

MEMORANDUM FOR RECORD ON PENDING PERMIT DECISIONS (ROD)

SUBJECT: Department of the Army Clean Water Act (Section 404) and Rivers and Harbors Act (Section 10) Review and Statement of Findings for the Above-Referenced Standard Individual Permit Application

This document constitutes the Clean Water Act (CWA) Section 404(b)(1) Guidelines Evaluation, Public Interest Review, and Statement of Findings for the subject application. These reviews utilize information documented in the Final Environmental Impact Statement (EIS) published in the Federal Register on September 23, 2022 (87 FR 58083, 2022¹). Agency coordination and consultation and compliance with relevant environmental laws such as the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the National Historic Preservation Act, Section 106, and Essential Fish Habitat (EFH) consultation under the Magnuson-Stevens Fishery Management Act, are outlined below.

1.0 INTRODUCTION AND OVERVIEW

Information about the proposal subject to one or more of the United States Army Corps of Engineers' (USACE's or the Corps') regulatory authorities is provided in Section 1, detailed evaluation of the activity is found in Sections 2 through 10 and findings are documented in Section 11 of this memorandum.

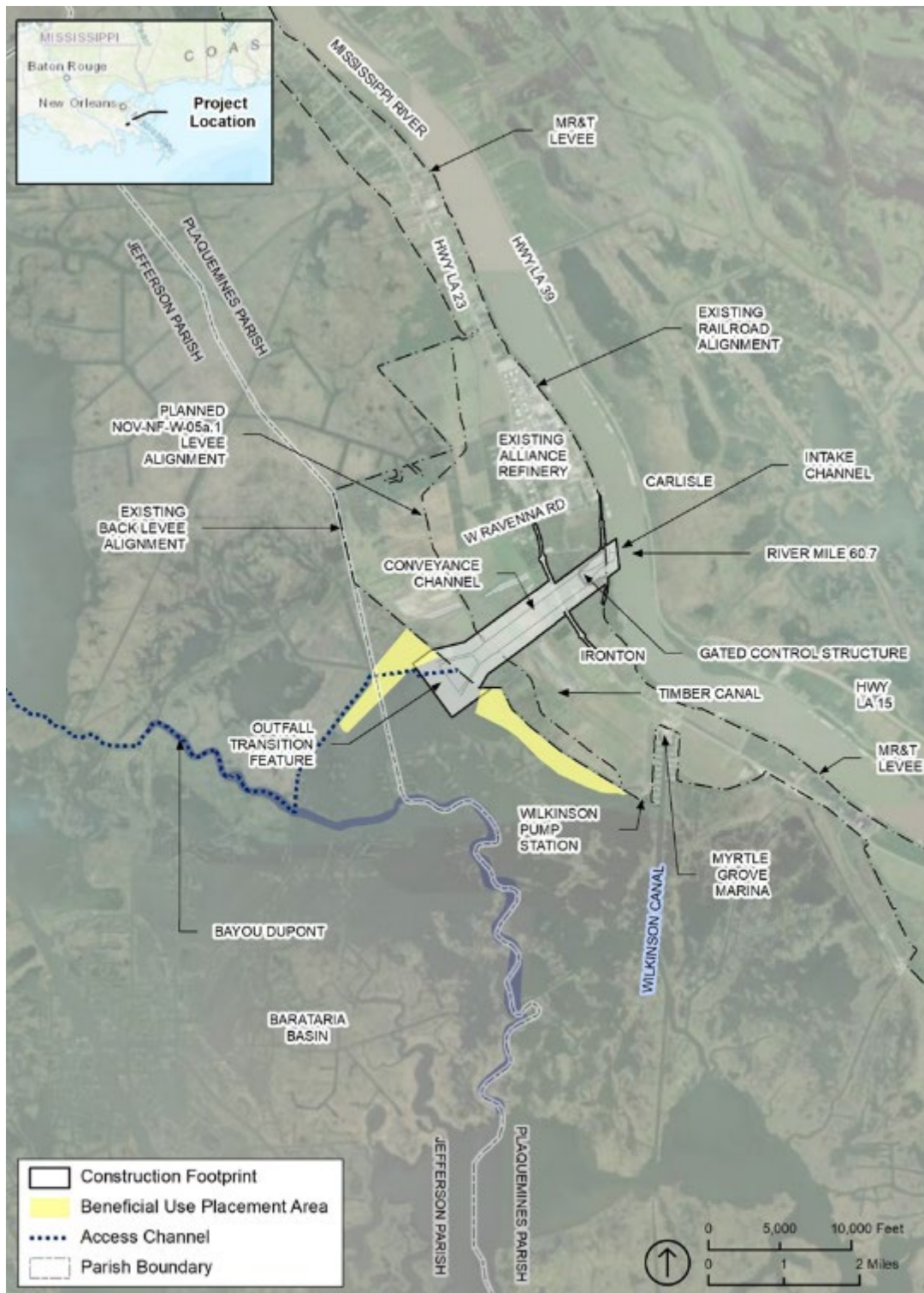
1.1 Applicant Name

Coastal Protection and Restoration Authority of Louisiana (CPRA, applicant)

1.2 Activity location

On the right descending bank of the Mississippi River at river mile (RM) 60.7 in the vicinity of the town of Ironton, Plaquemines Parish, Louisiana.

¹ <https://www.federalregister.gov/documents/2022/09/23/2022-20646/environmental-impact-statements-notice-of-availability>



Construction footprint and Project features of the MBSD project.

1.3 Description of activity requiring permit

CPRA submitted a joint permit application (JPA) to the USACE, New Orleans District (CEMVN) on June 22, 2016 requesting a United States (U.S.) Department of the Army (DA) permit to construct, operate, and maintain the Mid-Barataria Sediment Diversion Project (MBSD or proposed Project or Project or Applicant's Preferred Alternative).

A DA permit is required because CPRA's proposed Project would include excavating and discharging fill material into Waters of the U.S. (WOTUS), including jurisdictional wetlands under Section 404 of the CWA, and placement of structures in navigable WOTUS under Section 10 of the River and Harbors Act of 1899 (RHA). In addition, a Secretary of Army permission is required because the proposed Project would result in permanent and temporary alteration or use of USACE civil works projects under Section 14 of the RHA (33 USC§408) (Section 408).

A decision on the Section 408 request for permission will be made by the Commander of the Mississippi Valley Division. This Memorandum for Record (MFR) of Pending Permit Decisions (ROD) contains the evaluation of Section 10 of the RHA and Section 404 of the CWA and (Section 10/404) permit application, including its compliance with the CWA Section 404(b)(1) guidelines and CEMVN's public interest review, which is its evaluation of the anticipated favorable impacts of the proposed Project balanced against its anticipated detrimental impacts. The MFR contains the District Engineer's conclusions regarding the CWA 404(b)(1) evaluation, the public interest review and whether a permit may be issued. The District Engineer's decision whether to grant a Section 10/404 permit will be made after the Division Commander's decision on the Section 408 permission.

The proposed Project consists of constructing a multi-component river diversion system located on the right descending bank of the Mississippi River at approximately river mile (60.7) intended to convey sediment, fresh water, and nutrients from the Mississippi River into the mid-Barataria Basin in Plaquemines and Jefferson Parishes, Louisiana. Construction of the proposed Project would also alter a portion of the Mississippi River Levee, which is part of the Mississippi River and Tributaries (MR&T) Project, and would alter the NOV-NFL-W-05a.1 levee reach of the New Orleans to Venice, Louisiana (NOV-NFL) Project. The conveyance channel would cross Louisiana Highway 23 (LA 23) and the New Orleans Gulf Coast (NOGC) Railroad. Construction of the proposed Project would require substantial earthwork in WOTUS, jurisdictional wetlands, agricultural lands, forested lands, and other existing land cover types as described in Section 4.18 Land Use and Land Cover of the Final EIS. Proposed earthwork would

include excavation, compaction, grading, and filling as part of the construction of headworks and intake structure, conveyance channel, guide levees and berms, a concrete manufacturing plant, contractor storage yards, haul roads, and borrow laydown areas. An outfall transition feature would be part of the structure in Barataria Basin that would gradually transition the conveyance channel (-25 feet) to the natural waterbottom elevation (approximately -4 feet), which is anticipated to help facilitate sediment dispersal away from the diversion and reduce velocities to limit scour at the end of the structure.

Wetlands within the proposed construction footprint were documented by wetland delineation surveys conducted by the CPRA and later verified by CEMVN's jurisdictional determination dated August 29, 2022. The construction footprint includes bottomland hardwood forest, wet pasture, scrub-shrub, and tidal marsh wetland types.

When in operation, the Applicant's Preferred Alternative would be operated to discharge up to 75,000 cfs of water into the mid-Barataria Basin. Flow would be variable, with a maximum diversion flow of 75,000 cfs when the Mississippi River flow at U.S. Geological Survey (USGS) Gage 07374525 at Belle Chasse, LA (located at RM 76) reaches approximately 1,000,000 cfs or higher. When flow at the Belle Chasse gage falls below 450,000 cfs, the MBSD Project is proposed to be operated at a baseflow of up to 5,000 cfs. The applicant maintains that when flow at the Belle Chasse gage is above 450,000 cfs, the diversion flow rate would be controlled by the difference in water surface elevation, or head differential, between the Mississippi River and the Barataria Basin. Intake gates in the headworks in the MRL are proposed to be fully closed when no positive head is available, during maintenance events, or for emergencies.

When the Mississippi River flow and stage are high, this high head differential is expected to push a higher volume of water and sediment through the diversion into the Barataria Basin to promote accretion and land building. When the Mississippi River flow and stage are low, there is expected to be less energy available to push water and sediment through the MBSD Project. The proposed base flow, up to 5,000 cfs, is proposed to protect, sustain, and maintain newly vegetated or recently converted fresh, intermediate, and brackish marshes near the diversion outflow.

1.3.1 Proposed avoidance and minimization measures

The maximum diversion flow alternative of 75,000 cfs was designed and selected by CPRA as the Applicant's Preferred Alternative from other reasonable alternatives to minimize incidental environmental impacts while meeting the Project purpose and need. The construction footprint, by design, is constrained to minimize excavation and fill

activities in the Mississippi River riparian wetland area. In the Barataria Basin, the selected construction access routes (channels to allow access for vessels, equipment, and material transport) are designed to avoid or minimize wetland impacts to the maximum extent practicable, along with minimizing the excavation footprint and subsequent volume of material displaced. The placement of excavated material in areas adjacent to the access channel are designed in a manner to minimize the disruption of water circulation and material is proposed to be left in place as habitat enhancement or backfilled into the access channel.

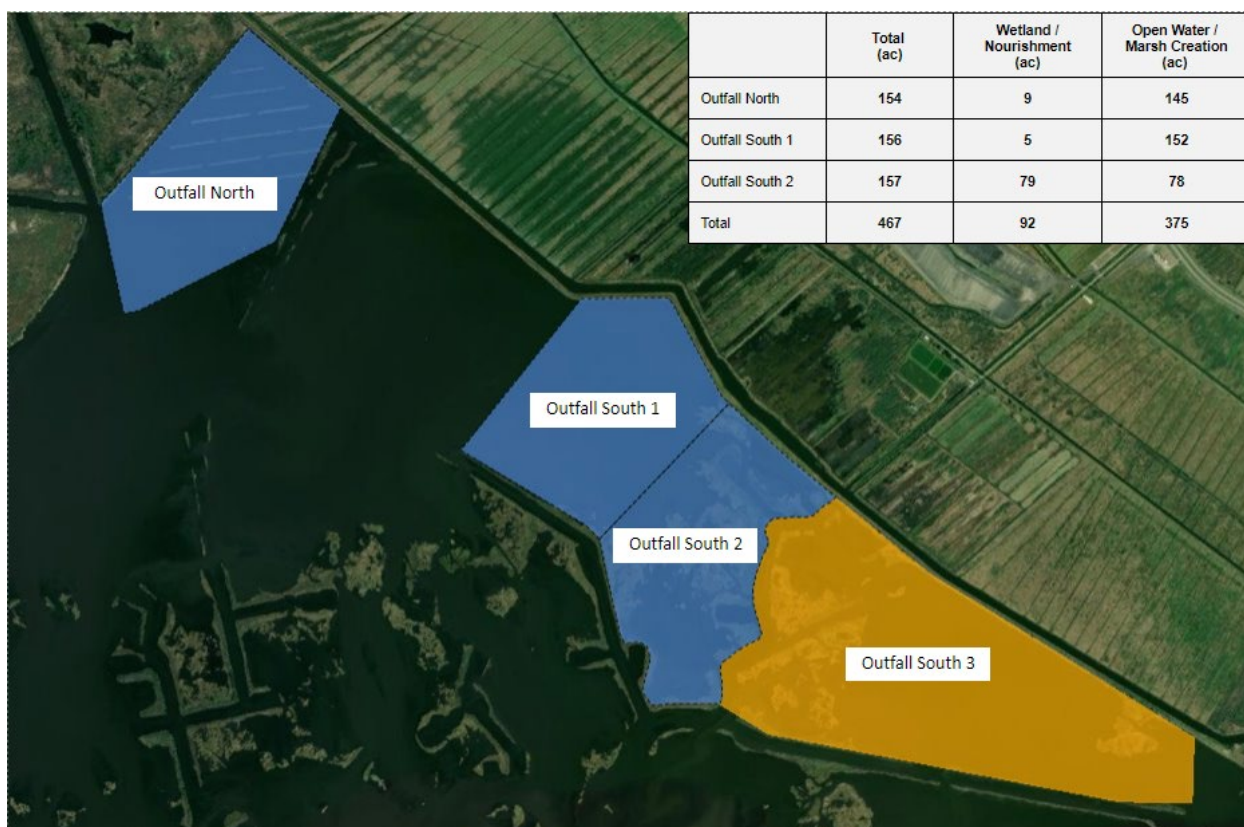
The proposed Project includes a marsh creation component to the overall Project features. The marsh creation areas located near the proposed Project's outfall transition feature would consist of excavated material beneficially deposited within marsh creation cells concurrent with Project construction. Material excavated for construction of the conveyance channel and the outfall transition feature would, if suitable, first be used for construction of the marsh creation component of the Project. The placement of dredged material within these proposed marsh creation cells would be designed to construct and convert 375 acres of open water to new tidal marsh and to nourish 92 acres of existing tidal marsh. If successful, the marsh creation areas are anticipated to outweigh the direct Project impacts to jurisdictional wetlands, which include direct impacts to 163.4 acres of wet pasture wetlands, 26.1 acres of bottomland hardwood wetlands, and 3.6 acres of intermediate marsh. Impacts, both beneficial and detrimental, will occur during the construction timeframe (proposed to be approximately 5-years).

The marsh creation areas are broken up into three separate cells:

- Outfall North: 154 acres total; 145 acres of open water, 9 acres of existing tidal marsh. The existing marsh within this cell are part of a prior marsh terracing effort and remnants of a spoil bank. This area is proposed to be filled during Project construction.
- Outfall South 1: 156 acres total; 152 acres of open water, 5 acres of existing tidal marsh. The existing marsh in this cell includes fragmented tidal marsh and remnants of a spoil bank. This area is proposed to be filled during Project construction.
- Outfall South 2: 157 acres total; 78 acres of open water, 79 acres of existing tidal marsh. The existing marsh in this cell includes tidal marsh and spoil banks. The southern portion of this cell is experiencing subsidence and interior ponding.

Marsh creation within these three cells serve as a mitigative measure designed to dispose of excavated material beneficially adjacent to the Project's direct impacts experienced during construction. Material excavated as part of Project construction is expected to serve multiple purposes. Excavated material is proposed to be placed on-site, used to back fill adjacent borrow pits, placed within the marsh creation area, or hauled off-site.

Outfall South 3 is reserved as a future potential 324 acre beneficial use/marsh creation/disposal area for material dredged during future MBSD outfall maintenance events. Future outfall maintenance for this Project is anticipated, but the extent and frequency are uncertain. As a result, the future benefits possible within the Outfall South 3 Marsh Creation cell were not considered in evaluating whether its construction would outweigh the Project construction-related direct impacts to jurisdictional wetlands.



Marsh Creation Areas

CEMVN coordinated with U.S. Fish and Wildlife Service (USFWS) to utilize the Wetland Value Assessment (WVA) functional habitat assessment model to consistently quantify adverse and beneficial impacts associated with construction and operation of the proposed Project. The outputs of the WVA are provided in Average Annual Habitat Units (AAHUs). Table 4.27-3 in the Final EIS provides a summary of the net wetland

impacts and benefits. Impacts associated with Project construction are identified with negative numbers, benefits associated with construction of the marsh creation areas and operation of the Project are identified with the positive numbers. The numbers in the table represent the “net” values of these areas at the end of the 50-year period of evaluation, per the WVA.

In CPRA’s JPA the Project is characterized as “self-mitigating”; however, CEMVN did not evaluate the proposed Project’s operational performance (in terms of potential marsh created) to replace the direct and permanent losses of wetlands that would occur during Project construction. Instead, CEMVN evaluated the overall functional habitat benefits associated within the three marsh creation areas in comparison to the direct impacts (marsh, wet pasture, and bottomland hardwood forest losses) associated with construction. The WVA demonstrates that the long-term benefits, a net increase of 401.9 marsh acres and 158.4 AAHUs over the 50-year analysis period, are projected to exceed the long-term, direct construction impacts, -193.1 net acres and -102.0 AAHUs, experienced from construction of the Project. The construction of the marsh creation areas (creation and enhancement) would occur during construction of other Project features.

Summary of Wetland Impact and Benefits						
Wetland Type	Impact		Benefits			
	Acres	AAHUs	Acres of Beneficial Use Marsh Creation	AAHUs	Net Acres from Diversion at Year 50	AAHUs
Bottomland Hardwood	-26.1	-14.9	0	0	0	0
Wet Pasture	-163.4	-66.9	0	0	0	0
Intermediate Marsh	-3.6	-20.3	401.9	158.4	14,772	10,108
Brackish Marsh	0	0	0	0	-1,620	-6,260
TOTAL	-193.1	-102.0	401.9	158.4	13,151	3,848

Table 4.27-3 from the Final EIS

Table 4.27-1 of the Final EIS includes the Best Management Practices that CPRA has committed to implement as part of the proposed Project and is reproduced below.

Best Management Practices					
Resource(s) for Intended Impact Avoidance/Minimization	Measure	Project Phase	Included in Monitoring and Adaptive Management (MAM) Plan	Permit/Approval Condition	Agency with Jurisdiction
Land Resources (upland areas within the Construction Footprint)	Environmental Inspections (Section 1.II.A-N)	Construction	No	Yes	USACE
	Preconstruction Planning (Section 1.III.A-D), including: <ul style="list-style-type: none"> Construction Work Areas Interior Drainage Systems Road Crossings and Access Points Disposal and Hazardous Substance Planning 	Construction	No	Yes	USACE
	Construction (Section 1.IV.A-G), including: <ul style="list-style-type: none"> Approved Area of Disturbance Topsoil Interior Drainage Systems Road Crossings and Access Points Dust Management Temporary Erosion Control Other Provisions 	Construction	No	Yes	USACE
	Construction Close-Out (Section 1.V.A-C), including: <ul style="list-style-type: none"> Cleanup Final Stabilization and Revegetation Soil Compaction Mitigation 	Construction	No	Yes	USACE
	Post-Construction Activities and Documentation (Section 1.VI.A-B), including: <ul style="list-style-type: none"> Monitoring and Maintenance Documentation 	Post-construction; Operation	No	Yes	USACE

Best Management Practices					
Resource(s) for Intended Impact Avoidance/Minimization	Measure	Project Phase	Included in Monitoring and Adaptive Management (MAM) Plan	Permit/Approval Condition	Agency with Jurisdiction
Wetland and Water Resources	Environmental Inspection (Section 2.II.A-I)	Construction	No	Yes	USACE
	Preconstruction Planning (Section 2.III.A-D), including: <ul style="list-style-type: none"> Waste Disposal Plan Spill Control Plan Disposal of Excavated Materials for Beneficial Use Vessel Access 	Construction	No	Yes	USACE
	In-Water Construction (Mississippi River and Barataria Basin) (Section 2.IV.A-C), including: <ul style="list-style-type: none"> Notifications Construction in the River Construction in the Basin 				
T&E Species, and Bald Eagle and Colonial Wading Birds	Environmental Inspections (Section 3.II.A-E)	Construction	No	Yes	USACE
	Preconstruction Planning (Section 3.III.A-C)	Construction	No	Yes	USACE
	In-Water or Land-Based Construction Measures/Requirements (Section 3.IV.A-G), including: <ul style="list-style-type: none"> Location Changes Pile Driving Dredging Nesting Birds Pallid Sturgeon West Indian Manatee Basin Dredging and In-transit Vessel Requirements 	Construction	No	Yes	NOAA NMFS & USFWS
Cultural Resources	Unanticipated Discovery Plan	Construction	No	Yes	USACE

Table 4.27-1 from the Final EIS

In addition to BMPs, CPRA also identified potential avoidance and minimization measures that could be implemented. CPRA's Operations and Management (O&M) responsibilities for the proposed Project include a Monitoring and Adaptive Management (MAM) Plan which identifies baseline and operational monitoring of key environmental parameters, Project performance measures, and triggers for management changes. CPRA plans to monitor Project and ecosystem variables in order to evaluate the Project success, Project performance, and ecological changes to inform Project operations, including decisions as to whether implementation of certain mitigation measures is necessary or practical. Implementation of the MAM Plan will be the responsibility of CPRA's MBSD Adaptive Management Team and Data Management Team, with assistance and oversight from an Operations Management Team and Executive Team. CEMVN would not participate in management of the Project. The Project is solely CPRA's which requires DA approval to construct. Resource agencies, parish governments, and other stakeholders will have the opportunity to inform and advise the MAM Plan implementation through a Stewardship Group and Stakeholder Review Panel. Technical focus groups and peer review groups made up of subject matter experts will be utilized as needed to inform MAM Plan implementation. Appendix R of the Final EIS describes CPRA's MAM Plan including the governance structure in more detail.

Some of these optional MAM-triggered measures, as well as other avoidance and minimization measures proposed by CPRA, fall outside the jurisdiction of USACE or other cooperating agencies, and would be voluntary measures for CPRA. Additionally, agencies with jurisdiction over resources potentially impacted by the Project may require implementation of certain avoidance or minimization measures as conditions for their approval of the Project. Table 4.27-2 in the Final EIS provides each measure or suite of measures:

- a brief description of the measure(s);
- the resource(s) for which the measure is intended to avoid or minimize impacts on;
- the Project phase in which the measure would be implemented (such as preconstruction, construction, operation);
- whether the measure is included in the MAM Plan;

- whether the measure would be included as a USACE Section 10/Section 404 permit condition, Section 408 permission condition, or condition of approval by another agency under another applicable law or regulation;
- the agency with lead jurisdiction over enforcement of the condition, or where the condition is not required, the agency with knowledge or expertise regarding implementation of the measure; and
- whether the proposed stewardship measures are anticipated to be new programs or would augment a proposed, existing, or past program.

In the Final EIS, Appendix R1 and R2 provide additional details regarding the activities associated with each measure and Appendix R3 and R4 provides a discussion of the environmental review requirements of specific Mitigation and MAM measures.

