	- PD-MAI	- ED-00N	- DAN-DEC	
Largemouth bass PRESENT X X X X X X X X X X X X X X X X X X X		Flathead catfish	PRESENT	x	-	-	-	-	-
Largemouth bass PRESENT X X X X X X X X X X X X X X X X X X X		Forage fish	ABUNDANT	XXXXXX	_	_	_	_	_
Largemouth bass PRESENT X X X X X X X X X X X X X X X X X X X		Gafftopsail catfish	HIGHLY ABUNDA	X X X X X	_	_	_	_	_
Largemouth bass		Gulf menhaden	HIGHLY ABUNDA	T X X X X X X X X X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
Largemouth bass		Herrings and sardines	ABUNDANT	X X X X X X X X X X X X X	ADD_SED	_	_	- TAN-DEC	
Largemouth bass		Kingfishes	ABUNDANT	X X X X X X X X X X X X	-	-	-	-	
Designation PRESENT		Largemouth bass	ABUNDANT	x x x x x x x x x x x x x x	JAN-MAY	-	-	JAN-DEC	JAN-DEC
Black drum Blue catfish Blue catfish PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Bowfin PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Killifish ABUNDANT XX			PRESENT	X X X X X X X X X X X X	MAR-APR	MAR-APR	MAK-APK	MAR-JUN	
Black drum Blue catfish		Pipefish	PRESENT	X X X X X X X X X X X X X	-	-	-	-	-
Black drum Blue catfish Blue catfish PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Bowfin PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Killifish ABUNDANT XX		Red drum	ABUNDANT	x x x x x x x x x x x x x x	-	-	-		APR-NOV
Black drum Blue catfish Blue catfish PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Bowfin PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Killifish ABUNDANT XX			PRESENT HIGHLY ARIMDA	T X X X X X X X X X X X X X X X X X X X	- MAR-MAY	- MAR-MAY	- MAR-,TIIN	MAR-IIII	JAN-DEC
Black drum Blue catfish Blue catfish PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Bowfin PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Killifish ABUNDANT XX		Sheepshead	HIGHLY ABUNDA	T X X X X X X X X X X	-		-	JAN-DEC	JAN-DEC
Black drum Blue catfish Blue catfish PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Bowfin PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Killifish ABUNDANT XX			ABUNDANT	X X X X X X X X X X X X X	- MAD 200	- WAD 355			JAN-DEC
Black drum			ABUNDANT	X X X X X X X X X X X X X X X X X X X	MAR-APR APR-SEP	MAR-APR	MAR-APR APR-SEP		
Black drum			ABUNDANT	x x x x x x x x x x x x x	-	-	-		JAN-DEC
Black drum			PRESENT	X X X X X X X	-	-	-		
Black drum Blue catfish Blue catfish PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Bowfin PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Killifish ABUNDANT XX			ABUNDANT HIGHLY ABUNDA		MAR-SEP	_	MAR-SEP		
Black drum Blue catfish Blue catfish PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Bowfin PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Killifish ABUNDANT XX	209	Alligator gar	PRESENT	x x x x x x x x x x x x	-	-	-	-	-
Black drum Blue catfish Blue catfish PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Bowfin PRESENT NX XX XX XX XX XX APP-JUL JAN-DEC Killifish ABUNDANT XX			PRESENT	X X X X X X X X X X X X	-	-	_		JAN-DEC
Bowfin			COMMON	x x x x x x x x x x x x x x x x x x x	MAK-SEP	MAK-SEP			
Channel catfish		Blue catfish	PRESENT	x x x x x x x x x x x x x	APR-JUL	APR-JUL	-	TAM-DEC	JAN-DEC
Channel caffish			PRESENT	X X X X X X X X X X X X X	-	-	-	-	
Channel caffish			PRESENT	x x x	_	_	_	NOV-MAR	
Channel caffish				$x \times x \times x \times x \times x$	-	-	MAY-SEP	MAR-OCT	-
Croakers ABUNDANT			PRESENT		DDD 14314	APR-JUL	-	-	JAN-DEC
Longhose gar			ARIINDANT	x x x x x x x x x x x x x x x x x x x	FEB-MAY	FEB-MAY	FEB-JUN	JAN-DEC	JAN-DEC
Longhose gar		Flathead catfish	PRESENT	x x x x x x x x x x x x	-	-	-	-	-
Longhose gar			PRESENT	x x x x x x x x x x x x x	-	-	-	-	-
Longhose gar			ABUNDANT	x x x x x x x x x x x x x x x x x x x	_	_	_	JAN-DEC	JAN-DEC
Longhose gar		Killifish	ABUNDANT	x	APR-SEP	-	-	JAN-DEC	JAN-DEC
Longhose gar			ABUNDANT	X X X X X X X X X X X X	- TAN_MAV	-	-	- TAN-DEC	
Shad			PRESENT	X X X X X X X X X X X X	MAR-APR	MAR-APR	MAR-APR	MAR-JUN	JAN-DEC
Shad			PRESENT	X X X X X X X X X X X X X	-				-
Shad			ABUNDANT	X X X X X X X X X X X X	_	_	AUC-OCT		_
Sheepshead				X X X X X X X X X X X X	MAR-MAY	MAR-MAY	MAR-JUN	MAR-JUL	JAN-DEC
Spotted gar			ABUNDANT	x	-	-	-	JAN-DEC	JAN-DEC
Striped mullet				X X X X X X X X X X X X	MAR-APR	- MAR-APP	- MAR-APP	JAN-DEC MAR-JIIN	JAN-DEC JAN-DEC
# White bass				X X X X X X X X X X X X X	-		- AFF	JAN-DEC	
319 Pallid sturgeon E E PRESENT X X X X X X X X X X X X X X X X X X X		White bass	PRESENT	x x x x x x x x x x x x x	-	-	-	-	-
INVERTEBRATE: RAR# Species S F Conc. J F M A M J J A S O N D Spawning Eggs Larvae Juveniles Adults	319		ABUNDANT E E PRESENT	X X X X X X X X X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
RAR# Species SFConc. JFMAMJJASOND Spawning Eggs Larvae Juveniles Adults									
			G T G				T	T	3-471
Atlantic rangia									
Blue crab ABUNDANT			PRESENT	x x x x x x x x x x x x	MAR-NOV		MAR-NOV	JAN-DEC	JAN-DEC
Brown snrimp			ABUNDANT	x x x x x x x x x x x x x x	APR-NOV	APR-NOV	APR-NOV	JAN-DEC	JAN-DEC
Grass shrimp			ABUNDANT	X X X X X X X X X X X X X	TUN-VIIG	_	FEB-NOV	JAN-DEC	_
## White shrimp ABUNDANT			HIGHLY ABUNDA	T X X X X X X X X X X	- NOW - NOG	-	_	-	_
Atlantic rangia		White shrimp	ABUNDANT	x x x x x x x x x x x x x	-	-	MAR-NOV	JAN-DEC	-
River shrimp			PRESENT	X X X X X X X X X X X X	MAR-NOV MAR-MAV	TAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC
PRESENT X X X X X X X X X X APR-NOV APR-NOV APR-NOV APR-DEC JAN-DEC JAN-		River shrimp	ABUNDANT	X X X X X X X X X X X X X	- Paris Taris	- DEC	APR-JUL	JUL-SEP	JAN-DEC
## Brown shrimp ABUNDANT	203	Blue crab	PRESENT	x x x x x x x x x x x x x	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
Squid COMMON X X X X X X X X X X X X X X X X X X X			ABUNDANT	X X X X X X X X X X	_	_	MAR-NOV	APR-DEC	_
White shrimp			COMMON	X X X X X X X X X X X X X	_	-	_	JAN-DEC	JAN-DEC
ALAINTIC rangia PRESENT X X X X X X X X X MAR-MOV - MAR-MOV JAN-DEC JAN-DEC ALAINTIC seabob shrimp ABUNDANT X X X X X X X X X X X X X X X X X X X		White shrimp	HIGHLY ABUNDAN	X X X X X X X X X X X X X X X X X X X	-	-	MAY-NOV	JAN-DEC	-
Blue crab			PRESENT	X X X X X X X X X X X X	MAR-NOV	_	MAR-NOV	JAN-DEC	JAN-DEC
Brown shrimp		Blue crab	HIGHLY ABUNDA	T XXXXXXXXXXX	APR-NOV	APR-NOV	APR-NOV	JAN-DEC	JAN-DEC
Fiddler crab			ABUNDANT	X X X X X X X X X X	-	-	MAR-NOV	APR-DEC	-
Red swamp crawfish PRESENT X X X X X X X X X X X X X X X X X X			PRESENT	X X X X X X X X X X X X X	JUN-AUG -	-	_	_	_
River shrimp			PRESENT	X X X X X X X X X X X X X	MAR-MAY	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
squia COMMON X X X X X X X X X X X X X X X X X X X		River shrimp	ABUNDANT	XXXX	APR-JUN	-	APR-JUN	-	FEB-JUN
209 Atlantic rangia			COMMON HIGHLY ABIINDA	X X X X X X X X X X X X X X X X X X X	_	_	- MAY=NOW	MAY-JUL JAN-DEC	MAY-JUL -
Blue crab ABUNDANT X X X X X X X X X X APR-NOV APR-NOV JAN-DEC JAN-DEC Brown shrimp ABUNDANT X X X X X X X X X X X FEB-OCT MAR-OCT - Fiddler crab PRESENT X X X X X X X X X X X X X JUN-AUG	209		PRESENT	X X X X X X X X X X X X X	MAR-NOV	-	MAR-NOV	JAN-DEC	JAN-DEC
BIOWN SHIMP ABUNDANT X X X X X X X FEB-OCT MAR-OCT - Fiddler crab PRESENT X X X X X X X X X X X X X JUN-AUG		Blue crab	ABUNDANT	x x x x x x x x x x x x x	APR-NOV	APR-NOV	APR-NOV	JAN-DEC	JAN-DEC
			ABUNDANT PRESENT	X X X X X X X X X X X X X X X X X X X	JUN-AIIG	_	FEB-OCT	MAR-OCT	_
					1100				

