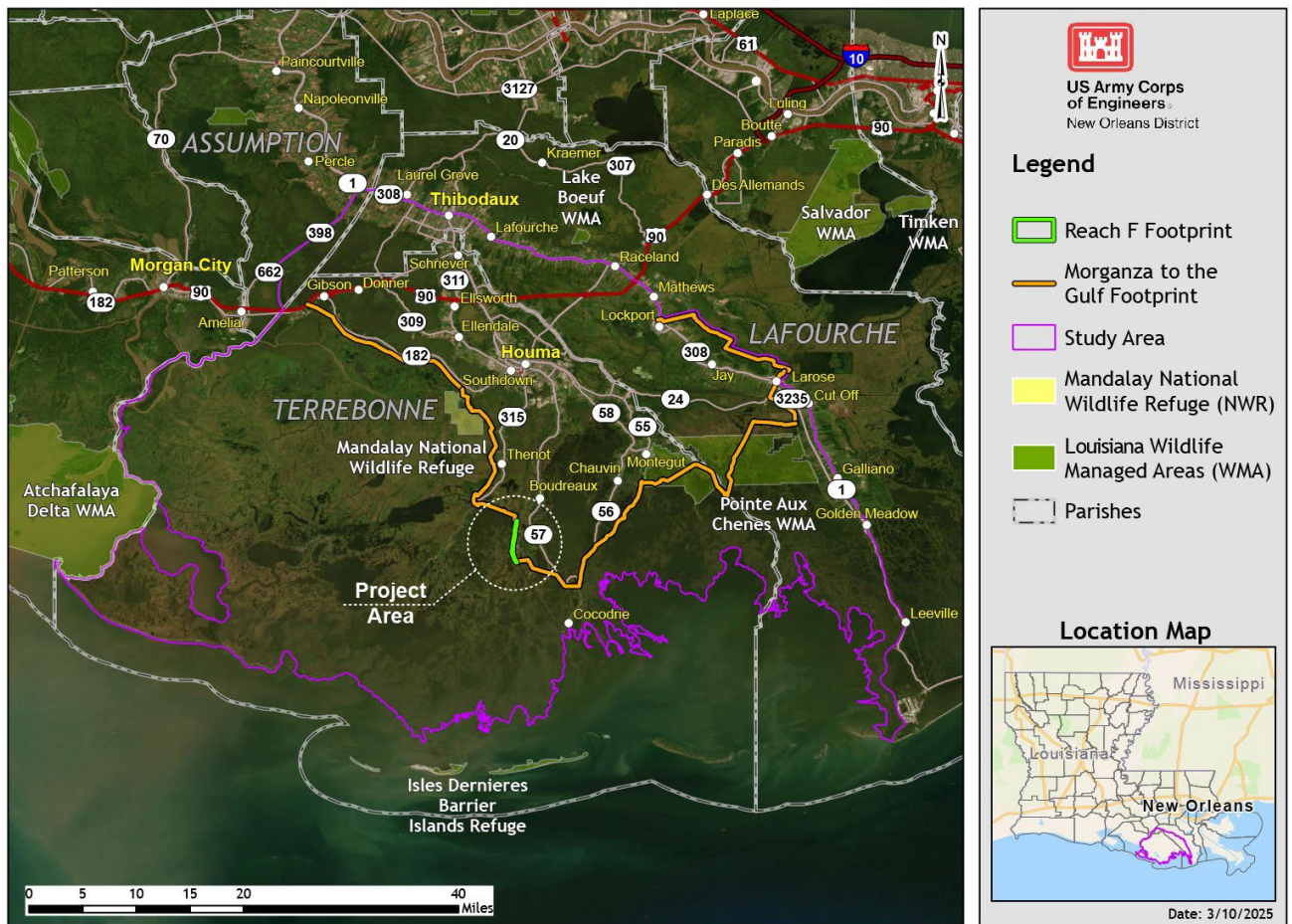




Reach F, Hurricane and Storm Damage Risk Reduction Project, Morganza to the Gulf, Terrebonne Parish, Louisiana



Draft Supplemental Environmental Assessment #602

February 2026

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CONTENTS

Section 1 1

Introduction 1

1.1 Project Summary.....1

1.2 Purpose and Need3

1.3 Data Gaps, Risk, and Uncertainty.....3

1.4 Authority3

1.5 Background and History.....4

Section 2 7

Alternatives 7

2.1 No Action.....7

2.2 Proposed Action.....7

 2.2.1 Levee.....7

 2.2.2 Borrow8

 2.2.3 Utilities and Pipelines9

 2.2.4 Construction, Access, and Staging10

 2.2.5 Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R).....11

 2.2.6 Mitigation12

2.3 Induced Flooding.....14

Section 3 15

Affected Environment.....15

3.1 General Setting15

3.2 Relevant Resources.....16

 3.2.1 Wetland Resources19

 3.2.2 Fisheries and Aquatics Resources.....20

 3.2.3 Essential Fish Habitat.....20

 3.2.4 Wildlife22

 3.2.5 Threatened, Endangered, and Protected Species22

 3.2.6 Prime and Unique Farmland27

 3.2.7 Water Quality.....27

 3.2.8 Air Quality28

 3.2.9 Noise and Vibration29

 3.2.10 Aesthetics29

 3.2.11 Recreation30

3.2.12	Socioeconomics.....	30
3.2.13	Cultural, Historic, and Tribal Trust Resources.....	31
3.2.14	Hazardous, Toxic, and Radioactive Waste.....	32
Section 4	33	
Environmental Consequences	33	
4.1	Wetland Resources	33
4.1.1	No Action	33
4.1.2	Proposed Action	33
4.2	Fisheries and Aquatic Resources.....	35
4.2.1	No Action	35
4.2.2	Proposed Action	35
4.3	Essential Fish Habitat.....	36
4.3.1	No Action	36
4.3.2	Proposed Action	36
4.4	Wildlife	37
4.4.1	No Action	37
4.4.2	Proposed Action	38
4.5	Threatened, Endangered, and Protected Species	39
4.5.1	No Action	39
4.5.2	Proposed Action	39
4.6	Prime and Unique Farmlands.....	42
4.6.1	No Action	42
4.6.2	Proposed Action	42
4.7	Water Quality	43
4.7.1	No Action	43
4.7.2	Proposed Action	43
4.8	Air Quality	45
4.8.1	No Action	45
4.8.2	Proposed Action	45
4.9	Noise and Vibration	46
4.9.1	No Action	46
4.9.2	Proposed Action	47
4.10	Aesthetics	48
4.10.1	No Action	48

4.10.2 Proposed Action48

4.11 Recreation.....49

4.11.1 No Action49

4.11.2 Proposed Action49

4.12 Socioeconomics50

4.12.1 No Action50

4.12.2 Proposed Action50

4.13 Cultural, Historic, and Tribal Trust Resources51

4.13.1 No Action51

4.13.2 Proposed Action52

Section 5 54

Coordination and Public Involvement54

Section 6 55

Compliance with Environmental Laws and Regulations55

Section 7 58

Conclusion 58

7.1 Views of the Non-Federal Sponsor59

Section 8 59

List of Preparers.....59

Section 9 61

References and Resources61

Section 10 64

List of Acronyms and Abbreviations64

LIST OF TABLES

Table 1-1. Prior Studies, Reports, and Projects in the Project Area.....6

Table 2-1. Total Reach F Impacts by Habitat Type.12

Table 3-1. Relevant Resources.....16

Table 3-2. Relevant Resources Impacted by the Proposed Action19

Table 3-3. Wetland Habitat Breakdown19

Table 3-4. EFH Species found in the MTG Watershed21

Table 3-5. Highly Migratory EFH Species found in the MTG Watershed22

Table 3-6. T&E Species Occurring in Project Area.....23

Table 3-7. Hydrologic Unit Subsegments within the Project Area28

Table 4-1. Direct Impacts by Habitat Type 34

Table 6-1. Environmental Compliance. 55

LIST OF FIGURES

Figure 1-1. Reach F alignment. Terrebonne Parish, Louisiana..... 2

Figure 1-2. Morganza to the Gulf Project, Terrebonne and Lafourche Parishes, Louisiana. 5

Figure 2-1. MTG Reach F project area including borrow with haul and barge routes, access, and staging in Terrebonne Parish, Louisiana. 9

Figure 2-2. Staging area for the northern section of Reach F located near the entrance of Falgout Canal Rd where Reach F begins..... 10

Figure 2-3. Staging area for the southern section of Reach F located at the intersection of Bayou Grand Caillou and the Houma Navigation Canal where the southern section of Reach F begins..... 11

APPENDICES

Appendix A

Appendix B

Appendix C

Appendix D

Appendix E

Appendix F

Appendix G

Appendix H

Appendix I

Appendix J

Appendix K

Appendix L

Appendix M

Agency Coordination

USFWS Draft Coordination Act Report

Best Management Practices for Protection of the Environment

404(b)(1)

Wetland Value Assessment

Compensatory Mitigation Plan

Attachment F.1 - Monitoring and Adaptive Magement Plan

Attachment F.2 - Detailed Mitigation Project Descriptions

Hydraulic Modeling Analysis (2023)

Inundation Analysis

Water Quality

Air Quality

Socioeconomics

Prime and Unique Farmland

Environmental Design of Mississippi River Levee Borrow Areas

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Section 1

Introduction

The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division (MVD), New Orleans District (MVN), Regional Planning and Environment Division South (RPEDS), has prepared this Draft Supplemental Environmental Assessment (DSEA) #602 titled “Reach F, Hurricane and Storm Damage Risk Reduction (HSDRR) Project, Morganza to the Gulf (MTG), Terrebonne Parish, Louisiana” to evaluate the potential impacts to the human and natural environment resulting from the construction of levee section Reach F in Terrebonne Parish, Louisiana. This DSEA was prepared in accordance with the National Environmental Policy Act (NEPA) and the Department of Defense NEPA Implementing Procedures, dated June 30, 2025.

Construction of the MTG Project is authorized by Section 1001(24) of the Water Resources Development Act (WRDA) of 2007, Public Law (PL) 110-114, at a total cost of \$886.7 million. The project was reauthorized by Section 7002(3) of the Water Resources Reform and Development Act of 2014 (WRRDA 2014) in accordance with the Post Authorization Change Report and Revised Programmatic Environmental Impact Statement (PACR/RPEIS) dated 2013. The design was further updated in the Engineering Documentation Report (EDR) dated December 2021 to incorporate adaptive design criteria and refinements. The project is designed to provide a 100-year level of risk reduction (LORR) for hurricane and storm risk in Terrebonne and Lafourche Parishes, Louisiana, while ensuring navigational passage and tidal exchange. The term “100-year LORR,” as it is used throughout this document, refers to a level of risk reduction that reduces the risk of Houma and surrounding communities experiencing hurricane surge and wave driven flooding to a level of 1 percent each year (1 percent Annual Exceedance Probability (AEP)). This DSEA supplements the analysis of Reach F in the 2013 PACR/RPEIS and incorporates updates to existing conditions and updates following the 2021 EDR.

This DSEA #602 provides sufficient information on the potential adverse and beneficial environmental effects of the proposed alternatives to allow the MVN Commander to make an informed decision on the appropriateness of drafting an Environmental Impact Statement (EIS) or making a Finding of No Significant Impact (FONSI).

1.1 PROJECT SUMMARY

The Reach F project is located in Terrebonne Parish, Louisiana, within the larger Barataria-Terrebonne estuary. The project area includes the Reach F levee footprint, access and staging, borrow areas, and proposed marsh creation mitigation sites. The project consists of an approximately four-mile-long earthen levee along the Houma Navigation Canal, starting at Falgout Canal Road and situated about 12 miles south of the city of Houma. Construction may utilize one or more of the following four borrow sites: Saia Woodlawn Ranch, Aragon Road, NFS-A1, and/or Dularge East (DE)-6. The construction of Reach F is expected to

impact up to approximately 106.5 acres of brackish and saline marsh and up to approximately 9.4 acres of bottomland hardwood wetlands. To offset these environmental impacts, mitigation efforts would include a combination of purchasing in-kind mitigation bank credits and/or constructing a brackish saline marsh mitigation project.

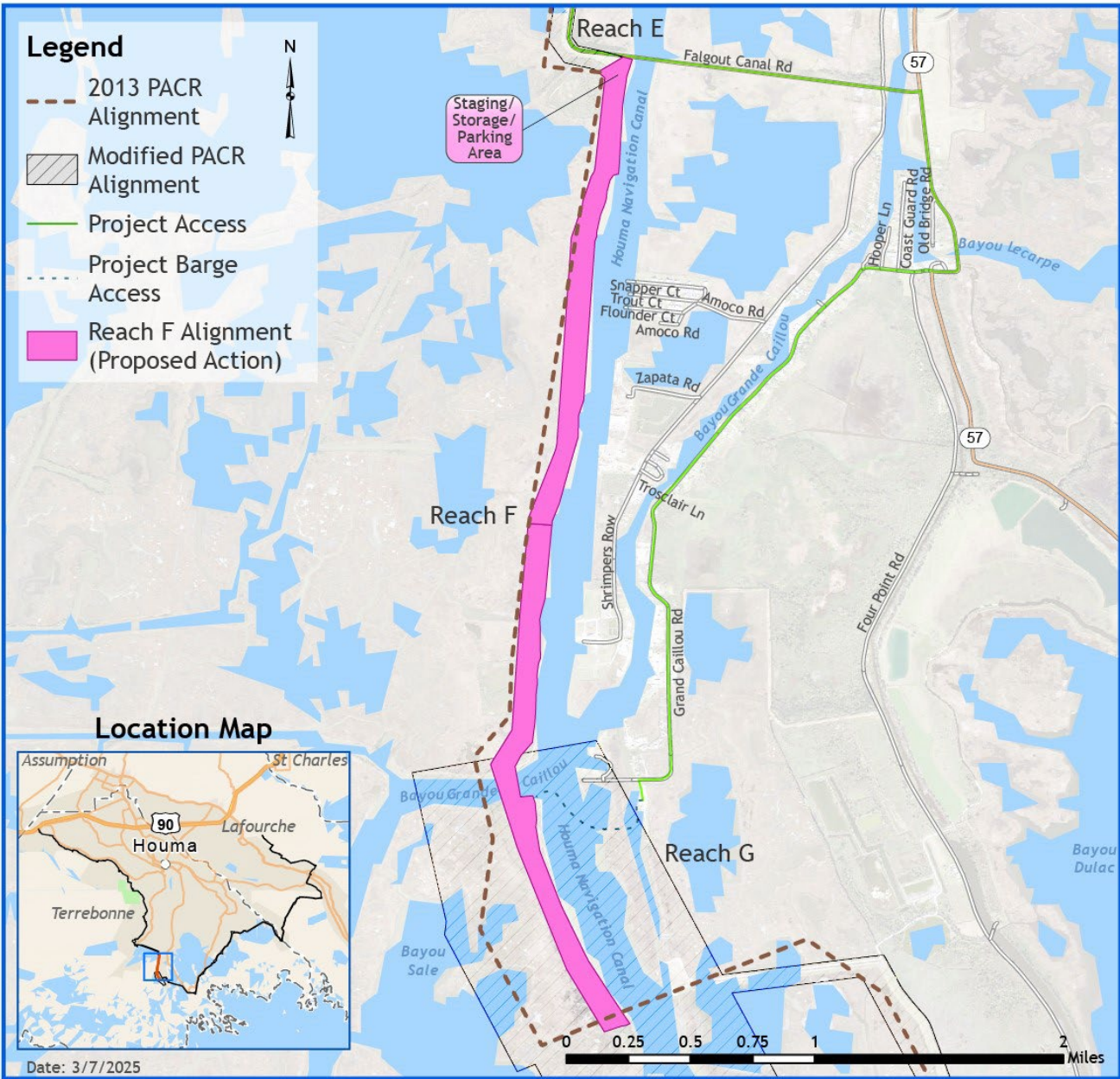


Figure 1-1. Reach F alignment. Terrebonne Parish, Louisiana.

1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to construct the Reach F levee as a feature of the MTG Project that would provide hurricane and storm damage risk reduction for the communities located within the MTG levee system. Reach F specifically would provide risk reduction to life and property in the vicinity of Houma, Louisiana. All project benefits are related to hurricane and storm damage risk reduction. The primary concern in the project area continues to be the flood risk associated with storm surge and waves, which is anticipated to increase due to increased frequency and severity of storms, continued wetland loss, sea level change, and subsidence.

1.3 DATA GAPS, RISK, AND UNCERTAINTY

Risk and uncertainty are intrinsic to water resources planning and design. USACE ER 1105-2-101, dated 3 January 2006, provides guidance on the evaluation framework to be used in USACE flood damage reduction studies. The risk analysis approach for the overall MTG project is documented in the 2013 PACR/RPEIS and incorporated herein by reference. In addition, there is risk and uncertainty associated with hydrologic and ecological modeling because models express complex natural systems through mathematic expressions and variables.

If significant changes are made to components of the proposed action, such as the mitigation plan, or if borrow sites are identified for levee construction that are different than those assessed in this DSEA, additional environmental compliance activities and a supplemental NEPA document may be required. In addition, if the tentatively selected mitigation project (West Terrebonne) is unable to be implemented, the remaining mitigation alternatives analyzed in this DSEA may require additional environmental coordination prior to construction.

1.4 AUTHORITY

In accordance with the 2002, 2003, and 2013 reports of the Chief of Engineers, the MTG Project is authorized as a feature of the Mississippi River and Tributaries (MR&T) Project. The MTG Project was initially authorized for Federal construction by Section 1001(24) of the Water Resources Development Act (WRDA) of 2007, PL 110-114, in accordance with the Reports of the Chief of Engineers dated 23 August 2002 and 22 July 2003, at a total cost of \$886.7 million as follows:

“(24) MORGANZA TO THE GULF, LOUISIANA —

(A) IN GENERAL —The project for hurricane and storm damage reduction, Morganza to the Gulf, Louisiana: Reports of the Chief of Engineers dated August 23, 2002, and July 22, 2003, at a total cost of \$886,700,000, with an estimated Federal cost of \$576,355,000 and an estimated non-Federal cost of \$310,345,000.

(B) OPERATION AND MAINTENANCE —The operation, maintenance, repair, rehabilitation, and replacement of the Houma Navigation Canal lock complex and the Gulf Intracoastal Waterway floodgate features of the project described in subparagraph (A) that provide for inland waterway transportation shall be a Federal responsibility in accordance with section 102 of the Water Resources Development Act of 1986 (33 U.S.C. 2212).”