Avoidance and Minimization Measures						
Measure	Resource(s) for Intended Impact Avoidance/Minimization	Project Phase	Included in MAM Plan	Permit/Approval Condition	Program Status	Agency with Jurisdiction or Responsibility for Program
Spill Prevention, Control, and Countermeasure Plan	All	Construction and Operation	No	Yes	N/A	Louisiana Department of Environmental Quality (LDEQ)
CPRA would place suitable, excess material dredged and excavated during construction of the Project in three beneficial use areas in the immediate outfall area near the proposed outfall transition feature	Wetlands/Waters of the U.S.	Construction	No	Yes	N/A	USACE
\$10,000,000 in additional funding for crevasse creation to address wetland losses in Delta National Wildlife Refuge (NWR) and Pass A Loutre Wildlife Management Area (WMA)	Wetlands/Waters of the U.S.	Operation	No	No	N/A	USFWS
CPRA will coordinate the location of Mississippi River Aids to Navigation (ATON) associated with the MBSD structure with the U.S. Coast Guard (USCG).	Navigation	Construction and Operation	No	Yes	N/A	USCG
Whenever flow through the structure is started or stopped, on-site personnel shall notify the USCG via a Navigation Bulletin so that traffic is informed of the Project's operating condition.	Navigation	Operation	No	Yes	N/A	USCG
Before raising or lowering any gate at the entrance to the diversion channel, the operator should check the vicinity of the inflow, conveyance and outflow channels for boats, fishermen, and swimmers and alert them to clear the area. Methods for these alerts may include horns, lights and/or audio messages.	Navigation	Operation	No	Yes	N/A	CPRA in coordination with USCG
Monitoring in outfall area in the Barataria Bay Waterway Basin to assess the Project's impacts on bathymetry as needed.	Navigation	Operation	Yes	Yes	N/A	USACE

Avoidance and Minimization Measures						
Measure	Resource(s) for Intended Impact Avoidance/Minimization	Project Phase	Included in MAM Plan	Permit/Approval Condition	Program Status	Agency with Jurisdiction or Responsibility for Program
<p>If Project operations lead to aggradation in the Barataria Waterway to a degree that inhibits navigation, CPRA will take one or more of the following actions to mitigate the Project impact:</p> <ol style="list-style-type: none"> 1) adjust operations of the Project; 2) conduct maintenance dredging of the waterway to provide sufficient depths for the safe transit of watercraft or to maintain authorized depths for navigation; or 3) implement outfall management measures to limit the loss of sediments to the waterway. 	Navigation	Operation	Yes	Yes	N/A	USACE
<p>If Project operations lead to aggradation within Wilkinson Canal to a degree that inhibits navigation, and as long as Wilkinson Canal is being used for that purpose, CPRA may take one or more of the following actions to mitigate the Project impact:</p> <ol style="list-style-type: none"> 1) adjust operations of the Project; 2) with approval from the underlying landowner, conduct maintenance dredging of the canal to provide sufficient depths for the safe transit of watercraft for navigation; or 3) provide alternative boat access to Myrtle Grove and Woodpark communities. 	Navigation	Operation	Yes	No	N/A	CPRA

Avoidance and Minimization Measures						
Measure	Resource(s) for Intended Impact Avoidance/Minimization	Project Phase	Included in MAM Plan	Permit/Approval Condition	Program Status	Agency with Jurisdiction or Responsibility for Program
Mitigation for Project-induced inundation potentially including (varies by community and may require other permits, which are not guaranteed): 1) road and lane improvements; 2) funding for boat dock/boat house elevation; 3) septic or sewerage treatment system improvements; 4) Project Servitude Agreements (compensation to acquire real property interests from landowners); 5) bulkhead improvements; 6) funding for elevation of residences; 7) voluntary individual buyouts in some cases (acquisition of fee title); and 8) floating gardens, community connecting sidewalks, ridge restoration.	Public Health & Safety and Environmental Justice	Construction and Operation	No	No	N/A	CPRA
Interim risk reduction measures would be designed and built to provide the same level of risk reduction (LORR) currently provided by the NOV-NFL and MR&T Levee systems, and would remain in place until the construction of the Project is completed to the point that it provides the required LORR.	Public Health & Safety	Construction	No	Yes	N/A	CPRA and USACE
Establish new public seed ground in lower Barataria Basin	Commercial Oyster Fishery	Operation	Yes	No	New	LDWF
Enhance public and private (leased) oyster grounds	Commercial Oyster Fishery/ Environmental Justice	Pre-operation and Operation	Yes	No	New program adapted from previous programs	LDWF
Create or enhance oyster broodstock reefs	Commercial Oyster Fishery	Operation	Yes	No	Companion to NRDA program	LDWF
Alternative Oyster Aquaculture (AOC)	Commercial Oyster Fishery/ Environmental Justice	Pre-operation and Operation	Yes	No	New program building off existing statewide effort	Louisiana Seafood Future

Avoidance and Minimization Measures						
Measure	Resource(s) for Intended Impact Avoidance/Minimization	Project Phase	Included in MAM Plan	Permit/Approval Condition	Program Status	Agency with Jurisdiction or Responsibility for Program
Marketing to support the oyster industry	Commercial Oyster Fishery	Pre-operation and Operation	No	No	New	Louisiana Seafood Future
Marketing to support the finfish industry	Commercial Finfish Fishery	Pre-operation and Operation	No	No	New	Louisiana Seafood Future
Marketing to support the crab industry	Commercial Crab Fishery	Pre-operation and Operation	No	No	New	Louisiana Seafood Future
Grant program to equip fishing vessels with refrigeration and support gear change/improvements	Commercial Shrimp Fishery/ Environmental Justice	Pre-operation and Operation	No	No	New	Louisiana Seafood Future
Marketing to support the Louisiana shrimp industry	Commercial Shrimp Fishery	Pre-operation and Operation	No	No	New	Louisiana Seafood Future
Assistance with Federal considerations/shrimp management policy	Commercial Shrimp Fishery	Pre-operation or Operation	No	No	New	CPRA
Workforce and business training for commercial fishers	All Commercial Fisheries/ Environmental Justice	Pre-operation	No	No	New	TBD
Subsistence fishing access	Socioeconomics/ Environmental Justice	Pre-operation	No	No	New	CPRA
Project operations considerations	Commercial Fisheries	Operation	Yes	No	New	CPRA
Enhanced resource sampling	Commercial Fisheries	Pre-operation and Operation	Yes	No	New	CPRA
USFWS/NMFS ESA Reasonable and Prudent Measures and Terms and Conditions	Threatened and Endangered Species	Construction, Pre-operation and Operation	No	Yes	N/A	USFWS/NMFS
Fish and Wildlife Coordination Act Report Recommendations	Multiple Wildlife Resources	Construction, Pre-operation and Operation	No	No	N/A	USFWS
Operational minimization measures	Marine Mammals	Operation	Yes	No	N/A	CPRA

Avoidance and Minimization Measures						
Measure	Resource(s) for Intended Impact Avoidance/Minimization	Project Phase	Included in MAM Plan	Permit/Approval Condition	Program Status	Agency with Jurisdiction or Responsibility for Program
Statewide Stranding Program	Marine Mammals	Operation	No	No	Augment existing program	NOAA
Human interaction/ Anthropogenic stressor reduction	Marine Mammals	Operation	No	No	New	CPRA
Contingency Fund for Unusual Mortality Events or Episodic Mortality Event Response	Marine Mammals	Operation	No	No	Augment existing program	NOAA
EFH Conservation Recommendations	EFH	Pre-operation and Operation	Yes	No	N/A	NMFS
Road crossing and access point maintenance	Environmental Justice	Construction	No	No	New	CPRA
Construction-related dust management	Environmental Justice	Construction	No	No	New	CPRA
Ironton community liaison and Community Communications Plan	Environmental Justice	Preconstruction and Construction	No	No	New	CPRA
Public shoreline access, watercraft launching, recreational enhancements	Environmental Justice	Pre-operation	No	No	N/A	CPRA
Community outreach and engagement to low-income and minority populations	Environmental Justice	Preconstruction	No	No	New	USEPA/CPRA
Implementation of measures in the NHPA 106 Programmatic Agreement; includes details regarding alternative mitigation for potential cultural resource impacts	Cultural Resources	Construction and Operation	No	Yes	N/A	USACE/ SHPO
Implementation of Adaptive Management	Several	Operations	Yes	No	N/A	CPRA

Table 4.27-2 in the Final EIS

1.3.2 Proposed compensatory mitigation

After evaluation of all project components and the avoidance and minimization measures detailed in Section 1.3.1 of this document, CEMVN has determined that there are no outstanding unavoidable adverse impacts associated with construction requiring compensatory mitigation at an offsite approved Mitigation Bank. This decision is based on the benefits associated with creating and nourishing 467 acres of tidal wetlands in comparison to the 204.2 acres permanently lost due to project construction. As discussed in Section 1.4.3 of this document, the overall quality of jurisdictional wetlands lost are of low quality for the following reasons:

- 27.1 acres of forested wetlands
 - 7.5 acres of degraded and previously impacted bottomland hardwoods located on the floodside MRL batture consisting of primarily black willow and Chinese tallow.
 - 19.5 acres of degraded and previously impacts bottomland hardwoods with altered hydrology (under pump and impounded by the MRL and NOV-NFL levees) consisting of primarily black willow and Chinese tallow.
- 173.9 acres of emergent wetlands
 - 171 acres of wet pasture with altered hydrology (under pump and impounded by the MRL and NOV-NFL levees) and formerly used for agricultural purposes.
 - 2.9 acres of tidal wetlands in the Barataria Basin outfall area which are previously impacted and remnants of existing spoil banks of oil and gas canals.
- 3.2 acres of scrub/shrub wetlands
 - All 3.2 acres are degraded, located in the outfall area, and primarily found along the NOV-NFL levee toe.

Because all project components will be constructed simultaneously, the marsh creation areas will be directly connected to the Barataria Basin and provide immediate functions and values to wetlands in the immediate area of direct impacts. Furthermore, when the Project is in operation the marsh creation areas are expected to be further benefitted due the freshwater, sediment, and nutrients provided by the immediate connection to the Mississippi River. While not considered as part of CEMVN's evaluation of avoidance, minimization, and mitigation measures for Project constrction, the operation of the structure is anticipated to provide significant beneficial impacts to jurisdictional wetland and the Barataria Basin ecosystem.

Compensatory mitigation could be required in the future should CPRA fail to adequately construct, achieve habitat success, and/or to maintain the tidal marsh to be created and enhanced within the designated Project component footprint. Marsh creation performance measures are included in the permit special conditions and may require further coordination with CPRA.

1.4 Existing conditions and any applicable project history

1.4.1 Existing Conditions

In depth information about the existing conditions in the project area are described in detail in Chapter 3 “Affected Environment” of the Final EIS. The purpose of the Affected Environment chapter is to describe the physical, biological, chemical, and human environments in areas likely to be impacted by the proposed Project as they exist or in accordance with the most recent available data. Section 1.4 of this document is a short summary specific to wetland trends within the Project area.

The wetlands found in the Project area are all a product of the Mississippi River’s deltaic cycle. Approximately 3,600 years ago, the Project area received sediments from the Mississippi River deltas related to the Saint Bernard, Lafourche, and the most recent Plaquemines-Balize modern delta complex. Channel migration, crevassing, and overbank flooding deposited sediment which built land and sustained bottomland hardwood forests, freshwater swamps, and coastal marshes in and adjacent to the Project area. The natural deltaic cycle of accretion and land building until a delta lobe is abandoned once the river mouth fills with sediment and the river switches to a shorter, steeper route to the Gulf of Mexico was altered. The human environment’s reliance on levees and channelization for flood control have altered the natural fluvial interaction and sediment transport from the Mississippi River into the Barataria Basin, removing the source of sediment and fresh water that built and maintained the wetlands. Over time, the basin began to gradually deteriorate from saltwater intrusion, subsidence, interior ponding, wave erosion, and sediment deprivation. Further human impacts associated with wetland de-watering, pumping wetland systems, agriculture, and oil and gas production accelerated sea-level rise and subsidence rates. Historically, Bayou Perot, and the longer, narrower Bayou Dupont-Bayou Barataria-Bayou Villars channels provided limited hydrologic connection between the upper and lower Barataria basin. The hydrologic connections between the upper and lower Barataria Basin are much greater today, due to the Barataria Bay Waterway, Bayou Segnette Waterway, Harvey Cutoff, and substantial erosion and interior marsh loss along Bayous Perot and Rigolettes.

The Barataria Basin has one of the highest rates of land loss in Louisiana. Studies used in the Final EIS determined that approximately 29 percent of the total land area in the Barataria Basin was lost between 1932 and 2016; mostly due to lateral loss caused by shoreline erosion, interior ponding (including due to subsidence and associated waterlogging, and saltwater intrusion), and wetland excavation (including physical removal of marsh soils). Wetland losses in the Barataria Basin peaked in the 1970's and have since leveled off; perhaps related to lower rates of oil and gas extraction and greater efforts for coastal restoration activities.

Land loss trends in the Mississippi River at the birdfoot delta are similar due to human impacts, sea-level rise, and subsidence; however, the birdfoot delta is generally considered to be more stable than surrounding basins because the delta is continuously nourished by the connection to the sediment, freshwater, and nutrients of the upper Mississippi River basin.

1.4.2 Project history

In 2013, CPRA submitted a JPA to CEMVN for the proposed Project. CEMVN prepared a Memorandum for Record (MFR), dated August 28, 2013, outlining multiple reasons the proposed Project could significantly affect the quality of the human environment and recommended proceeding with a Notice of Intent (NOI) to conduct an EIS for NEPA compliance. On October 4, 2013, CEMVN published the MBSD NOI in the Federal Register announcing the intention to prepare an EIS in accordance with 33 CFR Part 325, Appendix B. The Project was later administratively withdrawn in 2015 at the request of CPRA.

In 2016, CPRA submitted a modified DA permit application and permission request to CEMVN for the proposed Project which included updated Project design drawings and a revised purpose and need. CEMVN elected to move forward with the EIS process because the proposed MBSD Project location and potential to significantly affect the quality of the human environment remained consistent with the previous MFR. In 2016, CPRA also requested and was approved as a Project sponsor for the proposed Project to be added to the inventory of covered projects and subject to the requirements in Title 41 of Fixing America's Surface Transportation Act (FAST-41). Addition as a covered project required CEMVN to develop a Coordinated Project Plan (CPP) which established a set of transparent milestones to complete all federal reviews and authorizations. The CPP milestones are posted on the Permitting Dashboard with oversight by the Federal Permitting Improvement Steering Council (FPISC).

On February 15, 2017, CEMVN and CPRA entered into a Memorandum of Understanding (MOU) with a Third-Party Contractor (TPC) to outline the roles, responsibilities, term, conditions, procedures, requirements, communication methods, and protocols for preparing the EIS. CEMVN proceeded as the lead federal agency for the proposed Project as a result of CPRA's DA permit application and permission request, identifying the U.S. Environmental Protection Agency (USEPA), National Oceanic and Atmospheric Administration (NOAA), U.S. Department of the Interior (DOI), U.S. Fish and Wildlife Service (USFWS), and U.S. Department of Agriculture (USDA) as cooperating agencies (a full list of agency roles and responsibilities can be found in Table 1.8-1 of the Final EIS).

On April 27, 2017, CEMVN published a supplemental NOI to prepare an EIS and to announce NEPA scoping for the EIS in the Federal Register. The NOI explained that the EIS would inform CEMVN's Section 10/404/408 decisions and decisions made by the Deepwater Horizon Natural Resource Damage Assessment Louisiana Trustee Implementation Group (LA TIG) regarding restoration evaluation and related funding decisions relevant to the Deepwater Horizon natural resource damage settlement. Drafting the EIS to serve dual purposes meant that USACE would be the lead federal agency, but cooperating agencies and CPRA would have substantial involvement via the LA TIG. The formal scoping period took place from July 6, 2017 to September 5, 2017 and included three public meetings (Described further in Section 4.0 of this document and Chapter 7 and Appendix B of the Final EIS).

On September 11, 2017, CEMVN and the cooperating agencies entered into a MOU which describes the respective authorities, expertise, responsibilities, and procedures agreed to by the lead federal agency and cooperating agencies. The MOU detailed the "collaboration and team-writing" process and review time frames for all Draft EIS products.

On January 25, 2018, CPRA's involvement as an applicant for a DA permit, FAST-41 Project sponsor, and LA TIG member led to the signing of a MOU between the State of Louisiana and the United States of America which sought efficiencies to accelerate the initial CPP milestones and further integrate CPRA into the environmental review and authorization processes.

On March 5, 2021, the Notice of Availability (NOA) for the Draft EIS was published in the Federal Register (86 FR 12942²). The NOA originally included a 60-day public

² <https://www.federalregister.gov/documents/2021/03/05/2021-04543/environmental-impact-statements-notice-of-availability#p-8>

comment period from March 5, 2021 to May 4, 2021. Due to overall public interest and requests for a comment time extension, the public comment period was extended by an additional 30 days to June 3, 2021. The Draft EIS comment period included three public meetings. In total, CEMVN received approximately 40,699 comments. CEMVN and LA TIG responses to these comments is located in Appendix B of the Final EIS.

On September 23, 2022, the NOA for the Final EIS was published in the Federal Register and included a 30-day public comment period (until October 24, 2022). Over the 30-day public comment period, the CEMVN received 145 comment submissions. New and substantive comments received during the Final EIS public comment period are addressed as an attachment to this document.

1.4.3 Jurisdictional Determination

Is this project supported by a jurisdictional determination? Yes, approved in-house Jurisdictional Determination (JD) for the entire project footprint dated August 29, 2022.

Wetlands within the proposed construction footprint were documented by wetland delineation surveys conducted by the CPRA and later verified by CEMVN's Jurisdiction and Enforcement Branch. Below is a list of identified JDs that cover a portion of, or the entire Project footprint.

List of Prior CEMVN JDs	
MVN-2007-750-SZ	Approved JD dated June 13, 2007
MVN-2009-00898-SY	Preliminary JD dated May 5, 2009
MVN-2011-02552-1-SY	Preliminary JD dated January 17, 2012
MVN-2012-02806-1-SY	Approved in-house JD dated October 14, 2016
MVN-2012-02806-SG	Approved in-house JD dated August 29, 2022

The total acreage of the proposed Project is 1,376 acres, of which, 978.4 acres occur within jurisdictional wetlands or WOTUS. Table 4.6-1 in the Final EIS provides the acreages of the jurisdictional wetlands and WOTUS to be directly impacted by project construction. Of the total 978.4 acres, 511.4 acres are direct adverse impacts associated with construction of the project and 467.0 acres of direct beneficial impacts associated with the marsh creation areas. Direct adverse impacts can be broken up into 4 segments along the proposed Project footprint:

Batture

- 7.5 acres of permanent impacts to jurisdictional wetlands identified as bottomland hardwoods³.
 - 6.2 acres of permanent impacts for the diversion ROW
 - 1.4 acres of permanent impacts for the trestle/dock area
- 16.5 acres of WOTUS.
 - 14.7 acres of permanent impacts for the diversion ROW
 - 1.9 acres of permanent impacts for the trestle/dock area

MRL to LA 23

- 19.2 acres of permanent impacts to jurisdictional wetlands identified as bottomland hardwoods.
 - 18.3 acres of permanent impacts for the diversion ROW
 - 0.9 acres of permanent impacts for work areas

LA 23 to NOV-NFL

- 0.3 acres of permanent impacts to jurisdictional wetlands identified as bottomland hardwoods.
 - 0.2 acres of permanent impacts for the diversion ROW
 - 0.1 acres of permanent impacts for work areas
- 171.0 acres of impacts to jurisdictional wetlands identified as wet pasture⁴.
 - 163.4 acres of permanent impacts for the diversion ROW
 - 7.3 acres of permanent impacts for work areas
 - 0.3 acres of temporary impacts for road access
- 66.0 acres of other WOTUS
 - 20.5 acres of permanent impacts for the diversion ROW
 - 5.2 acres of permanent impacts for work areas
 - 0.4 acres of temporary impacts for road access
 - 39.9 acres of permanent impacts for disposal/stockpile areas

Barataria Basin

- 2.9 acres of impacts to jurisdictional wetlands identified as tidal marsh⁵.
 - 2.0 acres of direct impacts for the diversion ROW
 - 0.9 acres of direct impacts for the access channel
- 3.2 acres of direct impacts to jurisdictional wetlands identified as scrub shrub.

³ Bottomland hardwoods are listed as forested wetlands in table 4.6-1 of the Final EIS.

⁴ Wet pasture wetlands are listed as emergent wetlands in table 4.6-1 of the Final EIS.

⁵ Tidal marsh wetlands are listed as emergent wetlands in table 4.6-1 of the Final EIS.

Wet pasture and tidal marsh are both commonly referred to as emergent wetlands but are broken down further due to the difference in functions and values of both types.

- 6.1 acres of direct impacts to Submerged Aquatic Vegetation (SAV)⁶.
- 218.6 acres of WOTUS.
 - 173.7 acres of direct impacts for the diversion ROW
 - 44.9 acres of direct impacts for the access channel

Wetlands and Waters of the U.S. within the Project Construction Footprint^a	
Type	Acreage^{b,c}
Wetlands	
Forested wetlands	27.1
Emergent wetlands	173.9
Scrub/shrub wetlands	3.2
Total, Wetlands	204.2
Other Waters of the U.S. and Open Water	
Vegetated shallows (SAV)	6.1
Waters of the U.S.	235.2
Other open waters	66.0
Total, Other Waters of the U.S.	307.2
Grand Total	511.4
^a The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends. These data are based on field surveys and desktop delineations in consultation with CEMVN; therefore, wetland acreages differ from those presented in Section 4.18 (Land Use and Land Cover), which are based on land use data.	
^b The construction and operational footprint of the diversion complex, along with the river trestle dock, haul road, and access channel would affect wetlands. Other Project components, including disposal areas and deepening Bayou Dupont for access where it crosses The Pen would affect other Waters of the U.S.	
^c Impacts on 69.1 acres of emergent wetlands, 23.0 acres of scrub/shrub wetlands, and 375 acres of other waters in the beneficial use areas would also occur and would be beneficial because suitable dredged and excavated material would result in localized elevation increases that are expected to result in the establishment of wetland vegetation.	

Table 4.6-1 from the Final EIS

The 467.0 acres of direct beneficial impacts associated with the marsh creation areas take place entirely within the Barataria Basin and are broken down as follows:

- 69.1 acres impacts to jurisdictional wetlands identified as tidal marsh.
- 23.0 acres impacts to jurisdictional wetlands identified as scrub shrub wetlands.
- 375.0 acres of WOTUS.

The direct construction impacts for the Applicant's Preferred Alternative as listed in the Final EIS includes 27.1 acres of forested wetlands, 173.9 acres of emergent wetlands, and 3.2 acres of scrub-shrub wetlands. The construction footprint for the Applicant's Preferred Alternative would also impact 6.1 acres of vegetated shallows, 235.2 acres of

⁶SAVs are listed as vegetated shallows in table 4.6-1 of the Final EIS.

WOTUS, and 66.0 acres of other WOTUS. A total of 204.2 acres of wetlands would be dredged or filled within the Project construction footprint. In addition, 307.2 acres of open water (including waters of the U.S., other open water, and vegetated shallows containing SAV) would be within the Project construction footprint.

The forested wetlands impacted by project construction have been hydrologically altered. Forested wetlands areas on the protected side of the MRL are no longer exposed to natural flooding events. Forested wetlands areas on the flood side of the MRL are altered due to construction and maintenance of the levee. In both cases, the forested wetland areas have characteristics of regrowth colonizing and non-native species typically found in disturbed, early successional forested wetlands (such as black willow and Chinese tallow) rather than a true bottomland hardwood forest. The emergent wetlands, or wet pasture, have reduced value to wildlife and fisheries and have lost/highly degraded wetland functions. The wet pasture impacts are located within the protected side of the MRL and are adjacent to the existing NOV-NFL levee footprint and agricultural lands. The scrub/shrub and tidal marsh wetlands located on the floodside of the NOV-NFL levee are low-lying and fragmented.

1.5 Permit authority

Table 1 – Permit Authority	
Section 10 of the Rivers and Harbors Act (33 USC 403)	X
Section 404 of the Clean Water Act (33 USC 1344)	X
Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1413)	

2.0 SCOPE OF REVIEW

2.1 Determination of scope of analysis for National Environmental Policy Act (NEPA)

The scope of analysis always includes the specific activity requiring a Department of the Army permit that is located within the Corps' geographic jurisdiction. In addition, we have applied the four factors test found in 33 CFR Part 325, Appendix B to determine if there are portions of the larger project beyond the limits of the Corps' geographic jurisdiction where the federal involvement is sufficient to turn an essentially private action into a federal action.

Based on our application of the guidance in Appendix B, we have determined that the scope of analysis for this review includes the Corps geographic jurisdiction and upland portions beyond the Corps geographic jurisdiction.

These upland components include the areas between the regulated impacts on waters of the United States. These components have been determined to be within our scope of analysis as the extent of federal involvement is sufficient to turn this essentially private action into a federal action with the resulting environmental consequences of the larger project essentially being products of the Corps' permit action.

Final description of scope of analysis: The extent of cumulative federal control and responsibility is sufficient to make this Project a federal action for the purposes of analysis under NEPA, in accordance with USACE regulations. In that regard, the NEPA analysis included impacts caused by activities not resulting in the dredge or fill of WOTUS (and thus not under the authority of USACE), such as those caused by construction and operation of the proposed Project.

The USACE's scope of analysis begins with its jurisdiction under Section 404 of the CWA (33 USC 1344) and Section 10 of the RHA (33 USC 403). Section 404 of the CWA applies to any discharge of dredged or fill material into all WOTUS, including wetlands. Section 10 of the RHA of 1899 applies to the construction of any structure in, under, or over any navigable WOTUS, the excavating from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters.

The substantive evaluation requirements of Section 404 of the CWA are outlined in Guidelines developed by the Administrator of the USEPA in conjunction with the Secretary of the Army and published in 40 CFR Part 230. The fundamental precept of the 404(b)(1) Guidelines, which are binding regulations, is that discharges of dredged or fill material into WOTUS, including wetlands, should not occur unless it can be demonstrated that such discharges, either individually or cumulatively, will not result in unacceptable adverse effects on the aquatic ecosystem. The 404(b)(1) Guidelines state that only the Least Environmentally Damaging Practicable Alternative (LEDPA) can be permitted. Additional Section 10/404 evaluation requirements are contained in USACE's public interest review (33 CFR Part 320.4) and NEPA. Under USACE's public interest review, USACE will evaluate the probable impact the proposed Project may have on the public interest through a careful weighing and balancing of all factors which become relevant in each particular Project.

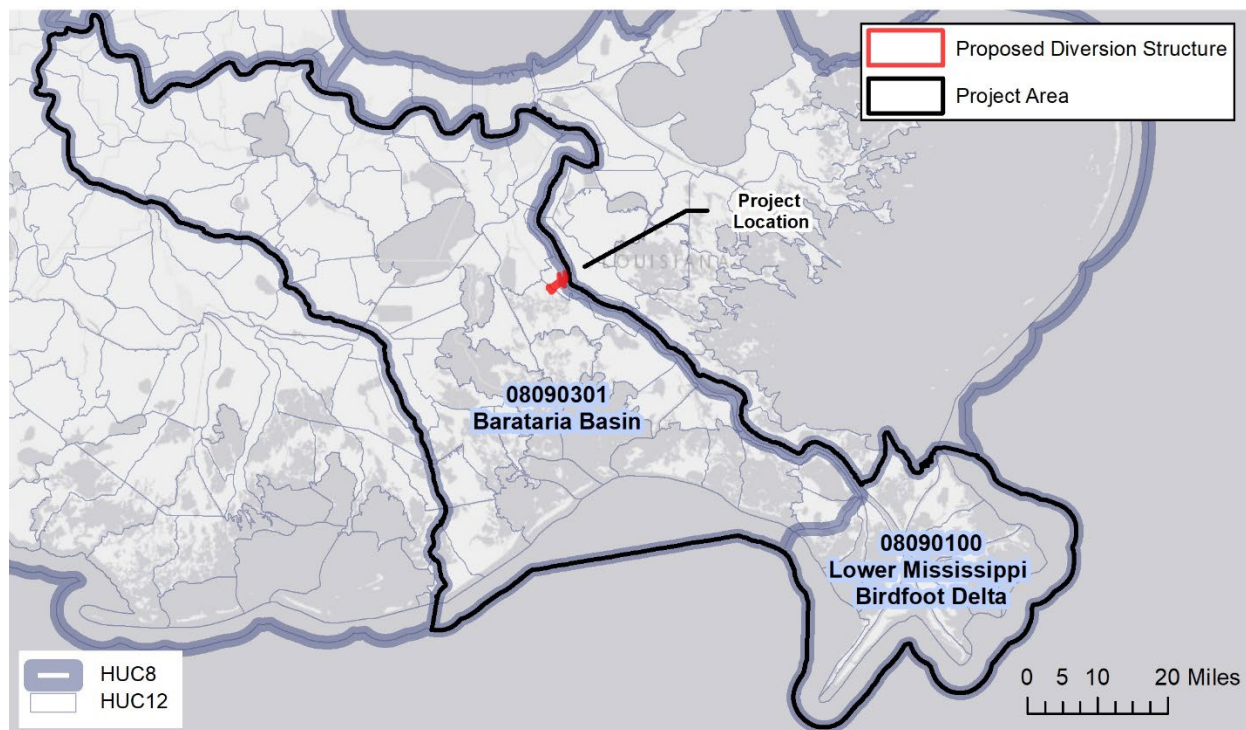
The MBSD Project area is defined by the boundaries of the Barataria Basin and the Lower Mississippi River watersheds. These watersheds are identified by USGS as the East Central Louisiana and Lower Mississippi River Hydrologic Units (Hydrologic Unit Codes [HUCs] 08090301 and 08090100, respectively). The Barataria Basin (HUC 08090301) is roughly triangular in shape, with Bayou Lafourche forming its western boundary, the west bank of the Mississippi River forming its northern and eastern

boundaries, and a chain of barrier islands and the margin of the Mississippi River birdfoot delta forming the southeastern boundary. Wetlands in the upper part of the basin include swamp and forested wetlands around Lake Des Allemands, fresh marsh around Lake Salvador, and isolated stands of bottomland hardwoods along relict distributary ridges such as Bayou Barataria. Intermediate marsh is encountered south of Lake Salvador and extends southward to the northern shoreline of Little Lake where brackish marsh becomes the dominant marsh type. Typically, toward the northern edge of Barataria Bay, those marshes grade into saline marsh. A chain of barrier islands and barrier headlands separates the Barataria Basin from the Gulf of Mexico. The Lower Mississippi River watershed (HUC 08090100) is defined as the Mississippi River itself and the birdfoot delta.