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. The LDWF-LNHP provided information for some of the federally and state listed species and species of conservation concern for display in the ESI atlas and accompanying digital data in 2013. The available LNHP data sets are to be used for oil spill response and spill response planning only. These data represent existing information known to the LNHP at the time of the request and should never be substituted for consultation with the LNHP. The more spatially generalized 2011 polygonal waterbird colony data was provided by LNHP and the more spatially specific 2006 point waterbird colony data was provided by ETHER or BOTH sets of polygons and/or points (especially if counts are aggregated) reflect current nest locations OR counts, but rather are to be used as a guide for what species could be present.

Louisiana: ESIMAP 96 (cont.)

BIOLOGICAL RESOURCES: (cont.)

INVE	RTEBRATE: (cont.)							
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae J	uveniles A	dults
209	Grass shrimp Red swamp crawfish	ABUNDANT PRESENT	x x x x x x x x x x x x x x x x x x x	- MAR-MAY	JAN-DEC	JAN-DEC J.	AN-DEC J	- AN-DEC
	River shrimp White shrimp	PRESENT ABUNDANT	$\begin{smallmatrix} X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&$	-	-		UL-SEP JAR-NOV	AN-DEC
MARI	NE MAMMAL:							
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Mating	Calving	Pupping M	olting	
303	Bottlenose dolphin	VERY ABUNDANT	X X X X X X X X X X X X	-	-	-	-	
304	West Indian manatee	E E RARE TO UNCOMMON	\times	-	-	-	-	
REPI	'ILE:							
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Nesting	Hatching	Internestin	g Juveniles	Adults
38	American alligator	126-200 AC/NEST	imes ime	MAY-JUL	JUL-SEP	-	JAN-DEC	JAN-DEC
177	Diamondback terrapin		X X X X X X X X	-	-	-	-	-
282	Kemp's ridley sea turtle	E E ABUNDANT	X X X X X X	-	-	-	APR-SEP	-
284	Green sea turtle	T T OCCASIONAL	X X X X X X X X X	-	-	-	MAR-NOV	MAR-NOV
	Hawksbill sea turtle	E E VERY RARE	X X X X X X X X	-	-	-	MAR-OCT	-
	Leatherback sea turtle	E E RARE	X X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Loggerhead sea turtle	T T COMMON	X X X X X X X X X	-	-	-	MAR-NOV	MAR-NOV