The project was redesigned in the 2013 PACR/RPEIS, both to address the limitations of Section 902 of the WRDA of 1986, as amended, and to meet updated post-Hurricane Katrina design guidelines. The MTG Project was subsequently re-authorized by Section 7002(3) of the WRRDA of 2014, PL 113-121, in accordance with the 2013 PACR/RPEIS and Report of the Chief of Engineers dated 8 July 2013, at an updated total cost of \$10.3 billion as follows:

SEC. 7002. AUTHORIZATION OF FINAL FEASIBILITY STUDIES. The following final feasibility studies for water resources development and conservation and other purposes are authorized to be carried out by the Secretary substantially in accordance with the plan, and subject to the conditions, described in the respective reports designated in this section.

(3) HURRICANE AND STORM DAMAGE RISK REDUCTION. ---

State	Name	Date of Report of Chief of Engineers	Estimated Initial Costs and Estimated Renourishment Costs
LA	<i>Morganza to the Gulf</i>	<i>July 8, 2013</i>	<i>Federal: 6,695,400,000 Non-Federal: 3,604,600,00 Total: \$10,300,000,000</i>

In 2021, an EDR was prepared and approved by the MVD Commander to document the incorporation of the adaptive design criteria and other design refinements in the MTG Project, as directed in Engineer Regulation (ER) 1110-2-1150 (dated 31 August 1999), based on the current MTG design. The EDR also approved the increased Non-Federal Sponsor(s) (NFS) construction cost share, as proposed by the CPRAB in a letter of intent, dated 27 March 2019 (and updated 17 November 2021), supporting the option that limits Federal participation to initial construction. The EDR can be accessed online at the following location: <https://www.mvn.usace.army.mil/About/Projects/Morganza-to-the-Gulf/>.

On 28 December 2021, a Project Partnership Agreement (PPA) for the MTG Project was signed by the Department of the Army and the two NFS, i.e., the State of Louisiana, and the Terrebonne Levee and Conservation District (TLCD).

1.5 BACKGROUND AND HISTORY

The authorized MTG Project (Figure 1-2) is a hurricane and storm damage risk reduction project consisting of a 98-mile alignment of earthen levees, floodgates, environmental water

control structures, road gates, and fronting protection for existing pump stations. The Reach F levee is a feature of the overall MTG Project.

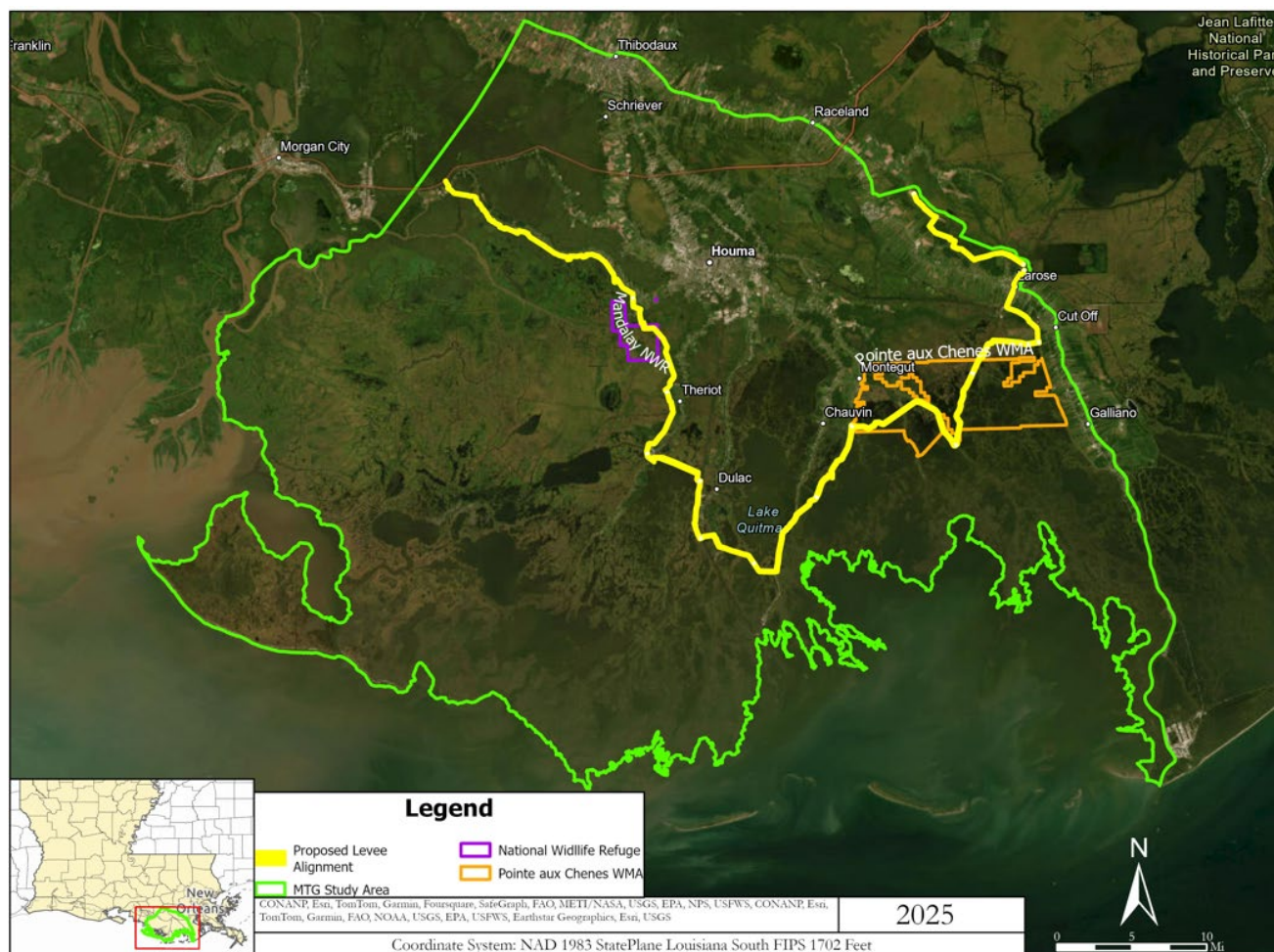


Figure 1-2. Morganza to the Gulf Project, Terrebonne and Lafourche Parishes, Louisiana.

Recently, the USACE MVN prepared a draft Supplemental EIS (draft SEIS) for the MTG project, supplementing the 2013 PACR/RPEIS. The draft SEIS was published for a public review and comment period from 5 December 2025 to 23 January 2026.

The 2013 PACR/RPEIS along with the approved Chief's Report, dated 8 July 2013, and the signed Record of Decision, dated 9 December 2013, as well as the subsequent draft SEIS, are all incorporated herein by reference.

The most relevant prior studies, reports, and projects are listed below in Table 1-1.

Table 1-1. Prior Studies, Reports, and Projects in the Project Area.

Project Year	Study/Report/Environmental Document Title	Document Type
2025	Morganza to the Gulf, Louisiana, Hurricane and Storm Damage Risk Reduction Project Draft Supplemental Environmental Impact Statement	Draft Supplemental Environmental Impact Statement
2025	Morganza to the Gulf Project Surveys and Borings Analysis Terrebonne and Lafourche Parishes, Louisiana, EA #597	Environmental Assessment
2024	Reach A, Morganza to the Gulf Hurricane and Storm Damage Risk Reduction Project Terrebonne Parish, Louisiana, PEA #598	Final Programmatic Environmental Assessment
2022	Mississippi River and Tributaries Morganza to the Gulf of Mexico, Louisiana (MRT-MTG) Mitigation for the Humble Canal Gate Site Preparation and Initial Levee Preload Terrebonne Parish, Louisiana. FONSI: SEA #583A 21 December 2022	Environmental Assessment
2022	Morganza to the Gulf, Humble Canal Pre-load constructing an initial, or preload levee, to prepare the Humble Canal Floodgate site. FONSI: EA #583 03 April 2022	Environmental Assessment
2021	Engineering Documentation Report	Engineering Documentation Report
2013	Morganza to the Gulf of Mexico, Louisiana Final Post Authorization Change Report and Programmatic Environmental Impact Statement. ROD: 9 December 2013	Post Authorization Change Report and Environmental Impact Statement
2005	Morganza to the Gulf Reach J1 Levee. Terrebonne Parish, Louisiana. FONSI: EA #406 29 July 2005	Environmental Assessment
2003	In July 2003, the USACE issued a supplemental Chief of Engineers report (USACE, 2003), which made changes to the non-Federal sponsor's in-kind services	Chief's Report
2002	Mississippi River and Tributaries Morganza to the Gulf of Mexico Hurricane Protection Feasibility Report, Programmatic EIS, and Chief of Engineers Report	Feasibility Report; Environmental Impact Statement; Chief's Report
1997	US Army Corps of Engineers, Morganza, Louisiana to the Gulf of Mexico Houma Navigation Canal Lock Study, April 1997	N/A
1994	USACE completed the Morganza to the Gulf reconnaissance report.	Reconnaissance Report
1992	Reconnaissance study authorized by resolution adopted April 1992 by the Committee of Public Works and Transportation of the U.S. House of Representatives. In August, Hurricane Andrew caused extensive flooding in Terrebonne and Lafourche parishes.	Reconnaissance Report Authorized

Components of the authorized MTG Project have been funded and constructed by non-Federal entities. According to the 2021 EDR, as of December 2021, non-Federal entities had independently constructed approximately 47 miles of levees, as well as a total of 23

structures. Since the EDR, the NFS has reported over 80 miles of levees constructed from elevations ranging from 8 to 15 feet. The constructed features provide an interim level of risk reduction, but do not provide a 1% AEP (100-year) level of risk reduction. Environmental compliance for the NFS' construction of interim levees and structures was sought through the USACE Regulatory Program/Clean Water Act (CWA) Section 404 permitting process. A summary of the status of permits can be found in the draft SEIS in Table 2-3.

On 15 December 2010, USACE Regulatory Division issued a permit for TLCD to construct a levee at Reach F that is approximately 4 miles long with an average elevation of +10 feet NGVD (plus 2 feet of overbuild). TLCD completed construction and has been working with Regulatory Division to resolve ongoing mitigation compliance issues.

Section 2

Alternatives

2.1 NO ACTION

NEPA requires that in analyzing alternatives to a proposed action, a Federal agency must consider an alternative of taking "No Action." The No Action Alternative, or future without project (FWOP) conditions, represent the anticipated conditions if the proposed action were not implemented.

The No Action Alternative is the absence of taking Federal action. This alternative would result in the existing NFS constructed levee remaining in place at the current elevation of +10 feet NGVD (plus 2 feet of overbuild). The No Action Alternative forms the basis against which all other alternatives plans are considered. Under the No Action Alternative, the proposed action would not be implemented.

2.2 PROPOSED ACTION

2.2.1 Levee

The proposed action would modify the 2013 PACR levee alignment for Reach F (Figure 1-1). The modified alignment follows the existing NFS levee, resulting in fewer environmental impacts. The full Reach F alignment is approximately 4 miles long and follows the western bank of the Houma Navigation Canal, starting at Station 2280+28 by Falgout Canal Road and terminating at Station 2073+90 at the Bubba Dove Floodgate Structure. Construction would involve degrading the existing NFS levee, installing geotextile, and increasing the base width of the levee. Multiple construction contracts would be utilized to bring the entirety of Reach F up to the 2035 1% annual exceedance probability elevation of 17 ft. The first contract is expected to bring the northern section of Reach F (Station 2280+28 to Station 2130+00) to a stage one elevation of +15.0 ft NGVD north of the Bayou Grand Caillou Floodgate and transition to an elevation of +15.5 ft midway going south. The second

contract is expected to bring the southern section of Reach F (Station 2123+50 to Station 2073+90) to a stage one elevation of +15 ft NGVD. After at least one year of settlement has occurred and all settlement requirements are met, the third construction contract would bring the overall Reach F levee up to an elevation of +17.0 ft NGVD. The base width (levee toe to levee toe) for the northern section of Reach F would be between 450 ft to 650 ft wide and the southern section of Reach F would be between approximately 400 ft to 450 ft wide, with 4:1 flood side slope above the berm, 4:1 protected side slope above the berm, and a crown width of 10 ft for both north and south. The total permanent right of way (ROW) needed for Reach F would be up to 650 ft wide. Debris collected from clearing and grubbing of the levee ROW may be disposed of by either windrowing, burning, or chipping, or by hauling via dump truck to a nearby disposal site. Construction of the levee would last approximately 730 days with an assumed work schedule of 7 days a week, from 0600 to 2100.

2.2.2 Borrow

Approximately 1,334,500 cubic yards of borrow material would be excavated from borrow pits. The pits identified for borrow are the following: Saia Woodlawn Ranch, Aragon Rd, NFS-A1, and DE-6 (Figure 2-1). Borrow from these sites would be hauled via truck to construct the northern section of Reach F. The southern section of Reach F south of Bayou Grand Caillou is not accessible by road, so borrow would be barged in across the Houma Navigation Canal.

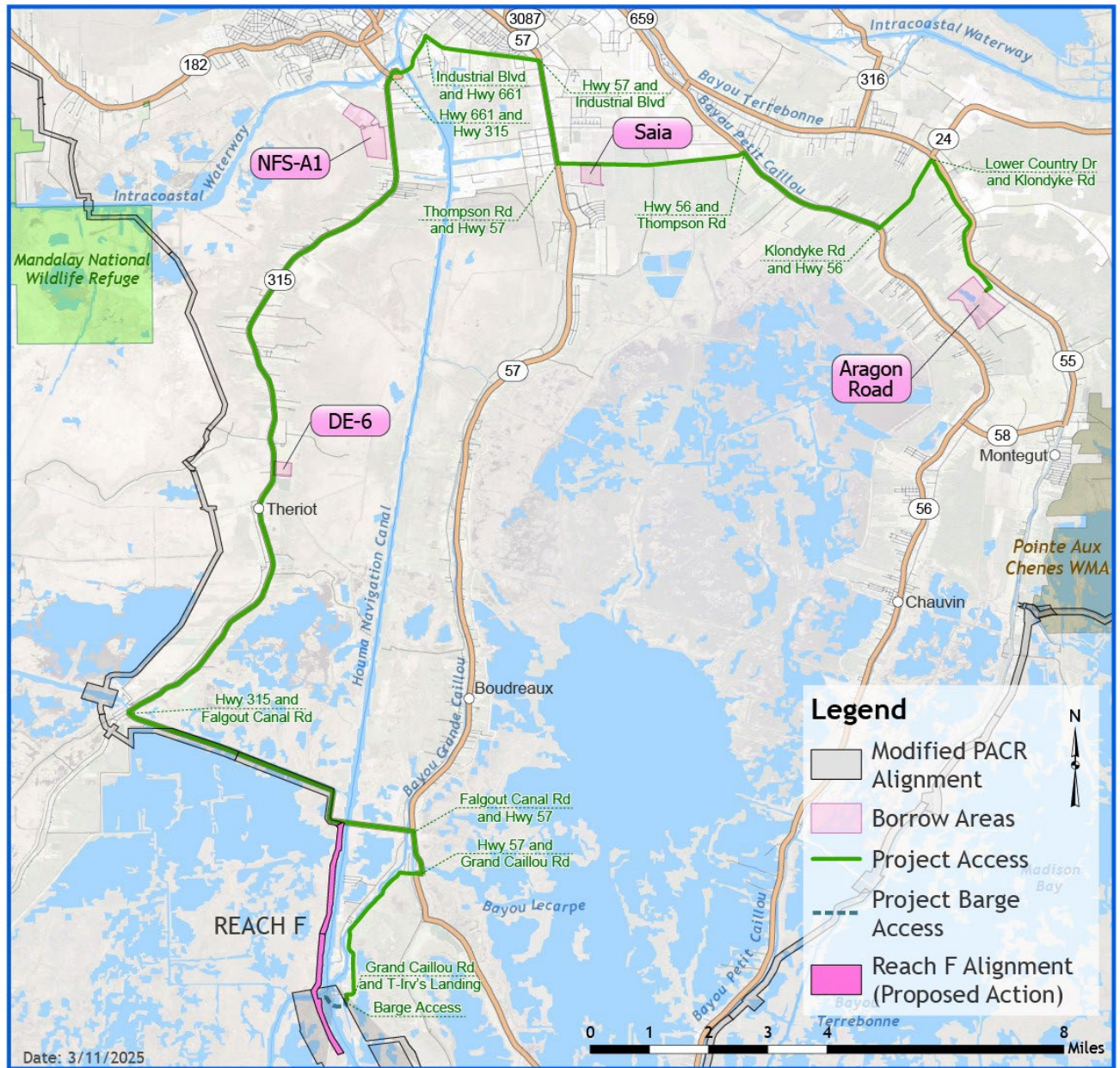


Figure 2-1. MTG Reach F project area including borrow with haul and barge routes, access, and staging in Terrebonne Parish, Louisiana.

2.2.3 Utilities and Pipelines

No utility/pipelines were identified that require relocation or removal prior to implementing the proposed action. If a utility line or pipeline is discovered during construction that requires

relocation or removal, USACE would work with the NFS pursuant to the PPA to ensure necessary steps are taken to identify ownership and relocate or remove the line.

2.2.4 Construction, Access, and Staging

Access to the northern section of the Reach F alignment is available via an existing gravel levee access road off Falgout Canal Road adjacent to the Houma Navigation Canal. There would be two staging areas for this project for equipment and construction trailers. The north staging area would be 1.25 acres and would be located at the northern end of Reach F adjacent to the Falgout Canal Road and the Houma Navigational Canal. It would be accessed from the above-described access road. The south staging area is located south of Bayou Grand Caillou adjacent to the Houma Navigation Canal and is 1.50 acres in size. This staging area is only accessible via water, namely the Houma Navigation Canal. Fill, geotextile fabric and temporary stone would be placed as necessary to provide a dry area within the staging area limits. Once the project is complete the area would be restored to original conditions.

