APPENDIX C: BIOLOGICAL ASSESSMENT

Biological Assessment
East Baton Rouge Flood Risk Reduction
Clearing and Snagging of Lower Bayou Fountain, Lower Jones Creek and Lower Ward Creek, East Baton Rouge Parish Louisiana

Project Description

The proposed action consists of clearing and snagging a total of approximately 11.5 miles of streambed across the Lower Bayou Fountain (LBF), Lower Ward Creek (LWC) and Lower Jones Creek (LJC) waterways in East Baton Rouge Parish, Louisiana.

Clearing and snagging for flood control is the removal of woody vegetation and debris from stream channels and banks to increase hydraulic capacity. The action involves removal of all obstructions from the channel (snagging) and to clear all significant vegetation within a specified width on both sides of the channel (clearing). The purpose of the proposed modifications is to help reduce localized flooding caused by out of bank stages that occur during heavy rain events.

Lower Bayou Fountain Improvements:

The proposed plan for LBF consists of clearing and snagging approximately 4.6 miles of channel (Figure 2, Appendix B). The proposed improvements would begin at the mouth of Bayou Manchac and continue upstream to Burbank Drive and are designed to reduce flood damages in the immediate area caused by headwater flooding in the stream channel. It is anticipated stage lowerings of up to 1 foot would occur within the stream channel. A total of approximately 40.1 acres (33.27 average annual habitat units (AAHUs)) of existing bottomland hardwood (BLH) would be permanently impacted by the proposed action in LBF with approximately 37 acres (32.39 AAHUs) from clearing and snagging activities, approximately 1.52 acres (.42 AAHUs) from staging and approximately 1.6 acres (.43 AAHUs) from access points.

<u>Staging areas:</u>

There are two (2) temporary staging areas, totaling approximately 9 acres, associated with the LBF portion of the proposed action. LBF staging area #1 is approximately 4.3 acres and can be accessed directly from Burbank Drive (Figure 3, Appendix B). This previously developed area has been converted to open grassland and is surrounded by a chainlink fence. The southern portion of the staging area would be cleared for direct access to the creek, impacting approximately 1 acre (.28 AAHUs) of BLH. LBF staging Area #2 is approximately 4.7 acres and can be accessed directly from Highland Road (Figure 4, Appendix B). Access to LBF creek would be along the southern portion of the staging area. This area is located in an open area in the eastern end of the Highland Community Park, which is operated by the Recreation and Park Commission for the Parish of East Baton Rouge (BREC). An area along the southern portion of the staging area, located next to the creek, would be cleared for access directly to the creek, impacting approximately .52 acres (14 AAHUs) of BLH.

Access:

The clearing and snagging activities in LBF would also require the construction and use of a temporary gravel access corridor, which would impact approximately 1.6 acres (.46 AAHUs) of BLH. The proposed access corridor is 50 feet wide and would be accessed directly from the channel (Figure 5, Appendix B). The corridor would be located on the right descending bank and is approximately 5,280 feet downstream of Burbank Drive. Additional clearing for the access corridor shall be limited to the minimum required for access from the channel. The temporary access corridor shall be returned to pre-construction condition or better upon completion of construction activities.

Lower Jones Creek Improvements:

The proposed plan for LJC consists of clearing and snagging approximately 3.3 miles of channel (Figure 6, Appendix B). Proposed modifications begin at the mouth of the Amite River and continue upstream to O'Neal Lane and are designed to reduce flood damages in the immediate area caused by headwater flooding in the stream channel. It is anticipated stage lowerings of up to 4 feet would occur within the stream channel. A total of approximately 36 acres (27.23 AAHUs) of existing BLH would be permanently impacted by the proposed action in LJC with approximately 32 acres (26.30 AAHUs) from clearing and snagging activities and approximately 4 acres (.93 AAHUs) from staging.

Staging areas:

There are three (3) temporary staging areas, totaling approximately 4 acres in size, associated with the LJC portion of the proposed action. LJC staging area #1 is can be accessed directly from O'Neal Lane (Figure 7, Appendix B). The entire staging area would be cleared of all vegetation, which would impact approximately 2.0 acres (.38 AAHUs) of BLH.

