Mississippi Valley Division,
Regional Planning and Environment Division South

Amite River and Tributaries East of the Mississippi River, Louisiana Feasibility Study (ART)

Appendix D-1: Agency Coordination

December 2023

ENVIRONMENTAL APPENDIX

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Louisiana Ecological
Services 200 Dulles Drive
Lafayette, Louisiana 70506

November 15, 2023

Colonel Cullen Jones
District Commander
U.S. Army Corps of Engineers
New Orleans District
7400 Leake Avenue
New Orleans, LA 70118-3651

Dear Colonel Jones:

The U.S. Army Corps of Engineers (USACE), Mississippi River Valley Division, Regional Planning and Environment Division South (RPEDS), is preparing a Draft Integrated Feasibility Report (DIFR) and Environmental Assessment (EA) for the Amite River and Tributaries East of the Mississippi River, Louisiana (ART). This study is investigating alternatives to reduce flood risk along the Amite River Basin, which covers portions of Amite, Lincoln, Franklin, and Wilkinson Counties in Mississippi as well as East Feliciana, St. Helena, East Baton Rouge, Livingston, Iberville, St. James, St. John the Baptist, and Ascension Parishes in Louisiana.

The Fish and Wildlife Service (Service) prepared a previous Draft Fish and Wildlife Coordination Act Reports for the ART Feasibility Study Environmental Impact Statement in October 2019 and two supplemental Planning Aid Letter (PAL) in December 2019 and April 2020.

This draft report contains an analysis of the impacts on fish and wildlife resources that would result from project implementation and provides recommendations to minimize those impacts. This draft report has been prepared by the Fish and Wildlife Service (Service) under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and does not constitute the report of the Secretary of the Interior as required by section 2b of that act. The Service also provides comments within this report under the following authorities: the National Environmental Policy Act of 1969, as amended, the Endangered Species Act of 1973 (ESA, 87 Stat. 884, as amended; 16 U.S.C. 661 et seq.), the Migratory Bird Treaty Act (MBTA, 40 Stat. 755, as amended; 16 U.S.C. 703 et seq.), and the Bald and Golden Eagle Protection Act (BGEPA, 54 Stat. 250, as amended, 16 U.S.C. 668a-d). A copy of this report will be provided to the Louisiana Department of Wildlife and Fisheries (LDWF) for review, and their comments will be included in our final report.

The proposed action is authorized as part of the Bipartisan Budget Act of 2018, H. R. 1892—13, Title IV, Corps of Engineers - Civil, Department of the Army, Investigations, where funds are being made available for the expenses related to the completion, or initiation and completion, of flood and storm damage reduction, including shore protection studies which are currently authorized or which are authorized after the date of enactment of this act, to reduce risk from future floods and hurricanes. The funds are at full federal expense and are available for high-priority studies of projects in States and insular areas with more than one flood related major disaster declared pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.) in calendar years 2014, 2015, 2016, or 2017.

This study area is being included based on the August 2016 flooding over southeast and south-central Louisiana, and is continuing investigation under the authorization provided by the Resolution of the Committee on Public Works of the United States Senate, adopted on April 14, 1967.

STUDY AREA

The study area is the Amite River Basin and tributaries (Figure 1). The Amite River Basin begins in southwest Mississippi and flows southward crossing the state line into southeastern Louisiana. The Amite River Basin includes 2,200 square miles flowing into the Amite River and its tributaries.

The study area is similar to the 1984 Amite Rivers and Tributaries Flood Control Initial Evaluation Study by USACE; however, it has been expanded to include areas that are impacted by backwater flooding to the southeast and east since they are hydraulically connected to the Amite River Basin and tributaries. Communities along the Amite River in East Baton Rouge, Ascension, and Livingston Parishes have undergone significant development since 1984 due to their proximity to Baton Rouge. Towns such as Prairieville, Gonzales, and Denham Springs are now subject to increased flood risks. No significant flood risks associated with the Amite River Basin were identified within the state of Mississippi; therefore, modeling and development of alternatives were focused on the state of Louisiana. This was confirmed with the Mississippi Soil and Water Conservation Commission, that there are no flooding impacts in the state of Mississippi from the Amite River and Tributaries in the state of Mississippi.