The MBSD Project area covers parts of 10 Louisiana Parishes (see Table 3.1-1 from the Final EIS) due to the potential for direct, indirect, and cumulative impacts associated with Project construction and operation.

Parish Acreages in Project Area	
Parish	Acres
Lafourche	646,096
Plaquemines	592,161
Jefferson	263,286
St. Charles	238,566
St. James	115,576
Assumption	72,593
St. John the Baptist	72,292
Orleans	20,438
Ascension	11,654
St. Bernard	2,891

Table 3.1-1 from the Final EIS



MBSD Project Area

2.2 Determination of the Corps' action area for Section 7 of the Endangered Species Act (ESA)

Section 7 of the ESA requires federal agencies to, in consultation with the USFWS and the National Marine Fisheries Service (NMFS) (collectively, the Services), ensure that actions funded, authorized, or carried out by federal agencies do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of critical habitat. The determined scope for ESA is the Action Area, which means all areas to be affected directly or indirectly by the federal action, and not merely the area that falls directly under the USACE's regulatory jurisdiction.

Threatened and endangered species include those that are terrestrial (occur in uplands or wetlands), aquatic (occur in marine, estuarine, or fresh waters), or both. Impacts from construction on terrestrial threatened and endangered species are expected to occur within, and in close proximity to, the footprint of each individual Project component developed during construction (for example, the diversion complex, laydown yards, access roads, marsh creation areas). Impacts on aquatic threatened and endangered species during construction are expected to occur within, and in close proximity to, estuarine or fresh water in construction, access, and marsh creation areas. Indirect impacts on all species is projected in a larger area that would be dependent on the specific pathway for impacts. For example, noise associated with construction

would extend within the footprint of the Project components to the distance at which noise attenuates back to ambient conditions.

During operations, direct impacts on terrestrial and aquatic species are projected to occur from the presence of the diversion and auxiliary structures in species habitats, as well as from the direct movement of water, nutrients, and sediment from the Mississippi River to the Barataria Basin. Direct impacts on aquatic species could also occur if organisms are directly displaced by the fresh water and sediment entering the Barataria Basin. In general, direct impacts are those that have immediate impacts on a species, causing them to move away from an area (for example, salinity changes or loss of trees) or causing a physiological effect (for example, reduced fitness/reproductive success or death). Indirect impacts could occur on species within, and outside of, the outfall area as the habitat and food web dynamics change over time and fauna ingress or egress from the altered habitat.

For actions involving major construction activities with the potential to affect listed species or designated critical habitat, such as the proposed Project, the lead federal agency must prepare a Biological Assessment (BA) and submit the BA to the USFWS and/or NMFS. The USACE provided its BA to NMFS on February 24, 2021, and to USFWS on July 2, 2021, along with requests to initiate formal consultation and develop Biological Opinions for the species that USACE determined may be affected by the proposed Project (see Table 4.12-1 of the Final EIS). The BA for the proposed Project is included in Appendix O of the Final EIS.

2.3 Determination of Corps' permit area for Section 106 of the National Historic Preservation Act (NHPA)

The permit area includes those areas comprising waters of the United States that will be directly affected by the proposed work or structures, as well as activities outside of waters of the U.S. because all three tests identified in 33 CFR 325, Appendix C(g)(1) have been met.

Final description of the permit area: Section 106 of the NHPA requires each federal agency, prior to any federal or federally assisted or funded undertaking, to take into account the effect of its proposed undertaking on any property included in or eligible for inclusion in the National Register of Historic Places (hereafter called historic properties). The USACE also applies regulations entitled "Procedures for the Protection of Historic Properties" found at 33 CFR 325, Appendix C that the USACE has developed for Section 106 compliance for the USACE regulatory program. The proposed Project's Area of Potential Effect (APE) has been established, per 36 CFR 800.4(a)(1), to encompass direct and indirect effects on historic properties for the Project.

The Construction Impacts APE for cultural resources, which may also be referred to as the area of potential impacts for construction, is comprised of approximately 3,095 acres and encompasses the footprint of the diversion complex, a buffer outside the east and west conveyance channel guide levees, locations of the LA 23 and NOGC Railroad realignments, and the area in the immediate basin outfall that are proposed to be dredged to enhance water conveyance and sediment deposition during operation.

The Operational Impacts APE for cultural resources, which may also be referred to as the area of potential impacts during Project operations, is comprised of approximately 70,630-acres within the Barataria Basin in which cultural resources may be affected during the 50-year analysis period (see Chapter 3, Section 3.24 Cultural Resources for further description of the Construction and Operational Impacts APEs).

3.0 PURPOSE AND NEED

3.1 Project Purpose and Need

Under NEPA implementing regulations in 40 CFR 1502.13, the lead federal agency must state the purpose and need for the proposed action when preparing an EIS. This purpose and need is integral to identifying the scope of reasonable alternatives considered in the EIS. The USACE Regulatory Program's NEPA implementation regulations, 33 CFR 325, Appendix B(9)(b)(4), provide more details on the purpose and need statement. CEMVN first considers the purpose and need from the applicant's perspective.

CEMVN also considers the purpose and need from a public interest perspective. The MBSD NEPA purpose and need for the EIS was developed taking into consideration CPRA's stated purpose and need, input from the cooperating agencies, and input from representatives of the Council of Environmental Quality (CEQ) and the Federal Permitting Improvement Steering Council (FPISC)⁷.

⁷ In its June 22, 2016 JPA, CPRA described its purpose and need as: The purpose of the MBSD Project is to reconnect and re-establish the natural or deltaic sediment deposition process between the Mississippi River and the Barataria Basin; the Project is needed as a long-term resilient, sustainable strategy to reduce land loss rates and sustain [Deepwater Horizon] injured wetlands through the delivery of sediment, freshwater, and nutrients.

In January 2018, the LA TIG submitted a proposed revised statement of purpose and need in the form set forth here and CPRA subsequently amended its JPA to include the revised statement. During a joint meeting between USACE, the Applicant, the LA TIG, representatives of the CEQ, and representatives of the FPISC held on January 25, 2018, the participants discussed the proposed purpose and need

The MBSD NEPA Purpose and Need is described in Chapter 1 of the Final EIS and is as follows:

Consistent with the LA TIG's Strategic Restoration Plan and Environmental Assessment #3 and the Louisiana Coastal Master Plan, the purpose is to restore for injuries caused by the *Deepwater Horizon* (DWH) oil spill by implementing a large-scale sediment diversion in the Barataria Basin that will reconnect and re-establish sustainable deltaic processes between the Mississippi River and the Barataria Basin through the delivery of sediment, fresh water, and nutrients to support the long-term viability of existing and planned coastal restoration efforts. The proposed Project is needed to help restore habitat and ecosystem services injured in the northern Gulf of Mexico as a result of the DWH oil spill.

3.2 Basic project purpose

Basic project purpose, as determined by the Corps: River water conveyance

Defining the project purpose is critical to the evaluation of any project's compliance with the section 404(b)(1) guidelines. In accordance with section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, Subpart B, Compliance with the Guidelines, [40 CFR 230.10(a)(3)], where the activity associated with a discharge which is proposed for a special aquatic site (as defined in subpart E) does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (that is, is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge, which do not involve a discharge into a special aquatic site are presumed to have less adverse impacts on the aquatic ecosystem, unless clearly demonstrated otherwise. CWA guidelines (40 CFR Part 230) distinguish between the basic purpose and overall project purpose, and specify that the basic purpose determines whether the proposed action is water dependent. This distinction ensures that the scope of the EIS and the range of alternatives analyzed are sufficiently broad to fully inform the agency decision maker.

The basic project purpose captures the fundamental, essential, or irreducible purpose of a proposed project and determines water dependency. For the proposed MBSD

changes. The CEQ and FPISC representatives were supportive of the changes to the Project purpose and need and USACE agreed to the change.

project, the basic project purpose was paired down to river water conveyance because it captures the fundamental purpose of the project.

3.3 Water dependency determination

The activity does not require access or proximity to or siting within a special aquatic site to fulfill its basic purpose. Therefore, the activity is not water dependent. Structures and facilities capable of conveying water do not need to be constructed within a special aquatic site. Consistent with the 404(b)(1) Guidelines at 40 CFR 230.10(a)(3) if the proposed activity is not water dependent, practicable alternatives not involving special aquatic sites are presumed to be available unless the applicant clearly demonstrates otherwise.

3.4 Overall project purpose

Overall project purpose, as determined by the Corps: Establishment of a conveyance mechanism to transport freshwater, sediment, and nutrients from the Mississippi River to the Barataria Basin.

The overall project purpose is a statement designed to be concise, apply to the basic project purpose, and serve as the basis for the alternative analysis under the CWA 404(b)(1) Guidelines. USACE uses the overall project purpose to determine if an alternative is practicable. An alternative is determined to be “practicable” if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose (40 CFR 230.10(a)(2)).

4.0 COORDINATION

Chapter 7 “Public Involvement” and Appendix B of the Final EIS describe the various coordination opportunities accomplished during the MBSD EIS process. CEMVN maintained a MBSD project webpage⁸ throughout the process to keep interested parties updated on project details, meeting information, meeting materials, EIS documents, and schedule milestones. For further transparency, the Project was included to the FAST-41 Permitting Dashboard⁹ administered by FPISC.

Agency coordination is described in Chapters 1 and 5 of the Final EIS and in Appendices A and B. The cooperating and commenting agencies pursuant to NEPA and Section 106 for the EIS and the related federal and state laws, regulations, executive orders, and policies applicable to the proposed Project are shown in Chapter

⁸ <https://www.mvn.usace.army.mil/Missions/Regulatory/Permits/Mid-Barataria-Sediment-Diversion-EIS/>

⁹ <https://www.permits.performance.gov/permitting-projects/mid-barataria-sediment-diversion>

1, Tables 1.8-1 and 1.8-2 of the Final EIS, while Chapter 5 details the cooperating agency review process. Appendix A includes the relevant agency invitation and response letters and Appendix B includes records of coordination with the various agencies and stakeholders. In addition, Appendix S in the Final EIS documents compliance with all applicable federal statutes, executive orders, and policies, unless otherwise noted in Final EIS Chapter 5, Table 5.1-1. Other appendices that include information from cooperating agencies include Appendix N (Essential Fish Habitat Assessment and correspondence), Appendix O (Biological Assessment and Biological Opinions [USFWS and NMFS], and Appendix T (USFWS Coordination Act Report]. Notice of Intent: On April 27, 2017, CEMVN published a supplemental NOI in the Federal Register (82 FR 19361¹⁰). The NOI announced that the EIS would inform CEMVN's Section 10/404/408 decisions and decisions made by the TIG regarding restoration evaluation and related funding decisions relevant to the Deepwater Horizon natural resource damage settlement.

Scoping: The formal public scoping comment period for the EIS began on July 6, 2017 and ended on September 5, 2017. The 60-day comment period included three public meetings held in Jefferson and Plaquemines Parishes:

- July 20, 2017; Lafitte, Louisiana (71 attendees)
- July 25, 2017; Belle Chasse, Louisiana (126 attendees)
- July 27, 2017; Port Sulphur, Louisiana (85 attendees)

Scoping meeting dates and locations were advertised in local newspapers: Plaquemines Gazette, The Times Picayune, and The Advocate on the following dates. The scoping meeting ads included a note stating that Vietnamese translation would be available at the meetings, and that translation services in other languages were available upon request.

The scoping meetings provided accommodations for Vietnamese translation of the meeting presentation, submission of Vietnamese comments, and translation of questions and answers at the display panels. Non-English speakers requiring Vietnamese translation of the presentation were provided earphones through which a translator provided real time translation during the presentation. The translator was also

¹⁰ <https://www.federalregister.gov/documents/2017/04/27/2017-08413/supplemental-notice-of-intent-to-prepare-a-draft-environmental-impact-statement-deis-for-the>

available to record public comments provided in Vietnamese and translated into English for the official public comment record.

By the conclusion of the scoping period, CEMVN received a total of 871 individual comment submissions via emails, letters, comment cards, and verbal comments transcribed at the public scoping meetings. Of these submissions, 555 (64 percent) included identical (form) letters signed by different individuals. Approximately 744 (85 percent) of comment submissions were from commenters that gave Louisiana addresses. Individual commenters identified an organizational affiliation in 195 of the comment submissions, representing 62 unique affiliations. These affiliations included government agencies, non-governmental environmental organizations, and organizations representing commercial, social, cultural, or recreation associations.

All public scoping comments were reviewed and have been used to inform the scope and development of the EIS. Appendix B1 of the Final EIS includes the MBSD Final Scoping Report, which includes more details about the scoping comment topics and the name of all individuals, agencies, and organizations that submitted comments.

Draft EIS: A NOA for the Draft EIS was published in the Federal Register on March 5, 2021. The NOA encouraged all interested persons and organizations to review the Draft EIS and submit any comments regarding the proposed MBSD Project and Draft EIS. A Public Notice to announce the NOA and the public meetings was posted to CEMVN's Project website along with press releases via social media, mailed or emailed to all individuals, agencies, and organizations on the distribution mailing list, and advertised in the New Orleans Advocate and Plaquemines Gazette. Portions of the Public Notice were translated into Spanish and Vietnamese.

The initial 60-day public review and comment period established by the NOA for the Draft EIS began on March 5, 2021 and originally was to end on May 4, 2021. However, based on requests by the public during the public review period, the 60-day public comment period was extended by an additional 30 days (for a total of 90 days) to June 3, 2021. All comments submitted electronically, orally, or in writing on or before June 3, 2021 were considered for the Final EIS. Comments were accepted through these various methods throughout the comment period. Comments received in languages other than English were translated into English by translators.

The Draft EIS and supporting documents were available for public review on the CEMVN Project website, or upon request. Printed copies of the Draft EIS were provided for public review at eight public libraries in Belle Chasse, Buras, Cut Off, Harvey, Lafitte, New Orleans, Paradis, and Port Sulphur, Louisiana. In addition, printed

copies of the Executive Summary for both the Draft EIS and the LA TIG's Draft Restoration Plan, summarizing the details of the documents into a concise, easy to read, document, were made available in English, Spanish, and Vietnamese at these locations and several other locations within southern Louisiana. Additional details regarding distribution of the Draft EIS documents for public review can be found in the Public Meeting Record in Appendix B2 of the Final EIS.

CEMVN and the LA TIG coordinated with the Southeast Louisiana Voices of Impacted Communities & Environments (SELA Voice) organization to understand the needs of the local communities, including Indigenous communities and communities with environmental justice concerns, regarding the best ways to reach out to these communities prior to the release of the Draft EIS during the public comment period. SELA Voice's recommendations for where to make the Draft EIS available and accessible to the affected communities, as well as translation of material related to the Draft EIS, were implemented. CEMVN engaged with local non-profit and community groups (Mississippi River Delta Coalition and Coastal Communities Consulting [CCC]) to distribute information and materials about the proposed Project and Draft EIS. A printed copy of the Executive Summary and a thumb drive (electronic version) of the Draft EIS was also sent to community centers and organizations including the Grand Bayou Indian Village Tribal Center, Coalition to Restore Coastal Louisiana, Greater New Orleans Foundation, Mary Queen of Vietnam Community Development Corporation, and other community groups.

Public Meetings: CEMVN and LA TIG jointly conducted three public meetings to solicit comments on the Draft EIS. The meetings were held to inform the public about the Project and to obtain and record public comments. Since there were public gathering restrictions as part of the COVID-19 pandemic, the public meetings were held virtually on April 6, April 7, and April 8, 2021 at 9 a.m., 1 p.m., and 6 p.m. central time, respectively.

Meetings could be accessed via internet/web-based conferencing application or via telephone. Language interpretation and translation in Spanish, Vietnamese, and Khmer was provided at each of the virtual public meetings, and translators facilitated participation by non-English speakers. Key messages from the meeting presentations were translated during the meetings and the translators were available to interpret participant comments in those languages. Additionally, the public meetings were transcribed by a court reporter. The written transcripts and recordings of each of the meetings can be accessed on CEMVN's Project webpage.

At the beginning of the public comment period, CEMVN posted several pre-recorded presentation videos consisting of an explanation of how to comment on the Draft EIS, an update on the proposed MBSD Project design, information concerning the ongoing restoration planning efforts and the LA TIG's Draft Restoration Plan, and details about how to navigate and review the contents of the Draft EIS on the CEMVN project webpage. The presentation was translated into Spanish, Vietnamese, and Khmer and available on CEMVN's Project webpage. In addition, dedicated toll-free numbers were provided during the public comment period allowing Spanish, Vietnamese, and Khmer-speaking individuals to listen to translated pre-recorded presentations rather than watching the presentation on a computer.

Interested parties that were unable to participate in the virtual public meetings could access recordings of the public meetings, the pre-recorded video presentations (in English, Vietnamese, Spanish, and Khmer), the MBSD Draft EIS, a link to the LA TIG's Draft Restoration Plan, written transcripts of the meetings, and additional information about the proposed MBSD Project on CEMVN's Project webpage.

A Public Meeting Report along with a Response to Comment Appendix which provides all public concerns and responses addressed by CEMVN and/or LA TIG can be found in Appendix B2 Public Involvement of the Final EIS. Revisions have been made to the Final EIS based on public comments received on the Draft EIS, input from the cooperating agencies, and continued Project evaluation. As described in Chapter 1, Section 1.7 Public Involvement Summary of the Final EIS, changes between the Draft and Final EIS are identified through markings along the margins on the applicable pages of the Final EIS document. Table 1.7-1 of the Final EIS lists the section numbers where substantial changes were made.

Over the 90-day public comment period, the CEMVN received approximately 40,699 comment submissions. Forty-three comments were received in either Vietnamese, Spanish, or Khmer and were translated into English. Of the 40,699 comment submissions, 39,903 (98 percent) included identical (form) letters signed by different individuals. Approximately 796 (2 percent) of comment submissions were unique letters from individuals or organizations/agencies. Only 1,396 (3.4 percent) of the comment submissions were from commenters that gave Louisiana addresses. The remaining comments were from people who gave addresses in other U.S. states, and four were from other countries. Individual commenters identified an affiliation in 44 of the comment submissions. These affiliations included businesses, churches and religious groups, civic groups, government agencies, NGOs, and university or professional societies.

CEMVN and the LA TIG worked together to review, sort, and respond to comments received on the Draft EIS. Comments were first sorted into groups by topic and issue, consistent with the range of topics addressed in the Draft EIS. To facilitate preparation of responses, CEMVN and the LA TIG then drafted 'concern statements' to represent multiple similar comments on a topic and to summarize unique comments and lengthy comments; these concern statements were later reviewed against the original comments to ensure all comments were captured. CEMVN and the LA TIG then prepared responses to the concern statements. CEMVN and the LA TIG ensured consideration of the original text from each comment when preparing the response. The comment response process was designed to ensure consideration of and appropriate responses to all comments received. All public comments and responses are included in full in the Public Meeting Report in Appendix B2 "Draft EIS Public Review and Public Meetings" of the Final EIS.

Final EIS: The NOA for the Final EIS was published in the Federal Register on September 23, 2022, beginning a 30-day public review ending on October 24, 2022.

CEMVN also posted a Special Public Notice announcing the public review period on its Project website. This Special Public Notice was also emailed or mailed to all individuals, agencies, and organizations on the distribution list. The Special Public Notice noted that the Final EIS and its appendices were made available on CEMVN's Project website and listed locations where printed copies and/or an electronic version of the Final EIS and appendices could be viewed. Printed copies of the Final EIS were provided for public review at the same public libraries that the Draft EIS was made available (Belle Chasse, Buras, Harvey, Lafitte, New Orleans, Paradis, and Port Sulphur, Louisiana) with the exception of one library. Since the publication of the Draft EIS, the public library in Cut Off, Louisiana closed; therefore, hard copies were instead made available at the nearby public library branch in Larose, Louisiana. In addition, printed copies of the Executive Summary for the Final EIS, summarizing the details of the documents into a concise, easy to read, document, were made available in English, Spanish, and Vietnamese at these locations and several additional public libraries within southern Louisiana.

The public comment period for the Final EIS started on September 23, 2022 and ended on October 24, 2022. Over the 30-day public comment period, the CEMVN received 145 comment submissions. Of the 150 comment submissions, 23 (15 percent) included identical (form) letters signed by different individuals, and 127 (85 percent) of comment submissions were unique letters from individuals or organizations/agencies. Most (139 or 92 percent) of the comment submissions were from commenters that gave Louisiana addresses, and the remaining comments were from people who gave addresses in

other U.S. states. Individual commenters identified an affiliation in 55 (about 40 percent) of the comment submissions. These affiliations included businesses, civic groups, government agencies, NGOs, and university or professional societies.

CEMVN reviewed all comments received during the Final EIS 30-day public comment period. The public comments received are included as an attachment to this document titled: “Mid-Barataria Sediment Diversion Final EIS Public Comments”. In addition, CEMVN responded to Final EIS public comments that were considered new and substantive. CEMVN responses are attached to this document titled: “Mid-Barataria Sediment Diversion Final EIS New and Substantiative Public Comments/Response Report.” Each comment was provided a unique letter ID in the Mid-Barataria Sediment Diversion Final EIS Public Comments document. These unique IDs correspond with the responses in the Mid-Barataria Sediment Diversion Final EIS New and Substantiative Public Comments/Response Report.

Additional coordination efforts held by CPRA are discussed in Section 7.6 of the Final EIS.

5.0 ALTERNATIVES ANALYSIS

(33 CFR Part 325 Appendix B, 40 CFR 230.5(c) and 40 CFR 1501.5(c)). An evaluation of alternatives is required under NEPA for all jurisdictional activities. NEPA requires discussion of a reasonable range of alternatives, including the no action alternative, and the effects of those alternatives. An evaluation of alternatives is required under the Section 404(b)(1) Guidelines for projects that include the discharge of dredged or fill material to waters of the United States. Under the Section 404(b)(1) Guidelines, practicability of alternatives is taken into consideration and no alternative may be permitted if there is a less environmentally damaging practicable alternative.

5.1 Site selection/screening criteria

In order to be practicable, an alternative must be available, achieve the overall project purpose (as defined by the Corps after considering the applicant’s needs and type of project being proposed), and be feasible when considering cost, logistics and existing technology.

Chapter 2 “Alternatives” describes the alternatives evaluated in the Final EIS. CEMVN led an alternatives workgroup (AWG) in coordination with the LA TIG, including CPRA, to identify a reasonable range of alternatives to be carried forward for further analysis in the EIS. The goal was to consider a broad range of possible alternatives and identify the reasonable range of alternatives that would be advanced for comparative analysis in the EIS.

The alternatives development and evaluation process relied on previous studies, including those conducted by CPRA as part of developing its Preferred Alternative, that provide the scientific and engineering foundation for the evaluation of potential alternatives. Guided by the purpose and need for the proposed Project, the AWG met nine times between February 7 and July 3, 2018 to conduct the alternatives formulation process which generally consisted of the following sequence of steps:

- develop screening criteria to evaluate the effectiveness of different alternatives in meeting the Project purpose and need;
- identify potential alternatives, including functional and operational/design alternatives, considering prior studies/analysis and public and agency scoping comments;
- evaluate potential alternatives through an iterative process applying the screening criteria and other factors/considerations derived from the Project purpose and need and public and agency scoping comments relevant to the specific analysis; and
- formulate and select Project alternatives for detailed analysis in the EIS.

The screening criteria identified were as follows:

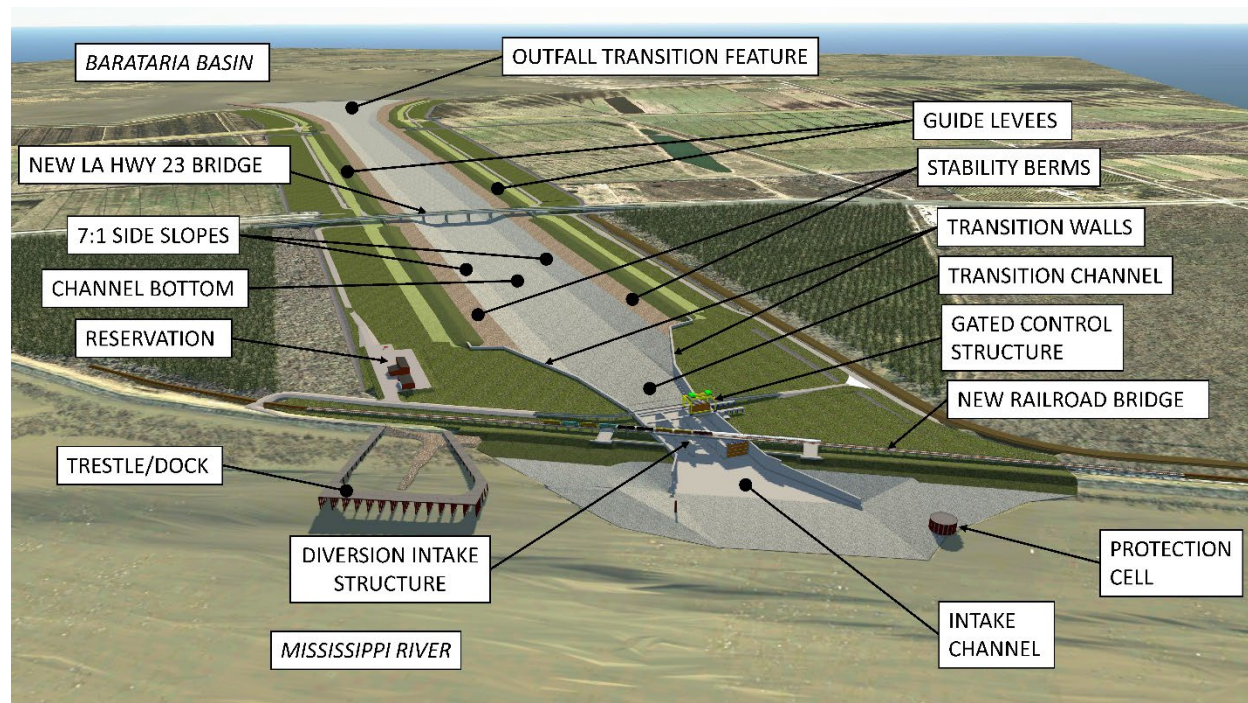
- Criterion 1: Reconnects and reestablishes deltaic processes between the Mississippi River and the Barataria Basin to achieve Project purpose and need in a sustainable manner;
- Criterion 2: Delivers sediment, fresh water, and nutrients in a sustainable manner;
- Criterion 3: Supports the long-term viability of existing and planned coastal restoration efforts;
- Criterion 4: Helps restore habitat and ecosystem services in the northern Gulf of Mexico injured by the DWH oil spill and is consistent with the SRP/EA #3; and
- Criterion 5: Is consistent with the Louisiana Coastal Master Plan.