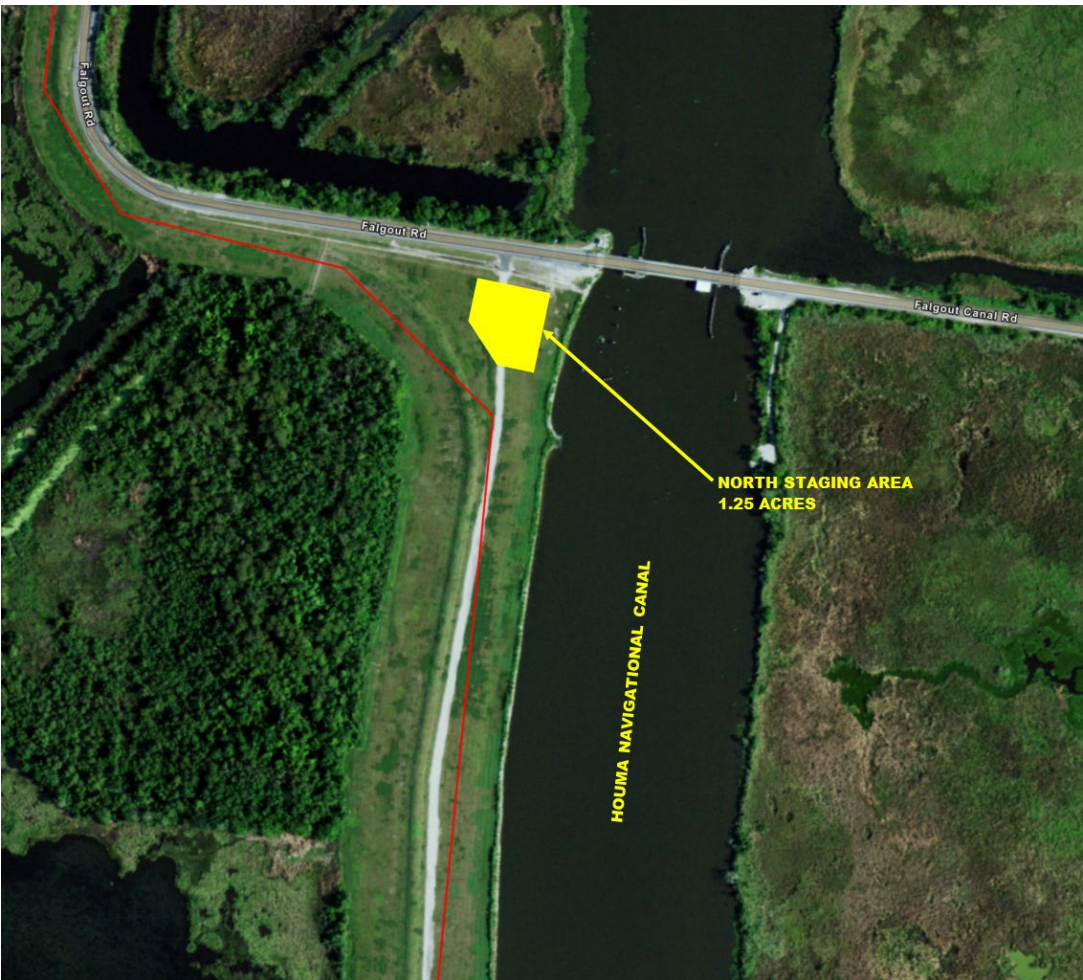


Figure 2-2. Staging area for the northern section of Reach F located near the entrance of Falgout Canal Rd where Reach F begins.



Figure 2-3. Staging area for the southern section of Reach F located at the intersection of Bayou Grand Caillou and the Houma Navigation Canal where the southern section of Reach F begins.

2.2.5 Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R)

The NFS shall conduct their OMRR&R responsibilities in a manner compatible with the authorized purpose of the project and in accordance with applicable Federal laws and specific directions prescribed by the Government in the OMRR&R Manual. For MTG, the Non-Federal Sponsors' OMRR&R activities would generally consist of operating structures to assure proper working order, painting, lubrication, corrosion prevention, removing debris and shoaled sediment from the interior ponding areas, cutting grass, repairing levee slides, placing gravel on the levee crown, or other repair activities, and performing regular inspections of the levees, floodwalls, and structures as applicable.

2.2.6 Mitigation

To estimate the environmental impacts of the proposed project, Wetland Value Assessment (WVA) Coastal Brackish/Saline Marsh Model for Civil Works Version 2.0 (Marsh WVA), and the WVA Bottomland Hardwoods (BLH) Community Model for Civil Works Version 1.2 (BLH WVA) were used to calculate the change in habitat quality and quantity, measured in average annual habitat units (AAHUs). The assumptions for the WVAs were evaluated and updated upon completion of extensive fieldwork and updated hydrologic modeling. This assessment determined there would be unavoidable impacts to brackish marsh, saline marsh, and BLH habitats (Table 2-1). However, these environmental losses would be fully mitigated for in accordance with all applicable laws and policies.

Table 2-1. Total Reach F Impacts by Habitat Type.

Wetland Habitat Type	Acres Impacted	AAHUs Impacted
Brackish Marsh	85.3	-32.52
Saline Marsh	21.2	-11.51
BLH	9.4	-4.5
Total	115.9	-48.53

When unavoidable impacts occur, the CEMVN is required to offset those impacts through compensatory mitigation by replacing the lost habitat's functions and values equally and in-kind. Compensatory mitigation is required by the Water Resources Development Act (WRDA) of 1986, Section 906, as amended, and by the Clean Water Act Section 404(b)(1) Guidelines. Compensatory habitat mitigation is defined as "the restoration (re-establishment or rehabilitation), establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved" (see 40 CFR 230.92).

The selected Mitigation Plan for BLH impacts would include the purchase of mitigation bank credits. In-kind mitigation bank credit purchase(s) would be selected through a solicitation process, through which any mitigation bank meeting eligibility requirements and having the appropriate resource type of credits could submit a proposal to sell credits.

For brackish and saline marsh impacts the mitigation plan would include the purchase of mitigation bank credits and/or construction of a Corps constructed mitigation project. For each of the Corps constructed alternatives, satisfaction of the brackish/saline mitigation need for Reach F would occur within a larger area that could be used to mitigate brackish and saline marsh impacts for the overall MTG project. The Tentatively Selected Plan (TSP) for mitigating brackish saline impacts is constructing the West Terrebonne alternative in combination with mitigation bank credit purchase. If any of the other Corps constructed mitigation alternatives are pursued then additional environmental compliance may be required. Further details regarding the identification and evaluation of mitigation alternatives,

ecological success criteria, and monitoring and adaptive management for constructed mitigation projects can be found in the Appendix F Compensatory Mitigation Plan.

The final array of alternatives evaluated for Corps constructed mitigation of brackish saline marsh impacts includes:

1. West Terrebonne (part of the Tentatively Selected Plan)
2. North Barataria Bay
3. Three Mile Bay
4. Isle de Jean Charles

West Terrebonne

The alternative identified as West Terrebonne is part of the TSP and consists of creating up to approximately 170 acres of brackish/saline marsh in Terrebonne Parish that would be implemented within a larger mitigation area that is approximately 6,431 acres located in Terrebonne Parish approximately 8 miles south of Theriot, LA traveling down Bayou Dularge. The site consists of two open water areas separated by Caillou (Sister) Lake. The first is west of Caillou (Sister) Lake, and spans across Bay Voisin and King Lake. The second is on the east side of Caillou Lake, primarily located in Moncleuse Bay and extending north into Bay de L'Ouest. Construction of the 170-acre marsh project is anticipated to be implemented in the northeast portion of King Lake; however, as advanced engineering proceeds, it may be relocated within the larger mitigation area if necessary. Sufficient borrow necessary to construct the 170-acre project would be taken from a borrow site of approximately 342 acres on the southern side of Lake Mechant. The site can be accessed from Bayou Dularge or through Grand Pass and Caillou (Sister) Lake.

North Barataria Bay

The alternative identified as North Barataria Bay consists of creating up to approximately 181 acres of brackish/saline marsh in Lafourche Parish that would be implemented within a larger mitigation area that is approximately 6,791 acres. The mitigation area is located in Lafourche Parish near Galliano and Golden Meadow, LA. It consists of two marsh creation areas (MCA) directly adjacent to each other. The first site is located in the open water between Bayou L'Ours ridge and Brusle Lake and the second site encompasses Kings Canal just south of Round Lake. Construction of the 181-acre marsh project is anticipated to be implemented directly adjacent to the northern portion of the Bayou L'Ours ridge inside of the MCA footprint; however, as advanced engineering proceeds, it may be relocated within the larger mitigation area if necessary. Sufficient borrow necessary to construct the 181-acre project would be taken from a borrow site of approximately 414 acres from Little Lake nearing Round Lake. The site can be accessed from the open waters of the identified MCA footprints.

Three Mile Bay

The alternative identified as Three Mile Bay consists of creating up to approximately 229 acres of brackish/saline marsh in St. Bernard Parish that would be implemented within a larger mitigation area that is approximately 8,728 acres. The mitigation area is located in St. Bernard Parish near the Louisiana eastern state borderline. The project is situated between Lake Borgne and Chandeleur Sound in the vicinity of the Biloxi State Wildlife Management Area. It consists of two MCAs separated by Three Mile Bay. The first site is to the east, spanning across multiple water bodies such as: Johnson Bay, SE and NW Jack Williams Bay, Bayou Creque, Turkey Bayou, and Oyster Bay. The first site consists of three distinct cells designed to minimize any impact on the surrounding marsh area. The second site is on the west side of Three Mile Bay, consisting of two cells separated by Nine Mile Bayou. These cells encompass Blind Bay and Kennedys Lagoon. Construction of the 229-acre marsh project is anticipated to be implemented along the northwestern rim of Bayou Creque; however, as advanced engineering proceeds, it may be relocated within the larger mitigation area if necessary. Sufficient borrow necessary to construct the 229-acre project would be taken from a borrow site of approximately 530 acres in Lake Borgne. Access corridors for construction equipment would transit through the open waters of Lake Borgne and Oyster Bay.

Isle de Jean Charles

The alternative identified as Isle de Jean Charles consists of creating up to approximately 425 acres of brackish/saline marsh in Terrebonne Parish that would be implemented within a larger mitigation area that is approximately 16,709 acres. The mitigation area is located in Terrebonne Parish, with some portions extending into Lafourche Parish. This site has been divided into four MCAs with one additional alternative MCA for a total of 5 MCAs. Construction of the 425-acre marsh project is anticipated to be implemented in the northern corner of the MCA-1 West footprint. Sufficient borrow necessary to construct the 425-acre project would be taken from a borrow site of approximately 598 acres in Wonder Lake borrow area and 342 acres in Lake Barre borrow area. The site can be accessed from the open water areas in Wonder Lake and Lake Barre, traversing through other surrounding bayous and existing pipeline corridors connecting the borrow pits to the MCAs.

See Appendix F Attachment F.2 for more details and maps of each Corps-constructed mitigation alternative.

2.3 INDUCED FLOODING

Examining the potential for induced flooding is an integral part of the civil works process and is addressed in the planning phase and through design optimization. The USACE developed maps based on 2025 CSTORM-MS modeling for the MTG project that show projected water levels in the project area for various intensities of storms. More information about the potential hydrology and hydraulic changes associated with the overall MTG project can be

found in Sections 5 and 6 of the draft MTG SEIS. A zoomed in look at how the MTG project may affect water levels in the vicinity of Reach F can be found in Appendix H.

The USACE Real Estate Division, in consultation with the NFS, will identify properties that may be subject to project-induced flooding associated with MTG and assess mitigation measures prior to implementation, such as the acquisition of easements and/or fee interests. The NFS, pursuant to their Lands, Easements, Rights-of-Way, Relocations, and Disposals (LERRD) responsibilities outlined in the PPA, would be responsible for acquiring the necessary real property interests identified for each contract concurrent with the acquisition of ROW for levee construction.

Section 3

Affected Environment

This section describes the existing conditions of the affected environment within the project area. Section 3.2 describes the relevant resources that may be affected by the project such as wetlands, fisheries, essential fish habitat, threatened and endangered species, social-economic environment, among others.

3.1 GENERAL SETTING

The proposed project is located within the expansive Barataria-Terrebonne estuary, a watershed covering over 3.6 million acres and encompassing all of Terrebonne Parish and parts of six other parishes. This region is an abandoned river delta complex, making it geologically susceptible to high rates of subsidence. The landscape is dominated by wetlands and open water, with data showing that 50% of the area is emergent herbaceous wetlands. The marsh habitat in the area transitions from fresh marsh in the more northerly portions to intermediate and brackish marshes, and to saline marsh near the coast. The remaining wetlands consist mainly of woody wetlands (primarily bald cypress/tupelo swamps and bottomland hardwood forest), which comprise about 14 percent of the area. Open water comprises a majority of the remaining land use (about 23 percent) and includes the Atchafalaya River and numerous bayous and drainage canals. Navigation canals include the Gulf Intercoastal Water Way and the Houma Navigation Canal (HNC). Only about 12% of the area has been developed for uses such as agriculture (primarily sugar cane), and residential or commercial purposes in population centers like Houma, Thibodaux, and Chauvin. Specifically, the footprint for the Reach F levee is located on the HNC and is transected by Bayou Grand Caillou. Proposed borrow for the expansion and lift of the Reach F levee, and the proposed West Terrebonne mitigation site are located in the Barataria Terrebonne watershed.

A critical factor influencing the project is the dynamic and changing environmental conditions, chief among them being relative sea-level rise and local subsidence. The area has a humid, subtropical climate and a well-documented history of being impacted by

tropical storms and hurricanes, including recent destructive events like Hurricanes Ida (2021) and Francine (2024). Climate models also project a steady increase in temperature and a decrease in annual rainfall, leading to more frequent drought conditions.

3.2 RELEVANT RESOURCES

This section contains a description of relevant resources that exist within the project area. See Table 3-1 for a summary of the institutional, technical, and public importance of these resources and Table 3-2 for a summary of relevant resources potentially impacted by the proposed alternatives.

Table 3-1. Relevant Resources.

Resource	Institutional Importance	Technical Importance	Public Importance
Wetlands	Clean Water Act of 1972, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968, EO 11988, and Fish and Wildlife Coordination Act	They provide necessary habitat for various species of plants, fish, and wildlife; they serve as ground water recharge areas; they provide storage areas for storm and flood waters; they serve as natural water filtration areas; they provide protection from wave action, erosion, and storm damage; and they provide various consumptive and non-consumptive recreational opportunities.	The high value the public places on the functions and values that wetlands provide. Environmental organizations and the public support the preservation of marshes.
Fisheries and Aquatic Resources	Fish and Wildlife Coordination Act of 1958, as amended; Clean Water Act of 1977, as amended; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968	They are a critical element of many valuable freshwater and marine habitats; they are an indicator of the health of the various freshwater and marine habitats; and many species are important commercial resources.	The high priority that the public places on their esthetic, recreational, and commercial value.
Essential Fish Habitat	Magnuson-Stevens Fishery Conservation and Management Act of 1996, Public Law 104-297	Federal and State agencies recognize the value of EFH. The Act states, EFH is "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity."	Public places a high value on seafood and the recreational and commercial opportunities EFH provides.
Wildlife	Fish and Wildlife Coordination Act of 1958, as amended and the Migratory Bird Treaty	They are a critical element of many valuable aquatic and terrestrial habitats; they are an indicator of the	The high priority that the public places on their esthetic, recreational, and commercial value.

	Act of 1918	health of various aquatic and terrestrial habitats; and many species are important commercial resources.	
Threatened, Endangered, and Protected Species	The Endangered Species Act of 1973, as amended; the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940	USACE, USFWS, NMFS, NRCS, EPA, LDWF, and LDCE cooperate to protect these species. The status of such species provides an indication of the overall health of an ecosystem.	The public supports the preservation of rare or declining species and their habitats.
Soils and Prime and Unique Farmland	Farmland Protection Policy Act of 1981, as amended	USACE and NRCS cooperate to evaluate and minimize impacts to prime and unique farmland, which is an important agricultural and economic resource.	Farmland is important to members of the general population that are farmers as well as those who consume or utilize the crops in some way.
Water Quality	Clean Water Act of 1972, Fish and Wildlife Coordination Act, Coastal Zone Mg Act of 1972, and Louisiana State & Local Coastal Resources Act of 1978	USACE, USFWS, NMFS, NRCS, EPA, and LDCE and wildlife/fishery offices recognize value of fisheries and good water quality and the national and state standards established to assess water quality.	Environmental organizations and the public support the preservation of water quality and fishery resources and the desire for clean drinking water and aquatic recreation.
Air Quality	Clean Air Act of 1970, Louisiana Environmental Quality Act of 1983	State and Federal agencies recognize the status of ambient air quality in relation to the NAAQS.	Virtually all citizens express a desire for clean air.
Noise and Vibration	USACE ER 1105-2-100, and National Environmental Policy Act of 1969, Noise Control Act of 1972, Quiet Communities Act of 1978	Unwanted noise has an adverse effect on human beings and their environment, including land, structures, and domestic animals and can also disturb natural wildlife and ecological systems.	The EPA must promote an environment for all Americans free from noise that jeopardizes their health and welfare.
Aesthetics	USACE ER 1105-2-100, and National Environmental Policy Act of 1969, the Coastal Barrier Resources Act of 1990, Louisiana's National and Scenic Rivers Act of 1988, and the National and Local Scenic Byway Program	High value is placed on the preservation of and accessibility to unique combinations of geological, botanical, and cultural features that may be an asset to a watershed.	Environmental organizations and the public support the preservation of natural pleasing vistas.
Recreation	Federal Water Project Recreation Act of 1965 as amended, and Land and Water Conservation Fund Act of 1965, as	Provide high economic value to the local, state, and national economies.	Public makes high demands on recreational areas. There is a high value that the public places on fishing, hunting, and

	amended		boating, as measured by the large number of fishing and hunting licenses sold in Louisiana; and the large per-capita number of recreational boat registrations in Louisiana.
Transportation	National Environmental Policy Act, (Public Law 91-190); ER-200-2-2, Procedures for Implementing NEPA	Local, state, and Federal agencies consider effects on routes important to public transportation as well as the importance of movement for commerce, national security, and recreation.	Changes to the transportation and traffic patterns affect the public and are of interest to the community.
Navigation	Rivers and Harbors Act of 1899 and River and Harbor Flood Control Act of 1970 (PL 91-611)	Providing safe, reliable, efficient, and environmentally sustainable waterborne transportation systems (channels, harbors, and waterways) is important for movement of commerce, national security needs, and recreation.	Navigation concerns affect area economy and are of significant interest to community.
Socioeconomics	USACE ER 1105-2-100, and National Environmental Policy Act of 1969	When an environmental document is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental document should consider and discuss all of these effects on the human environment.	Government programs, policies and projects can cause potentially significant changes in many features of the socioeconomic environment. Social concerns and items affecting the area's economy are of significant interest to communities.
Cultural, Historic, and Tribal Trust Resources	National Historic Preservation Act of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979	State and Federal agencies document and protect sites. Cultural resources are important for their association or linkage to past events, to historically important persons, and to design and construction values, and for their ability to yield important information about prehistory and history.	Preservation groups and private individuals support protection and enhancement of historical resources.