LJC staging area #2 is approximately 1.0 acre of grassland, fringed with BLH, and is positioned along the edge of Jones Creek, on the western side of the Woodlake Drive Bridge (Figure 8, Appendix B). This staging area would be cleared of all vegetation, which would impact approximately 1.0 acre (.275 AAHUs) of BLH. The southern portion of the staging area, which runs alongside LJC and contains no vegetation, would be utilized as a direct access point to the channel.

LJC staging area #3 is approximately 1.0 acre in size, located on the eastern side of the Woodlake Drive Bridge (Figure 8, Appendix B). LJC staging area #3 would need to be cleared of all vegetation, including the section along the southern portion of the staging area which would be used for direct access to the channel. Clearing activities would impact approximately 1.0 acre (.275 AAHUs) of BLH.

Lower Ward Creek Improvements:

The proposed plan for LWC consists of clearing and snagging approximately 3.3 miles of channel (Figure 9, Appendix B). Proposed modifications begin 4,000 feet upstream of the mouth of Bayou Manchac and continue to 1,200 feet upstream of Pecue Lane and are designed to reduce flood damages in the immediate area caused by headwater flooding in the stream channel. It is anticipated stage lowerings of up to 3 feet would occur

within the stream channel. The proposed improvements begin at station 40+00 (4,000 feet upstream of the mouth of Bayou Manchac) and continue upstream to station 211+65 (1,200 feet upstream of Pecue Lane). A total of approximately 35.7 acres (24.83 AAHUs) of existing BLH would be permanently impacted by the proposed action in LWC with approximately 31 acres (23.71 AAHUs) from clearing and snagging activities, approximately 4.20 acres (1.02 AAHUs) from staging and approximately .50 acres (.10 AAHUs) from access points.

Staging areas:

There are four (4) temporary staging areas, totaling approximately 48.1 acres, associated with the LWC portion of the proposed action. LWC staging areas #1 and #2 are located on either side of the Pecue Lane Bridge. Staging area #1 measures approximately 3.0 acres and staging area #2 measures approximately 5.2 acres in size (Figure 10, Appendix B). Access directly to LWC would occur on the southern portion of both staging areas, impacting approximately .50 acres (.37 AAHUs) and .80 acres (.44 AAHUs) of BLH respectively.

Staging area #3 is approximately 29.8 acres and is located behind Pecue Properties, LLC, off LeCrete Lane (Figure 11, Appendix B). In order to access the staging area from LeCrete Lane, a 25 foot wide temporary gravel access corridor would be established along the southern portion of the staging area. Trees along the bank of the canal in the northern section of the staging area would be cleared for the purposes of direct equipment access and debris removal from the channel, impacting approximately 1.87 acres (.44 AAHUs) of BLH. In addition to being utilized for stockpiling of debris removed from the LWC stream channel, staging area #3 would also be used for the temporary storage of construction related equipment, materials, debris stockpiles, and office trailers. LWC staging area #3 would also include the temporary placement of stone gravel for parking, office pads, channel access points, and truck wash-down racks.

LWC staging area #4 is approximately 10.1 acres and can be accessed from Highland Road via a 100 foot access corridor located on the northwest side of the staging area or from Highway 61 via a 50 foot gravel access corridor located on the northeast side of the staging area (Figure 12, Appendix B). The northwest side of the staging area, which runs along the bank of LWC, would be cleared for direct access to the channel for the purposes of equipment access and debris removal, impacting approximately .66 acres (.21 AAHUs) of BLH.

Access:

The clear and snagging activities in LWC would also require the construction and use of a temporary gravel access corridor. The proposed access corridor is 50 feet wide (approximately 0.50 acres) and would be accessed directly from the channel. The corridor would be located on the right descending bank and is approximately 4,000 feet downstream of I-10 and approximately 2,100 feet upstream of Barringer Foreman Road (Figure 13, Appendix B). Additional clearing for the access corridor shall be limited to the minimum required for access from the channel. The temporary access corridor shall be restored to pre-construction condition or better upon completion of construction activities.

