Mississippi River Valley Division,
Regional Planning and Environment Division South

South Central Coast Louisiana

Draft Feasibility Study with Integrated Environmental Impact Statement

Hurricane Ike flooding in Delcambre, Louisiana.

Appendix A-5 – Endangered Species Act, Section 7 Compliance

November 2019

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS LA 70118-3651

September 30, 2019

Regional Planning and Environmental
Division South (RPEDS)

Mr. Joe Ranson
Field Supervisor
U.S. Fish and Wildlife Service
200 Dulles Drive
Lafayette, LA 70506

Dear Mr. Ranson,

The US Army Corps of Engineers, New Orleans District (District) is preparing a feasibility report with integrated environmental impact statement pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, for the proposed *South Central Coast Louisiana Flood Risk Management Feasibility Study*, located in St. Martin, Iberia, and St. Mary parishes, Louisiana. The study will determine if the work necessary to sustain 100-year level of hurricane storm damage risk reduction is technically feasible, environmentally acceptable, and economically justified. The non-Federal sponsor is the Louisiana Coastal Protection and Restoration Authority.

The purpose of this letter is to inform you the District prepared Endangered Species Act, Section 7 documentation addressing the District's No Effect determination for the listed species, their habitats, or proposed or designated critical habitat occurring in the project area. While the USFWS is under no obligation to respond to this letter, we welcome any comments, concerns, or new information that may change our determination.

The District recently narrowed its list of feasible alternatives. Based on costs versus flood risk management benefit, the tentatively selected plan includes nonstructural measures within the 25-year floodplain. Nonstructural measures include elevating residential structures, buyouts, and flood proofing nonresidential structures.

Enclosed for your information is the District's No Effect determination & documentation. This documentation provides a brief project description, relevant background information, study area location, and species information.

If the project changes or if additional information on the distribution of listed or proposed species becomes available, the District will reconsider its No Effect determination and coordinate any change as soon as possible.

Please provide any comments you have concerning our determination. While your concurrence is not required, it is always welcomed. You may provide written concurrence 30 days from date of letter. We look forward to working with your agency on this project and appreciate the working relationship thus far. If you have any questions or would like to discuss in more detail, please contact Mr. Joe Jordan, Environmental Project Lead (309-794-5791).

Sincerely,

Jodi Creswell

Jodi Creswell
Environmental Planning Branch Chief

Enclosure

1.0. No Effect Determination & Documentation

1.1 INTRODUCTION

Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended, requires, *"Each Federal agency shall, in consultation with and with the assistance of the secretary, insure any action authorized, funded, or carried, out by such agency…. Is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species…."*

"No effect" is the appropriate conclusion if the proposed action will not affect listed species/critical habitat. The proposed project's anticipated effects are outside the range of listed species and critical habitat covered by FWS. Therefore, the project will have No Effect on ESA-listed species or designated critical habitat.

The US Army Corps of Engineers, New Orleans District (District), prepared this No Effect documentation evaluating the District's proposed measures to reduce coastal storm damage risks in southern Louisiana (Figure 1). The District is currently preparing *The South Central Coast Louisiana Feasibility Report With Integrated Environmental Impact Statement*. The District is coordinating their No Effect determination with the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NFMS). The non-Federal sponsor is the Louisiana Coastal Protection and Restoration Authority.

Under the ESA, Section 7, the USFWS is not obligated to concur to this No Effect determination. Similarly, the NFMS reviewed its consultative responsibilities under ESA, 16 U.S.C. § 1536, and associated regulations at 50 C.F.R. part 402. Based on this review, the NMFS is not required to provide formal written responses to requests for concurrence with a federal action agency's determination its actions will not affect any ESA-listed species or designated critical habitat ("no effect" determination).

In cases where the USFWS or NMFS disagree with the federal action agency's "no effect" determination, they may offer to provide the above-referenced technical assistance and may urge the federal action agency to engage in ESA Section 7 consultation.

This No Effect documentation provides the information required pursuant to the ESA and implementing regulation (50 CFR 402.14), to comply with the ESA. Additional jurisprudence includes the National Environmental Policy Act of 1969, 42 U.S.C. section 4321, *et seq.;* the Fish and Wildlife Coordination Act of 1958 (PL 85-624; 16 U.S.C. 661 et seq.); the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940.