Table 3-2. Relevant Resources Impacted by the Proposed Action

Relevant Resource	Potentially Impacted	Not Impacted
Aesthetics		x
Air Quality	x	
Aquatic Resources/Fisheries	x	
Cultural Resources	x	
Essential Fish Habitat	x	
Hazardous, Toxic, and Radioactive Waste (HTRW)		x
Navigation		x
Noise and Vibration	x	
Recreational Resources	x	
Socioeconomics	x	
Soils and Prime and Unique Farmlands	x	
Threatened, Endangered, and Protected Species	x	
Tribal Resources		x
Water and Sediment Quality	x	
Wetlands	x	
Wildlife	x	

3.2.1 Wetland Resources

Louisiana's coastal wetlands are one of the largest in the contiguous U.S. but account for 90% of the nation's coastal marsh land loss. This vital ecosystem provides critical habitat for a wide range of wildlife, including threatened and endangered species. It also offers protection from storm damage and supports various recreational activities. The primary wetland types in the area include bottomland hardwood forests, brackish marsh, and saline marsh. Table 3-3 contains a breakdown of the different wetland habitat types found in the project area.

Table 3-3. Wetland Habitat Breakdown

Wetland Type	Location & Characteristics	Vegetation	Key Ecological Role
Bottomland Hardwoods	Alluvial-forested wetlands in the Mississippi River's deltaic plain.	Includes various oaks, sugarberry, and red maple. Prolonged flooding favors bald cypress and water tupelo.	Forested wetland habitat.
Brackish Marsh	Typically, between saline and	Higher plant diversity, dominated by <i>Spartina patens</i> (wire grass). Other common vegetation	Acts as a nursery for shrimp, crabs, and

	intermediate marshes with irregular tidal flooding. Average salinity is around 8 ppt.	species include: <i>Distichlis spicata</i> (salt grass), <i>Schoenoplectus olneyi</i> (three-cornered grass), <i>Ruppia maritima</i> (widgeon grass), <i>Schoenoplectus robustus</i> (salt marsh bulrush), <i>Eleocharis parvula</i> (dwarf spikeseedge), <i>Paspalum vaginatum</i> (seashore paspalum), <i>Juncus roemarianus</i> (black rush / bull rush), <i>Bacopa monnieri</i> (coastal water hyssop), <i>Spartina alterniflora</i> (smooth cordgrass), and <i>Spartina cynosuroides</i> (big cordgrass).	fish. Important habitat for waterfowl. Serves as a natural water filter and storm buffer.
Saline Marsh	Adjacent to the Gulf with regular tidal flooding. Average salinity is around 16 ppt.	Lowest plant diversity, dominated by <i>Spartina alterniflora</i> (smooth cordgrass). Other common vegetation species include <i>Distichlis spicata</i> (salt grass), <i>Spartina patens</i> (wire grass), <i>Juncus roemarianus</i> (black rush), and <i>Batis maritima</i> (salt wort).	Also serves as a crucial nursery for fisheries, important habitat for waterfowl, improves water quality, and mitigates storm effects.

3.2.2 Fisheries and Aquatics Resources

Fisheries are a vital component of Louisiana's economy and ecosystem health. In 2022, the state's fishery landings exceeded 912 million pounds, valued at over \$416 million. This accounted for 11% of U.S. landings by weight and 7% by value (NMFS 2022). Key fishery landings in the project area, Dulac-Chauvin and Golden Meadow-Leeville, contributed significantly to these totals.

The project area contains diverse aquatic habitats, including brackish saline marsh, which support two main types of fisheries species:

- Resident Species: Aquatic species that remain in the local area, often associated with submerged aquatic vegetation (SAV).
- Transient Marine Species: Aquatic species that use coastal marshes as nursery areas before migrating offshore.

The distribution of fish and crustaceans is influenced by salinity and vegetation. The marshes provide critical habitat for commercially and recreationally important species such as red drum, black drum, sheepshead, southern flounder, various shrimp, blue crab, and eastern oysters.

3.2.3 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires Federal agencies to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH). EFH is defined as those waters and substrate necessary to fish for spawning, breeding, or growth to maturity for species regulated under a Federal fisheries management plan. Specific categories of EFH in estuaries include all estuarine waters and substrates (mud, sand, shell,

rock, and associated biological communities), including the sub-tidal vegetation (sea grasses and algae) and adjacent inter-tidal vegetation (marshes and mangroves). The Gulf Fisheries Management Council (GFMC), in cooperation with the National Marine Fisheries Service (NMFS), has delineated EFH for Federally managed species identified in Gulf Fisheries Management Practices (FMPs) (GMFMC 2016). The estuarine waters in the proposed project area include EFH for several Federally managed species (Table 3-4). Table 3-5 identifies EFH for highly migratory species including blacktip, bull, spinner, Atlantic sharpnose, and finetooth sharks within the watershed of MTG project area. Specific categories of EFH in the project area include estuarine emergent marsh, mud/sand/shell/oyster substrates, submerged aquatic vegetation, and estuarine water column.

Additionally, coastal wetlands provide nursery and foraging habitat that supports economically important marine fishery species such as spotted seatrout, southern flounder, Atlantic croaker, Gulf menhaden, striped mullet, and blue crab. These species serve as prey for other Federally managed fish species such as mackerels, snappers, groupers, billfishes, and sharks.

Table 3-4. EFH Species found in the MTG Watershed

Common Name	Life Stage	EFH
Red Drum	Adult	Estuarine sand/shell bottom, emergent marsh, soft bottom, and SAV
	Juvenile	Emergent marsh, soft bottom, and SAV
	Larvae/Post-Larvae	Emergent marsh, sand/shell bottoms, SAV, and soft bottom
Brown Shrimp	Juvenile	Emergent marsh, oyster reefs, sand/shell bottom, SAV, soft bottom
White Shrimp	Juvenile	Emergent marsh and soft bottoms
Gray Snapper	Adult	Estuarine soft bottoms, emergent marsh, and sand/shell bottoms
Lane Snapper	Juvenile	Estuarine sand/shell bottoms, SAV, soft bottoms,
	Post-Larvae	Estuarine SAV

Table 3-5. Highly Migratory EFH Species found in the MTG Watershed

Common Name	Life Stage	EFH State Waters Eco-Region 4
Blacktip Shark	Neonate & Juvenile	Estuarine waters of Terrebonne and Timbalier Bays; all nearshore and offshore waters
	Adult	Estuarine waters of Atchafalaya, Terrebonne and Timbalier Bays; all nearshore and offshore waters
Bull Shark	Juvenile	Nearshore waters of Terrebonne Bay to Mississippi River delta
Spinner Shark	Neonate	Terrebonne Bay and estuarine and nearshore waters to Grand Isle
	Juvenile	All nearshore waters between Vermilion and Atchafalaya Bays; Terrebonne and Barataria Bays.
Finetooth Shark	Neonate	Timbalier Bay and waters offshore Timbalier islands
	Juvenile & Adult	Estuarine and nearshore waters east of Terrebonne Bay
Atlantic Sharpnose Shark	Neonate	All nearshore and offshore waters of Atchafalaya, lower Terrebonne and Timbalier Bays, and Barataria Bay
	Juvenile & Adult	Estuarine and nearshore waters east of Terrebonne Bay

3.2.4 Wildlife

The Barataria-Terrebonne estuary is a vital habitat for over 200 bird species, with the greatest diversity found in freshwater swamps. It serves as a crucial wintering ground for over half of the Mississippi Flyway's duck population, although a severe drought in 2023 led to record-low numbers. The area supports a wide array of migratory waterfowl, wading birds, raptors, and neotropical migrants, with shorebirds using mudflats and seabirds like pelicans and gulls occupying deeper waters.

The region also hosts diverse mammal, reptile, and amphibian populations. Mammal life includes stable furbearers like beaver and river otter, the invasive nutria which harms vegetation, and larger species such as deer and feral hogs that enter marshes to feed. The American alligator is abundant, alongside various snakes, turtles, and frogs. However, a significant threat to local amphibians is the infectious fungal disease Chytridiomycosis.

3.2.5 Threatened, Endangered, and Protected Species

Within the State of Louisiana, there are approximately 32 threatened and endangered (T&E) or at-risk species (some with critical habitat) under the jurisdiction of the U.S. Fish and

Wildlife Service (USFWS) and/or NMFS. Of those 32 species, 11 could occur in the Project Area (Table 3-6).

Table 3-6. T&E Species Occurring in Project Area

Common Name	Scientific Name	Occurrence	Group	Status	Critical Habitat in the Project Area
West Indian Manatee	<i>Trichechus manatus</i>	Seasonal	Mammal	T	No
Tricolored Bat	<i>Perimyotis subflavus</i>	Possible	Mammal	PE	No
Eastern Black Rail	<i>Laterallus jamaicensis ssp. Jamaicensis</i>	Possible	Bird	T	No
Green Sea Turtle	<i>Chelonia mydas</i>	Known	Reptile	T	No
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	Known	Reptile	E	No
Kemp's Ridley Sea Turtle	<i>Lepidochelys kempii</i>	Known	Reptile	E	No
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	Highly unlikely	Reptile	E	No
Loggerhead Sea Turtle	<i>Caretta caretta</i>	Known	Reptile	T	No
Alligator Snapping Turtle	<i>Macrochelys temminckii</i>	Known	Reptile	PT	No
Gulf Sturgeon	<i>Acipenser oxyrhynchus desotoi</i>	Highly unlikely	Fish	T	Yes*
Giant Manta Ray	<i>Mobula birostris</i>	Highly unlikely	Fish	T	No
Monarch Butterfly	<i>Danaus plexippus</i>	Seasonal	Insect	PT	No

T = Threatened; E = Endangered; PT = Proposed Threatened; PE = Proposed Endangered; C = Candidate; CH = Critical Habitat

*The Three Mile Bay mitigation site footprint overlaps with identified Gulf Sturgeon critical habitat. This mitigation alternative is currently not part of the Tentatively Selected Plan for mitigating brackish saline marsh impacts. Additional ESA coordination would be necessary should this alternative be pursued.

Source: <https://www.fws.gov/office/louisiana-ecological-services/species> (accessed August 15, 2023)

Listed T&E species and proposed species known to, believed to, or that have the potential to occur within the project area include: West Indian manatee (*Trichechus manatus*), tricolored bat (*Perimyotis subflavus*) eastern black rail (*Laterallus jamaicensis jamaicensis*), alligator snapping turtle (*Macrochelys temminckii*), Gulf sturgeon (*Acipenser oxyrhynchus desotoi*), giant manta ray (*Mobula birostris*), monarch butterfly (*Danaus plexippus*), and Green (*Chelonia mydas*), Hawksbill (*Eretmochelys imbricata*), Kemp's Ridley (*Lepidochelys kempii*), Leatherback (*Dermochelys coriacea*), and Loggerhead (*Caretta caretta*) sea turtles. Other protected species that may occur in the project area include the bald eagle and brown pelican, which have been successfully de-listed, the American alligator and shovelnose sturgeon, which are listed as threatened due to their similarity to other endangered species,

and bottlenose dolphins which are protected under the Marine Mammal Protection Act (MMPA).

West Indian Manatee (*Trichechus manatus*): Manatees are listed as threatened under the ESA and protected by the MMPA. Manatees inhabit coastal areas from Florida to the Greater Antilles and suitable habitats in Central and South America. Manatees occasionally enter the Pearl, Pontchartrain, Barataria, Mermentau, Calcasieu, and Sabine River basins and associated coastal waters and streams during the summer months (i.e., June through September). Given the paucity of food sources in the project area, and availability of relatively undisturbed wetlands in the surrounding region, it is considered unlikely for the manatee to frequent and utilize waterways within the project area. The project area does not contain West Indian manatee critical habitat.

Tricolored Bat (*Perimyotis subflavus*): The tricolored bat is a proposed threatened species under the ESA. The tricolored bat is a small insectivorous bat distinguished by its unique tricolored fur and often appears yellowish to nearly orange. The once common species is wide ranging across the eastern and central United States and portions of southern Canada, Mexico and Central America. During the winter, tricolored bats are often found hibernating in caves and abandoned mines, although in the southern U.S., where caves are sparse, tricolored bats are often found roosting or hibernating in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. In the southern U.S., hibernation length is shorter compared to northern portions of the range and some tricolored bats exhibit shorter torpor bouts and remain active and feed during the winter, due to the south having a warmer climate (FWS 2021a). During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures. Tricolored bats face extinction due primarily to the wide range impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent (FWS 2025b). Tricolored bats could occur in the northwest section of the Reach F levee area where mature bottomland hardwood forests exist.

Bottlenose dolphins (*Tursiops truncatus*): Common bottlenose dolphins are protected under the MMPA and are found throughout the world in both offshore and coastal waters, including harbors, bays, gulfs, and estuaries of temperate and tropical waters. Bottlenose dolphins are known to inhabit the mitigation site project areas and could venture very close to shore. Contractors should be informed of the potential of encountering stranded dolphins and should be directed to report any sightings to the National Oceanic and Atmospheric Administration (NOAA Fisheries) at 877-942-5343.

Eastern Black Rail (*Laterallus jamaicensis jamaicensis*): The eastern black rail is listed as threatened under the ESA. Rails are known to occur in the Gulf Coast Chenier Plain of Louisiana (specifically Cameron and Vermilion Parishes) and require large continuous salt, brackish, and/or freshwater high marsh habitats with dense vegetative cover. No critical habitat has been designated for this species. However, it is possible that the Eastern Black rail may occur in the project area because Reach F does have some large continuous marsh habitats that could potentially support them.

Alligator Snapping Turtle (*Macrochelys temminckii*): Alligator snapping turtles are listed in the ESA as “proposed threatened.” The alligator snapping turtle occurs exclusively in the United States from western Georgia to eastern Texas and north to Missouri. Turtles inhabit swamps, large rivers, canals, lakes, and oxbow. They are most commonly found in freshwater lakes and bayous but are known to occur in coastal marshes. Turtles may be found in the project area due to the availability of suitable habitat.

Monarch Butterfly (*Danaus plexippus*): Monarch butterflies are listed as candidate species under the ESA and are native to North and South America. North American monarchs consist of two distinct populations, eastern and western. Eastern monarchs breed in the eastern United States and Canada and overwinter in central Mexico. Louisiana is part of the eastern migration pattern, and the state is an important stopover on their journey as they depend on coastal wildflowers and native milkweeds for foraging along the way. Monarchs may be found in the project area in the fall and spring during their migration cycle and because milkweed may exist in the project area. Currently, the monarch butterfly does not receive statutory protection under the ESA.

Marine Turtles: The Green (*Chelonia mydas*) and Loggerhead (*Caretta caretta*) sea turtles are listed as threatened and the Kemp’s Ridley (*Lepidochelys kempii*), Leatherback (*Dermochelys coriacea*) and Hawksbill (*Eretmochelys imbricate*) are listed as endangered under the ESA. All of these species are known to utilize the offshore and inshore areas of the Gulf near the Morganza to the Gulf project area. Leatherback sea turtles prefer open, deep-water habitat where they forage primarily on jellyfish. Critical habitat for the Loggerhead is located just outside of the footprint of the tentatively selected mitigation site (West Terrebonne). During their early years of life, sea turtles drift with the *Sargassum* and feed off living organisms associated with the seaweed. In 2014, the NOAA Fisheries designated *Sargassum* habitat in the Gulf as critical habitat for the Northwest Atlantic Ocean Distinct Population Segment (DPS) of the loggerhead sea turtle. This designated critical habitat is located approximately 4 miles off the coast of Louisiana and is well outside the project area.

Kemp’s ridley, Loggerhead, and Green sea turtle hatchlings have been observed by CPRS, LDWF, and USFWS on the Chandeleur Islands in coastal Louisiana the past four consecutive years (since August 2022). Marine turtles have also been known to get stranded on beaches of Louisiana. Contractors would be informed of the potential of encountering stranded turtles and would be directed to report any sightings to the Louisiana Department of Wildlife and Fisheries (LDWF) at (337) 962-7092.

Gulf Sturgeon (*Acipenser oxyrinchus desotoi*): The Gulf sturgeon is a sub-species of the Atlantic sturgeon that can be found from Lake Pontchartrain and the Pearl River system in Louisiana and Mississippi to the Suwannee River in Florida. Hatched in the freshwater of rivers, Gulf sturgeon head out to sea as juveniles, and return to the rivers to over summer or spawn (lay eggs) when they reach adulthood. The Gulf sturgeon has five rows of bony plates known as scutes that run along its body and a snout with four barbels (slender, whisker-like, soft tissue projections) in front of its mouth. Similar to sharks, Gulf sturgeon

have tails where the upper part of the fin, or lobe, is larger than the lower lobe. All of these features give the fish its unique look. In 1991, Gulf sturgeon were listed as threatened under the Endangered Species Act after their population was greatly reduced or eliminated throughout much of their range because of overfishing, dam construction, and habitat degradation. NOAA Fisheries and the U.S. Fish and Wildlife Service jointly manage and protect Gulf sturgeon. Gulf sturgeon spawn in rivers in the spring and fall and spend the summer months in the riverine habitat between the upstream spawning areas (where they lay their eggs) and the estuary (mixed-salinity area where a river meets the sea).

Giant Manta Ray (*Mobula birostris*): The giant manta ray listed as a threatened species under the ESA. It is the world's largest ray with a wingspan of up to 26 feet. They are filter feeders and eat large quantities of zooplankton. Giant manta rays are slow-growing, migratory animals with small, highly fragmented populations that are sparsely distributed across the world. The main threat to the giant manta ray is commercial fishing, with the species both targeted and caught as bycatch in a number of global fisheries throughout its range. Manta rays are particularly valued for their gill plates, which are traded internationally. We have made a determination of no effect for the Giant manta ray as the proposed action area is fairly inaccessible to the Giant manta ray and there are no foraging resources available that would attract the species. This would result in no likelihood that this species would be encountered during this work.