5.2 Description of alternatives

No Action Alternative: None of the action alternatives evaluated in this EIS would be permitted or built.

Alternative 1: variable flow up to 75,000 cfs maximum sediment diversion (Applicant's Preferred Alternative).

The Applicant's Preferred Alternative consists of a diversion complex in Plaquemines Parish on the right descending bank of the Mississippi River at RM 60.7, with a conveyance system intended to transport sediment, freshwater, and nutrients from the Mississippi River through an intake structure, into an approximate 2-mile long by 250-foot wide (bottom width), gravity conveyance channel (with parallel guide levees) and ultimately discharge the water, sediment, and nutrients through an outfall transition feature into the mid-Barataria Basin in Plaquemines and Jefferson Parishes. Figure 1.3-1 of the Final EIS illustrates the main components of the proposed diversion structure.



MBSD Project Components

The MBSD Project consists of three primary components: (1) the Headworks near the diversion intake structure, (2) the Conveyance Channel bound by stability berms, guide levees, and transition walls, and (3) the Outfall Transition Feature which is proposed to gradually transition the conveyance channel (-25 feet) to the natural waterbottom elevation (approximately -4 feet). Approximately 350 acres within the construction footprint is designed to be excavated or dredged for construction of the Headworks, Conveyance Channel, and Outfall Transition Feature. Approximately 6 to 8 million cubic yards (mcy) of material may be excavated or dredged for construction. Approximately 800 acres of the construction area is anticipated to involve substantial

earthwork on existing open water, wetlands, agricultural land, forested land, and other existing land cover types. Proposed earthwork would include excavation, compaction, grading, or filling as part of the construction of levees and berms, the conveyance channel, the concrete manufacturing plant, contractor yards, haul roads, and borrow laydown areas.

Headworks: The Headworks consists of a reinforced concrete U-frame controlled Intake Structure with an open channel, a Gate Structure, and a Transition T-wall area. The intake structure is proposed to be constructed within a section of the existing Mississippi River Levee (MRL) feature of the MR&T Project located on the right descending bank of the Mississippi River at River Mile (RM) 60.7 (Stations 1090+00 to 1120+00). The Gate Structure is proposed to be located between the Intake Structure and the Transition T-wall area and would be designed to contain three bulkhead gates sized for the delivery of a 75,000 cfs water conveyance with the Mississippi River flowing at 1,000,000 cfs at Belle Chasse. The Gate Structure is proposed to also include 3 bays for dewatering/emergency bulkhead placement, a riverside access bridge, and gantry crane rails for lifting and placing bulkheads. The Gate Structure is designed to provide support for the bulkhead gates, machinery facilities, and an access bridge.

Conveyance Channel: The Conveyance Channel is proposed to be approximately 2 miles or 10,000 linear feet long extending at a right angle from the Mississippi River and have a bottom width of 250 feet which is designed to be armored. The conveyance channel would convey water, sediment, and nutrients from the Intake Structure at the Mississippi River. An inverted Drainage Siphon is proposed to be installed under the Conveyance Channel, conveying flow from the northern side of the Conveyance Channel to southern side and continuing on to the Wilkinson Pump Station. The Drainage Siphon is designed to provide drainage for the northern portion of the drainage area up to a 10-year, 24-hour rainfall event. CPRA maintains that the Drainage Siphon would also be equipped with bar screen to prevent debris and animals from entering the Siphon. A floating vegetation arrestor would also be installed approximately 300 feet upstream of the Siphon.

The Conveyance Channel would cross a portion of LA 23 and the NOGC Railroad and would also alter, by intersecting, the existing non-federal back levee and the future NOV-NF-W-05a.1 levee reach between Stations 328+00 to 352+00 of the USACE Plaquemines New Orleans to Venice (NOV), Louisiana Project and then outfall into the Barataria Basin. The Guide Levees would have a 10-foot-wide gravel access road at the crown with side slopes of 7H:1V. Armoring would extend from the Conveyance Channel side slope and up to a portion of the Guide Levee side slopes. The non-armored portions of the Guide Levees are proposed to be covered with reinforced turf.

When the Guide Levee intersects with HWY 23 and the inverted Drainage Siphon feature, Floodwalls are projected to be constructed. After the Conveyance Channel intersects the NOV-NF-W-05a.1 levee (moving west along the Conveyance Channel), the Guide Levees would extend to the Outfall Transition Feature.

Outfall Transition Feature: The outfall transition feature is considered the area on the mid-Barataria Basin side of the USACE's NOV-NF-W-5a.1 levee that transitions the Conveyance Channel at EL-25 to the natural waterbottom within the Basin (EL-4). Significant scour potential exists in the immediate outfall area as the diverted flow enters the marsh. Modeling performed as part of the Applicant's engineering and design effort indicated that a scour hole as deep as 75 feet below the existing marsh bottom may occur (elevation of -80 feet NAVD88) during the first year of operation. As a result of this engineering modeling, the Applicant incorporated an engineered outfall transition feature armored with riprap into the Project design. With this engineered outfall transition feature, the Applicant's Preferred Alternative is predicted to produce a scour hole no more than approximately 10 feet below the existing marsh bottom.

Temporary Works: Temporary Works to be constructed include a temporary combi-wall cofferdam system in the Mississippi River, vessel impact protective features, a trestle for receiving construction materials to the site, excavation dewatering systems, interim flood risk reduction feature for the NOV-NF-W-05a.1 Levee, temporary drainage for the NOV-NF-W-05a.1 interior drainage, and MRL interim levee system to support excavation and allow for in-the-dry construction of the intake structure.

Other MBSD Project Components: Other MBSD Project components include LA 23 bridge and roadway realignment, NOGC Railroad relocation, utility relocations, and secondary project features such as support buildings and a boat ramp. Relocations of water and electrical utility lines would be needed to accommodate the construction and operation of the Conveyance Channel and the LA 23 and NOGC bridges. A 22-inch crude oil pipeline is located immediately west of the channel outfall. CPRA maintains that all infrastructure and utility improvements and relocations would be based upon continued service during construction and would be designed and constructed using utility owner criteria and guidelines and addressing USACE hurricane risk reduction criteria during interim and final phases of construction.

Alternative 2: variable flow up to 75,000 cfs maximum sediment diversion including marsh terracing outfall feature.

This alternative consists of a large-scale sediment diversion as described in the Applicant's Preferred Alternative, but this alternative would include construction of

marsh terrace features intended to expedite accretion and land building for increased near-term project benefits. The marsh terraces are proposed to be located in the diversion outfall area, just west of Wilkinson Canal. CPRA considered this a feasible location to construct the marsh terrace features to aid in overall sediment retention, help protect newly deposited sediment from erosion, and avoid interfering with the ability of the system to convey diversion flows. For this alternative, CPRA proposed marsh terraces at initial elevations that took the anticipated increases in currents and water levels with diversion operation into consideration to avoid or minimize terrace overtopping and to avoid scour. Specifications for individual terraces include:

- overall elevation: +4.75 feet NAVD88;
- bottom width: 75 feet;
- top width: 15 feet;
- total length of each feature: 1,000 feet;
- total length of outfall terrace: 18,000 linear feet or about 31 acres of water bottom covered; and
- anticipated side slope: 5 foot vertical to 1 foot horizontal.

It is anticipated that the source of material for terrace creation would come from excavated material from the construction footprint.

Alternative 3: variable flow up to 50,000 cfs maximum sediment diversion.

This alternative consists of a large-scale sediment diversion as described for the Applicant's Preferred Alternative; however, this alternative would be designed for a maximum operational flow of 50,000 cfs. Although this alternative would have a smaller maximum capacity, the general construction footprint and design features would be similar to that described for the Applicant's Preferred Alternative, except that the intake channel and conveyance channel is expected to be narrower (approximately 100 feet and 135 feet narrower, respectively) as compared to the Applicant's Preferred Alternative, and the construction timeframe could be shorter in duration than that of the Applicant's Preferred Alternative by several months. The narrower intake channel would require less construction material to be excavated and could have less construction traffic as compared to the Applicant's Preferred Alternative.

Alternative 4: variable flow up to 50,000 cfs maximum sediment diversion including marsh terracing outfall feature

This alternative consists of a large-scale sediment diversion the same as described in Alternative 3 and includes the marsh terracing described for Alternative 2.

Alternative 5: variable flow up to 150,000 cfs maximum sediment diversion

This alternative consists of a large-scale sediment diversion the same as described in the Applicant's Preferred Alternative except that it would be designed for a maximum flow of 150,000 cfs. The general construction footprint and design would be similar to that described for the Applicant's Preferred Alternative, except that the intake channel and conveyance channel is expected to be wider (approximately 100 feet and 330 feet wider, respectively) and the outfall transition feature could be larger (approximately 140 acres wider) as compared to the Applicant's Preferred Alternative. In addition, the construction timeframe would be longer by several months. The wider intake channel, conveyance channel, and outfall transition feature would require more material to be excavated and an increase in construction traffic.

Alternative 6: variable flow up to 150,000 cfs maximum sediment diversion including marsh terracing outfall feature. This alternative consists of a large-scale sediment diversion as described for Alternative 5 and includes the marsh terracing described for Alternatives 2 and 4.

5.2.1 No action alternative

The No Action Alternative represents anticipated future conditions if no permit is granted and the proposed Project is not constructed. It establishes the baseline conditions against which other alternatives are evaluated and enables comparison between the potential future conditions in a scenario without implementation of the Applicant's Preferred Alternative or the other action alternatives against the anticipated future conditions in a scenario with Project implementation. Under the No Action Alternative, CPRA's requested 10/404 permit would be denied. As a result, the Applicant's Preferred Alternative would not be constructed, nor would any of the other action alternatives that are considered in the Final EIS, and potential impacts from construction and operation (both beneficial and detrimental to resources within the Project area) described for the considered action alternatives would not occur. Under the No Action Alternative, other planned and under construction projects would continue be constructed; coastal restoration and hurricane risk reduction projects would continue within the Project area including local, state, and federally funded efforts such as marsh creation, terracing, barrier and shoreline restoration, dune and ridge restoration, and

various levee system projects. Natural and anthropogenic factors and forces would continue to affect resources over time within the Barataria Basin.

5.2.2 Alternatives Considered but Not Included

Chapter 2, Section 2.6 (Table 2.6-1) in the EIS provides a summary of alternatives considered but eliminated from detailed analysis. The explanations for why each alternative listed in the summary was eliminated from detailed analysis are provided in Chapter 2. In addition, Appendix D of the Final EIS includes an “Eliminated Alternatives Matrix” that lists the nearly 100 eliminated alternatives with an explanation for why each particular alternative was eliminated from further review in the EIS.

5.3 Alternatives evaluation under the Section 404(b)(1) Guidelines and NEPA

The Section 404(b)(1) guidelines require that USACE only permits the Least Environmentally Damaging Practicable Alternative (LEDPA). The alternatives analysis required for NEPA will in most cases provide the information needed for an evaluation of alternatives under the Section 404(b)(1) guidelines; however, these may be addressed as a broader range of alternatives (40 CFR 230.10(a)(4)). Therefore, CEMVN integrated the Section 404(b)(1) guidelines into the alternatives analysis to ensure that the alternatives selected for evaluation in the EIS provide a reasonable range of alternatives and that the alternatives are practicable. In order to be practicable, an alternative must be available, able to achieve the overall project purpose (as defined by the Corps after considering the applicant’s needs and type of project being proposed), and be feasible when considering cost, logistics and existing technology. All of the action alternatives, Alternatives 1-6, are considered practicable alternatives.

Each of the practicable alternatives is a large-scale sediment diversion project, at a single location (Mississippi River mile 60.7) with the same operational trigger (450k cfs river flow at the Belle Chasse gage) and diversion base flow (5k cfs) and each satisfies the EIS purpose and need statement. These alternatives were carried forward in the EIS for further analysis in comparison to the No Action Alternative for USACE’s Section 10/404 permit review and Section 408 permission decision.

Further discussion about the action alternatives (Alternatives 1 – 6) practicability:

- Cost – CPRA has not provided any quantitative information regarding relative cost differences between the alternatives or any information that would indicate that any of the six action alternatives analyzed in the EIS would be unreasonably expensive in the context of the overall scope and cost of the project. In any

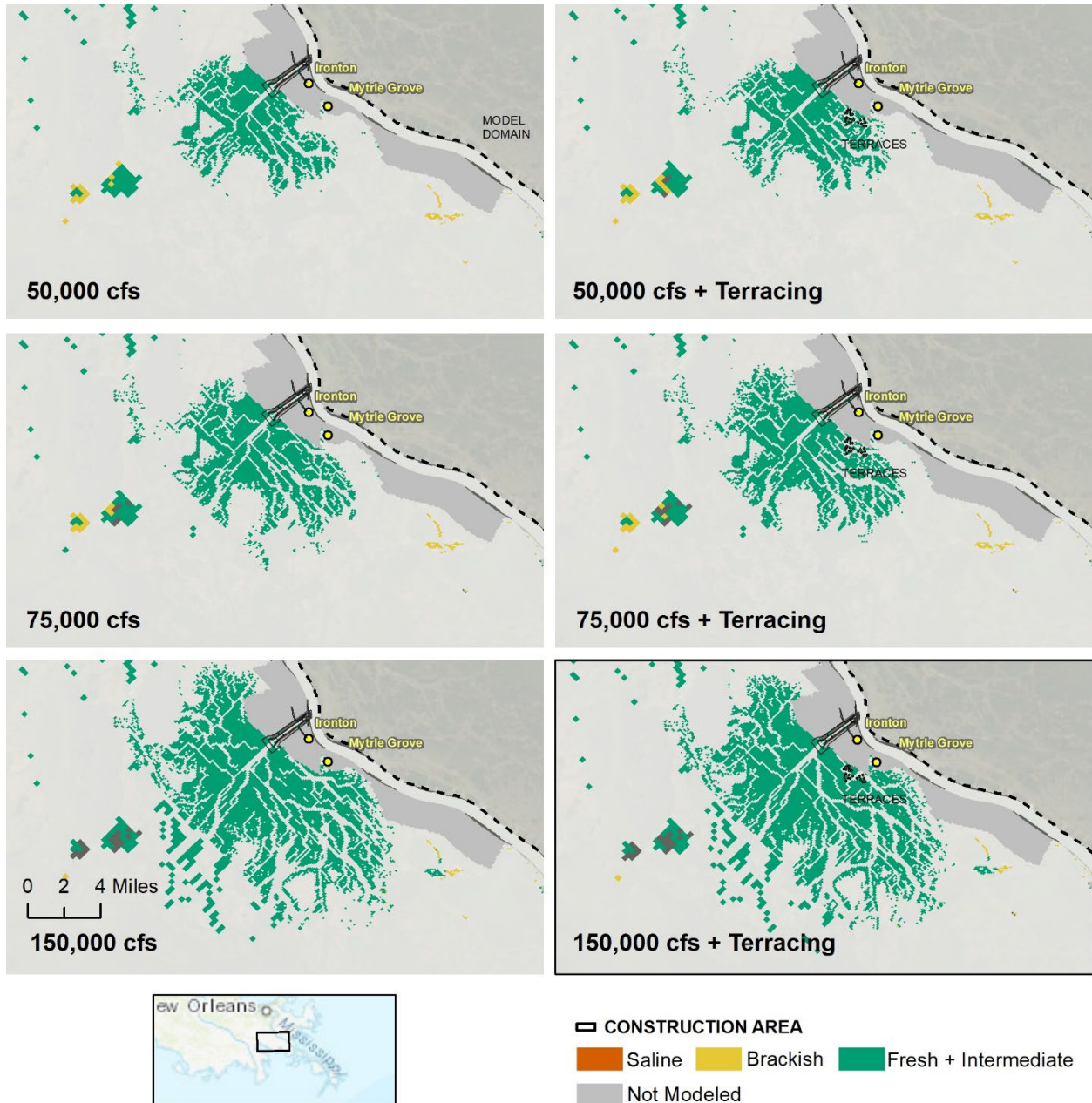
event, that one practicable alternative may be more expensive than another does not eliminate it from further consideration. Associated costs to infrastructure in the Barataria Basin and navigation within the Mississippi River must be considered.

- Existing technology – CPRA has not provided any information that would indicate that the engineering, design, construction or operation of any of the six action alternatives is infeasible. Project components for alternatives 1, 3, and 5 would be the same, but with varying sizes of the intake channel, conveyance channel, and outfall transition feature. These relative differences would also apply to alternatives 2, 4, and 6 with the addition of outfall terrace features, which are chevron shaped land features designed to trap available sediment and stimulate land building.
- Logistics – All six alternatives carried forward for further analysis are similar in that each is a sediment diversions and CPRA has not identified any logistical concerns with any particular alternative(s). The six alternatives likely pose varying degrees of logistical challenges with where/how to place/stockpile material to be excavated during construction and managing construction traffic on LA 23 but are all feasible.

5.4 Least environmentally damaging practicable alternative under the Section 404(b)(1) Guidelines

The LEDPA determination requires careful analysis of the direct impacts associated with construction of the proposed Project and the secondary impacts due to operation of the proposed Project.

As illustrated in Figure 4.6-15 of the Final EIS, all six of the practicable build alternatives have similar construction footprints; all meet the project purpose and need with varying degrees of success based on max flow potentials.



Wetland Extent Near the Delta Formation Area for Each Action Alternative in 2070.

After consideration of the six practicable build alternatives listed above, CEMVN has determined that the applicant's preferred alternative (Alternative 1: variable flow up to 75,000 cfs maximum sediment diversion) is the LEDPA that would meet the overall project purpose.

Rationale summary:

1. CPRA has not provided any information to suggest that the size or configuration of the proposed footprint for each of the six practicable alternatives, all of which share a common location, is a limiting factor. In this case, site/location availability does not influence the LEDPA analysis.
2. As described above and in Section 2.8.1.4 of the Final EIS (Project Construction Activities) all six practicable alternatives have similar construction footprints with some minor exceptions – conveyance channel width and outfall transition feature size.
3. The three variable flow terrace alternatives (Alternatives 2, 4, and 6) were eliminated from LEDPA consideration after determining the additional adverse construction impacts only yielded slight increases in beneficial impacts of increased total land area in Barataria Basin over the life of the proposed project. In addition, the three variable flow terrace alternatives had no to negligible additional operational effects on physical and chemical characteristics of the aquatic ecosystem over the corresponding diversion alternative without terraces.
4. In comparing the overall benefits of the proposed Project, Alternative 3 variable flow up to 50,000 cfs was eliminated from LEDPA consideration. Despite having a similar construction footprint, Sections 4.2 Geology and Soils and 4.4 Hydrology and Hydrodynamics of the Final EIS show that the Applicant's Preferred Alternative out preforms Alternative 3 with respect to benefits in land building and bed elevation increases while having similar impacts on water quality.
5. While construction of Alternative 5 variable flow up to 150,000 cfs could result in greater construction impacts than the Applicant's Preferred Alternative due to a wider intake channel, conveyance channel, and outfall transition feature, benefits in land area patterns and changes in bed elevation are also greater than the Applicant's Preferred Alternative which warranted further evaluation. The outcome of this evaluation confirmed the Applicant's Preferred Alternative was the LEDPA. Information from Table 4.2-5 of the Final EIS informed the comparison of these two action alternatives, which is shown below:

Model-projected Total Land Area Under No Action Alternative (NAA) and Net Changes in Land Area (ac) Relative to NAA under All Alternatives							
Year	Total Land Under NAA	Net Changes in Land Area (ac) Relative to No Action Alternative					
		Alt 1/APA 75,000 cfs	Alt 2/75,000 cfs + Terraces	Alt 3/ 50,000 cfs	Alt 4/ 50,000 cfs + Terraces	Alt 5/ 150,000 cfs	Alt 6/ 150,000 cfs + Terraces
2030	470,000	4,980	5,010	3,630	3,900	8,670	8,550
2040	371,000	11,900	12,000	9,440	9,190	19,900	19,700
2050	263,000	17,300	17,400	12,200	12,500	30,400	30,400
2060	158,000	15,800	15,700	10,600	10,900	30,700	31,100
2070	76,400	10,400	10,900	6,840	7,070	26,400	26,600

Land acreage changes indicate acres of land created or lost above the water surface (Final EIS Ch. 4, fn. 51). 640 acres = 1 square mile.

Geology and Soils (Section 4.2 of the Final EIS): Table 4.2-4 (excerpt below) in the Final EIS shows the land change between the Applicant's Preferred Alternative and Alternative 5. While the Final EIS impact determinations for land building are the same for Alternatives 1 and 5 (major, permanent, beneficial impacts), Alternative 5 vastly outperforms the Applicant's Preferred Alternative in terms of projected land building in the Barataria Basin. After only decade two, Alternative 5 offers a greater land area acreage (19,900 acres) than the Applicant's Preferred Alternative, which peaks at 17,300 acres after decade three. Alternative 5 peaks at the end of decade four (30,700 acres) and is expected to be more resilient to sea level rise and subsidence than the Applicant's Preferred Alternative.

Delft3D Basinwide Model-projected Cumulative Net Changes in Retained Sediment Volume and Land Area^a under Action Alternatives Relative to No Action Alternative (NAA)								
Year	Project Area Change in Sediment Volume (million cy) Relative to NAA	Project Area Total Land Area (ac) under NAA	Project Area Total Land Area (ac) under Alternative	Project Area Change in Land Area (ac) Relative to NAA	Difference in Land Area (ac and % Change Relative to NAA) – Barataria Basin Only	Difference in Land Area (ac and % Change Relative to NAA) – Birdfoot Delta Only		
75,000 cfs (Applicant's Preferred Alternative/Alternative 1)								
2030	53	342,000	347,000	4,980	6,260	2%	-1,280	-3%
2040	103	276,000	288,000	11,900	12,800	5%	-922	-3%
2050	185	204,000	221,000	17,300	17,300	9%	6	0%
2060	261	127,000	142,000	15,800	16,400	14%	-628	-6%
2070	310	58,700	69,100	10,400	13,400	26%	-3,000	-45%
150,000 cfs (Alternative 5)								

Delft3D Basinwide Model-projected Cumulative Net Changes in Retained Sediment Volume and Land Area^a under Action Alternatives Relative to No Action Alternative (NAA)								
Year	Project Area Change in Sediment Volume (million cy) Relative to NAA	Project Area Total Land Area (ac) under NAA	Project Area Total Land Area (ac) under Alternative	Project Area Change in Land Area (ac) Relative to NAA	Difference in Land Area (ac and % Change Relative to NAA) – Barataria Basin Only		Difference in Land Area (ac and % Change Relative to NAA) – Birdfoot Delta Only	
2030	91	342,000	350,000	8,670	11,200	4%	-2,530	-6%
2040	185	276,000	295,000	19,900	22,100	9%	-2,190	-8%
2050	311	204,000	235,000	30,400	31,400	17%	-1,000	-6%
2060	444	127,000	157,000	30,700	32,400	28%	-1,670	-15%
2070	564	58,700	85,100	26,400	29,200	56%	-2,820	-42%
^a Modeled land areas and changes have been rounded to three significant digits. Land areas are considered accurate to within ± 200 acres. That produces an estimated error of ± 300 acres in the land change difference values and an average ± 3 percent in percent land change values.								

Bed Elevations (Section 4.4.4 of the Final EIS): While changes in land acreage reflect anticipated increases in acreage above the water surface, changes to bed elevations capture changes that would occur below the water surface. Table 4.4-3 (excerpt below) in the Final EIS shows bed elevation differences between the Applicant's Preferred Alternative and Alternative 5. While the EIS impact determinations for changes to bed elevations are the same (major to minor, permanent, beneficial impacts), Alternative 5 outperforms the Applicant's Preferred Alternative with greater increases in bed elevations, resulting in shallower bays and waterways at greater distances out into the basin.

Changes in Bed Elevation for Project Alternatives at Six Locations in the Barataria Basin and Birdfoot Delta for the Modeled Period 2020 to 2070 Relative to No Action Alternative						
Year	Northern/ Mid-Basin (CRMS 3985) (ft (m))	Station Nearest Diversion (CRMS 0276) (ft (m))	Central Station (CRMS 0224) (ft (m))	Western Station (Little L. Cutoff) (ft (m))	Southwestern Station near Grand Isle (B. Pass at GI) (ft (m))	Birdfoot Delta (CRMS 0163^a) (ft (m))
75,000 cfs (Applicant's Preferred Alternative/Alternative 1)						
2020	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2030	0.0 (0.00)	1.2 (0.36)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2040	0.0 (0.00)	2.5 (0.76)	0.3 (0.08)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2050	0.0 (0.00)	2.8 (0.86)	0.3 (0.08)	0.0 (0.01)	0.0 (0.00)	0.0 (0.00)
2060	0.0 (0.00)	3.5 (1.06)	0.3 (0.09)	0.0 (0.01)	0.0 (0.00)	0.0 (-0.01)
2070	0.0 (0.01)	3.7 (1.12)	0.3 (0.10)	0.1 (0.02)	0.0 (0.00)	-0.1 (-0.02)
150,000 cfs Alternative (Alternative 5)						
2020	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2030	0.0 (0.00)	1.1 (0.34)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2040	0.0 (0.00)	3.6 (1.10)	0.3 (0.08)	0.0 (0.01)	0.0 (0.00)	0.0 (0.00)
2050	0.0 (0.00)	4.8 (1.46)	0.3 (0.09)	0.1 (0.02)	0.0 (0.00)	0.0 (0.00)
2060	0.0 (0.00)	5.4 (1.64)	0.4 (0.12)	0.1 (0.02)	0.0 (0.00)	-0.1 (-0.03)
2070	0.0 (0.01)	5.9 (1.81)	0.7 (0.21)	0.1 (0.03)	0.0 (0.00)	-0.6 (-0.17)
^a Note that this station data is from one distinct Delft3D Basinwide Model cell located in the western edge of the birdfoot delta and does not represent the scope of land loss projected by the model for the overall birdfoot delta as described in Section 4.2 Geology and Soils and illustrated in Figure 4.4-3.						