ALL SITES:

The proposed action within all stream channels involves the clearing, felling, trimming, and cutting of trees and other vegetation, including downed timber, stumps, roots, brush, piling, riprap, abandoned structures, fencing, and similar debris, and their removal off site. Clearing and snagging activities are not expected to impair bank stability. Cleared trees shall be cut off no more than two (2) inches from the natural ground surface and shall be felled in such a manner as to avoid impacting bank stability and to avoid damage to trees to be left standing and to existing structures and installations and to those areas under construction. Vegetation to be removed shall consist of crops, grass, bushes, and weeds. Close growing grass and other vegetation shall be mowed and shall not exceed two (2) inches above natural ground surface. All stumps and exposed roots, over 1-1/2 inches in diameter, shall be cut to two (2) inches above the natural ground surface. Herbicide, in accordance with the manufacturer's label, shall be applied to the top surface of stumps that would remain in place to ensure re-sprouting does not occur.

Unless otherwise specified, all proposed work would be performed from within the channels, from top of bank to top of bank. The top of bank is described as the point where an abrupt change in slope is evident, which can vary between 90 feet and 120 feet wide (LBF), 100 feet and 160 feet wide (LJC) and 100 feet and 120 feet wide (LWC). However, if a tree not located in the clearing and snagging corridor has limbs which are growing down into the channel, thus interfering with work or impeding flow, those limbs would be removed (not the whole tree). All injuries to bark, trunk, limbs, and roots of trees, on top of bank, would be repaired with bituminous based paint (of standard manufacture) specially formulated for tree wounds and would be applied in accordance with manufactures specifications. Debris removed would be hauled by truck to the parish landfill. It is anticipated that the clearing and snagging work would be accomplished using chain saws, brush cutters, floating barges and excavators.

Work is expected to take approximately 410 days in LBF, 400 days in LJC, and 280 in LWC. In the event of a heavy rainfall event during construction, all equipment and personnel will be removed from any of the channels to prevent any impacts from their activities or loss of equipment or injury to personnel.

Across all three locations, a total of approximately 111.8 acres of BLH (85.33 AAHUs) and approximately 155 acres of water bottoms would be permanently impacted from the proposed clearing and snagging activities. All permanent impacts associated with the proposed actions will be mitigated for and can be referenced in EA #576 which can be found on the New Orleans District website at https://www.mvn.usace.army.mil/Missions/Environmental/NEPA-Compliance-Documents/Bipartisan-Budget-Act-2018-BBA-18/West-Shore-Lake-Pontchartrain/

All temporary modifications associated with the proposed actions (i.e. staging areas, access corridors, wash-down racks, parking, and office pads) shall be restored to pre-construction conditions, to include seeding and fertilizing of all disturbed areas, upon completion of construction activities.

Description of Proposed Action Requiring Consultation

Implementation of the proposed action would result in direct impacts to approximately 160.30 acres of severely degraded waterbottoms. An additional approximately 25 acres of freshwater emergent wetlands would be temporarily impacted by the construction of access roads and staging areas. Staging areas and temporary access roads would be returned to preconstruction conditions upon project completion.

Action Area

The project areas are located in East Baton Rouge Parish, a 470 square mile area located in the State of Louisiana. The parish falls across four (4) watersheds; the Amite River watershed, the Comite River watershed, the Colyell watershed and the Bayou Manchac watershed, all of which are within the central portion of the Amite River Basin. EBR Parish is bordered on three sides by natural waterways. The Amite River marks the eastern boundary of the parish, and flows north to south, receiving all the water from Bayou Manchac and the Amite River watershed. The Mississippi River marks the western boundary and separates East Baton Rouge Parish from West Baton Rouge Parish. Bayou Manchac, formerly a tributary of the Mississippi River, is the southern boundary and drains much of the southern part of the parish. The Comite River, the largest tributary of the Amite River, also runs along the eastern portion of the parish and empties into the Amite River just north of US Route 190 (Florida Boulevard).