Bald Eagle (*Haliaeetus leucocephalus*): The bald eagle was delisted as a Federally threatened species in 2007 for most of the United States; however, it is protected under the Bald and Golden Eagle Protection Act (BGEPA), and the Migratory Bird Treaty Act (MBTA). Bald eagles' nest in Louisiana from December through mid-May in mature trees (e.g., bald cypress, sycamore, willow, etc.) near fresh to intermediate marshes or open water. 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. The project area was surveyed for bald eagle nests via helicopter survey on 4 May 2023 and during the helicopter survey, three eagle nests were observed in the vicinity of the proposed project. Another helicopter survey was conducted on 14 January 2025 and the same 3 nests were identified and looked to be active.

A distance restriction of 660 feet from a nesting bald eagle must be implemented. Coordination by New Orleans District personnel with the U.S Fish and Wildlife Service may result in a reduction of no-work distance restriction depending on the species of birds found nesting at the work site. It is illegal to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb any bald or golden eagle, alive or dead. If a wounded or dead eagle is found on or near the job site, immediately contact Elizabeth Behrens at (504) 862-2025. Do not handle, move, or touch the eagle. A no-work distance restriction of 330 feet must be established to protect the bird until a wildlife agent reports to the site.

Colonial Nesting Waterbirds: Coastal Louisiana contains habitats suitable for support of colonial nesting waterbirds which are protected under the MBTA. Louisiana is considered a

hotspot for colonial wading bird and seabird nesting because of its position in the Mississippi Alluvial Valley and along the Gulf. It is estimated that the Louisiana coastal zone is home to approximately 200 rookeries of wading birds and seabirds.

Some of the colonial nesting waterbird species in the project area include: anhingas (*Anhinga anhinga*), great blue herons (*Ardea herodias*), great egrets (*Ardea alba*), snowy egrets (*Egretta thula*), little blue herons (*Egretta caerulea*), tricolored herons (*Egretta tricolor*), cattle egrets (*Bubulcus ibis*), green herons (*Butorides virescens*), black-crowned night-herons (*Nycticorax nycticorax*), yellow crowned night-herons (*Nyctanassa violacea*), white ibises (*Eudocimus albus*), glossy ibises (*Plegadis falcinellus*), and white-faced ibises (*Plegadis chihi*). Geologic subsidence, erosion, storm surge, and sea level rise would continue to impact birds by degrading viable nesting habitat within the project area.

On 4 May 2023, April 2024, and January 2025, the project area was surveyed for colonial waterbird activity via helicopter survey. No evidence of colonial waterbird nesting (or pre-nesting) activities was observed near the project area.

3.2.6 Prime and Unique Farmland

Marsh soils in the project area include Fausse-Barbary, Allemands-Kenner, and Clovelly-Lafitte associations, and feature a semifluid peat or muck surface layer over alluvial clays rendering them too soft for agriculture. The organic content of these soils significantly decreases from an average of 52 percent in fresh marshes to 18 percent in saline marshes. The natural levees are composed of different soils based on elevation. The lower portion of the natural levees consist of the clay-heavy Sharkey and Schriever associations. These soil types support bottomland vegetation and are used for woodland, pasture, and recreation. The highest parts of the levees contain Commerce and Cancienne-Grammercy soils. These soils are better drained, rarely flood, and are mainly used for cropland, pasture, and urban development. Additionally, some narrow, loamy ridges extend into the marsh and are used for camps, homesites, and seafood industry and experience occasional flooding. The existing Reach F levee is specifically composed of alluvial and silty clays. There is prime farmland identified in the offsite borrow areas.

3.2.7 Water Quality

Under the Clean Water Act, the Louisiana Department of Environmental Quality (LDEQ) is required to monitor and report on the state's surface water quality every two years. This process involves identifying impaired water bodies that do not meet Federal standards. To do this, LDEQ classifies each water body according to one of eight "designated uses," such as recreation (swimming, boating), fishing, or drinking water supply. Each water body is then assessed to determine if it is "Fully Supporting" or "Not Supporting" its designated use, or if there is insufficient data to make a conclusion.

Project Area - The project area focuses on one watershed basin: Terrebonne drainage basin and is labeled as one 4-digit Hydrologic Unit: Lower Mississippi-0809. According to LDEQ, the Terrebonne basin is located within southern Louisiana and is located West of the

Mississippi River. The basin can be broken into 8-digit Hydrologic Units: West Central Louisiana Coastal-08090302, East Central-08090301, Eastern Louisiana Coastal-08090203.

The project area consists of one parish within Louisiana: Terrebonne Parish. Within this parish, there are six 12-digit Hydrologic Units: Houma Navigation Canal-Bayou Grand Caillou- 080903020605, Bayou Sale-Sweetwater Pond- 080903020604, Northwest Jack Williams Bay-080902030605, Brusie Lake-Frontal Little Lake-080903010407, Lake Tambour-080903020807, Bayou Grand Caillou-Frontal Caillou Bay-080903020608.

The 2024 Louisiana Water Quality Integrated Report, LDEQ outlines subsegments that are within the project area. Table 3-7 shows each of these subsegments and whether they are fully supporting or not supporting their designated uses as of the 2024 LDEQ report. For more information on water quality see Appendix I.

Table 3-7. Hydrologic Unit Subsegments within the Project Area

HUC Subsegment	Primary Contact (Swimming)	Secondary Contact (Boating)	Fish & Wildlife (Fishing)	Oyster Propagation
LA120508_00-Houma Navigation Canal From Bayou Pelton to 1 mile south of Bayou Grand Caillou (Estuarine)	Not Supporting	Fully Supporting	Fully Supporting	Not Supporting
LA120701_00-Bayou Grand Caillou From Houma Navigation Canal to Caillou Bay (Estuarine)	Not Supporting	Fully Supporting	Fully Supporting	Fully Supporting
LA042203_00-Bay Boudreau	Not Supporting	Fully Supporting	Insufficient Data	Fully Supporting
LA042003_00-Bayou La Loutre-From MRGO to Eloï Bay (Estuarine)	Not Supporting	Fully Supporting	Fully Supporting	Not Supporting
LA020902_00-Little Lake (Estuarine)	Fully Supporting	Fully Supporting	Not Supporting	Fully Supporting
LA120704_00-Bayou Terrebonne-From Humble Canal to Lake Barre (Estuarine)	Not Supporting	Fully Supporting	Fully Supporting	Fully Supporting
LA120706_00-Bayou Blue From Bully Camp Canal to Lake Raccourci (Estuarine)	Fully Supporting	Fully Supporting	Fully Supporting	Fully Supporting
LA120703_00-Bayou Du Large From 1/2 mile north of St. Andrews Mission to Caillou Bay (Estuarine)	Not Supporting	Fully Supporting	Fully Supporting	Not Supporting

3.2.8 Air Quality

The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six "criteria" pollutants: carbon monoxide, nitrogen dioxide, ozone, lead, particulates, and sulfur dioxide. Ozone is unique as it is not directly emitted but forms from chemical reactions between other pollutants, like vehicle exhaust and industrial

emissions, in the presence of sunlight. The EPA's "Green Book" lists "nonattainment areas" that do not meet these Federal standards for one or more pollutants. According to both the Green Book and the LDEQ, Terrebonne Parish is currently in attainment for all six of these criteria pollutants. For more information about air quality see Appendix J.

3.2.9 Noise and Vibration

Noise pollution poses a significant threat to the health and welfare of millions, with established links between noise exposure and a range of adverse human health impacts. While Noise-Induced Hearing Loss is a primary concern, exposure to loud or persistent noise can also cause sleep disturbances, stress, cardiovascular effects, and high blood pressure. Recognizing these adverse effects, the U.S. government enacted the Noise Control Act of 1972, which, along with OSHA standards, establishes a national policy to create an environment free from hazardous noise levels.

The proposed project is situated in a predominantly agricultural and rural setting where existing noise is generated by four principal source types: agricultural noise, recreational noise, general stationary noises, and general mobile noise. The most significant is agricultural noise from heavy equipment like plows and harvesters, loud but temporary crop-spraying aircraft, and water pumps. Recreational activities also contribute, notably through hunting and boat traffic on the HNC, which can produce noise levels greater than 86 dB. Stationary noise sources can include air conditioning units, power tools, motors, generators, appliances, and manufacturing and industrial facilities. There are few industrial facilities near the project area, therefore, contribution of general stationary noises to the ambient noise levels in the project area is minimal. General mobile noise arises from vehicles on roads such as Falgout Canal Road, boat traffic on the HNC, and agricultural equipment. In addition, ambient noise may be generated by a broad range of natural sources, such as thunder, wind, precipitation, and local wildlife sounds. No ambient noise monitoring appears to have been conducted in the project area; consequently, no quantitative data on noise levels within the project area are available for analysis.

3.2.10 Aesthetics

The project area is within Terrebonne Parish southwest of Houma and features a landscape of elevated ridges and brackish marshes, crisscrossed by numerous waterways like the Houma Navigation Canal. Land use along these ridges includes cultivated crops, pastureland, marine industry, and rural residential development. Primary public vistas within the project area are along LA 57 and Falgout Canal Rd. LA 57 is a part of the 204-mile-long Wetlands Cultural Trail, a Louisiana Scenic Byway which recognizes, educates, preserves, and enhances the region's inherent culture, heritage, and beauty. Additional vistas into the interior of this landscape are only available via boat. The landscape and vegetation between these waterways are primarily brackish and saline marshes. Public access beyond LA 57 is limited to the Houma Navigation Canal, Bayou Grand Caillou, and countless straight channels and related spoil banks, which cut through the coastal marsh.

3.2.11 Recreation

The project area is in Terrebonne Parish, southwest of Houma, adjacent to waterways including the Houma Navigation Canal, Bayou Grand Caillou, and Falgout Canal. To the northwest lies the 4,212-acre Mandalay National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service and is accessible only by boat. The area's predominant activities are consumptive recreation, with fishing and waterfowl hunting being the most common, followed by limited crabbing, shrimping, and hunting for deer and small game. Non-consumptive uses such as birdwatching and pleasure boating occur but attract fewer participants. Data from 2019 indicates the scale of these activities, with 14,656 registered boats in Terrebonne Parish, and the state issuing 29,331 resident fishing licenses and 5,140 resident hunting licenses for the area.

3.2.12 Socioeconomics

The socioeconomic landscape of the region, which includes Lafourche and Terrebonne Parishes, has been shaped by steady growth and a historically strong connection to the oil and gas industry. After significant population increases in the 1970s and a temporary dip in the 1980s, both population and the number of households have shown consistent growth, a trend projected to continue. The area's largest city is Houma, with a 2021 population of 33,461 and 14,893 households.

Economically, the region's labor force and unemployment rates are highly sensitive to the boom-and-bust cycles of the oil and gas industry, with notable employment declines corresponding to drops in oil prices. In response, the economy has diversified, and while the natural resources and mining sector pays the highest wages, the largest employment sector is now trade, transportation, and utilities. Other major industries include healthcare, government, and manufacturing. Per capita income has risen steadily over the past 50 years.

The project area is supported by substantial public infrastructure. This includes a network of highways, navigation canals like the GIWW and HNC, the Port of Terrebonne, and the Houma-Terrebonne Airport. Public services feature eight hospitals, numerous police and fire stations, and an extensive system of levees and pumps for flood risk reduction. The community is characterized by strong social cohesion, with approximately 31 schools and 98 places of worship fostering civic engagement.

Property values in the region are closely tied to hurricane flood risk. The median value of owner-occupied homes in Lafourche and Terrebonne Parishes was approximately \$162,100 and \$160,600, respectively, between 2017-2021, slightly below the state average. Flood risk reduction projects are seen as critical to maintaining and improving property values, while a lack of protection could hinder growth. For more information on socioeconomics see Appendix K.

3.2.13 Cultural, Historic, and Tribal Trust Resources

Cultural Resources assessments and surveys have been conducted in lower Terrebonne Parish since 1926. The most recent and synthesized of these are Weinstein and Kelley (1992), Brown et al. (2000), and Moreno et al. (2011). Numerous earthen mounds and shell middens have been located and recorded. Prehistoric settlement in lower Terrebonne Parish dates as early as the Marksville Period (A.D. 1 – 400) and includes mound sites, hamlets, and shell middens. Societies in the project area subsisted on marsh resources such as clams, fish, mammals, birds, and reptiles, while shellfish were also utilized as a food source and to provide a base on which to settle. By the Coles Creek Period (A.D. 700 - 1200), settlements in the region may have been organized as major mound sites surrounded by satellite villages and seasonal camps. Villages were concentrated on stable levee surfaces or at the confluence of distributaries. Both year-round occupation and seasonal movement have been suggested for the inhabitants of the area. During Plaquemine times (A.D. 1200 – 1700), the settlement pattern suggests a complex social hierarchy, with large ceremonial sites composed of multiple mounds surrounding a central plaza, and smaller villages and hamlets scattered throughout the area. Non-mound sites that have been located are on elevated natural levees and seem to have focused on the cultivation of crops. The majority of known prehistoric sites located in the vicinity of the project area date to this late prehistoric period and suggest a significant occupation of the region.

The early historic period in southeast Louisiana is marked by increasing settlement and European dealings with Native American tribes. Early French writings describe a native cultural landscape of small tribal groups and shifting alliances. The most is known about the Chitimacha Indians, a Federally recognized Native American tribe that claims ties to much of south Louisiana as its ancestral homeland and is currently clustered around Charenton in St. Mary Parish. In addition to the many ancient Chitimacha village locations recorded in State Records, the Chitimacha Indians remember, respect, and maintain numerous traditional cultural properties within south Louisiana.

Although it is generally accepted that the Houma Indians were located near the confluence of the Red and Mississippi rivers during the early historic period, some historic accounts suggest that they were virtually wiped out by fighting and other causes of death during the years at the end of the 17th century and the beginning of the 18th century. By the middle of the 20th century, the Houma had grown and were settled in Terrebonne and Lafourche parishes. Descendants of these people are organized today as the United Houma Nation but are not Federally recognized as a Native American tribe.

After early European exploration of the area, the French began colonization efforts in the early 18th century. Settlement was sparse until the Acadians began arriving circa 1765, and their influence persisted throughout the Antebellum Era. The Civil War left the project vicinity relatively unaffected, but after the Civil War, all of south Louisiana had the hard task of recovery following the abolition of slave labor and war-related destruction of levees and other aspects of infrastructure. New plantations and new economies began to develop. By

the late 19th century, small communities were emerging along the bayous. Population fluctuations took place as blacks, the predominant population before the Civil War, migrated outward to seek more opportunities.

The growth of the sugar industry was a boom to the area, and in 1917 the first commercial gas well struck near Montegut. Numerous oil and gas fields dot the region today. The shrimping industry grew as innovations occurred that allowed greater catches to be more easily retrieved and distributed. Canal systems and the GIWW have made a large portion of the project vicinity navigable by water, which has aided in the distribution of all resources. Today, the project vicinity is a vital economic area with diverse productive strategies and diverse peoples.

The Reach F proposed levee footprint and borrow areas for construction have been surveyed for cultural resources (Carpenter et al. 2025; Kelley et al. 2009). Coordination of the Reach F project's potential to affect cultural resources within the levee footprint and the borrow areas has occurred with the Louisiana SHPO and Federally-recognized Tribes with letters dated July 17, 2025. The Louisiana SHPO agreed on August 13, 2025 that no historic properties will be adversely affected by the proposed project concurred with our recommended revisions to the boundaries of the proposed borrow areas in order avoid potential impacts to historic sites. In addition, CEMVN intends to continue its close relationship with the SHPO and Tribes through the execution of a Programmatic Agreement (PA) that covers activities associated with the overall MTG project, including the proposed Corps constructed mitigation alternatives for brackish saline marsh. The PA will govern USACE's subsequent National Historic Preservation Act (NHPA) compliance efforts and will continue to be adhered to during implementation of the project. CEMVN anticipates executing the PA prior to signing a FONSI.

3.2.14 Hazardous, Toxic, and Radioactive Waste

The USACE is obligated under Engineer Regulation (ER) 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within the vicinity of proposed action. ER 1165-2-132 identifies that HTRW policy is to avoid the use of project funds for HTRW removal and remediation activities. An ASTM E 1527-21 Phase 1 Environmental Site Assessment (ESA), HTRW 24-10 dated December 9, 2024, was completed for the Reach F levee area and a copy is being maintained on file at CEMVN. The probability of encountering HTRW in the vicinity of Reach F is low based on the initial site assessment. An updated assessment of HTRW in the project area is underway and all necessary compliance would be completed prior to finalizing this SEA. If a recognized environmental condition (REC) is identified in relation to the project area, the U.S. Army Corps of Engineers, New Orleans District would take the necessary measures to avoid the REC so that the probability of encountering or disturbing HTRW would continue to be low.

Section 4

Environmental Consequences

This section analyzes the potential beneficial and adverse environmental effects of constructing Reach F by comparing the "No Action Alternative" with the "Proposed Action." The analysis assesses direct impacts (caused by the action at the same time and place), indirect impacts (occurring later or at a distance), and cumulative impacts (the project's incremental effect when added to other past, present, and foreseeable actions). It also considers the relationship between short-term uses and long-term productivity and any irreversible commitments of resources.

4.1 WETLAND RESOURCES

4.1.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct or indirect impacts. Substantial losses of vegetated wetlands are expected to continue due to sea level change, subsidence, erosion, and insufficient sediment accretion.

4.1.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

The Proposed Action would minimize impacts to wetlands through removal of side cast borrow usage. To determine the impacts of the project, an interagency Habitat Evaluation Team (HET) was formed to use Wetland Value Assessment (WVA) methodology to assess the quality of wetlands of the area and make a determination of the effects of various aspects of the project on future conditions. A total of 96.8 acres of wetlands would be directly impacted by construction of the Reach F earthen levee, resulting in a loss of 44.03 Average Annual Habitat Units (AAHUs). This includes approximately 85.3 acres of brackish marsh (-32.52 AAHUs), approximately 21.2 acres of saline marsh (-11.51 AAHUs), and approximately 9.4 acres of BLH (-4.5 AAHUs). Wetlands would not be impacted by the proposed borrow sites (Aragon Rd., Saia Woodlawn Ranch, NFS-A1, and DE-6), staging areas, or access roads as these features are all located entirely within agriculture or already developed areas. A mitigation plan has been developed to compensate for unavoidable wetland impacts caused by the proposed action (Appendix F). All habitat impacts would be mitigated through the purchase of mitigation bank credits and/or construction of a marsh creation project.