FISH AND WILDLIFE RESOURCES

The project area contains the Amite River and tributaries, sandbars, herbaceous and forested riparian wetlands, as well as upland forests. Two of the community types observed during roadside surveys were “small stream forests” and “hardwood slope forests” (LDWF 2009). Both communities contain yellow poplar, sweetgum, magnolia, and beech, as well as multiple species of oaks, hickories, and pines. The small stream forests also contain several species of elm and ash, as well as sycamore, cypress, cherry laurel, black gum, and river birch. These ecosystems provide valuable habitat for a variety of freshwater fish, mussels, crustaceans, reptiles, amphibians, birds,

and mammals. Many of these species (game and non-game) provide economic value to the State and local communities through hunting, fishing, bird watching, etc.

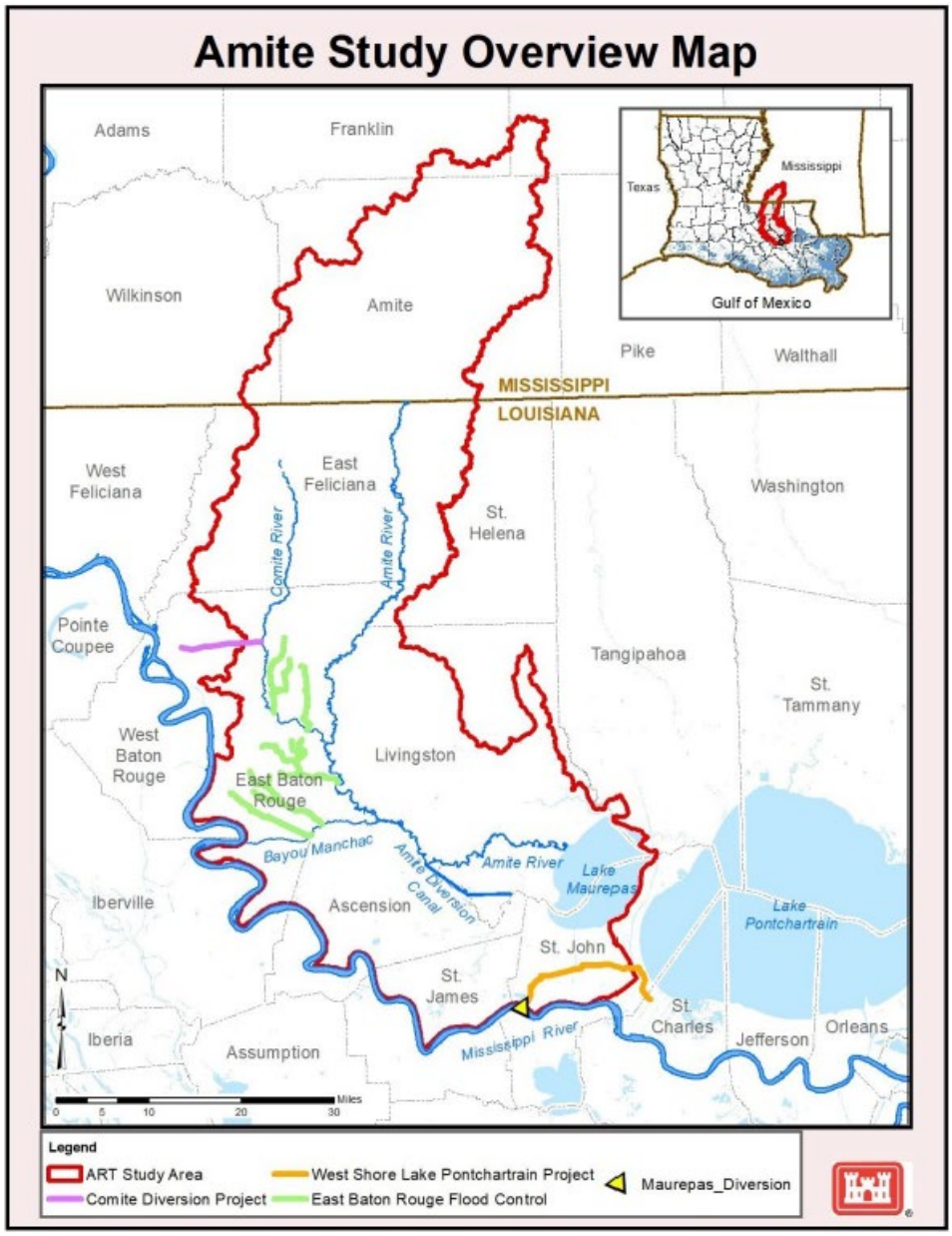

Figure 1. Amite River Basin and tributaries study area.