HUMAN USE RESOURCES:

BOAT RAMP:

Phone HUN# Contact

BAPTISTE-COLLETTE BAYOU RIVER LAUNCH

HELIPORT:

65

Name

CONOCO INC. VENICE
ERA HELICOPTERS VENICE BASE
MARATHON VENICE
SHELL VENICE TERMINAL Phone HUN# Contact 712 717

VENICE BOAT HARBOR

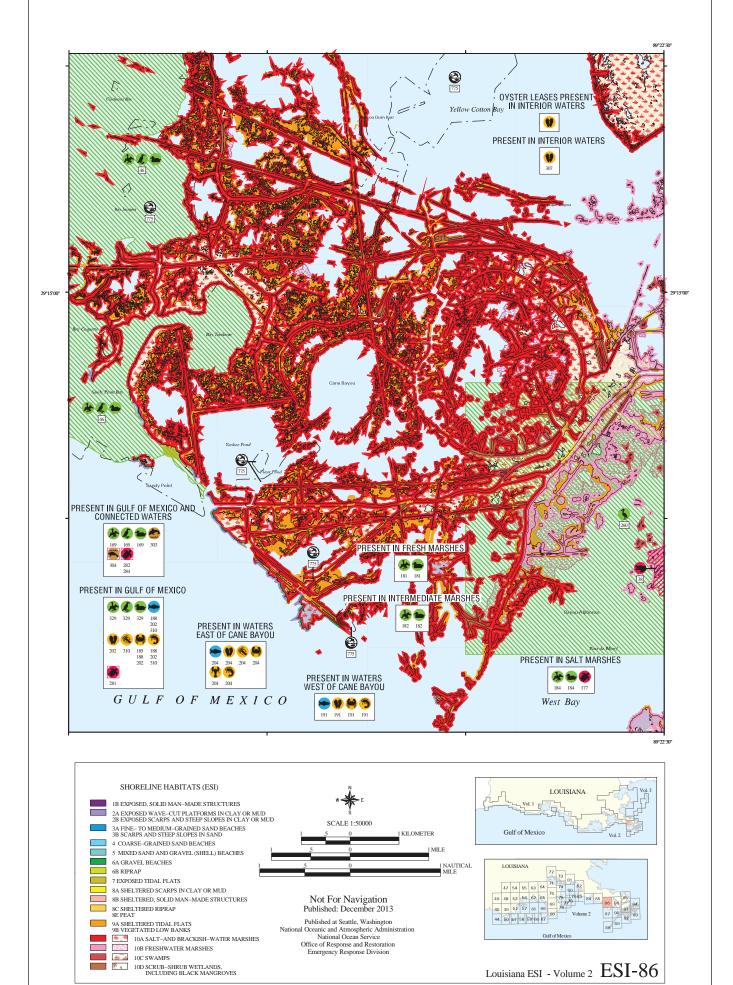
MARINA:

Name HUN# Contact Phone CYPRESS COVE MARINA VENICE MARINA 801 846 SONNY EIRICH 985/643-7977 985/534-9357 WILDLIFE REFUGE: HUN# Contact

Phone 886 DELTA NATIONAL WILDLIFE REFUGE USFWS

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ENVIRONMENTAL SENSITIVITY INDEX MAP



Louisiana: ESIMAP 86

BIOLOGICAL RESOURCES:

Black drum Blue catfish Bowfin

Bull shark

Bream 204 Buffalo

BIRD	:							
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Nesting	Migrating	Molting		
	-	S F Conc.	X X X X X X X X X X X X X X X X X X X				-	
46	Common loon	HIGH	X X X X X X X X	-	-	-		
	Northern gannet	100 0000	XXX XXX	-	-	-		
169	Scaup Common loon	100,0005	X X X X X X X X X X X X X X X X X X X	_	_	_		
	Northern gannet		XXX XXX	-	-	-		
	Scaup	100S	$\mathbf{x} \ \mathbf{x} \ \mathbf{x} \ \mathbf{x} \ \mathbf{x}$	-	-	-		
181	American coot	UP TO 1063 IND/SQ MI	X X X X X X X X	-	-	-		
	American white pelican	1000S	XXXXXXXXXXX	-	-	-		
	American wigeon Blue-winged teal	UP TO 98 IND/SQ MI UP TO 99 IND/SQ MI UP TO 64 IND/SQ MI UP TO 64 IND/SQ MI UP TO 394 IND/SQ MI UP TO 251 IND/SQ MI UP TO 1 IND/SQ MI UP TO 338 IND/SQ MI	X X X X X X X X X X X X X X X X X X X	_	_	_		
	Canvasback	UP TO 64 IND/SO MI	XXX XX	_	_	_		
	Cadwall	UP TO 394 IND/SQ MI	xxxx xxx	-	-	-		
	Green-winged teal Hooded merganser	UP TO 251 IND/SQ MI	$\times \times $	-	-	-		
		UP TO 1 IND/SQ MI	X X X X X X X X	-	_	-		
	Mallard Mottled duck	UP TO 338 IND/SQ MI	X X X X X X X X X X X X X	MAD = TIIN	_	_		
	Northern pintail	UP TO 259 IND/SO MI	XXXX XXX	-	_	_		
	Northern shoveler	UP TO 36 IND/SQ MI	XXXXX XXX	-	-	-		
	Mottled duck Northern pintail Northern shoveler Ring-necked duck Scaup	UP TO 289 IND/SQ MI	XXX	-	-	-		
100	Scaup American coot	UP TO 281 IND/SQ MI	X X X X X X X X X	-	-	-		
182	American coot American white pelican	100 TO 1058 IND/SQ MI	X X X X X X X X X X X X X X X X X X X	_	_	_		
	American white pelican American wigeon Blue-winged teal	UP TO 113 IND/SO MI	XXXX XXX	_	_	_		
	Blue-winged teal	UP TO 103 IND/SQ MI	XXXX XXX	-	-	-		
	Canvasback	UP TO 106 IND/SQ MI	XXX	-	-	-		
	Gadwall	UP TO 492 IND/SQ MI	X X X X X X X	-	-	-		
	Green-winged teal Hooded merganser	UP TO 12 IND/SQ MI UP TO 259 IND/SQ MI UP TO 36 IND/SQ MI UP TO 289 IND/SQ MI UP TO 281 IND/SQ MI UP TO 281 IND/SQ MI UP TO 1058 IND/SQ MI 100S UP TO 113 IND/SQ MI UP TO 106 IND/SQ MI UP TO 106 IND/SQ MI UP TO 492 IND/SQ MI UP TO 147 IND/SQ MI UP TO 147 IND/SQ MI UP TO 1 IND/SQ MI UP TO 32 IND/SQ MI UP TO 32 IND/SQ MI UP TO 38 IND/SQ MI	X X X X X X X X X X X X X X X X X X X	_	_	_		
	Mallard	UP TO 32 IND/SO MI	XXXX XXX	_	_	_		
	Mottled duck	UP TO 38 IND/SQ MI	imes ime	MAR-JUN	-	-		
	Mottled duck Northern pintail Northern showeler Ring-necked duck Scaup American coot	UP TO 484 IND/SQ MI	$\times \times $	-	-	-		
	Northern shoveler	UP TO 25 IND/SQ MI	XXXXX XXXX	-	-	-		
	King-necked duck	UP TO 403 IND/SQ MI	X X X X X X X X X X X X X X X X X X X	_	_	_		
184	American coot	UP TO 2 IND/SO MI	XXXX XXXX	_	_	_		
	American white pelican	HIGH	$\times \times $	-	-	-		
	American wigeon	UP TO 19 IND/SQ MI	X X X X	-	-	-		
	Blue-winged teal Canvasback	UP TO 12 IND/SQ MI	XXXX XXXX	_	_	_		
	Gadwall	UP TO 181 IND/SO MI	XXXX XXX	_	_	_		
	Green-winged teal	UP TO 232 IND/SQ MI	x x x x	-	-	-		
	Hooded merganser	UP TO 8 IND/SQ MI	X X X X	-	-	-		
	Mallard Mottled duck	UP TO 4 IND/SQ MI	XXXX XXX	-	-	-		
	Northern pintail	UP TO 6 IND/SQ MI	X X X X X X X X X X X X X X X X X X X	- MAK-50N	_	_		
	Northern pintail Northern shoveler	UP TO 9 IND/SQ MI	$ ext{x} ext{x} ext{x} ext{x} ext{x} ext{x} ext{x} ext{x}$	-	-	-		
	Ring-necked duck	UP TO 9 IND/SQ MI	X X X X X X	-	-	-		
260	Scaup Wading birds	OP TO 468 IND/SQ MI 250 PATRS	X X X X X X X X X X X X X X X X X X X	FER-AUG	_	_		
	Common loon		x x x x x x x	-	-	-		
	Northern gannet		X X X $X X X$	-	-	-		
	Scaup	100,000S	XXXXX XXX	-	-	-		
	Saa ducke		V V V V V V V V	_	_	_		
	Sea ducks		X X X X X X X	-	-	-		
FISH	Sea ducks	UP TO 32 IND/SQ MI UP TO 38 IND/SQ MI UP TO 484 IND/SQ MI UP TO 494 IND/SQ MI UP TO 495 IND/SQ MI UP TO 196 IND/SQ MI UP TO 196 IND/SQ MI UP TO 2 IND/SQ MI HIGH UP TO 19 IND/SQ MI UP TO 12 IND/SQ MI UP TO 12 IND/SQ MI UP TO 22 IND/SQ MI UP TO 31 IND/SQ MI UP TO 4 IND/SQ MI UP TO 6 IND/SQ MI UP TO 7 IND/SQ MI UP TO 9 IND/SQ MI UP TO 468 IND/SQ MI 250 PAIRS				-		
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	- Larvae	Juveniles	Adults
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae	Juveniles	Adults
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL -	Juveniles JAN-DEC	Adults JAN-DEC
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL - -	Juveniles JAN-DEC -	Adults JAN-DEC APR-NOV
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL MAR-NOV	Juveniles JAN-DEC	Adults JAN-DEC APR-NOV
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL - - - MAR-NOV	Juveniles JAN-DEC JAN-DEC	Adults JAN-DEC APR-NOV JAN-DEC
RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL - MAR-NOV MAY-SEP	Juveniles JAN-DEC JAN-DEC MAY-DEC	Adults JAN-DEC APR-NOV JAN-DEC MAY-DEC
RAR# 188	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL MAR-NOV MAY-SEP	Juveniles JAN-DEC - JAN-DEC JAN-DEC MAY-DEC APR-DEC	Adults JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC
RAR# 188	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL MAR-NOV MAY-SEP	JAN-DEC JAN-DEC JAN-DEC MAY-DEC APR-DEC	Adults JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC
RAR# 188	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL	Juveniles JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	Adults JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC
RAR# 188	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae JAN-JUL MAR-NOV MAY-SEP MAR-SEP	Juveniles JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	Adults JAN-DEC APR-NOV JAN-DEC APR-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Kinlifish Kingfishes Largemouth bass Red drum	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC JAN-DEC
RAR# 188	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP - MAR-SEP - JAN-JUL -	Eggs	JAN-JUL - MAR-NOV MAY-SEP MAR-SEP MAR-SEP MAY-SEP	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC MAR-OCT	JAN-DEC APR-NOV JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC
RAR#	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
RAR#	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet White trout	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
RAR#	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
RAR#	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gafftopsail catfish Gafftopsail catfish Gafftopsail catfish Gafftopsail catfish Gafftopsail catfish Gulf menhaden	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
RAR#	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gafftopsail catfish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gulf menhaden Killifish	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
RAR#	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gafftopsail catfish Gafftopsail catfish Gafftopsail catfish Gafftopsail catfish Gafftopsail catfish Gulf menhaden	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
RAR#	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout Striped mullet White trout Black drum Black drum Black drum Blue catfish Gafftopsail catfish Gulf menhaden Killifish Kingfishes Red snapper	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
RAR#	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gafftopsail catfish Gingishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gulf menhaden Killifish Kingfishes Red snapper Shad Spotted seatrout	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
188 191	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gulf menhaden Killifish Kingfishes Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gulf menhaden Killifish Kingfishes Red snapper Shad Spotted seatrout	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
188 191	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Guff menhaden Killifish Kingfishes Routhern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Guff menhaden Killifish Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar American eel	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
188 191	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Kinlifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gafftopsail catfish Giftopsail catfish Gafftopsail catfish Gum Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gulf menhaden Killifish Kingfishes Red snapper Shad Spotted seatrout Striped mullet Shingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar American eel Anchovies	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
188 191	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Killifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet Mhite trout Black drum Blue catfish Gafftopsail catfish Gafftopsail catfish Gingishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted gar Spotted seatrout Striped mullet Mhite trout Black drum Blue catfish Gafftopsail catfish Gulf menhaden Killifish Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar American eel Anchovies Atlantic spadefish	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC
188 191	Species Black drum Gafftopsail catfish Gulf menhaden Kingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar Anchovies Atlantic spadefish Black drum Bull shark Crappie Croakers Flathead catfish Forage fish Gafftopsail catfish Gray snapper Gulf menhaden Herrings and sardines Kinlifish Kingfishes Largemouth bass Red drum Seahorses Shad Sheepshead Southern flounder Spanish mackerel Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gafftopsail catfish Giftopsail catfish Gafftopsail catfish Gum Spotted gar Spotted seatrout Striped mullet White trout Black drum Blue catfish Gafftopsail catfish Gulf menhaden Killifish Kingfishes Red snapper Shad Spotted seatrout Striped mullet Shingfishes Red snapper Shad Spotted seatrout Striped mullet Alligator gar American eel Anchovies	PRESENT ABUNDANT HIGHLY ABUNDANT COMMON ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON RARE ABUNDANT ABUNDANT COMMON ABUNDANT ABUNDANT ABUNDANT RARE COMMON COMMON ABUNDANT	J F M A M J J A S O N D	Spawning JAN-JUL MAR-NOV MAY-SEP MAR-SEP JAN-JUL FEB-MAY APR-SEP APR-SEP JAN-MAY MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP MAR-APR APR-SEP	Eggs	JAN-JUL	JAN-DEC JAN-DEC MAY-DEC APR-DEC JAN-DEC JAN-DEC	JAN-DEC