Table 4-1. Direct Impacts by Habitat Type

Wetland Habitat Type	Acres Impacted	AAHUs Impacted
Brackish Marsh	85.3	-32.52
Saline Marsh	21.2	-11.51
BLH	9.4	-4.5
Total	115.9	-48.53

Construction of the proposed action is not expected to independently have indirect impacts to wetlands as there would be no alterations to the hydrology or hydrodynamics of the site as wetlands in Reach F are only a small portion of the system and would not be impounded.

The Reach F levee project, when considered in combination with the MTG system as a whole, may result in minor cumulative impacts to hydrology and wetlands. Except for during storm events, the MTG system is expected to remain open and existing hydrologic conditions would be maintained. However, minor indirect impacts to wetlands could occur due to alteration of local hydrology during system closure. More information about the MTG project's potential impacts on hydrology can be found in Appendix G.

4.1.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits (TSP)

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation bank credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

There would be temporary, direct impacts to wetlands during marsh construction. Overall, there would be beneficial impacts to wetlands through the conversion of up to 170 acres (West Terrebonne, TSP), 180 acres (North Barataria Bay), 229 acres (Three Mile Bay), and up to 425 acres (Isle de Jean Charles) of open water to brackish saline marsh habitat.

Implementation of these projects would prevent an overall loss of brackish saline marsh habitat within the project area.

These projects, when combined with other past, present, and reasonably foreseeable future ecosystem restoration and mitigation projects in the Barataria basin, would help slow the loss of wetlands.

4.2 FISHERIES AND AQUATIC RESOURCES

4.2.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct or indirect impacts. Substantial losses of fisheries habitat are expected to continue due to sea level change, subsidence, and insufficient sediment accretion.

4.2.2 Proposed Action

Direct, Indirect, Cumulative Impacts

The Proposed Action's alignment minimizes impacts to high quality habitat by utilizing the alignment of an already constructed levee. However, with implementation of the proposed action, there would still be direct and indirect impacts to fisheries due to the construction of the levee and project features. Construction activities using earthen materials along the proposed ROW could cause turbidity or sudden salinity changes. These temporary conditions would likely displace more mobile fisheries species from the construction area. Haul routes for delivering construction materials and equipment for levee construction would utilize existing roadways and waterways, resulting in negligible impacts to aquatic resources. Proposed borrow and staging areas have been carefully identified and screened to avoid wetlands and habitats potentially used by aquatic species. Prior to the start of construction, field surveys would be conducted to verify the absence of wetland habitat within these designated areas. If wetlands or other significant aquatic habitats are identified, the project design would be revised to avoid impacts.

Fisheries and aquatic resources would continue to be impacted by an overall loss of marsh and shallow water in the project vicinity and surrounding areas from the construction of this and other local and state CSRM and FRM projects in the area and relative sea level rise (RSLR). Fisheries in the project area may be improved through Louisiana Coastal Area (LCA), CIAP (Coastal Impact Assistance Program), Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), and other Federal, state, and local restoration programs.

4.2.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits (TSP)

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

Construction and dredging associated with the 170 acre (West Terrebonne), 180 acre (North Barataria Bay), 229 acre (Three Mile Bay), and 425 acre (Isle de Jean Charles) mitigation projects would have temporary minor negative impacts to fish species due to conversion of open water to marsh habitat. Mobile aquatic species would be displaced, and slow-moving or sessile species may experience mortality from dredging activities and placement of new material.

Local increases of turbidity due to construction and dredging activities would cause minor temporary negative impacts to fisheries. Overall, the conversion of less valuable more abundant open water habitat to more valuable less abundant brackish/saline marsh would be a net benefit to fisheries and aquatic species.

This mitigation effort, when considered with other past, present, and reasonably foreseeable ecosystem restoration and mitigation projects in the basin, would prevent the net loss of wetland function and overall decline of fisheries species within the basin. It would be beneficial in both preserving biodiversity and combating the current trend of conversion of coastal wetlands to open water, which could be accelerated due to sea level rise.

4.3 ESSENTIAL FISH HABITAT

4.3.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct or indirect impacts. Ongoing sea level change and subsidence would continue to cause the conversion of estuarine marsh and SAV in the study area to open water. Decreases in the quality of EFH in the project area would reduce the area's ability to support Federally managed species.

4.3.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

The Proposed Action's modified alignment would minimize new impacts to high quality habitat since it follows the existing levee alignment. With implementation of the proposed action, there would be direct impacts to EFH due to the construction of the levee within the proposed ROW. Direct mortality or injury of fisheries species may occur due to burial or increased turbidity due to excavation activities. Wetland Value Assessment (WVA) models were used to evaluate potential impacts to EFH. These impacts would be directly offset through brackish saline marsh habitat mitigation (see Appendix F).

EFH would continue to experience RSLR and could be impacted by an overall loss of marsh and shallow water in the project vicinity and surrounding areas. Throughout most of the project area, substantial losses of EFH are expected to continue due to sea level rise,

subsidence and insufficient sediment accretion. Salinity regimes would likely move northward, converting fresh and intermediate marshes into brackish marshes. Brackish and saline marshes are expected to become dominated by large lakes and bays with little, if any, submerged aquatic vegetation (SAV). EFH in the project area may be improved through Louisiana Coastal Area (LCA), Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), and other Federal, state, and local restoration programs.

4.3.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits (TSP)

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- ***Purchase of Mitigation Bank Credits (TSP)***

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- ***Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)***

Direct, Indirect, and Cumulative Impacts

Construction of the mitigation projects would convert up to 170 acres (West Terrebonne), 180 acres (North Barataria Bay), 229 acres (Three Mile Bay), and 425 acres (Isle de Jean Charles) of mostly open water to brackish/saline marsh. Construction and dredging associated with borrow and marsh building activities would have temporary, minor, negative impacts to EFH. Construction and dredging activities could bury EFH substrates and temporarily change environmental conditions, such as increased turbidity. These impacts would be minimized, as much as practicable, through implementation of appropriate Best Management Practices (Appendix C).

This project, when added to other past, present, and reasonably foreseeable ecosystem restoration and mitigation projects in the basin, would prevent the net loss of wetland function and overall decline of EFH within the basin. It would be beneficial in both preserving the species biodiversity and combating the current trend of conversion of coastal wetlands to open water, which could be accelerated due to sea level rise. Overall, the conversion of less valuable and more abundant open water habitat to more valuable less abundant brackish/saline marsh would be a net benefit to EFH.

4.4 WILDLIFE

4.4.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct or indirect impacts. Wildlife abundance is expected to continue to

decline under the No Action Alternative, based primarily on the ongoing conversion of marsh to open water and the gradual subsidence of forested habitat (LCWCRTF and WCRA 1998).

4.4.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

There would be direct and indirect impacts to wildlife resources through implementation and construction of Reach F. Construction of the levee in the proposed ROW would directly and permanently convert wetland habitats to project features. Affected habitats include BLH forest and brackish saline marshes. Most mobile wildlife species using marsh in the proposed ROW should be able to avoid direct disturbances associated with construction activities by moving away. Nesting and migratory birds would have ample alternative nesting locations available for use. Aquatic mammals and reptiles that may inhabit the proposed construction areas would likely react to disturbances by relocating to adjacent marsh or open water habitats. These impacts would be similar for terrestrial mammals and reptiles. Since replacement of wildlife habitat would occur with completion of mitigation projects in the same watershed as the impacts, impacts to wildlife populations would be temporary. Wildlife populations would have a chance to rebound, once in-kind mitigation projects are established.

In order to minimize any potential impacts to nesting bald eagles that may be found in the project area, project implementation would follow the National Bald Eagle Management Guidelines (Appendix C).

Habitat utilized by wildlife species would continue to experience RSLR that would result in the conversion and loss of habitat in the project vicinity and surrounding areas over time. With the implementation of the in-kind mitigation projects for Reach F, impacted habitat would be replaced resulting in minimal increases in cumulative impacts. Additionally, the impacts from RSLR to wildlife habitat would be reduced by the implementation of ecosystem restoration projects like those proposed under from the cumulative impacts of LCA, CWPPRA, and other Federal, state, and local restoration efforts.

Avian flu has been noted to cause mortalities amongst several different avian species and would continue to affect wildlife populations in the project vicinity. Amphibians may also experience population impacts with the spread of chytridiomycosis, depending on how fast the fungal disease spreads. Invasive species such as nutria, and feral hogs would continue to deplete resources for other wildlife species via interspecific competition. The proposed action is not expected to have significant cumulative impacts on wildlife when considered in combination with other Federal, state, local, and private flood risk reduction efforts, including, but not limited to the Terrebonne Non-Federal Levees and construction by TLCD and/or other non-Federal entities within the MRT-MTG levee alignment.

4.4.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits (TSP)

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

Construction and dredging associated with borrow and marsh building activities would have temporary, minor, negative impacts to wildlife. Ducks could be temporarily displaced to adjacent habitats due to noise, movement, and vibration. Additionally, local increases of turbidity due to construction and dredging activities would cause minor temporary negative impacts to some wildlife habitat such as submerged aquatic vegetation.

This project, when added to other past, present, and reasonably foreseeable ecosystem restoration and mitigation projects in the basin, would prevent the net loss of wetland function and overall decline of wildlife species within the basin. It would be beneficial in both preserving the species biodiversity and combating the current trend of conversion of coastal wetlands to open water, which could be accelerated due to sea level rise. Overall, the conversion of less valuable open water habitat to more valuable brackish/saline marsh would be a net benefit to wildlife communities.

4.5 THREATENED, ENDANGERED, AND PROTECTED SPECIES

4.5.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct or indirect impacts. The deterioration and loss of habitat due to storm surges and sea level change over time may adversely affect listed species that could be found in the area.

4.5.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

CEMVN has determined that implementation of the proposed action may affect, but is not likely to adversely affect the West Indian manatee, tricolored bat, Eastern black rail, Kemp's ridley, Loggerhead, Green, and Hawksbill sea turtles, alligator snapping turtle, Gulf sturgeon, and monarch butterfly, and would have "no effect" on giant manta ray and Leatherback sea turtles. The risk of measurable adverse impacts, including direct physical injury, is unlikely as all T&E species identified have the ability to avoid construction activities and move into adjacent suitable habitat.

An IPAC assessment and NMFS ESA Section 7 Mapper search associated with the Reach F alignment was conducted by the CEMVN in March 2025 and June 2025, respectively, and was updated in February 2026 to assess impacts of the project on the following threatened and endangered species: Gulf sturgeon, Kemp's ridley sea turtle, Loggerhead sea turtle, Green sea turtle, Leatherback sea turtle, Hawksbill sea turtle, , Eastern black rail, West Indian manatee, giant manta ray, and Tricolored bat. Consultation with USFWS and NMFS concluded the proposed action will have "no effect" on the giant manta ray and Leatherback sea turtles, and may affect, but is not likely to adversely affect the remaining species under USFWS or NMFS' purview for any of the plan alternatives if the USFWS and NMFS guidelines are followed (Appendix C). Additionally, construction of the Reach F levee is not expected to alter or affect designated critical habitat. Coordination with USFWS and NMFS can be found in Appendix A.

Eagle nest and colonial nesting bird surveys would be conducted prior to construction to confirm locations of nests and/or rookeries. The Bald and Golden Eagle Protection Guidelines would be followed to prevent direct impacts to any nesting eagles if present. Provisions to avoid impacts to nesting birds and threatened and endangered species would be implemented. To avoid and minimize potential impacts to any listed or protected species, the Best Management Practices found in Appendix C would be implemented.

Habitats that threatened, endangered, and protected species rely on would continue to experience RSLR that would result in its conversion and loss in the project vicinity and surrounding areas over time. With the implementation of the in-kind mitigation projects for Reach F, impacted habitat would be replaced resulting in minimal cumulative impacts to T&E and protected species. Avian flu would continue to impact colonial nesting birds in this region. Construction of the proposed action would directly and permanently convert wetland and open water habitats to project features. However, habitats T&E species and protected species rely on could be improved through Louisiana Coastal Area (LCA), CIAP (Coastal Impact Assistance Program), Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), and other Federal, state, and local restoration programs. Geologic subsidence, erosion, storm surge, and sea level rise would continue to impact birds by degrading viable nesting habitat within the project area.

4.5.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

The West Indian manatee, Eastern Black rail, Kemp's ridley sea turtle, Loggerhead sea turtle, Green sea turtle, and Hawksbill sea turtle have the potential to be found in the vicinity of the proposed West Terrebonne, North Barataria Bay, Three Mile Bay, and Isle de Jean Charles marsh mitigation sites. Gulf sturgeon also have the potential to be found in the vicinity of the Three Mile Bay mitigation alternative. The presence of construction-related activity, machinery, and noise is expected to cause these species to avoid the project area during the construction period. Additionally, direct impacts to manatees and sea turtles from construction related activities are not anticipated as hydraulic cutterhead dredges are slow moving and use of them is not known to impact these species. Impacts to manatees, Gulf sturgeon, and sea turtles would further be avoided by implementation of standard manatee protection measures developed by the USFWS and protected species construction conditions developed by NMFS. Impacts to the eastern black rail would also be minimized following general conservation measures for those species. The mitigation alternatives would have "no effect" on Leatherback sea turtles due to the absence of Leatherback's preferred habitat in the project areas.

Construction of the West Terrebonne (170 acres), North Barataria Bay (180 acres), Three Mile Bay (229 acres), and Isle de Jean Charles (425 acres) mitigation sites would directly impact wetlands by converting open water habitat to brackish/saline marsh. This would permanently remove open water foraging habitat for the West Indian manatee and marine turtles. However, impacts to these species would be minimal due to the availability of similar habitat nearby and the ability of the animals to relocate. Temporary impacts to local water quality within the West Terrebonne project area could also occur during construction and dredging of the borrow pit for West Terrebonne. Changes to temperature, dissolved oxygen (DO), ultimate carbonaceous biochemical oxygen demand (CBODU), total nitrogen (TN), ammonia-nitrogen (NH₃-N), nitrate-nitrite (NO_x), organic nitrogen (Org-N), total phosphorus (TP), orthophosphate (PO₄), organic phosphorus (Org-P), phytoplankton chlorophyll-a, and total suspended solids (TSS) could reduce the availability of prey items and sea grasses. However, these changes are expected to be negligible due to the small size of the borrow pit compared to the overall size of the body of water they are situated in. Overall, there would be temporary short-term, adverse impacts to water quality both during and for a short time following construction. Impacts to threatened and endangered species associated with alteration of local water quality would be reduced through the use of BMPs (Appendix C).

Bottlenose dolphins could be found in the vicinity of the West Terrebonne Marsh mitigation site, however, no adverse impacts to dolphins are anticipated from implementation of the project as there is bountiful adjacent habitat. Eagle nest and colonial nesting bird surveys would be conducted prior to construction to confirm locations of nests and/or rookeries (if any). The Bald and Golden Eagle Protection Guidelines would be followed to prevent direct impacts to any nesting eagles if present.

When considered in combination with other projects in the area, the proposed mitigation projects would have minimal cumulative impacts to threatened or endangered species and other protected species, such as manatees, sea turtles, bald eagles, eastern black rail and colonial nesting birds. There would be less than significant cumulative impacts to listed and protected species through implementation of this project because of the minimal nature of the impacts.

4.6 PRIME AND UNIQUE FARMLANDS

4.6.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. Existing non-Federal levees within the project area offer a degree of risk reduction against storm surge associated with tropical storms. As this levee has been in place since 2019, this alternative would not introduce any new direct, indirect, or cumulative impacts to prime and unique farmlands.

4.6.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

Construction of the levee in the proposed ROW would have no impact on prime farmland (Appendix L). Offsite borrow would potentially impact up to approximately 59.9 acres of prime farmland from borrow directly. This impact to prime farmland would also potentially impact any landowners farming in the affected areas by reducing the amount of available land nearby. Impacts to prime farmlands are being coordinated with the Natural Resources Conservation Service. See Appendix L for NRCS soil types, ratings, and associated acreages.

Remaining prime and unique farmlands inside the MTG levee system, to include inside of Reach F, would have a reduced risk of damage from storms, saltwater intrusion, and sea level rise. Indirect effects could include reduced risk of damage from storm surge, thereby promoting additional development on prime and unique farmlands.

This alternative, combined with local levee projects that might convert prime farmlands, could cause an increase in cumulative impacts to prime farmlands in the project area. However, construction of the levee would protect prime and unique farmland that exists on the protected side of the levees. Additionally, due to continuing land loss from subsidence in the project area, levees protecting prime farmland would become increasingly vulnerable to sea level change over time. Sea level change impacts to soils and prime and unique farmlands would be expected to continue and include geologic subsidence, erosion, and insufficient sediment accretion.

4.6.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits (TSP)

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

There would be no impact to prime or unique farmland for any of the marsh mitigation efforts.

4.7 WATER QUALITY

4.7.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct, indirect, or cumulative impacts.

4.7.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

Under the Proposed Action, there would be temporary impacts to water quality within the surrounding water bodies. The temporary impacts to water quality would come from the placement of fill material, the transportation of material within the project area, and other construction activities. Though temporary turbidity and suspended solids could result from the construction of the levees, the nature of impacts to the surrounding ecosystem would be minimal and would not violate water quality standards or criteria or exacerbate existing water quality impairments in the Houma Navigation Canal, Bayou Grand Caillou, or neighboring water bodies. To minimize the impacts from the construction activities to the surrounding water bodies, BMPs would be employed to reduce the potential impacts from construction activity runoff. Minimal impacts to the area water quality would occur during construction and these impacts would be eliminated after construction is completed. The clearing and excavation of the proposed borrow site NFS-A1, Aragon Road, Saia Woodlawn Ranch is not likely to result in discharge of material from the borrow site into potential surrounding waterbodies. Any increases in turbidity would be minimal and diminished by the moving currents of the waterbodies. The Proposed Action is currently being evaluated under Section 404(b)(1) of the CWA. The evaluation can be found within Appendix D. To comply with Section 401 of the CWA, a Louisiana Water Quality Certificate would be obtained from Louisiana Department of Environmental Quality per Louisiana Administrative Code 33:IX.