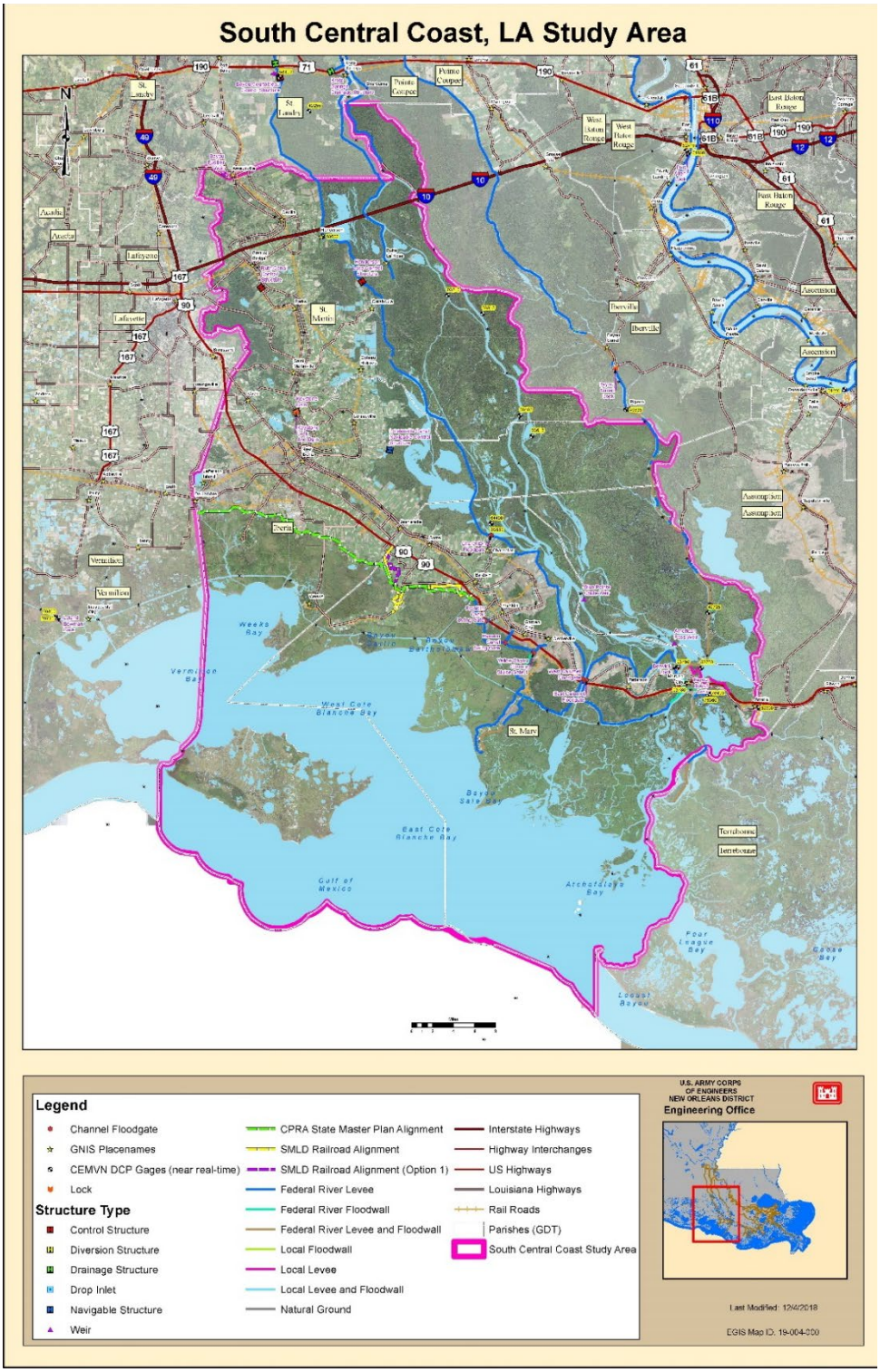


Figure 1. The South Central Coast Louisiana Area – St. Martin, St. Mary, and Iberia Parishes, Louisiana

The No Effect documentation provides an assessment of the effects of the project on the protected species in the vicinity of the project. Because this project will not be constructed in the next year, the District will initiate an updated threatened and endangered species review with USFWS and NMFS no more than a year before construction begins. If the project changes or if additional information on the distribution of listed or proposed species becomes available, the District will reconsider its No Effect determination and coordinate any change in it as soon as possible.

1.1. Consultation to Date. Table 1 describes the ongoing project ESA coordination to date.

Table 1. Consultation to Date

Event	Date	Results
Initial agency informational meeting, New Orleans, LA	November 6, 2018	The PDT described the project's purpose and need, coordination requirements, and schedule.
USFWS provided a Fish and Wildlife Coordination Act Planning Aid Letter to the PDT.	November 20, 2018	The PAL provided, among other information, a list of threatened and endangered species (table 2)
Periodic webinars (4) during the initial stage of project planning	February 14, 2019 April 2, 2019 July 23, 2019 September 12, 2019	Communication concerning possible project measures and related potential environmental impacts.