Water Levels/Tides (Section 4.4.4 of the Final EIS): Water levels in the Barataria Basin are influenced by tides from the Gulf of Mexico, wind and rainfall. Winds blowing from the southeast and south cause water levels to rise or “stack up” in the basin while winds from the north and west push water out of the basin to the Gulf. Residents, businesses and communities, especially those outside of levees, may be affected by flooding when water levels exceed inundation thresholds. Because the proposed diversion would channel water into the basin from the Mississippi River, more water would be present in the basin during Project operations. Table 4.4-4 (excerpt below) in the Final EIS shows the water level differences between the Applicant’s Preferred Alternative and Alternative 5. With Project implementation, increases in non-storm-induced water levels are generally anticipated to occur in the area between 10 miles north and 20 miles south of the Project. Water level adverse impacts would decrease with increasing distance from the diversion. While the impact determinations for Alternatives 1 and 5 are within the same range (major to minor depending on location, permanent, adverse impacts), adverse water level impacts are projected to be greater for Alternative 5. For example, at the station nearest the diversion (CRMS 0276) in 2020, the maximum monthly average water level increase for Alternative 5 as compared to the No Action Alternative

is estimated to be 1.7 feet; the maximum monthly average water level increase between the Applicant's Preferred Alternative and the No Action Alternative is estimated to be 1.1 foot. Water levels are also projected to substantially increase over the Applicant's Preferred Alternative at the northern/mid-basin station (CRMS 3985), the station near Lafitte (USACE 82875), and the western station (Little L. Cutoff).

Changes in water levels are expected to also impact tides due to the additional water in the Barataria Basin. Near the Project for 2020, 2040, and 2070 conditions, high tide for Alternative 5 are projected to be increased over the Applicant's Preferred Alternative by 0.4 foot, 0.6 foot, and 0.6 foot, respectively, and low tide projected to be increased by 1.0 foot, 1.2 feet, and 1.3 feet, respectively. At other stations in the Barataria Basin, tidal impacts for Alternative 5 are anticipated to be consistently stronger than the Applicant's Preferred Alternative, especially at low tides.

Maximum Monthly Average Water Level Differences for Project Alternatives at Seven Locations in the Barataria Basin for the Modeled Period 2020 to 2070 relative to No Action Alternative^a (Representative Hydrograph)							
Year	Northern/ Mid-Basin (CRMS 3985) (ft (m))	Near Lafitte (USACE 82875) (ft (m))	Station Nearest Diversion (CRMS 0276) (ft (m))	Central Station (CRMS 0224) (ft (m))	Western Station (Little L. Cutoff) (ft (m))	Southwestern Station near Grand Isle (B. Pass at GI) (ft (m))	Birdfoot Delta (CRMS 0163)^b (ft (m))
75,000 cfs (Applicant's Preferred Alternative/Alternative 1)							
2020	0.3 (0.10)	0.4 (0.11)	1.1 (0.33)	0.1 (0.02)	0.3 (0.09)	0.1 (0.03)	- (-)
2030	0.4 (0.11)	0.4 (0.12)	1.1 (0.33)	0.1 (0.04)	0.3 (0.08)	0.1 (0.03)	0.0 (0.01)
2040	0.4 (0.11)	0.5 (0.14)	1.1 (0.33)	0.1 (0.04)	0.3 (0.08)	0.1 (0.03)	0.0 (0.01)
2050	0.3 (0.08)	0.3 (0.09)	0.9 (0.28)	0.1 (0.04)	0.2 (0.06)	0.1 (0.03)	0.0 (0.01)
2060	0.2 (0.07)	0.3 (0.08)	0.7 (0.21)	0.1 (0.03)	0.2 (0.05)	0.1 (0.02)	0.0 (0.01)
2070	0.1 (0.04)	0.2 (0.05)	0.4 (0.13)	0.0 (0.01)	0.1 (0.03)	0.0 (0.01)	-0.1 (-0.02)
150,000 cfs Alternative (Alternative 5)							
2020	0.7 (0.21)	0.8 (0.25)	1.7 (0.51)	0.1 (0.04)	0.6 (0.17)	0.2 (0.05)	-0.1 (-0.03)
2030	0.7 (0.22)	0.9 (0.26)	1.9 (0.57)	0.2 (0.07)	0.5 (0.16)	0.1 (0.04)	0.0 (0.01)
2040	0.7 (0.21)	0.9 (0.26)	1.9 (0.59)	0.2 (0.07)	0.5 (0.15)	0.2 (0.05)	0.0 (0.01)
2050	0.5 (0.16)	0.6 (0.19)	1.7 (0.51)	0.2 (0.06)	0.4 (0.12)	0.2 (0.05)	0.0 (0.01)
2060	0.5 (0.14)	0.6 (0.17)	1.3 (0.41)	0.2 (0.05)	0.4 (0.11)	0.1 (0.04)	0.0 (0.01)
2070	0.4 (0.11)	0.4 (0.12)	1.6 (0.48)	0.1 (0.03)	0.3 (0.09)	0.1 (0.03)	-0.1 (-0.02)

Maximum Monthly Average Water Level Differences for Project Alternatives at Seven Locations in the Barataria Basin for the Modeled Period 2020 to 2070 relative to No Action Alternative^a (Representative Hydrograph)							
Year	Northern/ Mid-Basin (CRMS 3985) (ft (m))	Near Lafitte (USACE 82875) (ft (m))	Station Nearest Diversion (CRMS 0276) (ft (m))	Central Station (CRMS 0224) (ft (m))	Western Station (Little L. Cutoff) (ft (m))	Southwestern Station near Grand Isle (B. Pass at GI) (ft (m))	Birdfoot Delta (CRMS 0163) ^b (ft (m))
^a Values in the table were obtained by subtracting the projected monthly average water levels for the No Action Alternative from the corresponding monthly average water level of each project alternative. The maximum change for any given month is extracted and displayed in the table. The values do not indicate an annual change, only the maximum change for a single month of the year. Negative values indicate that the largest magnitude of change is a reduction in water levels compared to the No Action Alternative. See Appendix E for the complete set of water level tables.							
^b The Delft3D Basinwide Model cell for the birdfoot delta station (CRMS 0163) in the birdfoot delta is projected to be partially dry marsh in modeled year 2020 transitioning to open water in year 2030. For this reason, results before 2030 are not included for the CRMS 0163 station in the analysis.							

Sediment Transport (Section 4.4.4 of the Final EIS): Engineering the diversion intake system to capture suspended sediment in the Mississippi River and deliver it into the Barataria Basin is CPRA's primary goal of the proposed Project. Sediment introduced to the Barataria Basin is expected to consist primarily of fine grained sediments, with more coarse-grained sediments transported during higher Mississippi River flows. Delft3D modeling for the Applicant's Preferred Alternative projects approximately 275 million metric tons of sediment to be transported into the Barataria Basin over the 50-year analysis period. While the EIS impact determinations are the same (permanent, major, and beneficial on land building and sustaining wetlands in the Barataria Basin; permanent, moderate, and adverse for land-building and sustaining wetlands in the birdfoot delta) for the Applicant's Preferred Alternative and Alternative 5, Alternative 5 is projected to transport approximately 525 million metric tons of sediment into the basin (approximately 90 percent more than the Applicant's Preferred Alternative).

Diverting sediment from the Mississippi River into the Barataria Basin during diversion operations is expected to result in less sediment at the birdfoot delta. While the diversion is expected to reduce the total amount of sand in the river downstream, the flow transport capacity of the river could also be reduced, potentially causing the deposition of sand in the river to be deposited farther upstream than under No Action Alternative conditions. Meanwhile, the diversion operation is expected to cause sedimentation in the Barataria Bay waterway. As a result, the frequency and quantity of dredging in the Mississippi River and the Barataria Basin navigation channels is likely to be impacted by these changes in sediment transport and bathymetry.

Salinity: Section 4.5.5.1 of the Final EIS provides salinity information for different flow scenarios for the range of alternatives. Overall, average salinity across the basin for the Applicant's Preferred Alternative and Alternative 5 are projected to be consistently lower than the salinity under the No Action Alternative, with the exception of the birdfoot delta station (CRMS 0163), which is projected to have maximum increases in salinity of 5 ppt above the No Action Alternative by modeled year 2070. Table 4.5-2 (excerpt below) of the Final EIS shows the minimum and maximum monthly salinities for the Applicant's Preferred Alternative and Alternative 5 in comparison to the No Action Alternative. With the salinity data being similar for both alternatives, the EIS impact determinations are the same (permanent, minor to moderate reductions in salinity in the Barataria Basin and permanent, minor increases in salinity in the birdfoot delta).

Minimum and Maximum Average Monthly Salinities (2020-2070) (ppt)						
Year	Northern/ Mid-Basin (CRMS 3985)	Station Nearest Diversion (CRMS 0276)	Central Station (CRMS 0224)	Western Station (Little L. Cutoff)	Southwestern Station at Barataria Pass, near Grand Isle (B. Pass at GI)	Birdfoot Delta (CRMS 0163)
No Action Alternative						
2020	0 to 1	1 to 6	2 to 10	0 to 2	11 to 23	Data excluded
2030	0 to 1	1 to 5	2 to 10	0 to 2	8 to 22	0 to 2
2040	0 to 1	2 to 5	3 to 11	1 to 3	9 to 24	0 to 2
2050	0 to 2	1 to 7	2 to 13	0 to 3	7 to 25	0 to 2
2060	0 to 1	1 to 8	1 to 15	1 to 6	5 to 27	0 to 2
2070	1 to 2	1 to 8	1 to 17	2 to 10	6 to 28	0 to 3
75,000 cfs (Applicant's Preferred Alternative/Alternative 1)						
2020	0	0	0 to 7	0 to 1	3 to 22	Data excluded
2030	0	0 to 1	0 to 8	0 to 1	2 to 21	0 to 1
2040	0	0 to 1	0 to 5	0 to 1	3 to 23	0 to 1
2050	0 to 1	0 to 1	0 to 10	0 to 2	3 to 24	0 to 2
2060	0 to 1	0 to 2	0 to 10	0 to 3	2 to 25	0 to 2
2070	0 to 1	0 to 4	0 to 12	0 to 5	3 to 27	0 to 8
150,000 cfs Alternative (Alternative 5)						
2020	0	0	0 to 7	0 to 1	1 to 22	Data excluded
2030	0	0 to 1	0 to 8	0 to 1	1 to 21	0 to 1
2040	0	0 to 1	0 to 5	0 to 1	1 to 23	0 to 1
2050	0	0 to 3	0 to 10	0 to 1	1 to 24	0 to 2
2060	0 to 1	0 to 3	0 to 10	0 to 2	1 to 23	0 to 2
2070	0 to 1	0 to 5	0 to 11	0 to 3	1 to 26	0 to 5

Jurisdictional Wetlands and Waters of the U.S. (Section 4.6 of the Final EIS): For both the Applicant's Preferred Alternative and Alternative 5, adverse direct and indirect impacts on wetlands during MBSD construction would range from negligible to

moderate, with short-term, negligible impacts occurring where Project construction impacts are temporary and wetlands are anticipated to return to preconstruction conditions; and permanent, minor to moderate, adverse impacts occurring in limited areas of the construction footprint where wetlands would be dredged or filled and converted to developed land, resulting in a permanent loss of wetland function or area. Beneficial impacts on wetlands are projected to be permanent and moderate due to the beneficial use of dredged material for tidal wetland creation and enhancement within the designated marsh creation area.

Since only the Applicant's Preferred Alternative has been designed, precise impacts associated with Alternative 5 are unknown; however, it's reasonable to assume direct and indirect impacts on jurisdictional wetlands and waters of the U.S. would be greater due to construction of a wider channel and more areas for construction and materials placement. The additional material excavated for the wider channel could result in larger marsh creation areas adjacent to the outfall area. Overall, the changes in project footprint between the Applicant's Preferred Alternative and Alternative 5 are minor.

The major, permanent benefits from operation at the different flow capacities in the Barataria Basin are outlined in Section 4.2 Geology and Soils of the Final EIS. The main differences between the Applicant's Preferred Alternative and Alternative 5 are:

- By year 2070, total wetland acres under Alternative 5 is projected to be 13,100 acres greater than the Applicant's Preferred Alternative (98,600 acres vs 85,500 acres).
- Regardless of implementation of the proposed Project, wetland losses in the Barataria Basin are expected to continue due to subsidence, sea level rise and other forces. However, in the Basin, as compared to the No Action Alternative, wetland losses would be fewer for both the APA and Alternative 5 than for the No Action Alternative. For the Birdfoot Delta, the wetland losses would be greater under both the APA and Alternative 5 as compared to the No Action Alternative. Under Alternative 5 the Barataria Basin would gain 25,800 wetland acres, representing 35.4 percent of total vegetated wetland area within the Barataria Basin over the No Action Alternative in year 2070. Under the Applicant's Preferred Alternative, there is a projected 17.4 percent greater total wetland area in 2070 (about 85,500 acres) when compared with the No Action Alternative (about 72,800 acres). Wetland losses in the Birdfoot Delta are anticipated to be similar between the Applicant's Preferred Alternative and Alternative 5¹¹.

¹¹ Regarding the 150,000 cfs alternative and birdfoot impact timing: Under each action alternative scenario, the Delft3D Basinwide Model predicts a levee breach along the Mississippi River and the subsequent emergence of a crevasse splay in the southern part of Breton Sound, which would change

Percentage of Wetland Gains and Losses when Compared with the No Action Alternative Acres (Percent)*							
Alternative	Watershed	2020	2030	2040	2050	2060	2070
Applicant's Preferred Alternative/ Alternative 1	Barataria Basin	33	5,590	12,300	16,700	17,100	12,700
		(<0.1%)	(1.6%)	(4.3%)	(7.6%)	(12.3%)	(17.4%)
	Birdfoot Delta	-9	-1,510	-1,040	-120	-642	-2,890
		(<-0.1%)	(-3.7%)	(-4.1%)	(-0.7%)	(-6.1%)	(-45.1%)
	Total	24	4,080	11,300	16,500	16,500	9,790
		(<0.1%)	(1.1%)	(3.6%)	(7.0%)	(11.0%)	(12.4%)
150,000 cfs/ Alternative 5	Barataria Basin	-248	8,460	20,800	30,400	30,300	25,800
		(<-0.1%)	(2.5%)	(7.2%)	(14.0%)	(21.8%)	(35.4%)
	Birdfoot Delta	29	-2,590	-2,190	-1,020	-1,570	-2,700
		(<0.1%)	(-6.3%)	(-8.6%)	(-5.9%)	(-15.0%)	(-42.1%)
	Total	-220	5,880	18,600	29,400	28,700	23,100
		(-0.1%)	(1.5%)	(5.9%)	(12.5%)	(19.2%)	(29.2%)

**Excerpt from Table 4.6-4 in the Final EIS*

Terrestrial Wildlife and Habitat (Section 4.9 of the Final EIS): Impacts on uplands and agricultural lands are projected to be similar between the Applicant's Preferred Alternative and Alternative 5. Waterfowl and migratory/resident birds would experience slightly greater benefits from Alternative 5 due to the increased changes in bed elevations and from restoration and maintenance of fresh and intermediate marshes.

Commercial Fishing (Section 4.14 of the Final EIS): Impacts associated with commercial fishing are similar under both alternatives; however, as compared to the Applicant's Preferred Alternative, Alternative 5 is projected to result in more marsh creation but also likely to further disrupt larval transport in a larger area. Overall impacts of this alternative on commercial fisheries are projected to be somewhat more intense than the Applicant's Preferred Alternative.

Environmental Justice (Section 4.15 of the Final EIS): Both the Applicant's Preferred Alternative and Alternative 5 are expected to have minor to major, long-term, adverse impacts on some low-income and minority populations located near the immediate outfall area (within 10 miles north and 20 miles south) and outside of federal levee protection, from changes in tidal flooding, storm hazards, commercial fisheries, and

the availability of sediment for land building in the birdfoot delta. The timing of this development is projected to vary among alternatives and is the reason that impacts on the birdfoot delta would be less in 2070 under the 150,000 cfs and 150,000 cfs + Terraces Alternatives than the Applicant's Preferred Alternative.

subsistence fisheries as compared to the No Action Alternative. Adverse impacts on low-income and minority populations for Alternative 5 are expected to be slightly greater compared to Applicant's Preferred Alternative due to increased water levels and increased risk of levee overtopping in communities south of the outfall area.

A full description of CEMVN's outreach efforts is described in Chapter 7 of the Final EIS. In summary, CEMVN's efforts to accommodate low-income and minority populations included providing translated public notices and EIS materials for review. In addition, all CEMVN public meetings included translation opportunities for increased accessibility and public involvement. CPRA engaged in additional outreach to populations potentially impacted by the Project throughout the evaluation process. Based on CPRA's evaluation of the projected impacts of the Project, combined with the input received on the draft mitigation measures, CPRA has developed the Final Mitigation and Stewardship Plan dated August 22, 2022. On October 24, 2022, EPA provided a formal comment during the Final EIS public comment period stating the following:

"EPA commends CPRA for their extensive outreach and engagement efforts and incorporation of this feedback in the updated Mitigation and Stewardship Plan."

Recreation (Section 4.16 of the Final EIS and titled "Recreation and Tourism"): Adverse impacts on site accessibility, recreational boating, and boat-based recreational fishing due to increased tidal flooding at access points in Lafitte, Myrtle Grove, and Grand Bayou and permanent, moderate, adverse impacts on site accessibility, recreational boating, and boat-based recreational fishing due to sedimentation in some of the Project-area navigation channels used to access recreation sites is expected to be greater under Alternative 5 than the Applicant's Preferred Alternative. Alternative 5 could increase the volume of sedimentation in waterways, but these differences on recreational site access from the impacts expected under the Applicant's Preferred Alternative are projected to be negligible. The Applicant's Preferred Alternative and Alternative 5 are expected to yield minor, permanent, adverse impacts on recreational fishing for spotted seatrout and moderate, permanent, beneficial impacts on recreational fishing for red drum.

Public Health and Safety (Section 4.20 of the Final EIS): Table 4.20-2 in the EIS provides a number of annual days of non-storm/ tidal flooding comparison between the Applicant's Preferred Alternative and No Action Alternative. Since water levels in the Barataria Basin are projected to be higher under Alternative 5 than the Applicant's Preferred Alternative, tidal flooding inundation frequency is projected to be higher than the number of days shown in table 4.20-2. Alternative 5 could have a greater intensity

of adverse impact on public health and safety than the Applicant's Preferred Alternative, particularly during the first 20 years of the analysis period in communities outside the federal levee system closer to the immediate outfall area. This increase is more pronounced in areas closer to the immediate outfall area of the proposed diversion structure, causing major, long-term, adverse impacts in this community.

Number of Annual Days of Tidal Flooding Under the Applicant's Preferred Alternative Relative to the No Action Alternative^a							
Community	Alternative	2020	2030	2040	2050	2060	2070
Lafitte	No Action	1	9	50	122	283	346
	Applicant's Preferred	5	22	65	152	304	347
	Change	4	13	15	30	21	1
Myrtle Grove	No Action	62	128	219	322	353	357
	Applicant's Preferred	181	239	286	362	362	362
	Change	119	111	67	40	9	5
Grand Bayou	No Action	68	176	297	343	358	362
	Applicant's Preferred	124	221	318	348	357	362
	Change	56	45	21	5	-1	0
^a Fixed flooding thresholds for Grand Bayou, Myrtle Grove, and Lafitte are 1.5 feet (45.7 centimeters), 1.75 feet (53.3 centimeters), and 2.5 feet (76.2 centimeters), respectively. Based on Hydrograph year 2011 (high, late spring flood flow). Source: Water Institute (2019).							

Navigation: In the EIS, Navigation is broken down into two factors: traffic and maintenance dredging. Concerning traffic, both the Applicant's Preferred Alternative and alternative 5 are expected to result in permanent, moderate, adverse, direct impacts on marine traffic efficiency (transit time) for shallow-draft vessels transiting the Mississippi River near the MBSD intake structure. The higher diversion flows associated with Alternative 5 are expected to create substantially greater cross-currents and further restrict the available river width available for traffic, resulting in longer travel delays than the Applicant's Preferred Alternative. Concerning maintenance dredging, differences between the Applicant's Preferred Alternative and alternative 5 upriver of the Project site, at the project site and vicinity, and at the project site to Venice are similar. While impact determinations in the EIS are the same for the Applicant's Preferred Alternative and alternative 5 (permanent, moderate, adverse impacts) on dredging operations for the Venice to the Gulf of Mexico, alternative 5 is projected to increase sedimentation in these areas than the Applicant's Preferred Alternative, which could consequently require increased dredging frequencies and volumes. Increased sedimentation rates and maintenance dredging can also be expected in South Pass, Tiger Pass, Baptiste Collette, and other passes and breaches carrying flow to the Gulf of Mexico.

6.0 EVALUATION FOR COMPLIANCE WITH THE SECTION 404(B)(1) GUIDELINES

The following sequence of evaluation is consistent with 40 CFR 230.5

6.1 Practicable alternatives

Practicable alternatives to the proposed discharge consistent with 40 CFR 230.5(c) are evaluated in Section 5

The statements below summarize the analysis of alternatives:

In summary, based on the analysis in Section 5 above, the no-action alternative, which would not involve discharge into waters of the United States, is not practicable.

All action alternatives (Alternatives 1 – 6) are considered practicable alternatives. No other practicable alternative has been identified. All practicable alternatives are sited in the same location and discharge into a special aquatic site. All practicable alternatives are not water dependent.

For those projects that would discharge into a special aquatic site and are not water dependent, the applicant has demonstrated there are no practicable alternatives that do not involve special aquatic sites.

Considering the relative adverse and beneficial impacts, especially with respect beneficial impacts to land building and bed elevations, the Applicant's Preferred Alternative has been determined to be the LEDPA. It has been determined that there are no alternatives to the proposed discharge that would be less environmentally damaging (Subpart B, 40 CFR 230.10(a)).

The proposed discharge in this evaluation has more adverse impacts on the aquatic ecosystem than other practicable alternative(s), but those other alternative(s) would have other significant environmental consequences.

6.2 Candidate disposal site delineation (Subpart B, 40 CFR 230.11(f))

Each disposal site shall be specified through the application of these Section 404(b)(1) Guidelines:

CEMVN jurisdiction is outlined in Section 1.4.3 of this document. The discharge of fill material will occur at the project site within the footprint of construction activity. The operation of the diversion will also discharge fill material into the Barataria Basin and will change bed elevations and contours within the basin.

The construction footprint for the Applicant's Preferred Alternative includes 27.1 acres of bottomland hardwood forest wetlands, 173.9 acres of emergent wetlands, and 3.2 acres of scrub-shrub/marsh wetland types. The construction footprint for the Applicant's Preferred Alternative would also impact 6.1 acres of vegetated shallows/SAV, 235.2 WOTUS, and 66.0 other open waters. A total of 204.2 acres of wetlands are proposed to be dredged or filled within the Project construction footprint. In addition, 307.2 acres of open water (including waters of the U.S., other open water, and vegetated shallows containing SAV) are included within the Project construction footprint.

For construction of the proposed Project, the applicant's JPA states that 6,652,000 cubic yards will be excavated in 1,248 acres and 6,602,000 cubic yards will be filled in 1,990 acres.

Fill Material Totals (in cubic yards)	
Concrete	145,000
Crushed stone or gravel	420,000
Rock	1,130,000
Sand	750,000
Total fill in marsh creation area	3,880,000
Excavation Totals (in cubic yards)	
Placed within the project footprint	6,602,000
Hauled off-site	50,000

6.3 Potential impacts on physical and chemical characteristics of the aquatic ecosystem (Subpart C 40 CFR 230.20-40 CFR 230.25)

The following has been considered in evaluating the potential impacts on physical and chemical characteristics (see Table 2):

Table 2 – Potential Impacts on Physical and Chemical Characteristics						
Physical and Chemical Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Moderate/ Major Effect
Substrate						moderate
Suspended particulates/ turbidity						moderate
Water					Varies by location	
Current patterns and water circulation					Minor to moderate	
Normal water fluctuations					Varies by location	
Salinity gradients						Varies by location

Discussion:

Potential impacts on the physical and chemical characteristics of the aquatic environment are described in detail in Chapter 4 of the Final EIS. Below is a general overview.

Substrate – (40 CFR §230.20) – The substrate of the aquatic ecosystem underlies open waters of the United States and constitutes the surface of wetlands. It consists of organic and inorganic solid materials and includes water and other liquids or gases that fill the spaces between solid particles.

Substantial excavation and dredging for construction of the proposed Project within existing open water, wetlands, agricultural land, forested land, and other existing land cover types are expected to cause permanent, moderate (readily apparent, local), adverse direct impacts on physical substrate. Construction of the proposed intake channel at the project headworks and immediately adjacent (within 0.5-mile) to the

Mississippi River is proposed to be excavated to an elevation of -25.0 feet at the bottom of the conveyance channel. Permanent changes in elevations of the Mississippi River bottom and bank due to construction activities are anticipated to be limited to a lowering of elevation immediately (within 0.5-mile) within the excavated footprint of the intake channel and training walls. Other elevation changes in the Mississippi River and bank would result from excavation or infill for the construction of seepage cutoff walls, temporary setback levees, the cofferdam perimeter, the gated control structure, and adjoining concrete transition channel sections. Table 4.2-1 in the Final EIS summarizes approximate impact acreages of material excavated or dredged for Project components that would require substantial excavation within the construction area, as well as additional dredge and fill discharges where dredging in the Barataria Basin is proposed to occur. Approximately 342 acres within the construction footprint are proposed to be excavated or dredged for construction of the intake system, conveyance channel, outfall transition feature, and basin access channels.