Federal trust species such as wading birds, waterfowl, and neotropical migrants all utilize the project area. Many of those species (i.e., little blue heron, wood thrush, prothonotary warbler, worm-eating warbler, Louisiana waterthrush, and painted bunting) have exhibited substantial population declines over the last 30 years, primarily as the result of habitat loss and

fragmentation. The Amite River itself is of particular importance to several federally threatened and at-risk species that are discussed below. Maintaining unobstructed passage for those aquatic resources will be a necessary component of the project design. Additional State-listed at-risk species found within the project area include broadstripe topminnow (*Fundulus euryzonus*), Alabama shad (*Alosa alabamae*), Rayed creekshell (*Anodontoides radiatus*), and four-toed salamander (*Hemidactylium scutatum*).

The downstream portion of the Amite River has been altered by past deepening projects and a flood control project that rerouted flows. The middle portion of the Amit River has been impacted by sand and gravel mining. This mining has caused instability in the river resulting in the widening and shallowing of portions of the river. Loss of gravel bars has also contributed to this instability and the loss of that instream habitat. Increased turbidity and sedimentation from the instability has decreased aquatic diversity within the river. The upstream portion of the Amite River is adversely affected by incision of the channel due to the gravel mines. This creates turbidity and sedimentation problems as well further impacting less common and/or habitat specific species.

Threatened and Endangered Species

Within the study area, four threatened or endangered species are known to occur (Table1). Information regarding those species and their preferred habitats are provided below.

Table 1. List of threatened species known to occur within the project area.

Species	Species Group	Status
Inflated Heelsplitter Mussel	Mollusk	Threatened
Gulf Sturgeon	Fish	Threatened
West Indian Manatee	Mammal	Threatened
Northern Long-eared Bat	Mammal	Endangered

Inflated Heelsplitter

Federally listed as a threatened species, the Inflated heelsplitter mussel (*Potamilus inflatus*) was historically found in Louisiana in the Amite, Tangipahoa, and Pearl Rivers. Many life history aspects of the species are poorly understood but are likely similar to that of other members of the Unionidae family. Although the primary host fish for the species is not certain, investigation by K. Roe et al. (1997) indicates that the freshwater drum (*Aplodinotus grunniens*) is a suitable glochidial host for the species.

Based on the most recent survey data, the currently known range for the inflated heelsplitter in Louisiana occurs only in the lower third of the Amite River along the East Baton Rouge/Livingston Parish line from Spiller's Creek, which is in the vicinity of Denham Springs downstream to the vicinity of Port Vincent. Because it has not been used widely for past or present gravel mining operations, the lower third of the Amite River (between Louisiana Highway 37 and Louisiana Highway 42) is more typical of a coastal plain river; being characterized by a silt substratum, less

channelization, and slower water flow, all of which are characteristic of heelsplitter habitat. This freshwater mussel is typically found in soft, stable substrates such as sand, mud, silt, and sandy gravel, in slow to moderate currents. Heelsplitter mussels are usually found in depositional pools below sand point bars and in shallow pools between sandbars and riverbanks. Impacts from sand and gravel mining are believed to be decreasing the range of the inflated heelsplitter.

Major threats to this species in Louisiana are the loss of habitat resulting from sand and gravel dredging and channel modifications for flood control, as shown by the apparent local extirpation of the species in the extensively modified upper portions of the Amite River. If implementation of the proposed action has the potential to directly or indirectly affect the inflated heelsplitter or its habitat, further consultation with this office will be necessary.

Gulf Sturgeon

The Gulf sturgeon (*Acipenser oxyrhynchus desotoi*), federally listed as a threatened species, is an anadromous fish that occurs in many rivers, streams, and estuarine and marine waters along the northern Gulf coast between the Mississippi River and the Suwannee River, Florida. In Louisiana, Gulf sturgeon have been reported at Rigolets Pass, rivers and lakes of the Lake Pontchartrain Basin, the Pearl River System, the Amite River, and adjacent estuarine and marine areas. Spawning occurs in coastal rivers between late winter and early spring (i.e., March to May). Adults and sub-adults may be found in those rivers and streams until November, and in estuarine or marine waters during the remainder of the year. Gulf sturgeon less than two years old appear to remain in riverine habitats and estuarine areas throughout the year, rather than migrate to marine waters. Habitat alterations such as those caused by water control structures and navigation projects that limit and prevent spawning, poor water quality, and over-fishing have negatively affected this species. If implementation of the proposed action has the potential to directly or indirectly affect the Gulf sturgeon or its habitat, further consultation with this office will be necessary.