1.2 PURPOSE AND NEED FOR THE PROJECT

The people, economy, environment, and cultural heritage of coastal areas in South Central Louisiana are at risk from reoccurring damages caused by hurricane storm surge flooding and riverine flooding. South Central Coast topography and low elevation, proximity to the Gulf of Mexico, subsiding lands, and rising seas, are all contributing factors causing coastal flooding, shoreline erosion and loss of wetland. These conditions will worsen without additional storm mitigative measures.

Approximately 177,000 people reside within the study area. The Gulf Intracoastal Waterway (GIWW) transects the study area, with most population centers occurring north of the GIWW. The largest municipalities include Breaux Bridge and St. Martinville in St. Martin Parish. New Iberia, Jeanerette, Delcambre, and Loreauville in Iberia Parish and in St. Mary Parish, Morgan City, Franklin, Patterson, Baldwin, Berwick, as well as the federally-recognized Tribal Nation of the Chitimacha whose reservation includes most of Charenton.

Commercial activities in the study area include those related to:

- the GIWW and Bayou Teche;
- the Port of Morgan City, Port of West St. Mary, and Port of Iberia;
- Keystone Lock and Dam, Berwick Lock, and Bayou Boeuf Lock;
- the Wax Lake Outlet and Pumping Station;

- Patterson Regional Airport;
- major transportation corridors and evacuation routes (Hwy 90/future I-49 corridor); and

In addition to the adverse impacts resulting from repeated storm events such as Hurricanes Rita, Ike, and Gustav, this area is also vulnerable to coastal land loss and degradation, which increases risk to communities, habitat, and infrastructure.

Project construction in south central Louisiana would reduce flood risk in the area by increasing sustainability and resiliency to flood events for the affected communities. Without the project, affected communities would remain at risk for future flood affiliated impacts, including life safety and economic damage concerns.

1.3 PROJECT DESCRIPTION AND LOCATION

The District's Tentatively Selected Plan addresses flood risk management problems and solutions and considers past, current, and future flood risk management and resilience planning initiatives.

At this time, the tentatively selected plan includes implementing nonstructural measures across the project area's 25-year floodplain. The project life is 50 years (2025-2075).

3.1. Nonstructural Features Within the 25 year Floodplain. Nonstructural measures differ from structural measures since they focus on reducing consequences of flooding instead of focusing on reducing the probability of flooding. Nonstructural measures include elevating (or raising) existing residential structures (Figure 2).

At present, there are 3,463 structures within the 25-year floodplain. This includes residential and nonresidential structures. The number of homes actually getting elevated depends on their eligibility and the owners voluntarily electing to raise their homes. Therefore, the District assumes the total number of homes participating in the project would be something lower than 3,463. Nonresidential structure participation numbers will also be something less than 100 percent.

- Elevation of eligible residential structures. This measure requires lifting the entire structure or the habitable area to the predicted 2075, 100-year base flood elevation unless the required elevation is greater than a maximum of 13 feet above ground level (structures requiring elevation greater than 13 feet above ground level would be ineligible to participate due to engineering and risk related factors).
- Dry flood proofing of eligible non-residential structures. Dry flood proofing consists of sealing all areas below the hurricane storm surge risk reduction level of a structure to make it watertight and to ensure that floodwaters cannot get inside by making walls, doors, windows, and other openings resistant to water penetration.