Tidal exchange from the protected side of the levee to the flood side of the levee could be impacted due to the construction of the proposed levee, but this is expected to be minimal based on hydrological and hydraulic modeling. This construction could cause the possibility of stagnation of water on the protected side of levee. The stagnation of water could cause an impact to aquatic species that depend on the ebb and flow of freshwater within certain bodies of water. The construction of the proposed levee could also limit the influx of mineral sediments within the protected side of the levee. This reduction of minerals could impact the growth of marshes within the protected side. If the construction of the levee occurs, the marshes on the flood side could be subjected to an increase in wave energy from refraction of the waves. Additional discharges that could occur would be the removal of groundwater or other water point sources (rain, etc.) from the excavated borrow site. The water collected would be pumped out into adjacent areas and would likely drain into the neighboring streams/bayou near the proposed borrow site. It is expected that there would be a temporary increase in turbidity within potential water bodies directly surrounding any areas of the runoff or groundwater pumping operations

When combined with coastal environments within this project area, the construction of the proposed action alternative could impact water quality. The construction of levees for the MTG project could impact the water quality standards within the project area, which could result in the IRC labeling of waterbodies within the project area and therefore an increase of regulations by local agencies and restricted uses of set stream. The potential cumulative impact sea level rise could have on water quality occurs when saltwater is introduced into a freshwater/brackish water system. When this occurs, aquatic vegetation and the organisms within the water body deteriorates. This deterioration could result in a change to dissolved oxygen and pH levels within the subject water bodies.

4.7.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

The construction and dredging of brackish/saline marsh would have temporary impacts to water quality. The increase in turbidity and suspended solids could result from the proposed work but would be minimal, temporary, and localized and would be eliminated after construction is completed. Temporary impacts to local water quality within the mitigation

sites could also occur during construction and dredging of the borrow pit near the mitigation project. Changes to temperature, dissolved oxygen (DO), ultimate carbonaceous biochemical oxygen demand (CBODU), total nitrogen (TN), ammonia-nitrogen (NH₃-N), nitrate-nitrite (NO₃-N), organic nitrogen (Org-N), total phosphorus (TP), orthophosphate (PO₄), organic phosphorus (Org-P), phytoplankton chlorophyll-a, and total suspended solids (TSS) could reduce the availability of prey items.

4.8 AIR QUALITY

4.8.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct, indirect, or cumulative impacts.

4.8.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

There could be a probability for increased air emissions from the usage of internal combustion engines, creation of particulate emissions during project construction, and increased dust due to vehicular traffic. Potential emissions would include 1) exhaust emissions from operations of various types of non-road construction equipment and 2) fugitive dust due to earth disturbance. The emissions from supply trucks and workers commuting to work would temporarily impact air quality in the vicinity of the project area. Operation of construction equipment and support vehicles would also generate Volatile Organic Compounds (VOCs), Particulate Matter (PM)₁₀, PM_{2.5}, Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Ozone (O₃) and Sulfur Oxides (SO_x) emissions from diesel engine combustion. During the construction of the Proposed Action, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Once all construction activities associated with the selected alternative cease, air quality within the vicinity would return to pre-construction conditions. Any impacts to air quality are expected to be negligible.

Currently, Terrebonne Parish is in attainment status of all NAAQS according to EPA and LDEQ. Any reductions in ambient air quality would be short-term, minor, and would not cause or contribute to a violation of Federal or State ambient air quality standards. If the construction duration is projected to be long term, there is a possibility that air quality may be impacted, and further analysis would be needed.

There would be no adverse indirect impacts to air quality in the parish with construction of the proposed action.

Cumulative impacts to air quality in the project area due to construction of this project in addition to the other construction activities within the area that may be occurring

concurrently would be temporary and minimal. After the construction period, there would be no incremental contribution to cumulative air quality impacts due to the Proposed Action.

4.8.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits (TSP)

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

The direct and indirect impacts of constructing and implementing the Corps constructed mitigation alternatives would be similar to those discussed above for the proposed action, with no notable differences. During construction, there is a probability of an increase in air emissions from the usage of internal combustion engines (Gasoline and Diesel), and creation of particulate emissions during project construction. Once all construction activities associated with the selected alternative cease, air quality within the vicinity is expected to return to pre-construction conditions.

Currently, Terrebonne Parish is in attainment status of all NAAQS according to EPA and LDEQ. If the construction duration is projected to be short term, any increases or impacts on ambient air quality would be expected to be short-term and minor and would not be expected to cause or contribute to a violation of Federal or state ambient air quality standards. Duration of initial construction is projected to be about 1-2 years; if the construction duration is projected to be long term, there is a possibility that air quality may be impacted, and further analysis would be needed.

Cumulative impacts to air quality in the project area due to construction of this project in addition to the other construction activities within the area that may be occurring concurrently would be temporary and minimal. After the construction period, there would be no incremental contribution to cumulative air quality impacts due to the Proposed Action.

4.9 NOISE AND VIBRATION

4.9.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct, indirect, or cumulative impacts.

4.9.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

Construction activities could result in nuisance noise that varies depending on proximity. Natural factors such as topography and vegetation can help reduce noise levels over long distances. When ground cover or normal unpacked earth exists between the source and receptor, the ground becomes absorptive of noise energy. Refraction of sound waves occurs when sound passes through vegetative barriers and bends around plant structures. Leaves, twigs, and branches on trees, shrubs, and herbaceous growth absorb and deflect sound energy. There is one residential community in the project area, the Southern Comfort Waterfront Community that could be exposed to adverse impacts from nuisance noise, however due to its distance from the construction activity, the impact should be minimal. Direct impacts from noise related to construction of the proposed action would temporarily impact wildlife and fishery resources which would result in those impacted organisms temporarily leaving project areas for the duration of the construction activities. The animals could easily relocate to areas of less noise during such times. If it is determined that a key species of concern is present, then the team would follow feasible administrative and/or engineering controls, determine and implement appropriate buffer zones, and implement construction activity windows.

Depending on the distance of people, property and wildlife to construction areas, heavy machinery indirect impacts associated with construction activities could result in nuisance noise. Minimal and temporary indirect noise impacts are anticipated prior to construction activities. Overall, indirect impacts should be minimal and temporary.

Cumulative impacts to noise levels resulting from implementation of the proposed action would be related to the potential short-term disruption of fish and wildlife species and similar impacts by other Federal, state, local and private restoration activities, as well as by other human-induced noise disruptions to these organisms. However, during noise-producing activities, these organisms may relocate to numerous other locations available in the project area. Long term adverse cumulative impacts due to noise levels would not be expected with implementation of the proposed action activities.

4.9.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits (TSP)

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

Noise levels would temporarily increase in the area due to the operation of equipment and vehicles used during construction of the mitigation projects and would be present only during daylight hours. While noise impacts may cause a temporary inconvenience to facilities in the immediate area, noise levels associated with construction activities would be insignificant, temporary, and monitored to ensure acceptable standards are maintained. Additionally, this is an industrial and commercial/recreational boating area and therefore noise is a daily occurrence. No harmful decibel (dB) levels are expected to occur.

Noise levels associated with mitigation construction activities have the potential to temporarily impact animals that may be present in the area but would not be significantly different from noise associated with other human (industrial, commercial, and recreational) activities that occur on a daily basis in the area. After construction of the mitigation project is complete, noise levels would be expected to return to pre-action levels. In an open-water environment any animals could avoid the area and move away from noise of construction without passing through or by the noise source.

4.10 AESTHETICS

4.10.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. As this levee has been in place since 2019, this alternative would not introduce any new direct, indirect, or cumulative impacts.

4.10.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

For Reach F of the modified PACR alignment as described in the project description with off-site borrow only, impacts to visual resources would largely proceed as they have in the past and would depend on future land use trends, conservation efforts, and ongoing navigation operations and maintenance activities. Visual resources on the protected side of the built levee, like the Wetlands Cultural Trail along LA 57, would continue to possess the current level of preservation and flood risk reduction from the constructed NFS levee. However, there would be a greater level of preservation and flood risk reduction for those visual resources located on the protected side of the levee.

Levee Borrow Sites: The proposed borrow sites would not directly or indirectly impact existing visual resources in the region. In cases where a borrow site is adjacent to residential areas, the soil removal process would alter viewsheds for some residents. In these cases, private land previously cleared of vegetation for agriculture use would now contain small freshwater lake(s) depending on how the end site is left. While these sites are generally not publicly accessible, both agriculture sites and borrow sites constitute the region's cultural identity and are intrinsic to many existing viewsheds in the area.

4.10.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits (TSP)

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

The proposed mitigation sites would have no adverse impacts to visual resources. The reestablishment of marsh would preserve and enhance the natural systems and features associated with the region's aesthetic identity.

4.11 RECREATION

4.11.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. Existing non-Federal levees within the project area offer a degree of risk reduction to recreation sites against storm surge associated with tropical storms. As this levee has been in place since 2019, this alternative would not introduce any new direct, indirect, or cumulative impacts.

4.11.2 Proposed Action

Direct, Indirect, Cumulative Impacts

Consumptive recreation in the area would depend on future land use trends, conservation efforts, and ongoing navigation operations and maintenance activities. Impacts to fishing and hunting species and habitats are investigated further in the Wetland, Fisheries and Aquatic, Essential Fish Habitat, and Wildlife Resource sections within this document.

Levee Borrow Sources: The proposed borrow sites would not directly or indirectly impact existing recreation resources in the region. In some cases, depending on how the end site is left, the habitat may be suitable to support some recreational activities (i.e., wildlife viewing and fishing), but these benefits are expected to be minimal, and sites would not be open to public access.

4.11.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

The proposed mitigation sites would have no adverse impacts to public recreation resources including, but not limited to wildlife observation, boating, fishing and hunting. Since mitigation would replace impacted wildlife and fish habitats, impacts to public recreation resources would be minimal and temporary and closely correspond with terrestrial and aquatic wildlife resources within this document.

4.12 SOCIOECONOMICS

4.12.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. Existing non-Federal levees within the project area offer a degree of risk reduction against storm surge associated with tropical storms. However, the No Action alternative could have adverse impacts on communities inside of the NFS levee in the vicinity of Reach F because they would remain at a higher risk of experiencing flooding impacts without implementation of the proposed action.

4.12.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

Under this alternative, there may be direct, temporary impacts to businesses within proximity to the project footprint due to delays caused by increased vehicular traffic congestion along roads, highways, and streets leading to the levee construction site. Businesses that rely on navigable channels for transport of goods could also experience delays during construction. There may also be a direct, temporary increase in employment as a result of construction activity.

Under this alternative, indirect impacts include the increased risk reduction from flooding for businesses and industries, and public facilities within the protected side of the levee. Induced flooding associated with the MTG project may occur outside of the levee system in the vicinity of Reach F as discussed in Appendix H. The area outside of the Reach F levee is a combination of “Open Water, Woody Wetlands, and Emergent Herbaceous Wetlands” and there are no identified structures at risk of induced flooding. Under this alternative, flooding reduction would occur for properties on the protected side of the levee. A community’s

sustainability and opportunity for growth is limited without strong storm and flood risk reduction, so there would be positive indirect impacts to community and regional growth. An increased risk reduction from flooding would protect civic infrastructure in the project area, which is a key component for maintaining community cohesion.

Positive cumulative impacts to labor and employment activity, public facilities and services, community and regional growth, and community cohesion would occur in the project area through levee improvement, habitat restoration and preservation, shoreline protection, marsh creation, and hydrologic restoration projects. Indirect impacts may also include degradation of the transportation infrastructure, local roads and highways, and wear and tear from transporting construction materials.

4.12.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

There would be no significant adverse direct impact to population, housing, public facilities and services, regional and community growth, and community cohesion from marsh mitigation site creation. There may be a direct temporary increase in employment due to construction activity. Additionally, there may be impacts to both businesses and transportation in the area due to an increase in vehicular congestion in the project area during construction.

There would also be no significant adverse indirect and cumulative impacts to population, housing, public facilities and services, regional and community growth, and community cohesion. Indirect and cumulative impacts could include potential degradation of transportation infrastructure, local roads and highways, and wear and tear from transporting construction materials. Due to marsh creation, shoreline protection, and habitat restoration and preservation, there would be positive impacts to all socioeconomic indicators.

4.13 CULTURAL, HISTORIC, AND TRIBAL TRUST RESOURCES

4.13.1 No Action

Under the No Action alternative, the NFS levee would remain in its current state without any lifts or improvements. Existing non-Federal levees within the project area offer a degree of risk reduction against storm surge associated with tropical storms. As this levee has been in place since 2019, this alternative would not introduce any new direct or cumulative impacts. However, the No Action alternative could have adverse indirect impacts on cultural resources inside of the NFS levee in the vicinity of Reach F because any cultural, historic, or tribal resources inside the levee system would remain at a higher risk of experiencing flooding impacts without implementation of the proposed action.

4.13.2 Proposed Action

Direct, Indirect, and Cumulative Impacts

Under the Proposed Action, there is the risk of directly impacting any cultural resources that have not been discovered or adequately documented due to damage or destruction during construction. A cultural resources survey was completed of the Reach F levee footprint and the necessary borrow areas for construction (Carpenter et al. 2025, Kelley et al. 2009). Cultural resources were not found for the levee footprint but were found in the original borrow area footprints. The boundaries of the proposed borrow areas were redefined as a result of the Phase I cultural surveys to avoid known historic sites. The original NFS-A1 and DE-6 borrow areas have been modified to avoid known cultural resources. The proposed Reach F levee project and revised boundaries of the proposed borrow areas were coordinated with SHPO and the Tribes in July 2025 and SHPO concurred with our recommendation to avoid historic sites on 13 August 2025. No comments were received from Tribes and we do not anticipate any impacts to Tribal resources. CEMVN intends to continue its close relationship with the SHPO and Tribes through the execution of a Programmatic Agreement (PA) that covers activities associated with the overall MTG project, including the proposed Corps constructed mitigation alternatives for brackish saline marsh. The PA will govern USACE's subsequent National Historic Preservation Act (NHPA) compliance efforts and will continue to be adhered to during implementation of the project. CEMVN anticipates executing the PA prior to signing a FONSI. If previously undiscovered cultural resources are located during construction, the PA will outline protocols for additional coordination to avoid, minimize, or mitigate any impacts.

Implementing the proposed action could have beneficial indirect impacts to cultural and historical resources by providing an added level of storm damage risk reduction to known and unknown archaeological sites in the project vicinity on the protected side of the levees, thereby reducing the damage caused by storm events. Erosion of ground deposits during storm events can result in severe damage and destruction of archaeological sites.

The construction and enlargement of levees could include the introduction of new visual elements (levee lifts and replacements) to the project area's viewshed that have the potential to indirectly impact known and previously undocumented cultural resources that may be listed or eligible for listing in the NRHP. The introduction of new visual elements that are inconsistent with the historic or cultural character of these resources could indirectly diminish the integrity of the property's setting, feeling, or association and/or cause changes to the integrity of feeling or character associated with a historic resource or Traditional

Cultural Property (TCP). USACE would continue to coordinate with stakeholders, pursuant to the PA, to ensure impacts to cultural resources are avoided to the greatest extent practicable.

There may be minor beneficial cumulative impacts from the proposed action when considered alongside the overall MTG system, which would provide additional storm damage risk reduction to areas on the protected side. Activities associated with the MTG project will be governed by the PA which will provide measures to conduct historic property identification and evaluation for listing in the NRHP as well as setting steps to avoid, minimize, and/or mitigate any potential impacts to cultural resources. No significant cumulative impacts to cultural resources are anticipated from the proposed action.

4.13.2.1 Mitigation

BLH: Purchase of Mitigation Bank Credits

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for BLH.

Brackish/Saline Marsh:

- *Purchase of Mitigation Bank Credits (TSP)*

There would be no direct, indirect, or cumulative impacts incurred by the purchase of mitigation credits for marsh.

- *Corps Constructed Mitigation (West Terrebonne (TSP), North Barataria Bay, Three Mile Bay, and Isle de Jean Charles)*

Direct, Indirect, and Cumulative Impacts

The direct impacts associated with construction of marsh mitigation sites is similar to the direct impacts associated with construction of levee features. Excavation and movement of soils to create a mitigation plot, has the potential to harm previously undiscovered cultural resources. CEMVN is coordinating with SHPO and Tribes to execute a Programmatic Agreement (PA) for activities associated with the MTG project, including the proposed Corps constructed mitigation alternatives for brackish saline marsh assessed in this DSEA. The PA will govern USACE's subsequent National Historic Preservation Act (NHPA) compliance efforts and will continue to be adhered to during implementation of the project. It will provide measures to conduct historic property identification and evaluation for listing in the NRHP and set out steps to avoid, minimize, and/or mitigate any potential impacts to cultural resources. The PA will also contain an unanticipated discovery plan that outlines the protocol that will be followed if cultural resources, historic properties, or human remains are discovered during construction activities. CEMVN anticipates executing the PA prior to signing a FONSI.

Implementing the proposed action could have beneficial indirect impacts to cultural and historical resources by providing an added natural deterrent to wind and rain surge upon intact cultural resources in the project vicinity on the landward side of vegetation or trees that

grow in the mitigation site, thereby reducing the damage caused by storm events. No significant cumulative impacts to cultural resources are anticipated from construction of the marsh mitigation sites.

Section 5

Coordination and Public Involvement

NEPA provides people, organizations, and governments the opportunity to review and comment on proposed major Federal actions. Engaging and receiving input from the public, interested parties, stakeholders, government agencies, and nongovernmental organizations regarding the content of DSEA #602 in all stages is critical to achieving the USACE objective of enhancing trust and understanding with customers, stakeholders, teammates, and the public through strategic engagement and communication.

A Public Notice was published on CEMVN's website at <https://www.mvn.usace.army.mil/About/Projects/Morganza-to-the-Gulf/> and this DSEA is available for a 30-day public review and comment period beginning 27 February 2026 and ending on 30 March 2026.