West Indian Manatee

The threatened West Indian manatee (*Trichechus manatus*) is known to regularly occur in Lakes Pontchartrain and Maurepas and their associated coastal waters and streams. It also can be found less regularly in other Louisiana coastal areas, most likely while the average water temperature is warm. 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. 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. Please see Appendix A for recommendations to minimize potential impacts to manatees during construction.

Northern long-eared bat

The northern long-eared bat (*Myotis septentrionalis*), federally listed as an endangered species, is a medium sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches and is distinguished by its long ears. Its fur color can range from medium to dark brown on the back and tawny to pale brown on the underside. The northern long-eared bat can be found in much of the eastern and north central United States and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. In Louisiana, there have been confirmed reports of sightings in West Feliciana, Winn, and Grant parishes, although they can possibly be found in other parishes in the state. Some individuals were documented during mist net and bridge surveys on the Winn District of the Kisatchie National Forest and observed under bridges on the Winn District in Grant Parish.

Northern long-eared bats can be found in mixed pine/hardwood forest with intermittent streams. Northern long-eared bats roost alone or in small colonies underneath bark or in cavities or crevices of both live trees and snags (dead trees). During the winter, northern long-eared bats can be found hibernating in caves and abandoned mines, although none have been documented using caves in Louisiana. Northern long-eared bats emerge at dusk to fly through the understory of forested hillsides and ridges to feed on moths, flies, leafhoppers, caddis flies and beetles, which they catch using echolocation. This bat can also feed by gleaning motionless insects from vegetation and water surfaces.

The most prominent threat to this species is white-nose syndrome, a disease known to cause high mortality in bats that hibernate in caves. Other sources of mortality for northern long-eared bats are wind energy development, habitat destruction or disturbance, climate change and contaminants. If implementation of the proposed action has the potential to directly or indirectly affect the northern long-eared bat or its habitat, further consultation with this office will be necessary.

The USACE is responsible for determining whether the selected alternative is likely (or not likely) to adversely affect any listed species and/or critical habitat, and for requesting the Service's concurrence with that determination. If the USACE determines, and the Service concurs, that the selected alternative is likely to adversely affect listed species and/or critical habitat, a request for formal consultation in accordance with Section 7 of the Endangered Species Act should be submitted to the Service. That request should also include the USACE's rationale supporting their determination.

At-Risk Species

The Service's Southeast Region has defined "at-risk species" as those that are: 1) proposed for listing under the Endangered Species Act (ESA) by the Service; 2) candidates for listing under the ESA, which means the species has a "warranted but precluded 12-month finding"; or 3) petitioned for listing under the ESA, which means a citizen or group has requested that the Service add them

to the list of protected species. Petitioned species include those for which the Service has made a substantial 90-day finding as well as those that are under review for a 90-day finding. As the Service develops proactive conservation strategies with partners for at-risk species, the states' Species of Greatest Conservation Need (defined as species with low or declining populations) will also be considered.

The Service's goal is to work with private and public entities on proactive conservation to conserve these species, thereby precluding the need to federally list as many at-risk species as possible. While not all species identified as at-risk will become ESA listed species, their potentially reduced populations warrant their identification and attention in project planning. Listed below are species currently designated as "at-risk" that may occur within the proposed study area.

Proposed Threatened

Alligator Snapping Turtle

The alligator snapping turtle (*Macrochelys temminckii*) may be found in large rivers, canals, lakes, oxbows, and swamps adjacent to large rivers. It is most common in freshwater lakes and bayous, but also found in coastal marshes and sometimes in brackish waters near river mouths. Typical habitat is mud-bottomed waterbodies having some aquatic vegetation. The alligator snapping turtle is slow growing and long lived. Sexual maturity is reached at 11 to 13 years of age (Ernst et al.1994). Because of this and its low fecundity, loss of breeding females is thought to be the primary threat to the species.

Alabama Hickorynut

The Alabama hickorynut (*Obovaria unicolor*) is a 1.2- to 2-inch-long freshwater mussel with round or elliptical shape. The outer shell (periostracum) is smooth and brown to yellow brown, with rays. This species is a long term brooder that is gravid from June through August of the following year. Like other freshwater mussels, the Alabama hickorynut releases its larvae (glochidia) into the water column, where they parasitize a fish (glochidial host) to transform into a juvenile mussel. Once the glochidia are ready, they release from the host to find a suitable substrate. Suitable glochidial host fishes for this species include the naked sand darter (*Ammocrypta beani*), southern sand darter (*Ammocrypta meridiana*), Johnny darter (*Etheostoma nigrum*), Gulf darter (*Etheostoma swaini*), blackbanded darter (*Percina nigrofasciata*), dusky darter (*Percina sciera*), and redspot darter (*Etheostoma artesiae*). These are small fish that live along the bottoms of clear streams.