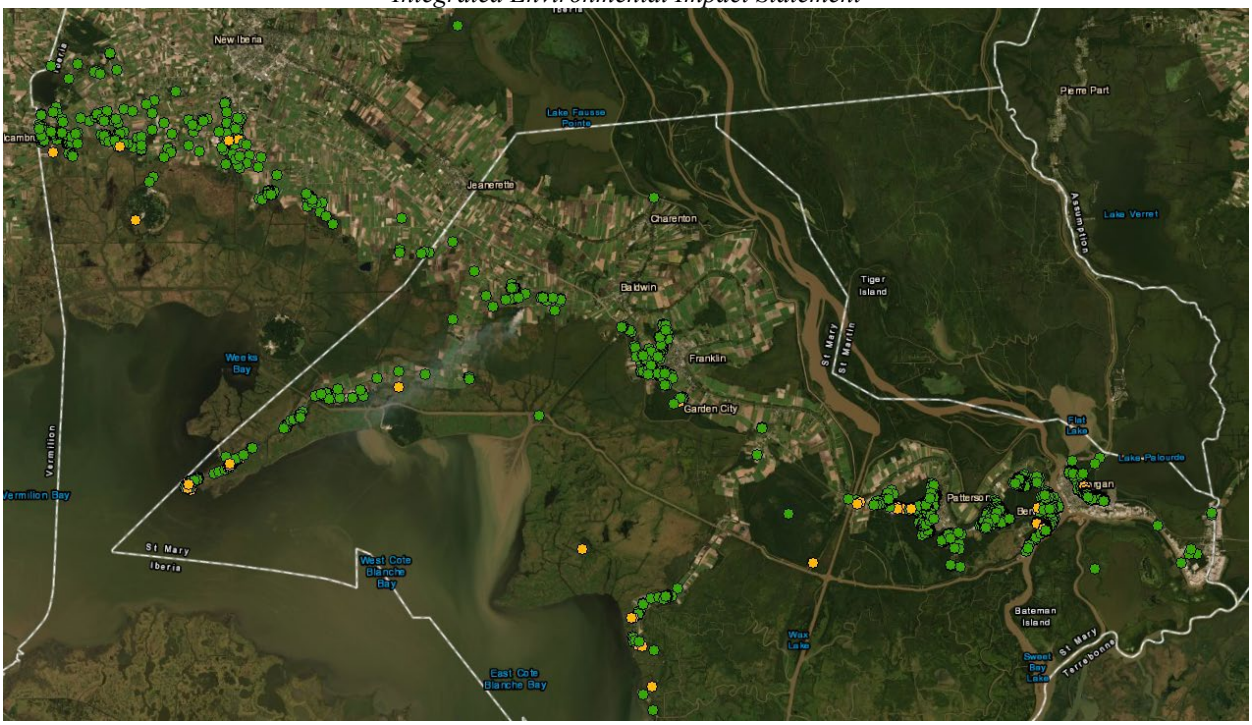


Figure 2. Nonstructural Plan - 25-Year Floodplain Aggregation
(Dots indicate where 25-year flood events occur.)

1.4 PROJECT LOCATION

1.4.1 Study Area.

The South Central Louisiana study area encompasses 2,966 square miles of varying terrain in St. Martin, St. Mary, and Iberia Parishes (Figure 1). The majority of the study area borders Vermillion and West Cote Blanche Bays located in the Gulf of Mexico. The study area has major thoroughfares and intersections, connecting a large portion of the southern part of Louisiana.

Structure modification would be on a case-by-case basis across the 25 year floodplain. The Structures include homes, public infrastructure such as libraries, fire stations schools, etc., and nonresidential buildings. These structures are in developed and/or disturbed areas.

1.4.2 Action Area.

For this project, the action area is the same as the study area. The District does not anticipate areas outside the study area would experience additional/less flooding, or impacts to fish and wildlife resources migrating through the area or seasonally occupying the area.

1.5 THREATENED, ENDANGERED, PROPOSED THREATENED OR PROPOSED ENDANGERED SPECIES

In a planning aid letter dated, November 20, 2018, the USFWS provided a list of protected species. Within the study area (Iberia, St. Martin, and St. Mary Parishes), nine threatened or endangered species are known to occur or believed to occur (Table 2). Information regarding those species and their preferred habitats are provided below.

Table 2. Threatened, Endangered, Proposed Threatened, or Proposed Endangered Species

Specie	Specie Group	Status
Pallid Sturgeon	Fish	Endangered
Green Sea Turtle	Reptile	Threatened
Hawksbill Sea Turtle	Reptile	Endangered
Kemp's Ridley Sea Turtle	Reptile	Endangered
Leatherback Sea Turtle	Reptile	Endangered
Loggerhead Sea Turtle	Reptile	Threatened
Red Knot	Bird	Threatened
West Indian Manatee	Mammal	Endangered

1.5.1 Critical Habitat.

The USFWS has not designated Critical Habitat for any of the listed species in the study area.

1.5.2 At-Risk Species.

The USFWS listed several At- Risk Species. The Service's Southeast Region has defined "at-risk species" as those that are:

1) proposed for listing under the 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, meaning a citizen or group requested the USFWS add them to the list of protected species. Petitioned species include those the USFWS made a substantial 90-day finding as well as those under review for a 90-day finding. As the USFWS 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 as an At-Risk Specie.

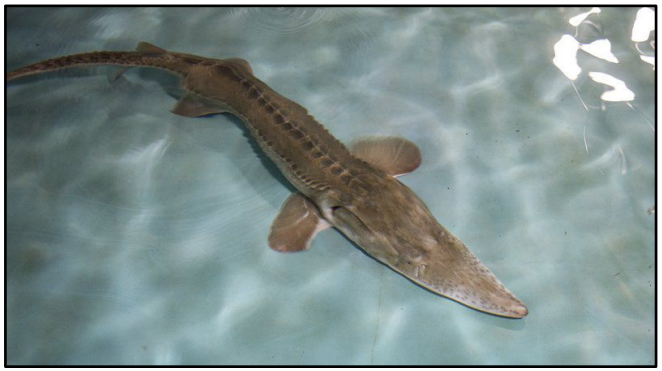
While these species are not protected to the degree of a listed species, the USFWS's goal is to work with private and public entities on proactive conservation to conserve these species thereby precluding the need to federally list as many at-risk species as possible. The PDT is not obligated to include these species in this documentation, it does recognize their importance and will consider as much protection and conservation as possible in the planning and possible construction of the proposed project. Table 3 describes those species currently designated as "at-risk" that may occur within the project area.