Much of the material excavated for construction of the intake system and conveyance channel is expected to be used to construct the berms and channel guide levees adjacent to the proposed conveyance channel. The sides of the channel would rise to a berm elevation of 2.0 feet and extend laterally 97.0 feet, increasing to an elevation of 4.0 feet. The berms are necessary to provide a stable platform for the channel guide levees, which would confine the diversion's discharge and serve as hurricane flood risk deduction levees. Based on preliminary Project designs, these levees are designed to have a 7:1 side slope with a 10.0-foot wide crown at an elevation of 15.85 feet. Section 4.20 Public Health and Safety, Including Flood and Storm Hazard Risk Reduction in the Final EIS provides further details about flood risk reduction levees of the proposed Project.

Bottom elevations in the marshes, ponds, and bays in the immediate outfall area in the Barataria Basin currently range from -1.0 to -4.0 feet. The preliminary design concept for the tidal marsh creation areas estimates a target marsh elevation of 2.0 feet, although these estimates may be revised as designs progress and ongoing marsh inundation assessments are completed. Minor, indirect, adverse and beneficial impacts on topography and bathymetry of areas adjacent to marsh creation areas from increased sedimentation may occur.

Dredging access channels within the proposed outfall area from Bayou Dupont to the diversion complex construction area is proposed to deepen existing dredged channels or shallow open water areas. The proposed access channels would be approximately 50.0 feet across and dredged to an elevation of -9.0 feet. These areas are shallow open water, comprising organic-rich and fine mineral deposits. Prior to commencement

of proposed Project operations, dredged channels are anticipated to be backfilled to the greatest extent practicable with native material that was side cast for vessel access. Additional infilling of dredged channels are expected after commencement of operations, so impacts from dredging access channels, while direct and adverse, would likely be minor and short-term.

Approximate Area of Excavation/Dredging during Construction ^a	
Location	Area (ac)
Intake System ^a	20.1
Conveyance Channel	180.3
Outfall Transition Feature ^b	75.6
Access Dredging	66.3
^a Does not include all components of the construction footprint shown in Chapter 2 of the Final EIS. ^b Includes the intake channel, gated control structure, and transition channel. ^c Excludes areas within <u>both</u> access channel dredging and outfall transition area footprint and other general areas of construction in the basin.	

As shown in Table 2.8-2 of the Final EIS, approximately 1,376 acres are proposed to be impacted by construction, of which 793 acres are proposed to be permanent impacts associated with construction of the diversion structure, 583 acres are expected to be temporary construction and/or access areas. An additional 467 acres is expected to provide direct and immediate benefits via construction of the marsh creation areas located adjacent to the outfall transition feature.

Project Construction and Operational Footprint Acreages (60 percent design) ^a		
Project Features		Acres
Permanent (Remains for Operation of Project)	Diversion Complex Area ^b	793
Temporary (Construction Only)	Work Areas (adjacent to the channel)	81 ^c
	Basin Access Channel Right-of-Way	369 ^c
	River Trestle/Dock	3 ^c
	Stockpile / Disposal Areas	177 ^c
	Haul Roads	19 ^c
Total Construction Acres		1,376^d
Beneficial Use Placement Areas		467 ^c
^a The numbers in this table have been rounded for presentation purposes. ^b This includes associated Project components including the intake system, conveyance channel, outfall transition feature, permanent site features, modifications to LA 23 and the NOGC Railroad. ^c Many of these features overlap, using the same land area for more than one purpose. The purpose of these rows is to provide the acreage of each Project feature regardless of overlap. ^d This total does not reflect the sum of the rows above because certain Project features overlap, and the overlap has been accounted for in this row to avoid double counting.		

The current environmental characteristics and values within the Project construction footprint will be altered or permanently lost due to construction and filling activities. Natural contours and elevations within the excavated and filled wetlands and WOTUS will be eliminated and underlying soil horizons and natural subsurface flow will be altered for manmade terrestrial features. The substratum directly beneath fill placement is expected to convert to anoxic and anaerobic conditions. The placement of fill material will smother immobile forms of bottom-dwelling organisms, while mobile forms are expected to migrate elsewhere. These areas would be converted to manmade features including a diversion channel and guide levees, staging areas, access roads, railways, and roadways. During diversion operations, the diversion conveyance channel would fill and be bound by the constructed levees and could serve as habitat for aquatic life diverted into the channel and Barataria Basin from the Mississippi River, although species are more likely to pass in to the Barataria Basin during operations from base flow. Deposition of sediment in the Barataria Basin from Project operation is also anticipated to smother immobile organisms. Impacts in these areas are considered to be minor, permanent, and long-term negative impacts. Most of the material excavated or dredged for the conveyance channel and outfall transition feature would be used for fill associated with construction of the diversion complex structures and conveyance channel levees. Material unsuitable for this use are anticipated to be deposited in designated beneficial use placement areas for tidal marsh creation/enhancement or used to infill nearby borrow pits. The grain size distributions of excavated or dredged material that would be deposited in the areas that would serve marsh creation areas could differ to some extent from the grain size distributions of the sediments there presently. All soils within the project construction footprint are hydric with the exception of the soils found on the natural and manmade earthen levees along the Mississippi River and NOV-NFL. The hydric soils are poorly drained and subject to subsidence and compaction. Section 4.2.3.2.2.4 of the Final EIS discusses faulting and the potential change in surrounding elevation as a result of the overall weight of the project and associated sediment loads. Although no surficial fault lines indicating recent episodic activity have been identified in the Project area, unidentified faults could affect future subsidence rates in the Project area. There is an increasing awareness that geologic faulting can be a significant contributor to land loss in Louisiana; however, there is insufficient information on which to evaluate the impact of faulting on the proposed Project or the impact of the proposed Project on future fault movement. Soil compaction as a result of hydric soil compaction from the introduction of impervious surfaces is likely with compaction rates of approximately 0.04 inches/year (1.0 millimeter/year) for overburden thicknesses of 6.5 feet.

Temporary construction and filling activities within the marsh creation areas in the Barataria Basin are expected to be a minor and temporary. Once the work within the fill

material placement areas is complete, these areas are anticipated to provide minor, permanent and long-term beneficial impacts.

Operation of the diversion is expected to result in discharge of fill material that will alter substrate elevation and contours. Project operations would raise bed elevations in the Barataria Basin, with impacts decreasing with distance from the immediate outfall area. The most significant impacts on bed elevations would occur within approximately 10 miles of the diversion outlet, with moderate and minor impacts extending farther, primarily southward, including filling any access channels dredged during construction. Significant scour potential exists in the immediate outfall area as the diverted flow enters the marsh. The Applicant incorporated an engineered outfall transition feature armored with riprap into the Project design. With this engineered outfall transition feature, the Applicant's Preferred Alternative is predicted to produce a scour hole no more than approximately 10 feet below the existing marsh bottom.

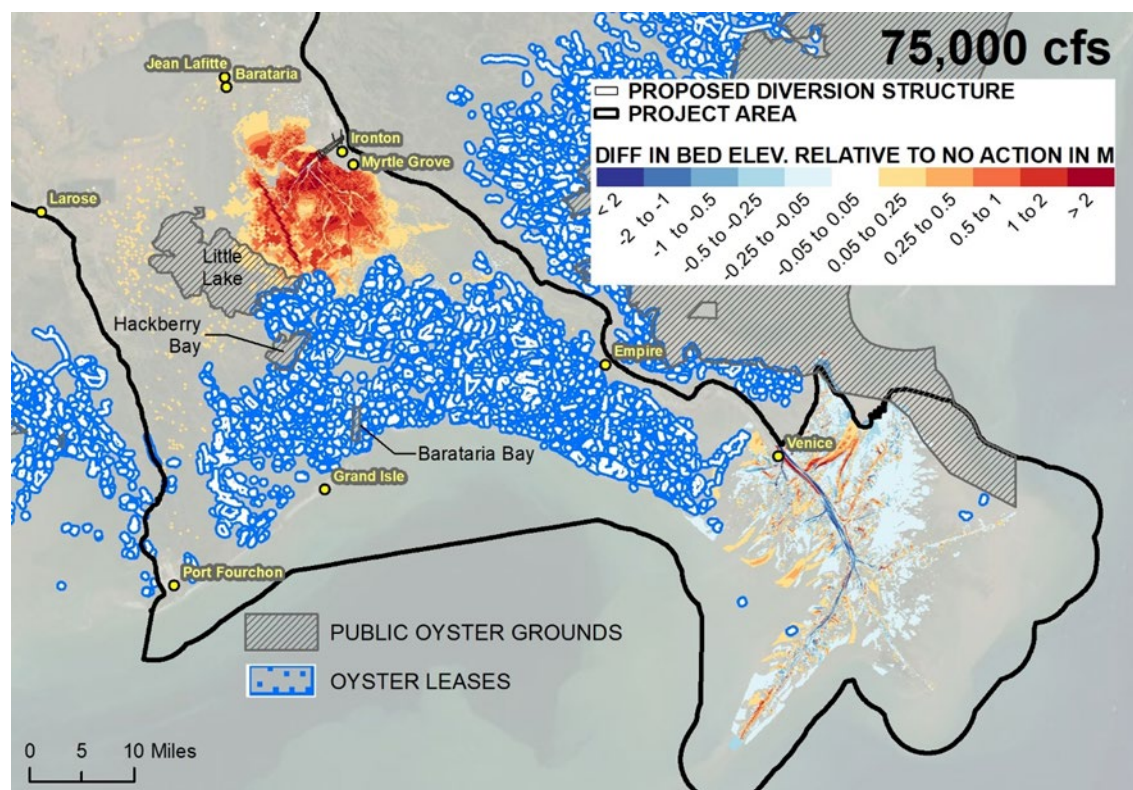
The existing surficial geomorphology of the outfall area consists of a network of Holocene-era abandoned distributaries and their associated natural levees separated by swamps, interdistributary marshes, lakes, bays, and ponds. Diversion operations would have permanent, major, beneficial direct and indirect impacts on the geomorphology of the area, in that new deltaic landforms and marsh platforms would be the result of the reconnection of the river to its receiving basin.

Because the thickness and rate at which sediment would be deposited on existing marsh soils during Project operations would not be controlled, the nature of these impacts on marsh soils in the Project area may be either beneficial or adverse. Sand and coarser-grained sediments would be deposited in the outfall area within 0.5-mile of the diversion, and finer-grained sediment would be deposited farther gulfward in the basin. These newly introduced sediments would be deposited in shallow bays and ponds and contribute to marsh creation and land building. Sediments would also be deposited on the surface of existing emergent marsh platforms in the outfall area and would likely contribute to grain size changes, with higher sand content and increased bulk densities. Finer-grained silts and clays introduced into the Barataria Basin would be beneficial by nourishing and sustaining existing wetlands farther removed from the immediate outfall area even if they are less likely to contribute directly to land building. The grain size distribution and other physical characteristics of sediments that would be diverted and retained in the outfall area would differ from sediments found there at present. These differing parent material characteristics may lead to the development of wetland soil profiles that differ from the existing Lafitte-Clovelly association, at least initially.

Impacts on vegetation community composition may occur as a result of altered flooding and salinity regimes. Impacts on vegetation can impact the rate of surficial deposition, as well as the quantity and quality of the soil profiles that develop.

Hard substrate within the few oyster leases projected to be affected by sedimentation may be converted to soft bottom. The Applicant's Preferred Alternative is projected to result in about 4,778 acres of the Little Lake Public Oyster Seed Grounds (POSG) receiving up to 10 inches of sediment (total over 50 years) associated with diversion operations.

Oyster reefs provide the majority of hard substrate required by other sessile invertebrate species such as barnacles, bryozoans, tunicates, and anemones. In addition, the hooked mussel is another reef-associated benthic bivalve that can compete with oysters for settlement surfaces and food sources in salinities of less than 10 ppt. The influx of nutrients from the Mississippi River would be an overall benefit to the food web (see Section 4.10.4.4.2.8 Food Web and Ecological Interactions of the Final EIS) and could stimulate the growth and/or population expansion of these organisms, potentially increasing, or assisting in the maintenance of, the structured habitat available for other species' use. However, given sedimentation of existing hard substrate, as discussed above, the potential growth of these species would likely result in a negligible benefit to the extent of structured habitat available for other species. Therefore, the indirect impacts from increased sedimentation on the Little Lake POSG and a small percentage of oyster leases, even considering potential benefits from the growth of other fouling organisms, would result in minor to moderate, permanent, and adverse impacts on hard substrates.



Bed Elevation Over Public Oyster Grounds from the Applicant's Preferred Alternative in 2070 as Compared to the No Action Alternative.

Suspended particulates/turbidity (40 CFR §230.21) – Suspended particulates in the aquatic ecosystem consist of fine-grained mineral particles, usually smaller than medium sands, and organic particles. Suspended particulates may enter water bodies as a result of surface runoff, flooding, vegetative and planktonic breakdown, resuspension of streambed sediments, and human activities including dredging and filling. Particulates may remain suspended in the water column for variable periods of time as a result of such factors as water velocity, turbulent agitation of the water mass, particle shape, specific gravity, and diameter, and physical and chemical properties of particle surfaces.

During construction, fine grained mineral particles may enter surrounding surface waters either by runoff or by air resulting in short-term effects to water quality. These effects may include increased turbidity, organic enrichment, chemical leaching, and reduced dissolved oxygen, among others. Following construction activities and establishment of vegetation on project features, effects from dredged and fill material placement during construction are expected to diminish. Placement of construction materials such as stone and concrete in and near aquatic habitat may result in temporary minor releases in dust, which could also affect water quality in nearby

surface waters. Gradually this residual dust could be washed from the site by factors associated with weather and hydrology.

Operation of the diversion will channel highly turbid waters from the Mississippi River including suspended particulates into the Barataria Basin. The diversion intake structure has been designed to maximize the capture of suspended sediment particles, both large-grained and fine sediments, and to funnel that suspended sediment into the basin for land-building, marsh creation and to sustain existing and created marsh. The Applicant's Preferred Alternative is projected to cause a permanent, minor to moderate increase in average total suspended solid (TSS) concentrations in the Barataria Basin. The increases are generally projected to occur close to the outfall when flows are high, not year round. TSS is projected to cause an impairment of water quality standards; therefore, impacts are moderate near the outfall during high flows, and minor during low flows and at locations further from the outfall.

Water (40 CFR §230.22) – Water is the part of the aquatic ecosystem in which organic and inorganic constituents are dissolved and suspended. It constitutes part of the liquid phase and is contained by the substrate. Water forms part of a dynamic aquatic life-supporting system. Water clarity, nutrients and chemical content, physical and biological content, dissolved gas levels, pH, and temperature contribute to its life-sustaining capabilities.

The nearest surface drinking water intake is located approximately 4 miles downstream on the Mississippi River. Water clarity, color, odor, and/or taste at the intake are not anticipated to be affected by placement of fill and construction materials in the Mississippi River for the proposed Project.

Placement of dredged, fill, and construction materials in and adjacent to aquatic habitats may result in localized, short-term increases in organic loading and oxygen demand, leading to reductions in dissolved gas levels. Following construction activities and establishment of vegetation in the Barataria Basin, impacts on dissolved gases related to project construction are expected to diminish.

Dredge and fill material placement in aquatic habitat for the construction of project features is intended to contribute to changes in estuary hydrology.

Operation of the diversion is expected to impact water characteristics. At the station nearest the proposed Project (CRMS 0276), dissolved oxygen concentrations are projected to decrease by up to 2.5 mg/L when the diversion would be operated above base flow (up to 75,000 cfs depending on river stages) as compared to the No Action

Alternative. Dissolved oxygen differences become increasingly minor with distance from the immediate outfall area. In some instances, inflows of Mississippi River water could contribute to increases in the frequency and severity of algal blooms; however, water stratification such as that experienced in the Gulf of Mexico in the area periodically known as “The Dead Zone” is not anticipated in the Barataria Basin because the receiving basin is shallow and well mixed due to tidal influences. Mississippi River water is expected to promote increases in primary productivity, including increases in phytoplankton productivity in the Barataria Basin.

As stated in Section 4.5.5.11 of the Final EIS, the Mississippi River water quality in subsegment 070301, where the proposed Project diversion intake structure would be located, fully supports its designated uses. Designated uses for this subsegment include swimming, boating, fishing, and drinking water supply. The Louisiana Department of Environmental Quality’s (LDEQ) water quality assessment indicates that regulated substances are not present in concentrations that would cause a water quality impairment at the location of the intake structure. However, Project operations would elevate fecal coliform concentrations in the basin because although the Mississippi River is not impaired for fecal coliform at the proposed diversion location, fecal coliform standards are more stringent in the Barataria Basin in the 10-basin subsegments designated for oyster propagation as compared to Mississippi River standards. The introduction of Mississippi River water containing elevated fecal coliform concentrations into oyster propagation areas could cause permanent, major, direct, adverse impacts on water quality by occasionally elevating fecal coliform concentrations in oyster propagation areas during Project operations. Elevated fecal coliforms may cause an oyster propagation use impairment. Other impacts on water quality in the basin include:

- Permanent, minor decrease in basin water temperatures corresponding to diversion opening (flowing greater than the 5,000 cfs base flow).
- Permanent, minor to moderately elevated total nitrogen (TN) and total phosphorus (TP) concentrations throughout the basin.
- Impacts on DO would vary throughout the basin, but overall minor to moderate, permanent impacts.
- Permanent, minor to moderate increase in TSS concentrations throughout the basin; negligible to minor increases in TSS in the birdfoot delta; seasonal shift in TSS trends in the northern basin.

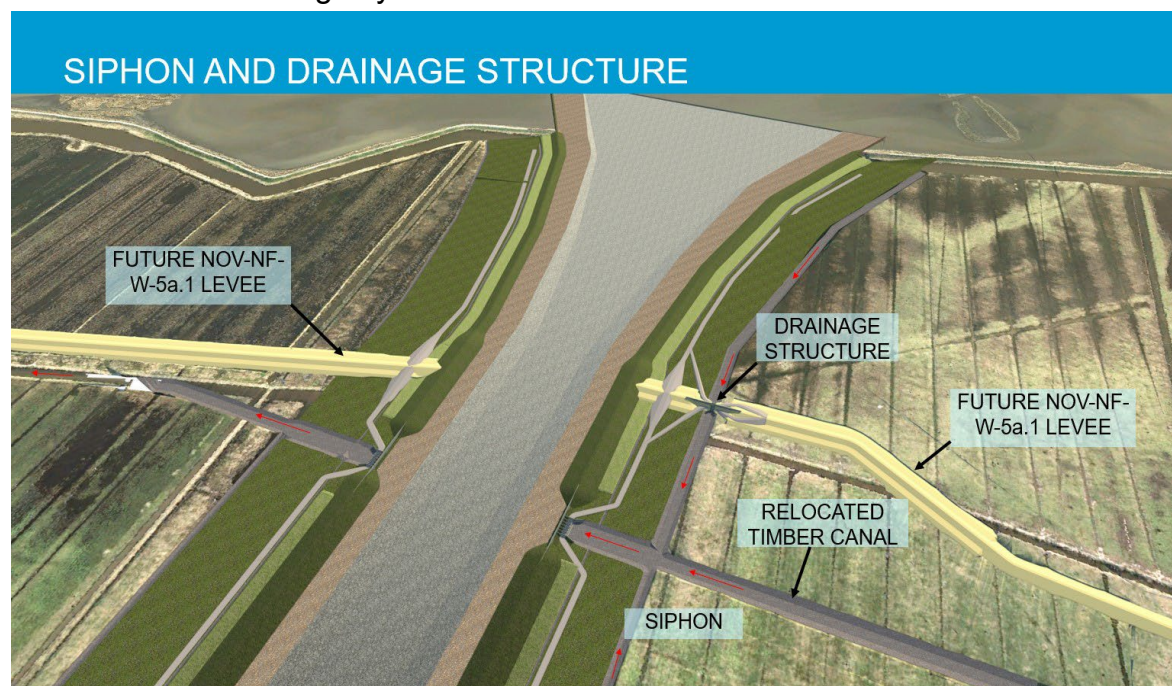
- Permanent minor to moderate decrease in average sulfate concentrations in the basin.

Water currents and water circulation (40 CFR §230.23) – Current patterns and water circulation are the physical movements of water in the aquatic ecosystem. Currents and circulation respond to natural forces as modified by basin shape and cover, physical and chemical characteristics of water strata and masses, and energy dissipating factors.

Placement of dredged, fill, and construction materials for the proposed project is expected to alter current patterns and flow in the project area. Impacts in the Mississippi River at RM 60.7 would be minor (measurable, localized), temporary, and adverse during construction. A cofferdam is proposed to be built into the Mississippi River outside of the authorized limits of the navigation channel during construction of the intake system. The cofferdam is expected to confine river flows along its bank, potentially leading to increased water velocity and changes in sediment movement, including scouring near the cofferdam and deposition downstream of the cofferdam where water velocities are expected to normalize. These impacts are considered adverse and localized because they could disrupt typical river flows and currents at this location.

Construction of the Applicant's Preferred Alternative would bisect the existing drainage system and disrupt existing drainage patterns; thus impacts in the construction footprint between the MRL and the NOV-NFL where hydrology is controlled by a system of pumps and drainage canals are expected to result in temporary, minor, and adverse direct and indirect impacts, but the existing level of drainage in the drainage basin is expected to be maintained. The Applicant proposes construct an inverted siphon that would cross beneath the proposed conveyance channel near Timber Canal (see Figure 2.8-5 in the Final EIS and below). The drainage system is proposed to be designed for a 10-year, 24-hour rainfall event. The inverted siphon is expected to convey drainage from the northern drainage area to the southern drainage area, and ultimately to the existing Wilkinson Canal Pump Station. The inverted siphon is designed to consist of six 96-inch diameter pipes and inlet and outlet structures with sluice gates on the inlet structure for each siphon pipe, stop logs, and access decks. The inverted siphon pipes would slope from the inlet and outlet structures to an approximate invert elevation of – 37 feet beneath the conveyance channel. Two ditches on either side of the conveyance channel guide levees that will flow to and from the inlet and outlet structures will be

included in the drainage system.



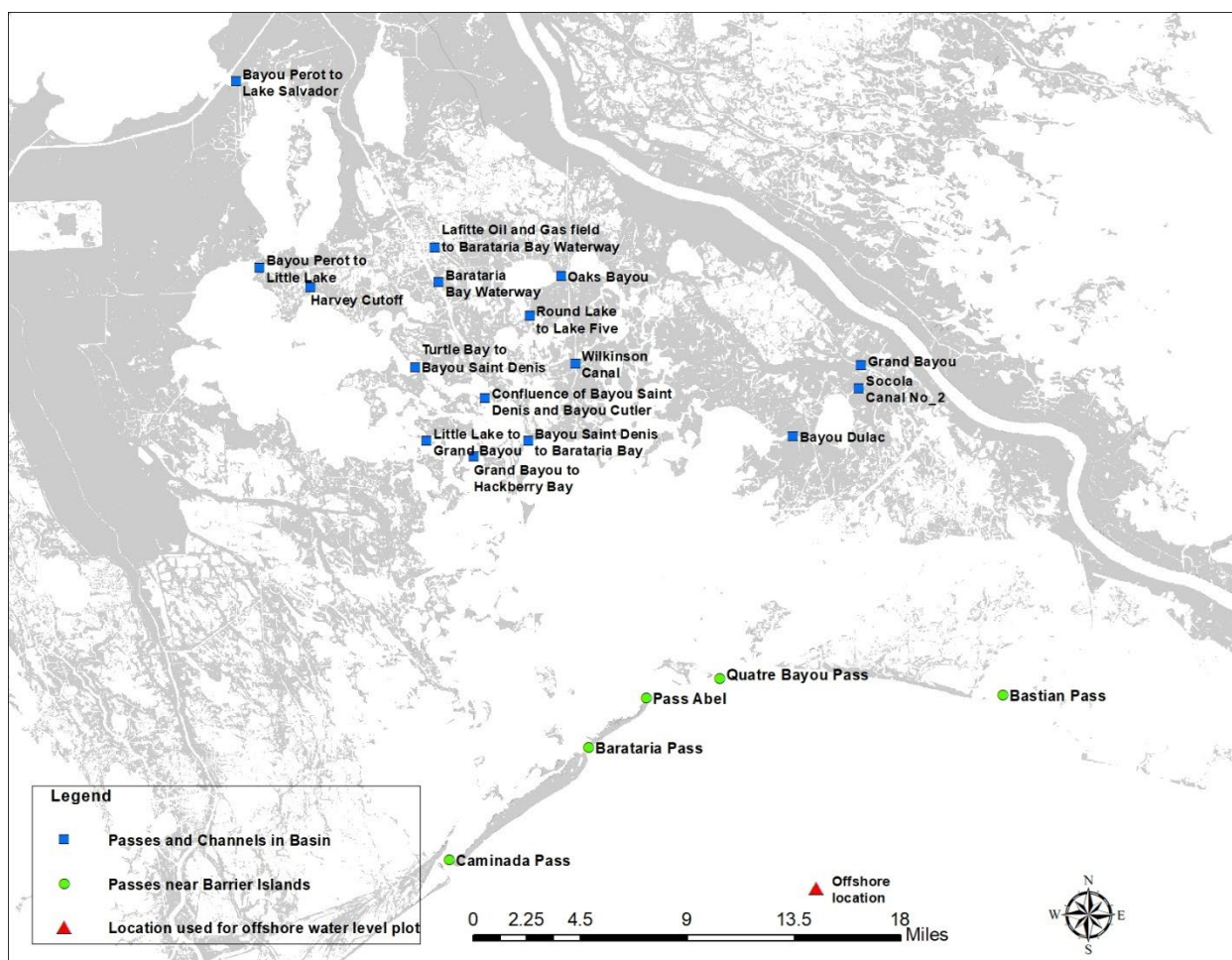
Proposed Project Siphon and Drainage Structure

Construction of the fill material placement areas in the Barataria Basin is expected to be a minor, long-term, beneficial impact. Temporary localized adverse impacts on water circulation and flow are expected with the conversion of open water and fragmented marsh to a contiguous marsh. Once constructed and marsh elevations stabilize, sediment containment areas are expected to be gapped and later removed to allow for these areas to serve as a fully functional tidal marsh environment.