The Alabama hickorynut inhabits sand and gravel substrates in moderate currents in large streams. However, the presence of moderate gradient pool and riffle habitats in a variety of stream and river sizes may contain this species. In Louisiana, the Alabama hickorynut is known to occur in the Pearl and Amite River systems. Habitat modification and destruction due to siltation and impoundment threaten this species. It is also negatively affected by the pollution of streams and rivers.

Candidate Species

Monarch Butterfly
The monarch butterfly (*Danaus plexippus*) is a candidate species and not yet listed or proposed for listing. Consultation with U.S. Fish and Wildlife Service under section 7 of the Endangered Species Act is not required for candidate species, like the monarch. We encourage agencies, however, to take advantage of any opportunity they may have to conserve the species.

Unfortunately, the North American monarch population has severely declined. Habitat loss, pesticides, disease, climate change, predators, extreme weather, and other anthropogenic factors all threaten monarchs. Since the late 1990s both the eastern and western overwintering populations have declined by over 70 percent, as documented by World Wildlife Fund – Mexico in collaboration with SEMARNAT (Mexico's Ministry of Environment and Natural Resources), CONANP (Mexico's National Commission of Natural Protected Areas) and the Monarch Butterfly Biosphere Reserve (Semmens et. al 2016). Monarchs make an excellent flagship species for pollinator conservation. Creating habitat for monarchs by planting diverse, native nectar plants and milkweed also creates habitat for other pollinators which we rely on for pollination services in agricultural and natural settings. Conserving pollinators and their habitat has positive cascading effects leading to conservation of other animals like songbirds and mammals. This pays dividends towards the health of our natural and managed habitats, paving a future for our own species.

Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. In many regions where monarchs are present, monarchs breed year-round. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period. In the fall, in both eastern and western North America, monarchs begin migrating to their respective overwintering sites. This migration can take monarchs distances of over 3,000 km and last for over two months.

Migratory Birds and Other Trust Resources

Bald Eagle
The proposed project area may provide nesting habitat for the bald eagle (*Haliaeetus leucocephalus*), which was officially removed from the List of Endangered and Threatened Species as of August 8, 2007. However, the bald eagle remains protected under the MBTA and BGEPA.

Bald eagles typically nest in large trees located near coastlines, rivers, or lakes that support adequate foraging from October through mid-May. In southeastern Louisiana parishes, eagles typically nest in mature trees (e.g., baldcypress, sycamore, willow, etc.) near fresh to intermediate marshes or open water. Major threats to this species include habitat alteration, human disturbance, and environmental contaminants. Furthermore, bald eagles are vulnerable to disturbance during

courtship, nest building, egg laying, incubation, and brooding. Disturbance during these periods may lead to nest abandonment, cracked and chilled 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.

During project construction, on-site personnel should be informed of the possible presence of nesting bald eagles (*Haliaeetus leucocephalus*) near the project boundary, and should identify, avoid, and immediately report any such nests to this office. If an active or inactive eagle nest is discovered within 2 miles of the project footprint, then follow the bald and golden eagle guidelines to determine whether disturbance will occur and/or an incidental take permit is needed.

Wading Bird Colonies

In accordance with the MBTA and the FWCA, please be advised that the project area includes habitats that are commonly inhabited by colonial nesting waterbirds. We recommend that a qualified biologist inspect the proposed work sites for the presence of nesting colonies (during the nesting season) prior to any work being initiated that would impact the colony. For colonies containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills), anhingas, and/or cormorants, all activity occurring within 1,000 feet of a rookery should be restricted to the non-nesting period, depending on the species present.

In addition, we recommend that on-site contract personnel including project-designated inspectors be trained to identify colonial nesting birds and their nests, and avoid affecting them during the breeding season (i.e., the time period outside the activity window). Should on-site contractors and inspectors observe potential nesting activity, coordination with the Service and the Louisiana Department of Wildlife and Fisheries should occur.