Table 3. The USFWS-designated At-Risk Species

Species	Notes
Eastern black rail	The Eastern black rail has a broad distribution inhabiting higher elevations of tidal marshes and freshwater wetlands throughout the Americas. They are found in a variety of salt, brackish, and freshwater marsh habitats that can be tidally or non-tidally influenced. In Louisiana, occurrences have been documented in high brackish marsh vegetated with saltgrass, sea oxeye, gulf cordgrass and saltmeadow cordgrass and often interspersed with shrubs such as marsh elder or saltbush. The high marsh is only inundated during extreme high tide events.
Alligator snapping turtle	The alligator snapping turtle 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.
Golden-winged warbler	The golden-winged warbler breeds in higher elevations of the Appalachian Mountains and northeastern and north-central U.S. with a disjunct population occurring from southeastern Ontario and adjacent Quebec northwest to Minnesota and Manitoba. Wintering populations occur in Central and South America. The loss of wintering habitat in Central and South America and migratory habitat may also contribute to its decline.
Monarch Butterfly	The Monarch and other pollinators like honey bees have experienced devastating declines in their populations.
Migratory Birds and Other Trust Resources	
Bald eagle	The proposed project area may provide nesting habitat for the bald eagle. In southeastern Louisiana parishes, eagles typically nest in mature trees (e.g., baldcypress, sycamore, willow, etc.) near fresh to intermediate marshes or open water.
Louisiana black bear	Louisiana black bears (Ursus americanus luteolus) are primarily associated with forested wetlands, however, they utilize a variety of other habitat types, including scrub-shrub, marsh, spoil banks, and upland forests. Due to recovery, the Louisiana black bear was officially removed from the List of Endangered and Threatened Species on March 11, 2016 (effective April 11, 2016); critical habitat designation for this subspecies has also been withdrawn.
Coastal forest & neotropical migrating songbirds	The direct loss of grassland and forested habitat, the proposed project may indirectly impact migratory birds of conservation concern because construction of large-scale projects within forested habitats typically results in habitat fragmentation.
Wading Bird Colonies	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.
Coastal Barrier Resources System	A portion of the project area falls within the Coastal Barrier Resources System (CBRS) unit LA-05P. The CBRA encourages the conservation of hurricane prone and biologically rich coastal barriers.
Bayou Teche National Wildlife Refuge	The Bayou Teche National Wildlife Refuge (NWR) is located within St. Mary Parish.
Atchafalaya Delta Wildlife Management Area	The Atchafalaya Delta Wildlife Management Area, operated by the Louisiana Department of Wildlife and Fisheries, is located within St. Mary Parish and encompasses both the Atchafalaya River Delta and Wax Lake Outlet Delta.

Marsh Island Wildlife Refuge	The Marsh Island Wildlife Refuge, operated by the Louisiana Department of Wildlife and Fisheries, is located at the edge of the Gulf of Mexico, in Iberia Parish.

1.5.3 SPECIES DESCRIPTION AND MANAGEMENT GUIDANCE



Pallid Sturgeon (*Scaphirhynchus albus*)**.** The USFWS listed the Pallid sturgeon as endangered on September 6, 1990. All of the 3,350 miles of riverine habitat within the Pallid sturgeon's range have been adversely affected by man. Approximately 28 percent have been impounded, which has created unsuitable lake-like habitat; 51 percent have been channelized into deep, uniform channels; the remaining 21 percent are downstream of dams, which have altered the river's hydrograph, temperature and turbidity. Commercial fishing and environmental contaminants may have also played a role in the Pallid sturgeon's decline. Without artificial propagation in hatcheries and subsequent population augmentation, this population will likely be extirpated. The juvenile Pallid sturgeon stocked under this plan will be the founder population for recovery.

The March 4, 2014, report, *Final Revised Recovery Plan for the Pallid Sturgeon* was the first revision to the recovery plan since 1993 (https://www.fws.gov/mountain-prairie/es/species/fish/pallidsturgeon/RecoveryPlan2014.pdf). The revised recovery plan documents the current understanding of the species life history requirements, identifies probable threats that were not originally recognized, includes revised recovery criteria, and based on improved understanding of the species, describes those actions believed necessary to eventually delist the species.