Minor increases in vessel traffic for the delivery of construction materials could cause negligible increases in the resuspension of sediments within navigation and access channels, and vessel wakes from the increased traffic could cause negligible increases in channel bank erosion. This resuspended sediment could travel short distances under the influence of tides and currents but is unlikely to leave the general area. Construction impacts on water currents and circulation are anticipated to be negligible and limited to changing patterns immediately adjacent to the construction footprint.

Operation of the proposed Project would introduce Mississippi River water into Barataria Basin wetland and surface water environments and is intended to increase flows and reduce the residence times in receiving wetlands and upper estuary surface waters.

As explained in Section 4.4.4 of the Final EIS, in the basin, near the diversion at the gage called “Lafitte Oil and Gas Field”, the proposed diversion would cause major increases in water velocity and currents when operating above base flow, as compared to the No Action Alternative. For example, when the diversion is projected to operate near capacity in the spring, the average velocity at this station nearest the diversion would more than double, from 0.6 foot/second (approximately 0.2 meter/second) under the No Action Alternative to 1.6 feet/second (approximately 0.5 meter/second) under the Applicant’s Preferred Alternative. Additionally, Project operations would consistently direct flow to the southwest such that water flow would be less driven by tidal cycles as compared to the No Action Alternative. When the diversion would operate at base flow, the proposed Project would cause only minor increases in peak velocity, and flows would continue to be mainly driven by the existing tidal direction pattern.



Locations for Modeled Velocity Output. Stations circled in red are discussed in detail. Blue squares are the actual model locations where output was extracted.

In the Mississippi River, Project operations would have intermittent, minor, beneficial impacts on water levels. Water levels are projected to decrease upriver and downriver of the proposed diversion structure compared to the No Action Alternative due to diverting water from the river into the basin, with a maximum modeled change of 1.0 foot (approximately 0.3 meter) in the river. These projections are based on the 3rd week of May 2008 hydrograph (high, consistent spring flow) when the diversion would be operating at maximum capacity (75,000 cfs), with similar patterns seen for other hydrograph years. The average projected water level drop at Belle Chasse caused by operation of the proposed Project would be about 1 foot when the river is flowing at 1 million cfs. A decrease in water levels of 1.0 foot (approximately 0.3 meter) may be beneficial for flood control purposes. Negligible impacts on water levels in the birdfoot delta are projected.

Operational impacts on the existing flow of the Mississippi River would be permanent, moderate, and adverse due to the creation of a cross-stream (perpendicular to the existing general downstream flow) velocity component near the proposed diversion site. Modeling results indicated that diverting 75,000 cfs of water from the river through the diversion would impact river flow immediately upstream and downstream of the proposed intake structure (zone of influence [ZOI]). River flow in this ZOI would turn from the existing downstream flow towards the intake channel and create a cross-stream velocity. A cross-stream directional change in velocity towards the intake channel, both at the structure and immediately downstream of the structure, is projected to be at least 1 foot/second (0.3 meter/second) during maximum diversion flow. River velocities upstream of the diversion would increase by less than 1 foot/second. At lower diversion flows, similar patterns are projected with smaller magnitudes.

Normal water fluctuations (40 CFR §230.24) – Normal water fluctuations in a natural aquatic system consist of daily, seasonal, and annual tidal and flood fluctuations in water level. Biological and physical components of such a system are either attuned to or characterized by these periodic water fluctuations.

Construction activities within the Mississippi River and between the MRL and NOV-NFL could increase water level fluctuations. Increases in water fluctuation due to the proposed cofferdam are expected to be negligible. Water fluctuations can be expected to increase in the portion of the construction footprint between the MRL and NOV-NFL where hydrology is controlled by a system of pumps and drainage canals, direct and indirect impacts on existing drainage patterns and water fluctuation are anticipated to be temporary, minor, and adverse.

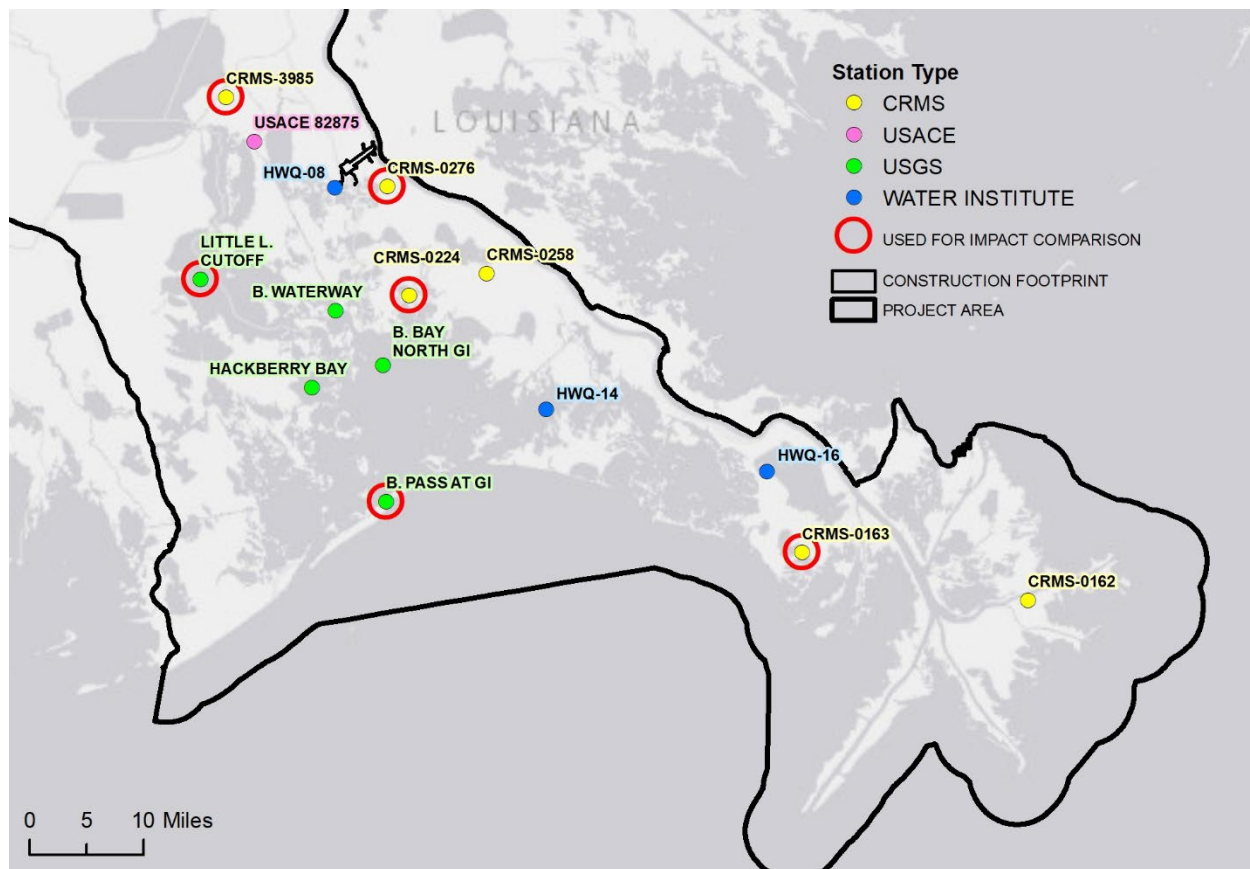
Operational impacts on water levels in the Barataria Basin under the Applicant's Preferred Alternative are projected to be permanent, major to minor (depending on the location in the basin), and adverse. These impacts, seen as higher water levels (increase of 1 foot or less depending on location), are expected to primarily occur when the diversion is flowing above base flow. The proposed 5,000 cfs base flow is projected to continue to impact water levels near the proposed diversion structure outlet when head differential allows. Impacts on water levels in the basin are projected to decrease with major (measurable, readily apparent and warranting heightened attention and examination) impacts near the outflow area and increasing distance from the diversion structure, with negligible (inconsequential and barely measurable) impacts on water levels occurring near the western and southern ends of the Project area. Water levels under the Applicant's Preferred Alternative are projected to increase in some areas outside of levee protection—mainly within approximately 10 miles north and 20 miles south (along the NOV and NOV-NFL levees).

Salinity gradients (40 CFR §230.25). – Salinity gradients form where salt water from the ocean meets and mixes with fresh water from land.

Dredging and filling activities associated with construction of all project components is expected to have a negligible impact on salinities. To fulfill the proposed Project's purpose and need, project operation is expected to cause permanent, minor (detectable over a small area) to moderate (observable over a large area, readily detectable in local areas) reductions in salinity in the Barataria Basin and permanent, minor increases in salinity in the birdfoot delta during Project operations.

Table 4.5-2 in the Final EIS shows a comparison of the projected minimum and maximum average monthly salinity values between the No Action Alternative and the Applicant's Preferred Alternative over the 50-year analysis period. The table indicates that the Applicant's Preferred Alternative could reduce maximum salinity values at the station nearest the diversion (CRMS 0276) (from 8 ppt to 4 ppt), at the central station (CRMS 0224) (from 17 ppt to 12 ppt), and at the western station (Little L. Cutoff) (from 10 ppt to 5 ppt), respectively. The Applicant's Preferred Alternative is projected to increase maximum salinities by 5 ppt at the birdfoot delta station (CRMS 0163) as compared to the No Action Alternative. A trend of progressively lower minimum salinities as compared to the No Action Alternative from years 2030 to 2050 is apparent at all five stations in the basin. By years 2050 to 2070, the model projects that the differences in minimum salinities between the No Action Alternative and the Applicant's Preferred Alternative at the stations that are less influenced by non-diversion freshwater inputs will be slightly reduced (station nearest the diversion [CRMS 0276], central

station [CRMS 0224], and southwestern station, at Barataria Pass near Grande Isle [B. Pass at GI]).



Six Station Locations in the Barataria Basin and Birdfoot Delta. (circled in red)

Minimum and Maximum Average Monthly Salinities (2020-2070) (ppt)						
Year	Northern/ Mid-Basin (CRMS 3985)	Station Nearest Diversion (CRMS 0276)	Central Station (CRMS 0224)	Western Station (Little L. Cutoff)	Southwestern Station at Barataria Pass, near Grand Isle (B. Pass at GI)	Birdfoot Delta (CRMS 0163)
No Action Alternative						
2020	0 to 1	1 to 6	2 to 10	0 to 2	11 to 23	Data excluded
2030	0 to 1	1 to 5	2 to 10	0 to 2	8 to 22	0 to 2
2040	0 to 1	2 to 5	3 to 11	1 to 3	9 to 24	0 to 2
2050	0 to 2	1 to 7	2 to 13	0 to 3	7 to 25	0 to 2
2060	0 to 1	1 to 8	1 to 15	1 to 6	5 to 27	0 to 2
2070	1 to 2	1 to 8	1 to 17	2 to 10	6 to 28	0 to 3
75,000 cfs (Applicant's Preferred Alternative)						
2020	0	0	0 to 7	0 to 1	3 to 22	Data excluded
2030	0	0 to 1	0 to 8	0 to 1	2 to 21	0 to 1
2040	0	0 to 1	0 to 5	0 to 1	3 to 23	0 to 1
2050	0 to 1	0 to 1	0 to 10	0 to 2	3 to 24	0 to 2
2060	0 to 1	0 to 2	0 to 10	0 to 3	2 to 25	0 to 2
2070	0 to 1	0 to 4	0 to 12	0 to 5	3 to 27	0 to 8

Major (readily apparent and widespread) decreases in salinity are projected to occur in the immediate outfall area as indicated at the station nearest the diversion (CRMS 0276) and central station (CRMS 0224). At the station nearest the diversion (CRMS 0276), salinity is not projected to return to No Action Alternative salinity levels during the 50-year analysis period. At the central station (CRMS 0224), in the fall months, salinity is projected to return to within 1 ppt of the No Action Alternative concentrations within approximately 2 months of diversion flows being reduced to the 5,000 cfs base flow between 2020 and 2060 for a period of 1 month, and then fall below the projected No Action Alternative concentrations again. Between 2060 and 2070, salinity is projected to return to No Action Alternative concentrations during the 1 month when diversion flows would be reduced to the 5,000 cfs base flow in November and remain similar to No Action Alternative concentrations into December.

Project-induced reductions in salinity are expected to be more moderate (observable over a large area, readily detectable in local areas) at the northern/mid-basin station (CRMS 3985) and western station (Little L. Cutoff) (see Figures 4.5-5 and 4.5-6 in the Final EIS), with decreases in average salinities ranging from 0 to 5 ppt as compared to the No Action Alternative. Salinity is projected to be low at the northern/mid-basin station (CRMS 3985) because it could be influenced by freshwater inputs not associated with the proposed Project. Salinity is projected to remain within 1 ppt of the No Action Alternative until 2050 at this northern station. Between 2050 and 2060,

projected salinity is projected to return to within 1 ppt of the No Action Alternative concentration within 2 months of diversion flows being reduced to the 5,000 cfs base flow. Between 2060 and 2070, projected salinity concentrations could return to within 1 ppt of the No Action Alternative concentration by September while the diversion is flowing greater than the 5,000 cfs base flow and remain similar to No Action Alternative concentrations through November when diversion flows are expected to be reduced to the 5,000 cfs base flow. At the western station (Little L. Cutoff), salinity concentrations are projected to be within 1 ppt of the No Action Alternative level within 1 month of when diversion flows are anticipated to be reduced to the 5,000 cfs base flow between 2020 and 2060. Between 2060 and 2070, salinities are projected to return to No Action Alternative concentrations prior to the diversion being operated at base flow (in October) and remain similar to No Action Alternative concentrations into December.

At the southwestern station, at Barataria Pass near Grande Isle, impacts are projected to be minor (barely detectable and localized) during the winter months and moderate (2 to 8 ppt lower) during the spring months when the diversion gates are expected to flow greater than the 5,000 cfs base flow at variable flow rates. Salinities are projected to be within 1 ppt of the No Action Alternative at the southwestern station, at Barataria Pass near Grande Isle (B. Pass at GI) within approximately 2 months of when diversion flows are projected to be reduced to the 5,000 cfs base flow between 2020 and 2060. Between 2060 and 2070, salinities are projected to return to No Action Alternative levels prior to when diversion flows would be reduced to the 5,000 cfs base flow and remain similar to No Action Alternative levels into December. At the birdfoot delta station (CRMS 0163), the model projects negligible impacts between the Applicant's Preferred Alternative and the No Action Alternative until modeled decade 2070, when projected salinity increases in the birdfoot delta could increase from 0 to 5 ppt above No Action Alternative salinities. This is likely due to projected sea-level rise increases and subsidence rates, which are incorporated into the Delft3D Basinwide Model setup (see Section 4.1 and Appendix E for more information about the Delft3D Basinwide Model), as well as projected water elevation and bottom elevation changes due to the proposed Project (see Section 3.4 Surface Water and Coastal Processes).

The Barataria Basin is an estuary in decline. Trends describing a declining estuarine environment with habitat loss are explained in Chapter 3 of the Final EIS. Human interaction has restricted the natural processes of the Mississippi River connecting with the Barataria Basin, resulting in wetland losses from a variety of natural and human causes. Shore line erosion and interior ponding has allowed for a greater volume of water entering and existing the Barataria Basin. Changes in the tidal prism affect the Barataria Basin outer barrier island chain. Tidal passes between barrier islands widen

and deepen to allow for increased flows. In addition, new tidal passes are created via breaches of the existing barrier islands. This process results in saline waters from the Gulf of Mexico pushing further into the Barataria Basin.

The no action alternative is analyzed in Chapter 4 of the Final EIS. Continued trends of an increasingly saline environment and wetland loss has a range of adverse impacts to terrestrial wildlife (negligible to major), spotted sea trout (minor), Atlantic croaker (minor), largemouth bass (major). While more gradual of a decline as compared to the Applicant's Preferred Alternative, adverse impacts to the commercial fishing industry are anticipated. Declines in shrimp, crab, and oyster industry are projected due to increasing salinity, reduced salinity, and predation. The trend of a declining environment is expected to be present with the Applicant's Preferred Alternative; however, salt water intrusion is expected to be curtailed by project operation. The benefits associated with the proposed project delivering fresh water, sediments, and nutrients into the Barataria Basin under the Applicant's Preferred Alternative is to build, sustain, and maintain wetlands in an area that has been largely isolated from natural flooding inputs from the Mississippi River. Sediment accretion is expected to raise the land elevation in submerged areas to allow wetland vegetation to establish and grow; nutrients transported as part of the proposed Project could benefit vegetation growth in early-successional marsh or contribute to increased primary production (above and below-ground plant biomass); and changes in average annual salinity is expected to allow for freshwater and intermediate wetland species to establish, survive, and potentially expand in areas that have been adversely impacted by saltwater intrusion.

The Project is expected to have impacts on habitat that would translate to varying beneficial or adverse impacts on aquatic fauna; however, the impacts are predominantly related to increases in marsh habitat in the Barataria Basin and moderate decreases in salinity from Project operation. Minor to major adverse impacts may occur on the recruitment of estuarine species, where high diversion flows overlap with peak larval transport periods for individual species. The impacts from the Project to white and brown shrimp and oysters are projected to be major and adverse, as will be the social and economic consequences to commercial fisheries. However, although a decrease in brown shrimp abundance is anticipated in the basin, the viability of the population is not anticipated to be affected. Conversely, MBSD project would beneficially impact white shrimp (negligible to minor), blue crab (negligible to minor), bay anchovy (minor), Gulf menhaden (moderate), red drum (moderate), largemouth bass (moderate), and other freshwater fishes (moderate). Changes in salinity are also expected to result in decreases in survival rates of the Barataria Bay Estuarine System (BBES) dolphin

stock. There is a projected substantial reduction in population amounting to a 97 percent reduction in the BBES dolphin population over the 50-year period of analysis.

The environmental characteristics and values associated with the Barataria Basin serving as an estuary will change when comparing the Applicant's Preferred Alternative to the No Action Alternative. There are a range of negligible to major adverse and beneficial impacts to resources analyzed in Chapter 4 of the Final EIS. Reconnecting the Mississippi River to the Barataria Basin by way of the Project is expected to shift the salinity gradient south, closer to the tidal passes and Barataria Basin barrier island chain. The Project is expected to allow for the Barataria Basin to function as an estuary and serve as a transition zone between the riverine and marine environments with a more diverse range of flora and fauna.

6.4 Potential impacts on the living communities or human uses (Subparts D, E and F)

6.4.1 Potential impacts on the biological characteristics of the aquatic ecosystem (Subpart D 40 CFR 230.30)

The following has been considered in evaluating the potential impacts on biological characteristics (see Table 3):

Table 3 – Potential Impacts on Biological Characteristics						
Biological Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Moderate /Major Effect
Threatened and endangered species						moderate
Fish, crustaceans, mollusk, and other aquatic organisms						Varies by species
Other wildlife						Varies by species

Discussion:

Potential impacts on the biological characteristics of the aquatic ecosystem are described in detail in Chapter 4 of the Final EIS. Below is a general overview.

6.4.1.1 Threatened and endangered species

As stated in Section 4.12 of the Final EIS, threatened and endangered species include those that are terrestrial (occur in uplands or wetlands), aquatic (occur in marine, estuarine, or fresh waters), or both. Impacts from construction on terrestrial threatened and endangered species are expected to occur within, and in close proximity to, the footprint of each individual Project component developed during construction (for example, the diversion complex, laydown yards, access roads, dredged material disposal areas). Impacts on aquatic threatened and endangered species during construction are expected to occur within, and in close proximity to, estuarine or fresh water in construction, access, and marsh creation areas. Indirect impacts on all species could occur in a larger area that would be dependent on the specific pathway for impacts. For example, noise associated with construction would extend beyond the footprint of the Project components, to the distance at which noise attenuates back to ambient conditions.

During operations, direct impacts on terrestrial and aquatic species is anticipated to occur from the presence of the diversion and auxiliary structures in species habitats, as well as from the direct movement of water, nutrients, and sediment from the Mississippi River to the Barataria Basin. Direct impacts on aquatic species could also occur if organisms are directly displaced by the fresh water and sediment entering the Barataria Basin. In general, direct impacts are considered to be those that have immediate impacts on a species, causing them to move away from an area (for example, salinity changes or loss of trees) or causing a physiological effect (for example, reduced fitness/reproductive success). Indirect impacts could occur on species within, and outside of, the outfall area as the habitat and food web dynamics change over time and fauna ingress or egress from the altered habitat.

CEMVN provided a BA to NMFS on February 24, 2021, and to the US Fish and Wildlife Service (USFWS) on July 2, 2021, along with requests to initiate formal consultation and develop Biological Opinions for the species that USACE determined may be affected by the proposed Project. The BA for the proposed Project is included as Appendix O1 of the Final EIS.

With respect to species under NMFS jurisdiction, the BA determined that the proposed Project is likely to adversely affect green, Kemp's ridley, and loggerhead sea turtles with

minor to moderate adverse effects; may affect but is not likely to adversely affect the leatherback and hawksbill sea turtles; and would have no effect on designated critical habitat for the loggerhead sea turtle. The BA also acknowledged a no effect determination for four whales, the oceanic whitetip shark, and the giant manta ray. With respect to species under USFWS jurisdiction, the BA determined that the proposed Project is likely to adversely affect pallid sturgeon (with minor to moderate adverse effects) and may affect but is not likely to adversely affect the eastern black rail, piping plover, red knot, and West Indian manatee, along with two sea turtles on nesting beaches (Kemp's ridley and loggerhead). The BA also determined that there would be no effect on designated critical habitat for the piping plover and proposed critical habitat for the red knot (added by correspondence dated October 28, 2021), and no effect on three species of sea turtles on nesting beaches (green, hawksbill, and leatherback).

On December 13, 2021, the USFWS and NMFS individually issued Biological Opinions, which concur with the not likely to adversely affect determinations, determine that the Project would not jeopardize the continued existence of pallid sturgeon (USFWS) and green, Kemp's ridley, and loggerhead sea turtles (NMFS) and concur that the Project would not result in adverse modification to critical habitat. The NMFS Biological Opinion also determined that the giant manta ray is not likely to be adversely affected by the Project, which the USACE originally indicated would not be affected by the Project. The Biological Opinions include Incidental Take Statements (setting forth allowable incidental take for adversely affected species), reasonable and prudent measures (to minimize impacts of takings on specific species) and Conservation Recommendations (voluntary conservation measures to assist species' recovery) as applicable. The Biological Opinions are presented in Appendices O3 (USFWS) and O4 (NMFS) of the Final EIS.

6.4.1.2 Fish, crustaceans, mollusk, and other aquatic organisms

Placement of dredged material during construction may disrupt or displace wildlife in the immediate vicinity. The anticipated impact associated with land clearing is expected to be slight and would not have a long-term negative impact on any wildlife that may be present in the construction area. Any such impacts are projected to be localized and temporary, and most mobile forms of aquatic organisms could migrate to areas with more favorable conditions. Immobile forms of bottom-dwelling organisms would be smothered by filling activities. Disturbance and noise from the construction equipment could temporarily disperse wildlife species from the construction area. However, once the work is completed, wildlife species are anticipated to return to the area. The temporary disturbance is not projected to adversely impact the general populations of wildlife species within the region.

The Barataria Basin serves as an estuary for a diverse range of species throughout their lifecycles. For the project to meet its basic project purpose, the changes caused by Project operations on the physical and chemical conditions in the Barataria Basin described in Section 6.3 of this document are anticipated to have impacts on fish and wildlife depending on their tolerance to the sediment, freshwater, and nutrients entering the Barataria Basin from the Mississippi River during project operations. Freshwater tolerant finfish, crustaceans and other aquatic organisms utilizing the Barataria Basin should benefit from the operation of the project. Species (or species life stages) less tolerant of fresh water, such as southern flounder, spotted sea trout, brown shrimp, and oysters, which would be adversely affected.

As described in Section 4.10 of the Final EIS, the changes in physical and chemical conditions in the Barataria Basin offer a number of beneficial and adverse trade-offs that are expected to affect all species in the Barataria Basin to varying extents, depending on species-specific tolerances.

- Minor to major, permanent, direct, adverse impacts on fish, shrimp, and crab from changes in larval transport and recruitment patterns in the outfall area.
- Minor to moderate, permanent, indirect, adverse impacts to oysters from sedimentation over hard substrates (oyster reef).
- Negligible to moderate, permanent, direct and indirect, adverse impacts on fish,, shrimp, crab, and oysters from turbidity and sedimentation.
- Temporary to short-term, indirect, adverse impacts from nutrient loading capable of resulting in harmful algal bloom (HABs) (minor to major adverse effects) or low DO (negligible to minor adverse effects), but minor to moderate, permanent, indirect, benefits from increased food web production.
- Moderate, permanent, adverse, direct impacts on specific species that cannot tolerate areas of lower salinity (for example, brief squid and adult spot), but major, permanent, direct, benefits on those that can (for example, blue catfish and mullet).
- Minor to moderate, permanent, direct or indirect, adverse impacts on species (for example, spotted seatrout, Atlantic croaker) from decreased temperatures at discrete locations.
- Minor to major, direct and indirect, permanent benefits on fauna using freshwater marsh (such as, sunfish and largemouth) estuarine species (such as white

shrimp and red drum) would benefit from indirect increases in the primary productivity from marsh presence. Direct, minor to moderate, permanent, adverse impacts on fauna that typically use more saline marsh (such as brown shrimp).

- Permanent, moderate, beneficial impacts on energy flow to lower trophic-level consumers (such as shrimp, crab, bay anchovy, and Gulf menhaden) and permanent, negligible to minor, beneficial impacts on higher trophic-level predators (such as spotted seatrout and alligator gar due to increased prey availability).
- Negligible to minor, permanent, direct, and adverse impacts on the food web in the outfall area from turbidity and high flows, but negligible to moderate, permanent, beneficial impacts on increased primary production outside of the outfall area.

6.4.1.3 Other wildlife

Impacts on terrestrial species associated with construction of the Project is anticipated to generally include displacement, stress, and direct mortality of some individuals. The degree of impact would depend upon the type, relative quantity and quality of habitat impacted, the timing of clearing and construction activities, and the rate at which the area returns from disturbance to preconstruction conditions. Negligible to moderate, temporary to permanent, direct and indirect, adverse impacts on wildlife from habitat clearing and construction disturbance is expected.