Species Considered and Critical Habitat

MVN has assessed the environmental impacts of the proposed action on threatened and endangered species in the project vicinity. There are three threatened or endangered species that are known to occur within the study area of East Baton Rouge Parish. Information regarding those species and their preferred habitats are provided below.

West Indian Manatee (*Trichechus manatus*)

The West Indian manatee is one of the largest coastal mammals in North America and it is listed as threatened under the ESA and the Marine Mammal Protection Act (MMPA). Manatees are large, elongated marine mammals, typically greyish in color, with paired flippers and a large, spoon-shaped tail. They can reach lengths of over 14 feet and weights of over 3,000 pounds. Preferred habitats include areas near the shore featuring underwater vegetation like seagrass and eelgrass thus can be found in inland rivers, coastal estuaries, seagrass beds, and marinas (Marmontel et al., 1997). They feed along grass bed margins with access to deep water channels.

Manatees are classified as a marine species but they inhabit marine, brackish, and freshwater systems in coastal and riverine areas from Florida to the Greater Antilles and suitable habitats in Central and South America. During the summer, manatees expand their range, and on rare occasions are seen as far north as Massachusetts on the Atlantic coast and as far west as Texas on the Gulf coast. The manatee has been observed in the

coastal waters of Louisiana and occasionally enter Lakes Pontchartrain and Maurepas, and associated coastal waters and streams during the summer months (i.e., June through September).

Manatees can be found less regularly in other Louisiana coastal areas, most likely while the average water temperature is warm as they are unable to tolerate water temperatures below 68 degrees Fahrenheit for extended periods of time. Based on data maintained by the Louisiana Natural Heritage Program (LNHP), over 80 percent of reported manatee sightings (1999-2011) in Louisiana have occurred from the months of June through December. Manatee occurrences in Louisiana appear to be increasing and they have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of southeastern Louisiana. During the winter months, colder temperatures keep the population concentrated in peninsular Florida. (USFWS) Many manatees rely on the warm water from natural springs and they are known to sometimes congregate in and around water control structures and the warm wastewater discharge of power plants.

Cold weather and outbreaks of red tide may adversely affect these animals. However, human activity is the primary cause for declines in species number due to collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution. Encounters with recreational and commercial watercraft significantly reduced the population levels of manatees along the Gulf coast and in 1967, the manatee was listed under the Endangered Species Act with critical habitat designated in 1976.

In 2017, the manatee was reclassified from “endangered” to “threatened” in response to a rebound in population. Manatees are also protected under the Marine Mammal Protection Act, which prohibits the take (i.e., harass, hunt, capture, or kill) of all marine mammals.

It is unlikely that they would be found in the project areas due to lack of vegetation for foraging and the shallow water depths in the area which would hinder movement.

Should manatee be encountered during in-water work in areas that could potentially support manatee, all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.

Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable. We recommend the inclusion of the following measures into construction plans and specifications to minimize potential impacts to manatees in areas where they are potentially present:

- All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). We recommend the following to minimize potential impacts to manatees in areas of their potential presence:

- All work, equipment, and vessel operation should cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in- water work can resume under careful observation for manatee(s).

- If a manatee(s) is sighted in or near the project area, all vessels associated with the project should operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels should follow routes of deep water whenever possible.

- If used, siltation or turbidity barriers should be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.

Atlantic Sturgeon (*Acipenser oxyrinchrus oxyrinchrus*)

The Atlantic sturgeon (Gulf species) is an anadromous fish that was listed as threatened throughout its range on September 30, 1991. It has five rows of bony plates known as scutes that run along its body. The snout has four slender, soft tissue projections, called barbels, in front of its mouth and the tail is like a shark's where one side, or lobe, is larger than the other. Atlantic sturgeon are slow-growing and late-maturing, and have been recorded to reach up to 14 feet in length and up to 60 years of age.