The Pallid sturgeon is an endangered, bottom-oriented fish that inhabits large river systems from Montana to Louisiana. Within this range, Pallid sturgeon tend to select main channel habitats in the Mississippi River and main channel areas with islands or sand bars in the upper Missouri River. In Louisiana, it occurs in the Atchafalaya and Mississippi Rivers, and below Lock and Dam Number 3 on the Red River (with known concentrations in the vicinity of the Old River Control Structure Complex). The Pallid sturgeon is adapted to large, free-flowing, turbid rivers with a diverse assemblage of physical characteristics that are in a constant state of change. Many life history details and subsequent habitat requirements of this fish are not known. However, the Pallid sturgeon is believed to utilize Louisiana riverine habitat during reproductive stages of its life cycle. Habitat loss through river channelization and dams has adversely affected this species throughout its range.

Green Sea Turtle (*Chelonia mydas*)**.** The green sea turtle was listed as endangered/threatened on July 28, 1978. The breeding populations off Florida and the Pacific coast of Mexico are listed as endangered while all others are threatened. The species' current status is listed as threatened in Louisiana.

Although green sea turtles are found worldwide in oceans and gulfs with water temperatures greater than 68 degrees F (20 degrees C), their distribution can be correlated to grass bed distribution, location of nesting beaches, and associated ocean currents. Long migrations are often made between feeding and nesting grounds. Within Louisiana waters, these turtles probably occur all along the coast and may nest on the Chandeleur Islands (Dundee and Rossman, 1989). Green sea turtles feed in shallow water areas with abundant seagrasses or algae. The turtles migrate form nesting areas to feeding grounds, which are sometimes several thousand miles apart. Most turtles migrate along the coasts, but some populations are known to migrate across the ocean from nesting area to feeding grounds, The major nesting beaches are always found in places where the seawater temperature is greater than 77 degrees F (25 degrees C) (NMFS, 1991).

Hawksbill Sea Turtle (*Eremochelys imbricata*)**.** The hawksbill was listed as an endangered species on June 2, 1970, and it is currently listed as endangered in Louisiana. The decline of this species is primarily due to human exploitation for tortoiseshell. While the legal hawksbill shell trade ended when Japan agreed to stop importing shell in 1993, a significant illegal trade continues. Other threats include loss or degradation of nesting habitat from coastal development and beach armoring; disorientation of hatchlings by beachfront lighting; nest predation by native and non-native predators; degradation of foraging habitat; marine pollution and debris; watercraft strikes; and incidental take from commercial fishing operations.

The hawksbill is found in tropical and subtropical regions of the Atlantic, Pacific, and Indian Oceans. The species is widely distributed in the Caribbean Sea and western Atlantic Ocean. In contrast to all other sea turtle species, hawksbills nest in low densities on scattered small beaches. In 2007, about 21,212 to 28,138 hawksbills were estimated to nest each year at 83 nesting sites distributed among 10 ocean regions around the world. Hawksbills frequent rocky areas, coral reefs, shallow coastal areas, lagoons or oceanic islands, and narrow creeks and passes. They are seldom seen in water deeper than 65 feet. Hatchlings are often found floating in masses of sea plants, and nesting may occur on almost any undisturbed deep-sand beach in the tropics. Adult females are able to climb over reefs and rocks to nest in beach vegetation.

Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)**.** Endangered throughout its range (Federal Register, December 2, 1970). The decline of this species is primarily due to human activities, including the direct harvest of adults and eggs and incidental capture in commercial fishing operations. Today, under strict protection, scientists are cautiously optimistic the population is on its way to recovery.

The range of the Kem's ridley includes the Gulf coasts of Mexico and the U.S., and the Atlantic coast of North America as far north as Nova Scotia and Newfoundland. Nesting is essentially limited to the beaches of the western Gulf of Mexico, primarily in Tamaulipas and Veracruz, Mexico with a few historical records in Campeche, Mexico. Nesting also occurs regularly in Texas and infrequently in a few other U.S. states.

The Kemp's ridley is the most endangered of the sea turtles. Its numbers precipitously declined after 1947, when over 40,000 nesting females were estimated in a single arribada. The nesting population produced a low of 702 nests in 1985; however, since the mid-1980s, the number of nests laid in a season has been increasing primarily due to nest protection efforts and implementation of regulations requiring the use of turtle excluder devices in commercial fishing trawls. In 2011, a total of 20,570 nests were documented in Mexico, 81 percent of these nests were documented along the 18.6 miles of coastline patrolled at Rancho Nuevo. In addition, in the United States, 199 nests were recorded in 2011, primarily in Texas.