DESCRIPTION OF TENTATIVELY SELECTED PLAN AND EVALUATED ALTERNATIVES

The project was designated as a Mega Study in early August 2023, which facilitated Project Development Team (PDT) efforts in an accelerated timeline. The Tentatively Selected Plan (TSP), in the publicly released 2019 Draft Integrated Feasibility Report/Environmental Impacts Statement (DIFR/EIS), included a $2.3 billion dry dam and nonstructural measures to address residual risk. This preliminary plan was initially determined to be feasible, but later revealed technical and policy concerns that were raised during the review process. As a result, this plan was further evaluated, but ultimately rejected as a consideration. With the removal of the Dry Dam alternative, the next highest National Economic Development (NED) Plan in the 2019 DFIR/EIS final array was the nonstructural plan (nonstructural includes measures such as structure elevations, relocations, and flood-proofing). To further assess the nonstructural only plan, three alternatives were developed as well as revisions to existing conditions to account for projects that alter hydrology. Additionally, hydraulic and hydrology models were modified for inclusion of storm surge downstream boundary conditions. The first alternative identified was the nonstructural NED plan using a new USACE method of

aggregation and two additional alternatives that increased the comprehensive benefits for socially vulnerable areas.

Previous alternatives (15 alternatives) were discussed in the October 2019 FWCA Report and are herein incorporated by reference.

DESCRIPTION OF IMPACTS

The completion of the nonstructural plan (structure elevations, relocations, and flood-proofing of already developed areas) would result in minimal or no impacts to fish and wildlife resources.

SERVICE POSITION AND RECOMMENDATIONS

The Service does not object to the nonstructural plan of the TSP provided that the following recommendations are fully addressed.

1. If ring levees are proposed as part of the "non-structural" component of the TSP, the levee alignments should be located to avoid and minimize impacts to both herbaceous wetlands and forested communities (wet and non-wet) as much as possible. The acreage of wetlands and forested habitat enclosed within ring levees also should be minimized to the maximum extent practicable.

2. Avoid adverse impacts to bald eagle nesting locations and wading bird colonies through careful design of project features and timing of construction. During project construction, a qualified biologist should inspect the proposed construction site for the presence of documented and undocumented wading bird nesting colonies and bald eagles.

    a. All construction activity during the wading bird nesting season (February through October 31 for wading bird nesting colonies, exact dates may vary) should be restricted within 1,000 feet of a wading bird colony. If restricting construction activity within 1,000 feet of a wading bird colony is not feasible, the CPRA should coordinate with the Service to identify and implement alternative best management practices to protect wading bird nesting colonies.
    b. During construction activities, if a bald eagle nest is within or adjacent to the proposed project area, the applicant should follow the bald and golden eagle guidelines found on-line here to determine whether disturbance will occur and/or an incidental take permit is needed.

3. If implementation of the proposed action has the potential to directly or indirectly affect Inflated heelsplitter mussel, Gulf sturgeon, West Indian Manatee, or the Northern long-eared bat, then consultation with this office should be initiated.

4. West Indian manatees occasionally enter Louisiana coastal waters and streams during the warmer months (i.e., June through September). During in-water work in areas that potentially support manatees 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, the Endangered Species Act of 1973, and state law. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with manatees, although passively taking pictures or video would be acceptable. For more detail on avoiding contact with manatees refer to the Endangered and Threatened Species section of this document, contact this office.

5. The Service recommends that the USACE contact the Service for additional ESA section 7 consultation if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat, 3) the action is modified in a manner that causes effects to listed species or designated critical habitat, or 4) a new species is listed or critical habitat designated.

We appreciate the cooperation of your staff on this project and look forward to our continued coordination to further protect fish and wildlife resources. Should you have any questions regarding our comments, please contact Cathy Breaux (337/291-3122) of this office.

Sincerely,

Brigette D. Firmin

Brigette D. Firmin BRIGETTE FIRMIN Digitally signed by BRIGETTE FIRMIN Date: 2023.11.15 11:27:36 -06'00'
Field Supervisor
Louisiana Ecological Services Office

cc: FWS, Ecological Services, Jackson, MS

Literature Cited

Ernst, C. H., J. E. Lovich, and R. W. Barbour. 1994. Turtles of the United States and Canada. Smithsonian Institution Press, Washington, DC.

Louisiana Department of Wildlife and Fisheries. 2009. The Natural Communities of Louisiana. Louisiana Natural Heritage Program.

Appendix A

Manatee Conditions/Recommendations

During in-water work in areas that potentially support manatees 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.

- Temporary signs concerning manatees should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½ " X 11" reading language similar to the following: “CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT”. A second temporary

sign measuring 8½ " X 11" should be posted at a location prominently visible to all personnel engaged in water-related activities and should read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".

- Collisions with, injury to, or sightings of manatees should be immediately reported to the Service's Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.