Atlantic sturgeon live in all saltwater habitats, except during the winter when it is found in rivers that empty into the Gulf of Mexico. They are bottom feeders and primarily prey on insects, crustaceans, mollusks, annelids (worms), and small fishes. They are found from the Mississippi River delta east to Suwannee River, Florida. In Louisiana, most occurrence records have been in the Pearl, Bogue Chitto, and Tchfefuncte Rivers. They are likely to be found also in any large river located within the Lake Pontchartrain drainage

Atlantic sturgeon adults and subadults typically spend the three to four of the coolest months of the year foraging in estuaries or Gulf of Mexico waters before migrating into coastal rivers to spawn and spend the warm summer months. This migration typically occurs from mid-February through April. Most adults arrive in the rivers when temperatures reach 70 degrees Fahrenheit and spend eight to nine months each year in the rivers before returning to estuaries or the Gulf of Mexico by the beginning of October.

On March 19, 2003, the FWS and the National Marine Fisheries Service (NMFS) published a final rule in the Federal Register (Volume 68, No. 53) designating critical habitat for the Gulf sturgeon in Louisiana, Mississippi, Alabama, and Florida. The

proposed project however, does not occur within nor would it impact designated sturgeon critical habitat.

Inflated (Alabama) Heelsplitter (*Potamilus inflatus*)

The inflated heelsplitter is a large freshwater mussel listed as threatened by the USFWS. It has an oval, compressed to moderately inflated, thin shell with a maximum length of 5 ½ inches. The heelsplitter is brown to black in color with pink to purple nacre. Young individuals may exhibit green rays in their coloring. This species prefers a soft, stable substrate in slow to moderate currents. It has been found in sand, mud, silt and sandy-gravel, but not in large or armored gravel. They are filter feeders that extract plankton and detritus by pumping water through their siphons.

Historically, the heelsplitter has been reported as occurring in the Tangipahoa River as well as the Amite River in Louisiana. It has not been reported as occurring in the Comite River. The range of the inflated heelsplitter consists of Alabama, Louisiana, and Mississippi. As with other mussel species, fish hosts are likely required. The species which may serve as hosts are unknown.

Conversion of habitat by impoundment, sand and gravel mining in the Amite River and, to a limited extent, by channel maintenance, has reduced the range of this species. It could be extirpated from the Amite River if sand and gravel mining activities continue to affect habitat quality in the stream channel to the degree that mussel beds are covered with dredge disposal. The occasional inflated heelsplitter that is taken by a dredge is probably of little consequence to the entire population of this species.

The section between the juncture of the Amite River and LJC to Woodlake Drive has been identified as suitable habitat for the Inflated heelsplitter; however there are no reports of specimens in this location.

Species of Special Interest

There are no known species of special interest in the study area or the named project areas.

Migratory Birds and Other Trust Resources

MVN has assessed the environmental impacts of the proposed action on species potentially found in the project area that are protected under the Bald and Golden Eagle Protection Act (BGEPA), the Migratory Bird Treaty Act of 1918 (MBTA), and Migratory Bird Conservation Act of 1929.

Bald Eagle (*Haliaeetus leucocephalus*)

Although it was officially delisted from the List of Endangered Species on August 8, 2007, the bald eagle is still protected by the Bald and Golden Eagle Protection Act (BGEA) and the Migratory Bird Treaty Act (MBTA). Major threats to this species include habitat

alteration, human disturbance, and environmental contaminants (i.e., organochlorine pesticides and lead).

The bald eagle is a large bird of prey weighing between 8 and 14 pounds, with a wingspan between 5 and a half and 8 feet. Both male and female adult eagles have a dark brown body and wings, a white head and tail and a yellow beak. Juvenile bald eagles have mottled brown and while plumage, gradually acquiring their signature adult plumage by the age of five.

Bald eagles nest in Louisiana from October through mid-May in mature trees (e.g., bald cypress, sycamore, willow, etc.) near fresh to intermediate marshes or open water in the southeastern parishes. Nest sites typically include at least one perch with a clear view of the water or area where the eagles usually forage. Habitats suitable for use by the bald eagle are present throughout coastal Louisiana, and can be found in the project area.