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. The LDWF-LNHP provided information for some of the federally and state listed species and species of conservation concern for display in the ESI atlas and accompanying digital data in 2013. The available LNHP data sets are to be used for oil spill response and spill response planning only. These data represent existing information known to the LNHP at the time of the request and should never be substituted for consultation with the LNHP. The more spatially generalized 2011 polygonal waterbird colony data was provided by LNHP and the more spatially specific 2006 point waterbird colony data was provided by BTNEP. The display of these two data sets does not imply that EITHER or BOTH sets of polygons and/or points (especially if counts are aggregated) reflect current nest locations OR counts, but rather are to be used as a guide for what species could be present.

JAN-DEC

PRESENT PRESENT ABUNDANT PRESENT PRESENT

PRESENT

COMMON

Louisiana: ESIMAP 86 (cont.)

BIOLOGICAL RESOURCES: (cont.)

AR#	: (cont.) Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae	Juveniles	Adults
	Channel catfish		X X X X X X X X X X X X X					JAN-DEC
-01	Crappie	PRESENT PRESENT	X X X X X X X X X X X X	FEB-MAY	FEB-MAY	FEB-JUN	JAN-DEC	JAN-DEC
	Croakers	HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	-	-	-	-	-
	Flathead catfish Forage fish	PRESENT ABUNDANT	X X X X X X X X X X X X X X X X X X X	_	_	_	_	_
	Freshwater drum				-		-	-
	Gafftopsail catfish	HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	-	-	-	-	-
	Gulf menhaden	HIGHLY ABUNDANT	X X X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Herrings and sardines Killifish	COMMON	X X X X X X X X X X X X X X X X X X X	APR-SEP	_	_	JAN-DEC	JAN-DEC
	Kingfishes	ABUNDANT	x x x x x x x x x x x x x	-	-	-	-	-
	Largemouth bass	ABUNDANT	$\times \times $	JAN-MAY	-	-	JAN-DEC	JAN-DEC
	Longnose gar Paddlefish	PRESENT						JAN-DEC -
	Pipefish	PRESENT	X X X X X X X X X X X X X X X X X X X	_	_	_	_	_
	Red drum	ABUNDANI COMMON ABUNDANT ABUNDANT PRESENT PRESENT PRESENT ABUNDANT	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	-	-	-	JAN-DEC	APR-NOV
	Seahorses	PRESENT HIGHLY ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X	-	-	-	-	-
	Shad Sheepshead	HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	MAK-MAY	MAK-MAY	MAK-JUN -	JAN-DEC	JAN-DEC JAN-DEC
	Southern flounder	ABUNDANT	$\begin{smallmatrix} & \times & $	-	-	-	JAN-DEC	JAN-DEC
	Spotted gar	ABUNDANT	x					JAN-DEC
	Spotted seatrout Striped mullet	ABUNDANT ABUNDANT	X X X X X X X X X X X X X	APR-SEP	_	APR-SEP	JAN-DEC JAN-DEC	JAN-DEC JAN-DEC
	Tarpon	DDDGDVM	17 17 17 17 17 17 17 17				14311 11011	- OAN-DEC
	White bass	ABUNDANT	X X X X X X X X X X X X X X X X X X X	-	-	-	-	-
1.0	White trout	HIGHLY ABUNDANT	X X X X X X X X X X X X	MAR-SEP	-	MAR-SEP	JAN-DEC	JAN-DEC
10	Anchovies Atlantic sharpnose shark	ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	MAK-SEP	MAR-SEP	JAN-DEC	JAN-DEC	JAN-DEC MAR-OCT
	Atlantic spadefish		x x x x x x x x x x x x	APR-SEP	APR-SEP	APR-SEP	SEP-MAY	JAN-DEC
	Atlantic tripletail		$x \times x \times x \times x$			-	APR-SEP	APR-SEP
	Blacktip shark Bull shark	COMMON	X X X X X X X X	-	-		MAR-OCT	
	Bull shark Cobia		$\begin{smallmatrix} X&X&X&X&X&X&X\\ &&X&X&X&X&X&&&&&&&&&&&&$	JUN-AUG	JUN-AUG	JUN-AUG	JUN-SEP	JUN-SEP
	Croakers	ABUNDANT	imes ime	DEC-MAR	DEC-MAR	NOV-MAY	-	JAN-DEC
	Finetooth shark		X X X X X X X	-	-	MAR-OCT	MAR-OCT	MAR-OCT APR-NOV
	Florida pompano Forage fish		X X X X X X X X X X X X X X X X X X X	-	_	MAY-AUG	APR-NOV	APR-NOV
	Gray snapper		X X X X X X X X X X X X					JAN-DEC
	Gray triggerfish		x					JAN-DEC
	Great barracuda Great hammerhead		X X X X X X X X X X X X			APR-OCT	JAN-DEC JAN-DEC	JAN-DEC JAN-DEC
	Herrings and sardines		X X X X X X X X X X X X X X X X X X X	_	_	APR-SEP	JAN-DEC	JAN-DEC
	King mackerel		$\times \times $	JUN-NOV		JUN-NOV	MAR-NOV	MAR-NOV
	Lane snapper		X X X X X X X X X X X X					JAN-DEC
	Red drum Scalloped hammerhead	ABUNDANT	X X X X X X X X X X X X X X X X X X X		AUG-NOV	SEP-NOV MAR-OCT	JAN-DEC JAN-DEC	JAN-DEC JAN-DEC
	Sheepshead		X X X X X X X X X X X X				-	DEC-MAR
	Shortfin mako		${\tt X} {\tt X}$	-	-	-	-	-
	Southern flounder Spanish mackerel		X X X X X X X X X X X X X X X X X X X				- MAD 000	JAN-DEC MAR-OCT
	Spinner shark					APR-OCI	JAN-DEC	MAK-OCI
	Tarpon		$\begin{smallmatrix} X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&X&$	-	-		MAY-NOV	MAY-NOV
	White trout		x	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	JAN-DEC
NVE	RTEBRATE:							
	Species	S F Conc.	J F M A M J J A S O N D			Larvae	Juveniles	Adults
	Blue crab	HIGH SPAWNING CONC	X X X X X X X X X X X X X X X X X X X	JUN-AUG			-	
	Atlantic seabob shrimp	ABUNDANT	x x x x x x x x x x x x x	-	-	-	-	-
	Blue crab	ABUNDANT	$\times \times $	-	-	SEP-MAY	SEP-MAY	SEP-MAY
0.1	White shrimp Atlantic rangia	ABUNDANT	X X X X X X X X X X X X X X X X X X X	MAY-NOV	-	-	-	JAN-DEC
ЭŢ	Atlantic rangia Blue crab	PRESENT	* * * * * * * * * * * * * * * * * * * *	MAK-NOV APR-NOV	A PR=NOV	MAK-NOV APR-NOV	JAN-DEC	JAN-DEC JAN-DEC
	Brown shrimp	ARINDANT	X X X X X X X X X X X X					
	BIOWII SIIIIMP	ABUNDANT ABUNDANT	$\begin{smallmatrix} & \times & $		-	FER-NOV		-
	Fiddler crab	ABUNDANT ABUNDANT PRESENT	X X X X X X X X X X X X X X X X X X X	- JUN-AUG	-	FEB-NOV	JAN-DEC -	-
	Fiddler crab Grass shrimp	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT	x x x x x x x x x x x x x x x x x x x	JUN-AUG	-	FEB-NOV	JAN-DEC -	_