Outside of nesting, the major habitat for Kemp's ridleys is the nearshore and inshore waters of the northern Gulf of Mexico. Adult and sub-adult Kemp's ridleys primarily occupy nearshore habitats containing muddy or sandy bottoms where prey can be found. Kemp's ridley hatchlings and small juveniles inhabit a very different environment than adults. After emerging from the nest, hatchlings enter the water and quickly swim offshore to open ocean developmental habitat where they associate with. They passively drift within the Sargassum, feeding on a wide variety of floating items. Some of these juvenile turtles remain within Gulf of Mexico currents while others are swept out of the Gulf and into the Atlantic Ocean by the Gulf Stream. This developmental period is estimated to last approximately

2 years or until the turtles reach a carapace length of about 8 inches, at which time these sub-adult turtles return to neritic zones of the Gulf of Mexico or northwestern Atlantic Ocean where they feed and continuing growing until they reach maturity.

Leatherback Sea Turtle (*Dermochelys coriacea*). Endangered throughout its range (Federal Register, June 2, 1970). The crash of the Pacific leatherback population, once the world's largest population, is believed primarily to be the result of exploitation by humans for the eggs and meat, as well as incidental take in numerous commercial fisheries of the Pacific. Other factors threatening leatherbacks globally include loss or degradation of nesting habitat from coastal development; disorientation of hatchlings by beachfront lighting; nest predation by native and non-native predators; degradation of foraging habitat; marine pollution and debris; and watercraft strikes.

The leatherback is the most pelagic (open ocean dwelling) of the sea turtles. Adult females require sandy nesting beaches backed with vegetation and sloped sufficiently so the distance to dry sand is limited. Their preferred beaches have proximity to deep water and generally rough seas.

Loggerhead Sea Turtle (*Caretta caretta*). The loggerhead sea turtle was initially listed as threatened throughout its range (Federal Register, July 28, 1978). On September 22, 2011, the listing was revised from a single globally-threatened species to a listing of nine Distinct Population Segments—five listed as threatened (Northwest Atlantic Ocean, South Atlantic Ocean, Southwest Indian Ocean, Southeast Indo-Pacific Ocean, and South Atlantic Ocean) and five listed as endangered (Northeast Atlantic Ocean, Mediterranean Sea, North Pacific Ocean, South Pacific Ocean, and North Indian Ocean).

The primary threats to nesting beaches include coastal development and construction, placement of erosion control structures and other barriers to nesting, beachfront lighting, vehicular and pedestrian traffic, sand extraction, beach erosion, beach nourishment, beach pollution, removal of native vegetation, and planting of non-native vegetation.

Threats also include nest predation by native and non-native predators; degradation of foraging habitat; marine pollution and debris; watercraft strikes; disease; and incidental take from channel dredging and commercial trawling, longline, and gill net fisheries. There is particular concern about the extensive incidental take of juvenile loggerheads in the eastern Atlantic by longline fishing vessels from several countries.

Loggerhead sea turtles nest within the coastal United States from Virginia to Louisiana, with major nesting concentrations occurring on the coastal islands of North Carolina, South Carolina, and Georgia, and on the Atlantic and Gulf coasts of Florida. Historically in Louisiana, loggerheads have been known to nest on the Chandeleur Islands, and recent data indicate rare nesting attempts along Fourchon Beach in Lafourche Parish. Nesting and hatching dates for the loggerhead in the northern Gulf of Mexico are from May 1 through November 30. Threats to this species include destruction of nesting habitat and drowning in fishing nets.

The threatened loggerhead sea turtle and the endangered Kemp's ridley could potentially nest in Louisiana during the summer months (i.e., May through November). Historical records indicate loggerheads nested on the Chandeleur Islands and recent data indicate rare nesting attempts along Fourchon Beach in

Lafourche Parish. The Kemp's ridley is known to nest in coastal Texas and Alabama; thus, nesting attempts could possibly occur in Louisiana as that species achieves recovery.

Red Knot (*Calidris canutus rufa*). On September 27, 2013, the Service released a proposal to list the rufa red knot as threatened under the Endangered Species Act, and submitted that determination to the Federal Register by the legal deadline of November 28. The Candidate Notice of Review published in the Federal Register on December 5, 2014, listed the rufa red knot as a candidate species. The rufa red knot will be removed from the candidate list upon the effective date of the final listing determination.

The knot population decline that occurred in the 2000s was caused primarily by reduced food availability from increased harvests of horseshoe crabs, exacerbated by small changes in the timing that knots arrived at the Delaware Bay. Horseshoe crab harvests are now managed with explicit goals to stabilize and recover knot populations.

The red knot, federally listed as a threatened species, is a medium-sized shorebird about 9 to 11 inches (23 to 28 centimeters) in length with a proportionately small head, small eyes, short neck, and short legs. The black bill tapers steadily from a relatively thick base to a relatively fine tip; bill length is not much longer than head length. Legs are typically dark gray to black, but sometimes greenish in juveniles or older birds in non-breeding plumage. Non-breeding plumage is dusky gray above and whitish below. The red knot breeds in the central Canadian arctic but is found in Louisiana during spring and fall migrations and the winter months (generally September through May).