Breeding bald eagles occupy “territories” that they will typically defend against intrusion by other eagles, and that they likely return to each year. Eagles exhibit nest site fidelity and will use a productive nest year after year adding new material to it each year. A pair of eagles may use a nest until the nest itself becomes so large that the tree can no longer support it. In such a case, the pair might build a nest in the same territory, nearby the previous nest. Potential nest trees within a nesting territory may, therefore, provide important alternative bald eagle nest sites. Bald eagles are vulnerable to disturbance during courtship, nest building, egg laying, incubation, and brooding. Disturbance during this critical period may lead to nest abandonment, cracked or unincubated eggs, and exposure of small young to the elements. Human activity near a nest late in the nesting cycle may also cause flightless birds to jump from the nest tree, thus reducing their chance of survival.

There were no nests observed during site visits performed in 2019 and 2020, however there may be nests present that were not visible from access points or are not currently listed in the database maintained by the Louisiana Department of Wildlife and Fisheries.

The USFWS developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute “disturbance,” which is prohibited by the BGEPA. A copy of the NBEM Guidelines is available at:
http://www.fws.gov/southeast/es/baldeagle/NationalBaldEagleManagementGuidelines.pdf.

Those Guidelines recommend:

(1) Maintaining a specified distance between the activity and the nest (buffer area);
(2) Maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and
(3) Avoiding certain activities during the breeding

Birds

As the study area is located within the Mississippi Flyway, it supports various species of shore birds, wading birds and songbirds and experiences significant seasonal migrations of waterfowl species, which are of particular interest to recreational hunters. However, as the project areas are highly developed, there would be no recreational hunting taking place in the areas.

In a recent survey conducted by MVN biologists, the following species were identified as utilizing the shrubs and/or waters adjacent to the proposed project sites: great egret, snowy egret and cattle egret as well as various feeder birds. Foraging and roosting were the only activities exhibited during the duration of the surveys. MVN has determined that, the proposed action would have no adverse impacts on protected birds.

Conclusion and Determination of Effects

Based on the above information, the MVN has determined that the proposed action are not likely to adversely affect the West Indian manatee, the Atlantic Sturgeon, or the Inflated heelsplitter or their critical habitat; and would not adversely impact other protected species or species of interest that could potentially be found in the project area. Please provide your opinion on our determination.

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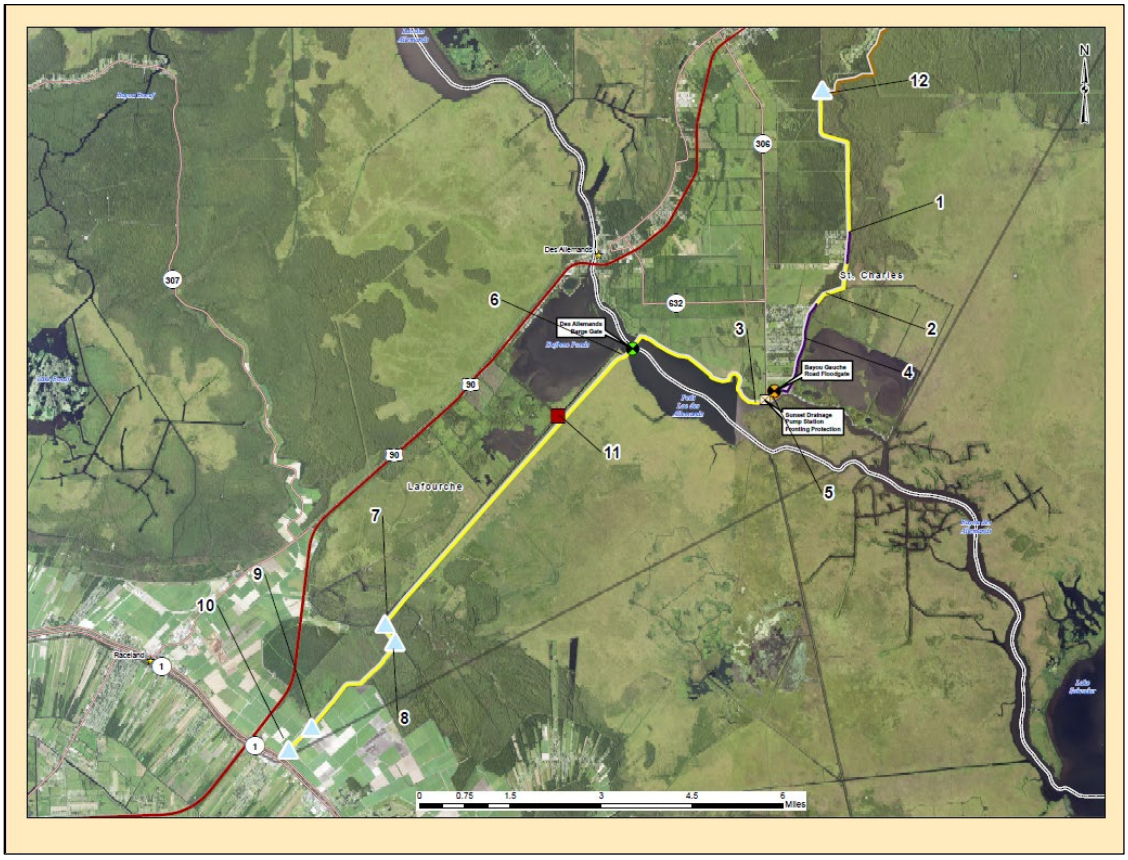