Preparation of this DSEA and draft FONSI has been coordinated with appropriate Congressional, Federal, state, and local interests, as well as environmental groups and other interested parties. The following agencies and Tribal Partners, as well as other interested parties, received copies of the DSEA and draft FONSI:

- Alabama-Coushatta Tribe of Texas
- Bureau of Indian Affairs, Eastern Regional Office
- Chitimacha Tribe of Louisiana
- Coushatta Tribe of Louisiana
- Jena Band of Choctaw Indians
- Louisiana Department of Environmental Quality, Water Permits Division
- Louisiana Department of Energy and Natural Resources, Office of Coastal Management
- Louisiana Department of Wildlife and Fisheries
- Louisiana Office of Cultural Development, Louisiana State Historic Preservation Officer
- Mississippi Band of Choctaw Indians
- Muscogee Nation
- Seminole Nation of Oklahoma
- Tunica-Biloxi Tribe of Louisiana
- U.S. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Region
- U.S. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Habitat Conservation Division
- U.S. Fish and Wildlife Service, Louisiana Ecological Services Field Office

- U.S. Environmental Protection Agency, Region VI
- U.S. Federal Emergency Management Agency, Region VI
- U.S. Natural Resources Conservation Service, State Conservationist

The Fish and Wildlife Coordination Act Section 2(b) requires the USFWS to produce a Coordination Act Report (CAR) that details existing fish and wildlife resources in a project area, potential impacts due to a proposed project and recommendations for a project. CEMVN received a draft CAR from USFWS with 19 recommendations on 22 November 2024. CEMVN responses to these recommendations can be found in Appendix B.

Section 6

Compliance with Environmental Laws and Regulations

Table 6-1 provides a list of all relevant environmental laws, regulations, and Executive Orders and includes a brief statement summarizing compliance with the requirements. Additionally, the status of all Federal permits, licenses, and other authorizations that must be obtained in implementing the project as well as any issues preventing full compliance with laws, regulations, and Executive Orders are noted.

Table 6-1. Environmental Compliance.

FEDERAL STATUTES and COMPLIANCE REQUIREMENTS	Compliance Status*
Bald and Golden Eagle Protection Act: 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: https://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf. These 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 season. During construction of the proposed action, on-site personnel should be informed of the possible presence of nesting bald eagles in the vicinity of the project boundary, and should identify, avoid, and immediately report any such nests to the USACE. If a bald eagle nest occurs or is discovered within 660 feet of the project footprint, then an evaluation must be performed to determine whether the construction and/or operation of the project is likely to disturb nesting bald eagles. An evaluation would be conducted in accordance with the procedures outlined by the USFWS at: http://www.fws.gov/southeast/es/baldeagle. Following completion of the evaluation, a determination would be made as to whether additional consultation is necessary or not. During nesting season, construction must take place outside of FWS/LDWF buffer zones. A USACE Biologist and a USFWS Biologist would survey for nesting birds prior to the start of construction. This project is in full compliance with this Act through implementation of the NBEM Guidelines.	FC
Clean Air Act of 1970, as amended: The Clean Air Act sets goals and standards for the quality and purity of air and requires the EPA to set NAAQS for pollutants considered harmful to public health and the environment. The project area is in Terrebonne Parish, Louisiana which is currently in attainment of NAAQS. A general conformity determination is not required.	FC

FEDERAL STATUTES and COMPLIANCE REQUIREMENTS	Compliance Status*
Clean Water Act of 1972, as amended: The Clean Water Act (CWA) sets and maintains goals and standards for water quality and purity. Section 401 requires a Water Quality Certification (WQC) from the Louisiana Department of Environmental Quality (LDEQ) that a proposed project does not violate established effluent limitations and water quality standards. The application for the State WQC was provided to the LDEQ on 22 October 2025 in accordance with LAC 33:IX. Water quality certification for the proposed action was received on DATE and is available in Appendix A. As required by Section 402 of the CWA, Louisiana Pollution Discharge Elimination System (LPDES) permit coverage for the proposed action would be obtained prior to construction via the General Permit for Discharges of Storm Water from Construction Activities Five Acres or More from the LDEQ. Section 404 of the CWA requires authorization from the Secretary of the Army, acting through the Corps of Engineers, for the discharge of dredged or fill material into all waters of the United States, including wetlands. A draft 404(b)(1) evaluation was released for a 30-day comment period from 27 February 2026 – 30 March 2026, a letter of no objection was received from LDEQ on DATE, and no public comments on the 404(b)(1) were received. The final version of the 404(b)(1) evaluation is available in Appendix D.	Initiated
Coastal Zone Management Act of 1972: The Coastal Zone Management Act requires that "each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." The USACE is currently in the process of coordinating the proposed action with the Louisiana Department of Conservation and Energy (LDCE) as of February 2026. CEMVN provided a consistency determination to LDCE on DATE. On DATE, consistency determination was received from LDCE for the project.	Initiated
Endangered Species Act of 1973, as amended: The Endangered Species Act is designed to protect and recover threatened and endangered (T&E) species of fish, wildlife, and plants. CEMVN coordinated with USFWS through the Service's IPaC system and additional inter-agency Section 7 consultation that is documented in Appendix A. On 25 April 2025 USFWS provided a concurrence letter. CEMVN also initiated expedited informal consultation with NMFS on 24 June 2025 to consult over potential impacts of the proposed West Terrebonne mitigation project. On 29 August 2025 NMFS concurred with CEMVN's determination that the proposed action will have "no effect" on giant manta ray or leatherback sea turtles, and is not likely to adversely affect the remaining NMFS ESA-listed species and/or designated critical habitat. ESA consultation can be found in Appendix A.	Initiated
Hazardous Toxic and Radioactive Waste: The USACE is obligated under Engineer Regulation (ER) 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within the vicinity of proposed action. ER 1165-2-132 identifies that HTRW policy is to avoid the use of project funds for HTRW removal and remediation activities. An ASTM E 1527-21 Phase 1 Environmental Site Assessment (ESA), HTRW 24-10 dated December 9, 2024, was completed for the Reach F levee project area and a copy is being maintained on file at CEMVN. An updated assessment will be completed prior to construction. In addition, further assessment of HTRW for the proposed borrow and mitigation areas will be completed prior to finalizing the DSEA. The probability of encountering HTRW for the proposed action is low based on the initial site assessment. If a recognized environmental condition (REC) is identified in relation to the Project area, the U.S. Army Corps of Engineers, New Orleans District would take the necessary measures to avoid the REC so that the probability of encountering or disturbing HTRW would continue to be low.	PC
Farmland Protection Policy Act of 1981, as amended: The Farmland Protection Policy Act of 1981 is intended to minimize the impact of Federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. The USDA-NRCS is responsible for designating prime or unique farmland protected by the act. Prime farmland is land with the best combination of physical and chemical characteristics for producing food, feed, foraging, fiber and oilseed crops that is available for these uses. It can be cultivated land, pastureland, forestland, or other land, but is not urban or built-up land or water areas. Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops, such as citrus, tree nuts, olives, and vegetables. Construction of the proposed borrow areas would impact prime and unique farmland, but impacts are not considered significant due to the overall benefits the proposed action would provide to remaining farmlands in the area. Potential impacts to prime and unique farmland as a result of the proposed action, including proposed compensatory mitigation activities have been coordinated with NRCS. On DATE, NRCS provided a CPA-106 Farmland Conversion Impact Rating for Corridor Type Projects. The DSEA was provided to NRCS on 27 February 2026 at the start of the 30-day public review.	PC
Fish and Wildlife Coordination Act of 1934, as amended: The Fish and Wildlife Coordination Act provides authority for the USFWS involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It requires that fish and wildlife resources receive equal consideration to other project features. It requires Federal agencies that construct, license or permit water resource development projects to first consult with the USFWS, NMFS and state resource agencies regarding the impacts on fish and wildlife resources and measures to mitigate these impacts. Section	Draft CAR received

FEDERAL STATUTES and COMPLIANCE REQUIREMENTS	Compliance Status*
2(b) requires the USFWS to produce a Coordination Act Report (CAR) that details existing fish and wildlife resources in a project area, potential impacts due to a proposed project and recommendations for a project. CEMVN received a draft CAR from USFWS with 19 recommendations on 22 November 2024. CEMVN responses to these recommendations can be found in Appendix B.	
Magnuson-Stevens Fishery Conservation and Management Act: The Magnuson-Stevens Fishery Conservation and Management Act, as amended, Public Law 104-208, addresses the authorized responsibilities for the protection of EFH by NMFS in association with regional fishery management councils. The NMFS has a "findings "with the CEMVN on the fulfillment of coordination requirements under provisions of the Magnuson-Stevens Fishery Conservation and Management Act. In those findings, the CEMVN and NMFS have agreed to complete EFH coordination requirements for Federal civil works projects through the review and comment on NEPA documents prepared for those projects. See 50 CFR 600.920(f) (allowing use of existing environmental review procedures). Coordination of the analysis in this DSEA will take place during the public comment period.	PC
Migratory Bird Treaty Act: The MBTA is the primary legislation in the United States established to conserve migratory birds. The MBTA prohibits taking, killing, or possessing of migratory birds unless permitted by regulations promulgated by the Secretary of the Interior. The USFWS and the Department of Justice are the Federal agencies responsible for administering and enforcing the statute. The project area is known to support colonial nesting wading/water birds (e.g., herons, egrets, ibis, night-herons and roseate spoonbills) and shorebirds (terns and gulls). USFWS and USACE biologists would survey the proposed action areas before construction to confirm no nesting activity as suitable habitat and the potential for nesting exist within the area. If active nesting exists within 1,000 feet (water birds) or 1,300 feet (shorebirds) of construction activities then USACE, in coordination with USFWS, would develop specific measures to avoid adverse impacts to those species. A detailed nesting prevention plan may be necessary in order to deter birds from nesting within the aforementioned buffer zones of the area footprints in order to avoid adverse impacts to these species. If a nesting prevention plan is necessary, it would be prepared in coordination with USFWS.	PC
National Historic Preservation Act of 1966, as amended: Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The procedures in 36 CFR Part 800 define how Federal agencies meet these statutory responsibilities. The Section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, including the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) and any Tribe that attaches religious or cultural significance to historic properties that may be affected by an undertaking. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. CEMVN coordinated the proposed Reach F levee and borrow areas with SHPO and Tribes in a letter dated 17 July 2025. SHPO sent a concurrence on 13 August 2025 (Appendix A). In addition, CEMVN plans to execute a Programmatic Agreement (PA) that will govern NHPA compliance for all activities associated with the MTG project, including the proposed mitigation alternatives analyzed in this DSEA. CEMVN anticipates executing the PA prior to signing a FONSI.	PC
National Environmental Policy Act of 1969, as amended: Compliance requires preparation of this SEA to consider the proposed actions' potential impacts to relevant resources. Signing of the Finding of No Significant Impact, or completion of an Environmental Impact Statement, if warranted, would bring this proposed project into full compliance.	PC
Wild and Scenic River Act of 1968, as amended: Compliance requires coordination with Department of the Interior to determine if any designated or potential wild, scenic, or recreational rivers are affected by the project. Coordination has been completed and there are no such rivers in the project area.	FC
Executive Order 11988, Floodplain Management: Compliance requires agencies to consider alternatives to avoid adverse and incompatible development in the floodplain or minimize impacts if the only practical alternative requires action in the floodplain. Some activities associated with the proposed project extend into floodplains; however, the proposed action would not promote future development within the floodplain that would otherwise not occur. The proposed action is compliant with EO 11988.	FC
Executive Order 11990, Protection of Wetlands: Executive Order 11990 directs Federal agencies to assess the likely impacts to wetlands associated with any proposed action. This is met through the following: (a) avoid long and short term adverse impacts associated with the destruction or modification of wetlands; (b) avoid direct or indirect support of new construction in wetlands; (c) minimize the destruction, loss or degradation of wetlands; (d) preserve and enhance the natural and beneficial values served by wetlands; and (e) involve the public throughout the wetlands protection decision-	FC

FEDERAL STATUTES and COMPLIANCE REQUIREMENTS	Compliance Status*
making process. The proposed action was developed to avoid and minimize impacts to wetlands where practicable. A mitigation plan has been developed to offset the impacts resulting from implementation of the proposed action, please reference Section 2 and Appendix F of this DSEA.	
Executive Order 13175, Consultation and Coordination with Indian Tribal Governments: It is the policy of the Federal government to consult with Federally recognized Tribal Governments on a Government-to-Government basis as required in E.O. 13175 ("Consultation and Coordination with Indian Tribal Governments;" U.S. President 2000). The requirement to conduct coordination and consultation with Federally recognized Tribes on and off of Tribal lands for "any activity that has the potential to significantly affect protected tribal resources, tribal rights (including treaty rights), and Indian lands" finds its basis in the constitution, Supreme Court cases, and is clarified in later planning laws. The USACE Tribal Consultation Policy, 5 December 2023, specifically implemented this E.O. and later Presidential guidance. While Terrebonne Parish has a long history of occupation by Native American communities, prior to its establishment and throughout its history, there are currently no protected tribal resources, tribal rights, or Indian lands that have the potential to be significantly affected by the proposed actions within in the watershed. However, in accordance with CEMVN's responsibilities under the NHPA Section 106 process and E.O. 13175, CEMVN has offered the following Federally recognized Indian tribes the opportunity to review and comment on the proposed action in a letter dated 17 July 2025 (Appendix A) and during the public comment period of this DSEA: 1) the Chitimacha Tribe of Louisiana, 2) the Coushatta Tribe of Louisiana, 3) the Jena Band of Choctaw Indians, 4) the Mississippi Band of Choctaw Indians, and, 5) the Tunica-Biloxi Tribe of Louisiana. No responses have been received.	PC

* FC = Fully Complete
* PC = Partially Complete

Section 7

Conclusion

The Proposed Action consists of constructing approximately 4 miles of earthen levee in Terrebonne Parish, LA. Construction of the levee would result in unavoidable loss of 85.3 acres (-32.52 AAHUs) of brackish marsh, 21.2 acres (-11.51 AAHUs) of saline marsh, and 9.4 acres (-4.5 AAHUs) of BLH. Impacts from construction of the Proposed Action would be mitigated in-kind and concurrent with construction in accordance with the Clean Water Act, Section 404(b)(1) and the Water Resources Development Act of 1986, Section 906, as amended, and as detailed in the Compensatory Mitigation Plan (Appendix F). Direct impacts to BLH from implementation of the Proposed Action would be offset through the purchase of mitigation bank credits. Direct impacts to brackish/saline marsh would be offset through a combination of the purchase of in-kind mitigation bank credits and/or the construction of brackish/saline marsh at the tentatively selected West Terrebonne mitigation site. CEMVN shall complete Phase I cultural resources survey and applicable consultation following the procedures of 36 CFR § 800 before construction begins. All non-mitigation constructible features have been subjected to Phase I cultural resources survey.

This office has assessed the environmental impacts of the Proposed Action and has determined that the Proposed Action would have no significant adverse impact on the human and natural environment with implementation of the compensatory mitigation plan and the mitigation meeting its success criteria.

7.1 VIEWS OF THE NON-FEDERAL SPONSOR

As Non-Federal Sponsors, the State of Louisiana, represented by CPRAB, and the Terrebonne Levee and Conservation District support and recognize the importance for hurricane and storm risk reduction in Terrebonne and Lafourche Parishes. The NFSs have invested over \$1 billion to progress construction of levees and structure on the MTG alignment and continues to support the MTG through completing in-kind work and real estate actions as part of their non-Federal obligations for MTG.

Section 8

List of Preparers

This Draft Supplemental Environmental Assessment was prepared by the U.S. Army Corps of Engineers, New Orleans District; Regional Planning and Environment Division South, MVN-PD; 7400 Leake Avenue, New Orleans, Louisiana 70118.

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Section 9

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Section 10

List of Acronyms and Abbreviations

AAHU	Average Annual Habitat Unit
AEP	Annual Exceedance Probability
AMM	Alternatives Milestone Meeting
APE	Area of Potential Effects
ASTM	American Society for Testing Materials
BGEPA	Bald and Golden Eagle Protection Act
BMPs	Best Management Practices
BLH	Bottomland Hardwood
CAR	Coordination Act Report
CEMVN	USACE New Orleans District
CEQ	Council on Environmental Quality
CO	Carbon Monoxide
CPRA	Coastal Protection and Restoration Authority
CPRAB	Coastal Protection and Restoration Authority Board
CWA	Clean Water Act
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJ	Environmental Justice
EO	Executive Order
EPA	Environmental Protection Agency
ER	Engineer Regulation
ESA	Endangered Species Act
FWCA	Fish and Wildlife Coordination Act
FWCAR	Coordination Act Report
FWS	Fish and Wildlife Services
FWOP	Future With Out Project
GIS	Geographic Information System
H&H	Hydraulics and Hydrology
HEC-RAS	Hydrologic Engineering Center- River Analysis System
HSDRR	Hurricane & Storm Damage Risk Reduction
HTRW	Hazardous, Toxic, and Radioactive Waste
IRC	Integrated Report Categories
LERRD	Lands, Easements, Rights-of-Way, Relocations, and Disposals
LDEQ	Louisiana Department of Environmental Quality
LDCE	Louisiana Department of Conservation and Energy
LDWF	Louisiana Department of Wildlife and Fisheries

MBTA	Migratory Bird Treaty Act
MSA	Metropolitan Statistical Area
MSC	Major Subordinate Command
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MVD	Mississippi Valley Division
NAAQS	National Ambient Air Quality Standards
NAVD 88	North American Vertical Datum of 1988
NBEM	National Bald Eagle Management
NEPA	National Environmental Policy Act
NFS	Non-Federal Sponsor
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NLAA	Not Likely to Adversely Affect
NOAA	National Oceanic and Atmospheric Administration
NO _x	Nitrogen Oxides
NO ₂	Nitrogen Dioxide
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O&M	Operation and Maintenance
OMRR&R	Operations, Maintenance, Repair, Rehabilitation, and Replacement
O ₃	Ozone
PA	Programmatic Agreement
Pb	Lead
PED	Pre-Construction Engineering and Design
PDT	Project Delivery Team
Phase 1 ESA	Phase 1 Environmental Site Assessment
PM	Particulate Matter
PPA	Project Partnership Agreement
PPT	Parts Per Thousand
ROW	Right-of-Way
RPEDS	Regional Planning and Environment Division South
RSLR	Relative Sea Level Rise
SHPO	State Historic Preservation Officer
SO ₂	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and Endangered
TCP	Traditional Cultural Property
TLCD	Terrebonne Levee and Conservation District
TSP	Tentatively Selected Plan

USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	Volatile Organic Compound
WMA	Wildlife Management Area
WQC	Water Quality Certification
WRDA	Water Resources Development Act
WRRDA	Water Resources Reform and Development Act
WVA	Wetland Value Assessment