On wingspans of 20 inches, red knots fly more than 9,300 miles from south to north every spring and repeat the trip in reverse every autumn, making this bird one of the longest-distance migrants in the animal kingdom. During migration and on their wintering grounds, red knots forage along sandy beaches, tidal mudflats, salt marshes, and peat banks. Observations along the Texas coast indicate that red knots forage on beaches, oyster reefs, and exposed bay bottoms, and they roost on high sand flats, reefs, and other sites protected from high tides. In wintering and migration habitats, red knots commonly forage on bivalves, gastropods, and crustaceans. Coquina clams (*Donax variabilis*), a frequent and often important food resource for red knots, are common along many gulf beaches. Major threats to this species along the Gulf of Mexico include the loss and degradation of habitat due to erosion, shoreline stabilization, and development; disturbance by humans and pets; and predation.

Louisiana is a migration stopover for red knots in both spring and fall. In addition, some birds may overwinter in small numbers. In the U.S., the rufa red knot is found principally in intertidal marine habitats, especially near coastal inlets, estuaries, and bays, or along resting formations (i.e., intertidal shelf typically formed of densely-packed dirt blown by strong, (offshore winds). Within the U.S., rufa red knot migratory and wintering habitats are principally utilized for resting and foraging activities. In Southeastern U.S., rufa red knots commonly forage on bivalves, gastropods, and crustaceans along sandy beaches, tidal mudflats, salt marshes, and peat banks.

West Indian Manatee (*Trichechus manatus***)**. The endangered West Indian manatee 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, 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. Manatees may also infrequently be observed in the Mississippi River and coastal areas of southwestern 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.

1.6 EFFECTS OF THE PROPOSED ACTION

1.6.1 Direct Effects.

Direct effects, as they apply to ESA Section 7 analyses, are those effects caused by or will result from implementation of the proposed action. The District does not anticipate any Project negative direct effects on any listed species.

1.6.2 Indirect Effects.

Indirect effects, as they apply to ESA Section 7 analyses, are those effects caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur. The District does not anticipate any Project negative indirect effects on any listed species.

1.6.3 Cumulative Effects.

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to the ESA, Section 7.

The District does not anticipate any additional secondary and/or accelerated commercial development, farming, or other activities to occur within or adjacent to the action area as a result of the proposed Project. Therefore, no adverse cumulative effects to any species under consideration in this biological assessment caused by or resulting from the Project are expected.

1.7 CONCLUSION AND DETERMINATION OF EFFECTS FOR EACH PROTECTED RESOURCE

Table 4 identifies the District's Determination of effects and rationale for each determination.

Table 4. Determination of Effects

Specie	Determination	Rationale
Pallid Sturgeon	No Effect	This project would not take place in the Atchafalaya River or alter any of its tributaries, the pallid sturgeon's habitat.
Green Sea Turtle	No Effect	This project would not impact Gulf waters, seagrass beds or nesting areas (beach habitat).
Hawksbill Sea Turtle	No Effect	This project would not impact Gulf waters, rocky areas, coral reefs, shallow coastal areas, lagoons or oceanic islands, and narrow creeks and passes. The Hawksbill Sea Turtle prefers these areas as their preferred habitat.
Kemp's Ridley Sea Turtle	No Effect	This project would not impact Gulf waters, beaches, nearshore habitats containing muddy or sandy bottoms or floating Sargassum seaweed.
Leatherback Sea Turtle	No Effect	This project would not impact Gulf waters, or sandy nesting beaches backed with vegetation and sloped sufficiently so the distance to dry sand is limited.
Loggerhead Sea Turtle	No Effect	This project would not impact Gulf waters. The project does not involve coastal development and construction. This project would not take place near nesting areas on Chandeleur Islands or Fourchon Beach in Lafourche Parish.
Red Knot	No Effect	This project would not impact the red knot's preferred foraging habitats - sandy beaches, tidal mudflats, salt marshes, and peat banks, oyster reefs, and exposed bay bottoms. The project would not impact on their roosting habitat of high sand flats, reefs, and other sites protected from high tides
West Indian Manatee	No Effect	This project would not impact areas or habitats the West Indian manatee occupies in Louisiana, mainly canals within the adjacent coastal marshes of southeastern Louisiana, and coastal areas of southwestern Louisiana.
At-Risk Species	No Effect	This project would not affect any At-Risk Species since all activities are planned in developed urban or residential areas.
Migratory Birds and Other Trust Resources	No Effect	This project would not affect any Migratory Birds and Other Trust Resources since all activities are planned in developed urban or residential areas.
NOAA Fisheries Trust Resources	No Effect	Since the project would be completely land based, the project would not affect any water bodies, animals occupying water bodies, or any designated critical habitat.

1.8 PREPARER

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