Figure 1: Upper Barataria Project Alignment

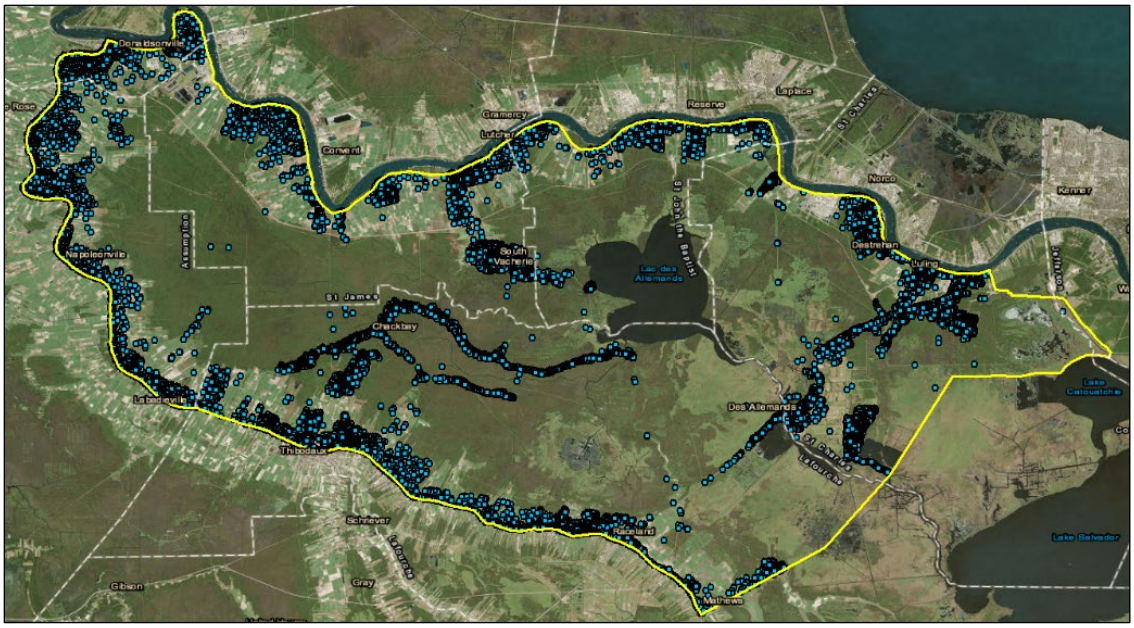

Figure 2: Upper Barataria Basin