12	Fiddler crab Grass shrimp White shrimp	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT	x x x x x x x x x x x x x x x x x x x	JUN-AUG	-	FEB-NOV	JAN-DEC -	-
02	Fiddler crab Grass shrimp	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT	X X X X X X X X X X X X X X X X X X X	JUN-AUG - - MAR-NOV	- - -	FEB-NOV - - MAR-NOV MAR-NOV	JAN-DEC - - JAN-DEC JAN-DEC	-
02	Fiddler crab Grass shrimp White shrimp Atlantic rangia	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY	- - - - - APR-MAY	FEB-NOV - - MAR-NOV MAR-NOV	JAN-DEC - - JAN-DEC JAN-DEC	- - - JAN-DEC
02	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY SEP-NOV	- - - - - APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV - APR-MAY	JAN-DEC JAN-DEC JAN-DEC SEP-MAY	JAN-DEC SEP-MAY
12	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY SEP-NOV	- - - - - APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV - APR-MAY	JAN-DEC JAN-DEC JAN-DEC SEP-MAY	- - - JAN-DEC - SEP-MAY
	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY SEP-NOV	- - - - - APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV - APR-MAY	JAN-DEC JAN-DEC JAN-DEC SEP-MAY	- - - JAN-DEC - SEP-MAY
	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY SEP-NOV	- - - - - APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV - APR-MAY	JAN-DEC JAN-DEC JAN-DEC SEP-MAY	- - - JAN-DEC - SEP-MAY
	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic seabob shrimp	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY SEP-NOV	- - - - - APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV - APR-MAY	JAN-DEC JAN-DEC JAN-DEC SEP-MAY	- - - JAN-DEC - SEP-MAY
	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY SEP-NOV	- - - - - APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV - APR-MAY	JAN-DEC JAN-DEC JAN-DEC SEP-MAY	- - - JAN-DEC - SEP-MAY
	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY SEP-NOV	- - - - - APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV - APR-MAY	JAN-DEC JAN-DEC JAN-DEC SEP-MAY	JAN-DEC SEP-MAY
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04	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG MAR-NOV - APR-MAY SEP-NOV	- - - - - APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV - APR-MAY	JAN-DEC JAN-DEC JAN-DEC SEP-MAY	JAN-DEC SEP-MAY
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04 07 10	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Faddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Squid NE MAMMAL:	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT PRESENT ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG APR-MAY SEP-NOV APR-JUN MAY-NOV MAR-NOV APR-JUN MAY-NOV APR-JUN MAY-NOV MAR-NOV MAR-MAY APR-JUN MAR-MAY APR-JUN MAR-NOV MAR-NOV	APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV APR-MAY APR-JUN APR-NOV APR-NOV MAR-NOV MAR-NOV MAY-NOV MAR-NOV FEB-APR MAR-NOV	JAN-DEC JAN-DEC JAN-DEC JAN-DEC SEP-MAY JAN-DEC APR-DEC JAN-DEC MAY-JUL JAN-DEC	JAN-DEC SEP-MAY
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07 10 ARI 	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Squid NE MAMMAL: Species Bottlenose dolphin West Indian manatee	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT ABUNDANT HIGHLY ABUNDANT ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT	X X X X X X X X X X X X X X X X X X X	MAR-NOV APR-MAY SEP-NOV APR-NOV APR-NOV APR-NOV APR-NOV APR-NOV APR-NOV APR-NOV APR-NOV MAR-MAY APR-JUN MAR-MAY APR-JUN MAR-NOV MAR-NOV MAR-NOV	APR-MAY SEP-NOV APR-NOV APR-NOV APR-NOV ARA-NOV Calving	FEB-NOV ARR-NOV MAR-NOV APR-MAY APR-MAY APR-NOV MAR-NOV JAN-DEC APR-JUN MAR-NOV EB-APR MAR-NOV Pupping	JAN-DEC JAN-DEC JAN-DEC SEP-MAY JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC MAY-JUL JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC MAY-JUL JAN-DEC JAN-DEC	JAN-DEC SEP-MAY
07 10 ARI 03 04 EPI	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Frown shrimp Faylid NE MAMMAL: Species Bottlenose dolphin West Indian manatee	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT PRESENT ABUNDANT ABUNDANT COMMON HIGHLY ABUNDANT PRESENT ABUNDANT ABUNDANT BUNDANT ABUNDANT COMMON FRESENT ABUNDANT BUNDANT BUNDANT BUNDANT E E RARE TO UNCOMMON	X X X X X X X X X X X X X X X X X X X	JUN-AUG APR-MAY SEP-NOV APR-JUN MAY-NOV APR-JUN MAY-NOV JUN-AUG MAR-MAY APR-JUN MAR-MAY APR-JUN MAR-NOV MAR-NOV MAR-NOV MAR-NOV	APR-MAY SEP-NOV APR-NOV - JAN-DEC MAR-NOV - MAR-NOV Calving	FEB-NOV ARR-NOV MAR-NOV APR-MAY APR-JUN MAR-NOV APR-NOV MAR-NOV APR-NOV MAR-NOV PUPPING	JAN-DEC JAN-DEC JAN-DEC JAN-DEC SEP-MAY JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC MAY-JUL JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC	JAN-DEC SEP-MAY FEB-JUN JAN-DEC JAN-DEC - JAN-DEC FEB-JUN MAY-JUL JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC
04 07 10 ARI R# -03 04 EPT R#	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Squid NE MAMMAL: Species Bottlenose dolphin West Indian manatee 'IILE: Species	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT PRESENT ABUNDANT COMMON VERY ABUNDANT FRESENT ABUNDANT BUNDANT BUNDAN	X X X X X X X X X X X X X X X X X X X	JUN-AUG JUN-AUG APR-MAY SEP-NOV APR-JUN MAY-NOV MAR-NOV APR-JUN MAY-NOV APR-NOV MAR-MAY APR-JUN MAR-MAY APR-JUN MAR-NOV MAR-NOV MAR-NOV MAR-NOV Mating Nesting	APR-MAY SEP-NOV	FEB-NOV ARR-NOV MAR-NOV APR-MAY APR-JUN MAR-NOV APR-NOV MAR-NOV APR-JUN MAY-NOV MAY-NOV MAR-NOV FEB-APR MAR-NOV Pupping Internes	JAN-DEC JAN-DEC JAN-DEC JAN-DEC SEP-MAY JAN-DEC APR-DEC APR-DEC JAN-DEC MAY-JUL JAN-DEC JAN-DEC MAY-JUL JAN-DEC MAY-JUL JAN-DEC JAN-DEC MOlting Ling Juvenil	JAN-DEC SEP-MAY FEB-JUN JAN-DEC
004 100 100 100 100 100 100 100 100 100	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Squid NE MAMMAL: Species Bottlenose dolphin West Indian manatee ILE: Species	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT ABUNDANT HIGHLY ABUNDANT ABUNDANT HIGHLY ABUNDANT ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT SPESENT ABUNDANT COMMON HIGHLY ABUNDANT PRESENT ABUNDANT E E RARE TO UNCOMMON S F Conc.	X X X X X X X X X X X X X X X X X X X	MAR-NOV APR-JUN MAY-NOV APR-JUN MAY-NOV APR-JUN MAY-NOV APR-JUN MAY-NOV MAR-NOV MAR-MAY APR-JUN MAR-NOV MAR-NOV MAR-NOV MAR-NOV MATIng Nesting	APR-MAY SEP-NOV APR-NOV - JAN-DEC - MAR-NOV MAR-NOV Calving - Hatching	FEB-NOV ARR-NOV MAR-NOV APR-MAY APR-JUN MAR-NOV APR-NOV MAR-NOV APR-NOV MAR-NOV DAN-DEC APR-JUN MAY-NOV MAR-NOV	JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC APR-DEC JAN-DEC JAN-DEC JAN-DEC MAY-JUL JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC	JAN-DEC SEP-MAY FEB-JUN JAN-DEC JAN-DEC - JAN-DEC FEB-JUN MAY-JUL JAN-DEC JAN-DEC JAN-DEC JAN-DEC
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07 10 ARI R# 03 04 EPI R# 38	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Squid NNE MAMMAL: Species Bottlenose dolphin West Indian manatee TILE: Species American alligator Dismodhack terranin	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT PRESENT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT PRESENT ABUNDANT COMMON EGHT ABUNDANT FRESENT ABUNDANT BUNDANT BUND	X X X X X X X X X X X X X X X X X X X	JUN-AUG APR-MAY SEP-NOV APR-JUN MAY-NOV MAR-NOV APR-JUN MAY-NOV MAR-NOV MAR-NOV MAR-NOV MAR-MAY APR-JUN MAR-NOV MAR-NOV MAR-NOV MAR-NOV MATing Nesting MAY-JUL	APR-MAY SEP-NOV APR-NOV APR-NOV APR-NOV APR-NOV Calving Hatching JUL-SEP	FEB-NOV MAR-NOV MAR-NOV APR-MAY APR-JUN MAR-NOV APR-NOV APR-NOV MAR-NOV MAR-NOV FEB-APR MAR-NOV Pupping Internes	JAN-DEC JAN-DEC JAN-DEC JAN-DEC SEP-MAY JAN-DEC APR-DEC APR-DEC JAN-DEC MAY-JUL JAN-DEC MAY-JUL JAN-DEC MAY-JUL JAN-DEC	JAN-DEC SEP-MAY FEB-JUN JAN-DEC
07 10 ARI R# 03 04 EPI R# 38 77 81	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Squid NE MAMMAL: Species Bottlenose dolphin West Indian manatee ITLE: Species American alligator Diamondback terrapin Kemp's ridley sea turtle Kemp's ridley sea turtle	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT PRESENT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT PRESENT ABUNDANT E BROWNEN S F CONC. VERY ABUNDANT E RARE TO UNCOMMON S F CONC. 126-200 AC/NEST E BAUNDANT E E ABUNDANT E E ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG JUN-AUG APR-MAY SEP-NOV APR-JUN MAY-NOV MAR-NOV APR-NOV JUN-AUG MAR-MAY APR-JUN MAR-MAY APR-JUN MAR-NOV MAR-NOV MAR-NOV MAR-NOV MATing Nesting MAY-JUL	APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV APR-MAY APR-JUN APR-NOV MAR-NOV JAN-DEC APR-JUN MAY-NOV MAY-NOV MAY-NOV Pupping Internest	JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC JAN-DEC APR-DEC APR-DEC JAN-DEC Molting	JAN-DEC FEB-JUN JAN-DEC
07 10 ARI R# 03 04 !PI R# 38 77 81	Fiddler crab Grass shrimp White shrimp Atlantic rangia Atlantic seabob shrimp Blue crab Grass shrimp River shrimp White shrimp Atlantic rangia Atlantic rangia Atlantic rangia Atlantic seabob shrimp Blue crab Brown shrimp Fiddler crab Grass shrimp Red swamp crawfish River shrimp Squid White shrimp Eastern oyster Brown shrimp Squid NNE MAMMAL: Species Bottlenose dolphin West Indian manatee TILE: Species American alligator Dismodhack terranin	ABUNDANT ABUNDANT PRESENT HIGHLY ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT HIGHLY ABUNDANT ABUNDANT PRESENT ABUNDANT PRESENT ABUNDANT ABUNDANT PRESENT ABUNDANT ABUNDANT PRESENT ABUNDANT COMMON HIGHLY ABUNDANT PRESENT ABUNDANT E BROWNEN S F CONC. VERY ABUNDANT E RARE TO UNCOMMON S F CONC. 126-200 AC/NEST E BAUNDANT E E ABUNDANT E E ABUNDANT	X X X X X X X X X X X X X X X X X X X	JUN-AUG JUN-AUG APR-MAY SEP-NOV APR-JUN MAY-NOV MAR-NOV APR-NOV JUN-AUG MAR-MAY APR-JUN MAR-MAY APR-JUN MAR-NOV MAR-NOV MAR-NOV MAR-NOV MATing Nesting MAY-JUL	APR-MAY SEP-NOV	FEB-NOV MAR-NOV MAR-NOV APR-MAY APR-JUN APR-NOV MAR-NOV JAN-DEC APR-JUN MAY-NOV MAY-NOV MAY-NOV Pupping Internest	JAN-DEC JAN-DEC JAN-DEC JAN-DEC SEP-MAY JAN-DEC APR-DEC JAN-DEC	JAN-DEC SEP-MAY FEB-JUN JAN-DEC

HUMAN USE RESOURCES:

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
775	OYSTER LEASE	LDWF - OYSTER LEASE SURVEY SECTION	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. The LDWF-LNHP provided information for some of the federally and state listed species and species of conservation concern for display in the ESI atlas and accompanying digital data in 2013. The available LNHP data sets are to be used for oil spill response and spill response planning only. These data represent existing information known to the LNHP at the time of the request and should never be substituted for consultation with the LNHP. The more spatially generalized 2011 polygonal waterbird colony data was provided by LNHP and the more spatially specific 2006 point waterbird colony data was provided by BTNEP. The display of these two data sets does not imply that EITHER or BOTH sets of polygons and/or points (especially if counts are aggregated) reflect current nest locations OR counts, but rather are to be used as a guide for what species could be present.