During operations, the MBSD Project would have moderate, beneficial, impacts from the protection of upland vegetation as wetlands are created in the outfall. The MBSD Project is also anticipated to have minor to major, permanent beneficial impacts on wetland-associated wildlife in the Barataria Basin where wetlands are sustained and created by the diversion of sediment and freshwater, and moderate, permanent, adverse impacts on wetlands in the birdfoot delta where wetlands are lost due to reduced sediment and freshwater inputs. Minor to major, adverse and beneficial impacts on wildlife would also occur as the salinity regime in the Barataria Basin changes, both over the short-term (from initial operations) and permanently (during the change in salinity in the basin over time). For the selected, modeled species, there would be minor to moderate, permanent, beneficial impacts on green-winged teal, mottled duck, and alligators from increased habitat suitability near the immediate outfall area; negligible impacts on the gadwall due to overall low habitat suitability in the Project area.

Operation of the Project is expected to have major adverse effects on bottlenose dolphins in the Barataria Basin. Impacts on the BBES stock survival would be immediate and permanent, major, and adverse due to prolonged exposure to low salinities throughout the BBES stock area. The project would also cause adverse impacts on health and reproduction from multiple stressors including low salinity exposure, wetland loss in the BBES stock area, lower temperatures, an increased risk of harmful algal blooms (HABs), and the residual effects from the DWH oil spill. These impacts would result in decreased survival rates of BBES dolphins, with studies projecting the functional extinction of dolphins in three of four subsets of the BBES stock over time, with only a remnant population of approximately 85 BBES dolphins present near the barrier islands by the end of the 50-year assessment period (compared to an estimate of 3,216 dolphins within the Barataria Basin under the no action alternative).

6.4.2 Potential impacts on special aquatic sites (Subpart E 40 CFR 230.40)

The following has been considered in evaluating the potential impacts on special aquatic sites (see Table 4):

Table 4 – Potential Impacts on Special Aquatic Sites						
Special Aquatic Sites	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Moderate/ Major Effect
Sanctuaries and refuges					X	Moderate for Delta NWR
Wetlands						Major
Mud flats					X	
Vegetated shallows					X	
Coral reefs	X					
Riffle pool complexes	X					

Discussion:

Potential impacts on special aquatic sites are described in detail in Chapter 4 of the Final EIS. Below is a general overview.

6.4.2.1 Sanctuaries and refuges

No public lands are located within 0.5-mile of the proposed diversion complex footprint. Therefore, there would be no direct construction impacts on public lands. Operations of the Project in the Barataria Basin is anticipated to have major, permanent, beneficial impacts on wetlands where wetlands are sustained and created by the diversion of sediment and fresh water in the following public wildlife areas:

- Jean Lafitte National Historical Park and Preserve – Barataria Preserve: loss of 68 acres in the first 20 years of operations; negligible impacts by year 2070;
- Salvador Wildlife Management Area (WMA): negligible impacts in first 30 years of operations; loss of 35 acres by 2070;
- Timkin WMA: negligible impacts throughout the duration of operations;
- Bayou des Allemands Natural and Scenic River: negligible impacts throughout the duration of operations;
- Elmer's Island Wildlife Refuge: loss of 14 acres during the first 20 years of operations; negligible impacts by 2070;
- Grand Isle State Park: negligible impacts throughout the duration of operations;
- E.A. Maier Family Donation: loss of 25 acres by 2050; negligible impacts thereafter;
- Delta National Wildlife Refuge: major loss of wetlands during the first 20 years of operations (493 and 396 acres by 2030 and 2040, respectively), increase of 120 acres in 2050, loss of 926 acres by 2070);
- Pass A Loutre WMA: loss of 133 acres by 2030; increase of 75, 69, and 16 acres in 2040, 2050, and 2060, respectively; loss of 37 acres in 2070.

By the end of the 50-year analysis period, any Project-induced wetland benefits on public lands in the Barataria Basin is projected to be overcome by sea-level rise and disappear. As compared to the No Action Alternative, by 2070, the Applicant's Preferred Alternative would result in 0 acres of wetland gains or losses in the Jean Lafitte National Historical Park and Preserve-Barataria Preserve, Timkin Wildlife Management Area (WMA), Bayou des Allemands Natural and Scenic River, Elmer's Island Wildlife Refuge, E.A. Maier Family Donation, and Grand Isle State Park; and could result in 35 acres of wetland loss in the Salvador WMA. The proposed Project is expected to cause long-term, minor to moderate, adverse direct and indirect impacts on the public's access to public wildlife areas due to increased tidal flooding on public lands in the Project area.

The proposed Project is anticipated to have minor to moderate, adverse, permanent impacts on the two state and federal public lands located in the birdfoot delta due to projected decreases in wetlands and the critical ecosystem services they provide, including habitat and forage for wildlife and aquatic species. As compared to the No Action Alternative, the Applicant's Preferred Alternative is projected to result in a net loss of 926 acres in the Delta National Wildlife Refuge (NWR) and 37 acres in the Pass A Loutre WMA after 50 years of operations. This decline is due to Project-induced reductions in sediment that is projected to be delivered to the birdfoot delta via the Mississippi River and changes in water flow in the river due to Project operations over the 50-year analysis period.

6.4.2.2 Wetlands

Adverse direct and indirect impacts on wetlands during Project construction would range from negligible to moderate, with short-term, negligible impacts occurring where Project construction impacts are temporary and wetlands are anticipated to return to preconstruction conditions; and permanent, minor to moderate, adverse impacts occurring in limited areas of the construction footprint where wetlands are proposed to be dredged or filled and converted to developed land, resulting in a permanent loss of wetland function or area. Beneficial impacts on wetlands are projected to be permanent and moderate due to the beneficial use of dredged material for tidal wetland creation and enhancement in the marsh creation areas. Forested wetlands in the construction footprint are dominated by invasive Chinese tallow and native species commonly found in disturbed, early successional forested wetlands, rather than high-quality bottomland hardwood wetlands. Scrub/shrub were primarily observed along dredged areas with a higher elevation than the adjacent emergent wetlands and open water. Emergent wetlands in the Project footprint are dominated by smartweed (*Polygonum* sp.) and cattail (*Typha* sp.). These wetlands are within the permanent footprint of the Project facilities and would not be restored following construction. Therefore, they would no longer provide ecosystem functions such as wildlife habitat or water quality improvement, resulting in moderate, permanent, adverse impacts on wetlands in the Project construction footprint. A total of 204.2 acres of wetlands are proposed to be dredged or filled within the Project construction footprint. In addition, 307.2 acres of WOTUS (including other open water and vegetated shallows containing SAV) are proposed to be within the Project construction footprint.

The applicant would excavate tidal wetlands and dredge open water in the immediate outfall area portion of the proposed construction footprint to create the outfall transition feature to increase the efficiency of water and sediment delivery to the Barataria Basin. The applicant also proposes to dredge an access channel in open water for barge

deliveries of construction materials and equipment during construction. The access channel is proposed to be dredged in two sections to increase depths for the passage of shallow-draft vessels. The first section that would be dredged is a portion of Bayou Dupont where it crosses the southern end of The Pen. The second section that would be dredged is located in the immediate outfall area of the Project. Overall, approximately 173.9 acres of emergent wetlands, 27.1 acres of forested wetlands, and 3.2 acres of scrub/shrub wetlands would be directly impacted from project construction.

Wetlands and Waters of the U.S. within the Project Construction Footprint^a	
Type	Acreage^{b,c}
Wetlands	
Forested wetlands	27.1
Emergent wetlands	173.9
Scrub/shrub wetlands	3.2
Total, Wetlands	204.2
Other Waters of the U.S.	
Vegetated shallows (SAV)	6.1
Other open waters (including Waters of the US)	301.2
Total, Other Waters of the U.S.	307.2
Grand Total	511.4
^a The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends. These data are based on field surveys and desktop delineations in consultation with CEMVN; therefore, wetland acreages differ from those presented in Section 4.18 of the Final EIS (Land Use and Land Cover), which are based on land use data. ^b The construction and operational footprint of the diversion complex, along with the river trestle dock, haul road, and access channel would affect wetlands. Other Project components, including disposal areas and deepening Bayou Dupont for access where it crosses The Pen would affect other Waters of the U.S. ^c Impacts on 69.1 acres of emergent wetlands, 23.0 acres of scrub/shrub wetlands, and 375 acres of other waters in the beneficial use areas would also occur and would be beneficial because suitable dredged and excavated material would result in localized elevation increases that are expected to result in the establishment of wetland vegetation.	

The WVA methodology was used to analyze project beneficial and adverse impacts. By the end of the 50-year period of analysis, there would be a net loss of -26.1 acres (-14.9 AAHUs) of forested wetlands, -163.4 net acres (-66.9 AAHUs) of wet pasture, and -3.6 net acres (-20.3 AAHUs) of marsh and scrub/shrub habitats. The creation and enhancement of tidal marsh in CPRA's proposed marsh creation areas is expected to result in a net benefit of 401.9 net acres (158.4 AAHUs). In addition, operation of the Project as proposed is expected to provide long term benefits, a net increase of 13,151 tidal marsh acres (3,848 AAHUs), by the end of the period of analysis.

Wetland Type	Impacts	
	Net Acres	AAHUs
Forested wetlands	-26.1	-14.9
Emergent Wetlands (Wet Pasture)	-163.4	-66.9
Emergent Wetlands (Marsh/scrub/shrub)	-3.6	-20.3
Total Project Impacts	-193.1	-102.0
Project Benefits	13,151	3,848
Difference (Benefits - Impacts)	13,344	3,746
Beneficial Use Site		
	Net Acres	AAHUs
Outfall North	146.8	59.3
Outfall South 1	152.2	60.6
Outfall South 2	102.9	38.5
Total Direct Benefits	401.9	158.4

6.4.2.3 Mud flats

No mud flats are present within the construction footprint. During operations of the proposed Project, newly formed land above water elevation is expected to benefit shorebirds prior to marsh establishment. Mud flats could be particularly beneficial to female mottled ducks and their broods, which require wetlands with short emergent vegetation and mudflats that the ducklings can rest on. Conversely, the loss of mudflats/wetlands in the birdfoot delta could impact species that utilize this habitat.

6.4.2.4 Vegetated shallows/Submerged Aquatic Vegetation (SAV)

Approximately 6.1 acres of vegetated shallows/SAV is expected to be directly impacted by project construction. Minor, temporary to permanent, direct and indirect, adverse impacts on SAV are expected from structure placement, dredging, and turbidity/sedimentation.

During operation of the Project, benefits associated with raised bed elevation and freshwater influx from the Mississippi River is expected to result in an increase in SAV habitat. Increased SAV availability is expected to offer benefits to aquatic species at various times throughout their lifecycle.

6.4.3 Potential impacts on human use characteristics (Subpart F 40 CFR 230.50)

The following has been considered in evaluating the potential impacts on human use characteristics (see Table 5):

Table 5 – Potential Impacts on Human Use Characteristics						
Human Use Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Moderate/ Major Effect
Municipal and private water supplies			X			
Recreational and commercial fisheries						Varies by species
Water-related recreation					Vaires	
Aesthetics					X	
Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves					X	

Discussion:

6.4.3.1 Municipal and private water supplies

Surface water sources account for the majority of water withdrawals in the Project area, and groundwater withdrawal is minimal by comparison. Most groundwater withdrawn in the Project area is associated with industry along the Mississippi River corridor. Potential impacts on groundwater quality are considered negligible with the only identified threat being an inadvertent spill of hazardous materials that leaches into shallow groundwater aquifers during construction of the proposed project. Increased

turbidity and suspended sediments from in-water construction activities is not expected to impact drinking water supplies.

Along the Mississippi River there are intakes for 13 municipal water supply facilities that service the New Orleans metropolitan area. As described in Section 3.4.2.4 of the Final EIS, because the salt water in the Gulf of Mexico is denser than the fresh water flowing in the Mississippi River, salt water can migrate upstream along the bottom of the river underneath less dense fresh water. This poses risks for municipal water intakes along the Lower Mississippi River during existing conditions. As a mitigation measure for deepening the river channel to 45 feet, during extreme low water conditions, USACE constructs a temporary sand sill (called a saltwater sill) at RM 65 AHP to block the saltwater wedge from migrating upriver. Since deepening the channel to 45 feet, the sand sill has been constructed four times (1988, 1999, 2012, and 2022) in order to mitigate for the increased duration and extent of saltwater intrusion above RM 64 AHP.

The proposed project is not expected to be in operation when conditions in the Mississippi River warrant saltwater sill placement; however, salt wedge migration to RM 60.7 could impact base flow operations.

6.4.3.2 Recreational and commercial fisheries

Under the Applicant's Preferred Alternative, there would likely be temporary, minor, adverse direct impacts on recreational fishing, hunting, wildlife watching, and recreational boating activities near the construction area due to construction-related traffic and noise impacts. Due to the mobilization of crews and equipment, construction activities under the Applicant's Preferred Alternative may cause traffic congestion during the 5-year construction period, which may contribute to delays in accessing recreation sites, particularly in southern Plaquemines Parish. Construction activities are not expected to result in road closures; however, southbound roadway capacity on LA 23 could be reduced at times. Impacts may also occur on LA 23 and local roads south of New Orleans outside of the defined Project construction footprint due to increases in roadway and railroad traffic for construction deliveries and worker commutes. LA 23 is the only road to and from recreation sites south of the diversion structure and Project-induced traffic congestion on LA 23 is projected to be moderate and adverse. This could cause temporary, minor, adverse impacts on recreation users traveling this stretch of LA 23 to access recreation sites south of the proposed Project construction site. Use of open water within the Mississippi River and the Barataria Basin associated with construction of the diversion complex and auxiliary features could include minor increases in water-based traffic. Construction equipment and materials is expected to be barged in from vendors north and south of the proposed Project site, causing minor

increases in marine traffic in the Lower Mississippi River, Harvey Canal, Gulf Intracoastal Waterway (GIWW), Barataria Bay Waterway, and Bayou Dupont, causing minor reductions in access for recreational users when Project vessels are in transit through these waterbodies. These minor, adverse impacts would be temporary, occurring over the 5-year construction period, and intermittent, based on the expected number and frequency of construction vessels. Additionally, temporary, minor, adverse impacts from construction noise and dust could occur on recreators transiting LA 23, the Mississippi River, and the Barataria Basin near the Project construction site during construction.

Operations under the Applicant's Preferred Alternative is projected to have direct and indirect impacts on salinity conditions, larval transport, habitat availability, water flow, availability of prey for recreationally important fishery species, and other environmental conditions in the basin relative to the No Action Alternative. These impacts could affect the key fish species analyzed, some of which are targeted by recreational anglers in the basin including blue crab, red drum, spotted seatrout, Atlantic croaker, southern flounder, and largemouth bass. Relative to the No Action Alternative, the Applicant's Preferred Alternative could cause minor, permanent, adverse impacts on recreational fishing for spotted seatrout and moderate, permanent, beneficial impacts on recreational fishing for red drum, as described further below. Spotted seatrout and red drum are the most targeted species by recreational anglers in the basin (targeted in 87 percent of angler trips between 2014 and 2018). Boat-based recreational fishing could also be impacted by the same site accessibility impacts described above for recreational boating activities, representing long-term to permanent, minor to moderate, adverse impacts on accessibility to recreational access points.

While it is not possible to precisely predict future impacts in catch rates or abundance of species through 2070, there is sufficient information to characterize how populations of recreationally important species could respond to impacts in environmental conditions. Red drum and spotted seatrout are widely targeted by recreational anglers and very few anglers target other species. Impacts on other species are expected to have a negligible impact on recreational fishing, with the exception of freshwater species such as largemouth bass that currently exist in the Barataria Basin, or species such as catfish and carp that may be introduced into the basin through the diversion. While few anglers currently target such species in the basin, the percentage of anglers which target freshwater species as freshwater habitat and species abundance increases under the Applicant's Preferred Alternative.

Minor, permanent, adverse impacts on recreational fishing for spotted seatrout, the most targeted species by recreational anglers in the basin, are expected due to Project

operations' minor disruption of larval transport, juvenile growth, and adult spawning activities. Moderate, permanent, beneficial impacts on recreational fishing for red drum are expected due to the Project operations' beneficial impact on increased marsh and primary production. This could increase catch rates for red drum, possibly improving the recreational experience for these anglers or attracting new recreational fishing trips. Some recreational fishers may need to modify their traditional fishing locations to target specific species that may modify habitat use (either temporarily or permanently) based on changing salinities.

Construction of the Project would likely have temporary, minor, adverse impacts on commercial fishing activities. Construction activities over the 5-year construction period under the Applicant's Preferred Alternative are not expected to result in road closures; however, southbound roadway capacity on LA 23, the main thoroughfare along the west bank of the Mississippi River, could be reduced at times, which could impact access for those engaged in commercial fishing activities. There may be roadway traffic delays and congestion from the mobilization of crews and equipment, which may contribute to minor, temporary delays in accessing ports used for commercial fishing south of the proposed diversion. These impacts are not anticipated to measurably affect commercial fishers on other roadways (for example, LA 1 in Lafourche Parish).

Impacts on the use of main navigation channels within the Mississippi River and the Barataria Basin associated with construction of the diversion complex and auxiliary structures could include minor increases in water-based traffic. Construction equipment and materials is anticipated to be barged in from vendors north and south of the proposed Project site, causing minor increases in marine traffic in the Lower Mississippi River, Harvey Canal, GIWW, Barataria Bay Waterway, and Bayou Dupont. This could cause minor reductions in access for commercial fishing vessels when Project vessels are in transit through these waterbodies. These minor, adverse impacts are projected to be temporary, occurring over the 5-year construction period, and intermittent, based on the expected number and frequency of construction vessels.

The Applicant's Preferred Alternative is expected to have both beneficial and adverse direct and indirect impacts on fish abundance depending on species in the Project area, which is projected to have beneficial impacts on the commercial catch of some targeted species, and adverse impacts on the commercial catch of other targeted species. (See Table 4.14-1 in the Final EIS and below). As summarized in Section 4.14.5 of the Final EIS, as compared to the No Action Alternative, moderate to major adverse impacts on shrimp and oyster fisheries in the Project area are anticipated under the Applicant's Preferred Alternative.

Expected Trends in Project Area Fish Abundance Under the No Action Alternative	
Aquatic Species	Trend Over 50 Modeled Years
Brown Shrimp	Gradual but major decrease in abundance over time with largest decrease after 2050
White Shrimp	Gradual but major decrease in abundance over time with largest decrease after 2050
Blue Crab	Gradual decrease in abundance over time with largest decrease after 2050
Bay Anchovy	Negligible or no change over time
Gulf Menhaden	Negligible or no change over time
Spotted Seatrout	Slight decrease in abundance over time
Atlantic Croaker	Slight decrease in abundance over time
Southern Flounder	Negligible or no change over time
Largemouth Bass	Gradual but major decrease in abundance over time
Eastern Oyster	Gradual but major decrease in abundance over time with largest decrease after 2050
Source: Section 4.10 Aquatic Resources of the Final EIS	

Over time, the Applicant's Preferred Alternative is expected to create and maintain marsh habitat, increase the coverage of SAV habitat, decrease salinity levels, supply nutrients that increase primary production, and increase shallow-water habitat compared to the No Action Alternative. Operation of the proposed project is projected to affect salinity conditions, larval and juvenile transport, habitat availability, and prey availability, and in turn, abundance of some commercially important species in the Project area.

There could also be impacts on commercial fishing related to changes in access that could result from the Project. Under the Applicant's Preferred Alternative, minor, permanent, adverse direct and indirect impacts on commercial fishing could occur as a result of increased tidal flooding of launch sites, sediment accretion in the Myrtle Grove area, or the expansion of thick mats of aquatic invasive plant species. This could impact commercial fishing by increasing travel distances to, or closure of, certain water access points. These accessibility impacts could be less adverse for smaller vessels, such as those used for recreational boating. Project-induced sedimentation affecting some Barataria Basin navigation channels and marine infrastructure is projected to result in permanent, moderate, adverse impacts on commercial fishing vessels using the affected channels and marinas if no mitigation efforts are taken to maintain channel depths. However, larger ports, including Port Sulphur, Venice, and Buras, is not expected to be affected by increased tidal flooding or by sediment accretion related to the Applicant's Preferred Alternative, resulting in an overall minor, permanent, adverse impact on commercial fishing.

Operation of the proposed Project could cause adverse impacts on commercial fishers originating from Jean Lafitte Launch or Jean Lafitte Harbor due to sedimentation in the Barataria Bay Waterway absent additional maintenance dredging. Similarly, in the Wilkinson Canal, sedimentation is expected to increase each decade during the 50-year analysis period. The Hermitage Bayou could also experience some sedimentation, but impacts are expected to be negligible.

Physical impacts on channels, habitat, and species abundance, the proposed Project could introduce additional uncertainty for commercial fishers about the future of the fisheries in which they operate. As noted in Louisiana's Seafood Future 2019 Findings Report, "Changes in and loss of habitats, uncertainty about future restoration efforts, and low commodity prices all affect how members of Louisiana's seafood industry face the future." For example, local shrimpers have characterized the uncertainty of impacts that diversions could have on shrimp populations as a factor contributing to their inability to plan for future fishing income

6.4.3.3 Water related recreation

Under the Applicant's Preferred Alternative, there would likely be temporary, minor, adverse direct impacts on recreational fishing, hunting, wildlife watching, and recreational boating activities near the construction area due to construction-related traffic and noise impacts. Due to the mobilization of crews and equipment, construction activities under the Applicant's Preferred Alternative may cause traffic congestion during the 5-year construction period, which may contribute to delays in accessing recreation sites, particularly in southern Plaquemines Parish. Use of open water within the Mississippi River and the Barataria Basin associated with construction of the diversion complex and auxiliary features could include minor increases in water-based traffic. Construction equipment and materials are expected to be barged in from vendors north and south of the proposed Project site, causing minor increases in marine traffic in the Lower Mississippi River, Harvey Canal, GIWW, Barataria Bay Waterway, and Bayou Dupont, causing minor reductions in access for recreational users when Project vessels are in transit through these waterbodies. These minor, adverse impacts are expected to be temporary, occurring over the 5-year construction period, and intermittent, based on the expected number and frequency of construction vessels.

Operational impacts on hunting under the Applicant's Preferred Alternative are based on anticipated direct and indirect impacts on birds and alligators. As compared to the No Action Alternative, the Applicant's Preferred Alternative is expected to result in an increase in wetlands, which provide habitat for both birds and alligators. This could increase the number of tag allotments for recreational alligator hunting in brackish and

freshwater wetlands. For waterfowl hunting, an increase in habitat may result in more birds and potentially greater species diversity, which could increase the number of days that individual hunters spent hunting throughout the basin.

An increase in wetland habitat that is expected to be created under the Applicant's Preferred Alternative relative to the No Action Alternative may result in increased opportunities for bird nesting and bird watching in some areas of the Barataria Basin. However, the Applicant's Preferred Alternative is projected to accelerate wetland loss in other areas such as in the birdfoot delta. A decrease in wetland habitat may result in decreased opportunities for bird nesting and bird watching, though recreational access and visitation in the birdfoot delta are more limited than in other parts of the basin. Overall, the benefit to birdwatching activity that may occur following Project implementation due to wetland creation is anticipated to be minor to moderate and permanent.

6.4.3.4 Aesthetics

Temporary, minor, adverse impacts on visual resources is projected to occur due to land- and water-based construction associated with installation of the built structures, relocation of portions of LA 23 and the NOGC Railroad, as well as alteration to portions of the MR&T and NOV-NFL Levees along with dredging and pile-driving activities. Permanent, moderate, adverse impacts on visual resources would result from operation of the proposed Project due to the presence of aboveground structures. Permanent, minor, beneficial, or adverse impacts, depending on the individual's perspective, in the existing viewshed within the Barataria Basin is projected to occur from wetland creation and restoration.

Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves – See Sanctuaries and refuges in Section 6.4.2.1 of this document.

6.5 Pre-testing evaluation (Subpart G, 40 CFR 230.60)

The following has been considered in evaluating the biological availability of possible contaminants in dredged or fill material (see Table 6):

Table 6 – Possible Contaminants in Dredged/Fill Material	
Physical substrate characteristics	X
Hydrography in relation to known or anticipated sources of contaminants	

Table 6 – Possible Contaminants in Dredged/Fill Material	
Results from previous testing of the material or similar material in the vicinity of the project	
Known, significant sources of persistent pesticides from land runoff or percolation	
Spill records for petroleum products or designated (Section 331 of the Clean Water Act hazardous substances	
Other public records or significant introduction of contaminants from industries, municipalities, or other sources	
Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	

Discussion:

A Hazardous, Toxic, and Radioactive Waste Assessment (HTRW) assessment was conducted for the Project area in January 2018 and updated in January 2020 to identify any potential recognized environmental conditions (RECs) located in or adjacent to the Project area.

The LDEQ has verified that the discharge of proposed fill material will not violate state water quality standards as provided in the Water Quality Certification (WQC 220329-01 dated June 7, 2022). On July 13, 2022, pursuant to section 401(a)(2) of the CWA EPA decided not to make a “may affect” finding concerning the Water Quality Certification issued by LDEQ.

The final authorization will be conditioned such that all material used during construction shall be pollutant free in accordance with the USEPA Guidelines for Discharge of Dredged or Fill Material. It has been determined that testing is not required because the discharge and extraction sites are adjacent, subject to the same sources of contaminants and have substantially similar materials. Although the discharge material may be a carrier of contaminants, it is not likely to degrade the disposal site.

6.6 Evaluation and testing (Subpart G, 40 CFR 230.61)

Discussion:

Through the review of federal, state, and local environmental databases, historical research, interviews, and site investigations, no REC sites were noted within the construction footprint. Debris was observed but none appeared to have spilled or caused contamination on the property and are considered to be de minimis conditions and not an indication of an adverse environmental condition at the site. Excavated material is expected to be redistributed as on-site fill and any contaminants within that material are present at the site currently. The earthen material to be redistributed as fill material is suitable for in-water disposal. Portions of the earthen material will be overtopped with aggregate and various top finish surfaces as appropriate. Construction of the proposed Project could result in temporary, minor to moderate, adverse impacts due to potential unexpected discovery of and exposure to existing contaminated sites and inadvertent releases of contaminants from construction activities. There are known abandoned oil and/or gas waste pits in the outfall area. Disturbance of potentially contaminated sediments associated with construction in the outfall area could result in the release of contaminants from these pits into water media in the vicinity of the Project area. Also, multiple underwater obstructions were encountered during the field survey that may be encountered during construction.

In addition, excavation, grading, and leveling activities could generate temporary, minor, adverse impacts resulting from the discovery of unregistered, historic underground storage tanks (USTs) or exposed contaminants associated with previous spills in the vicinity of the proposed construction areas. Discovery of USTs or potential contaminants could indicate impacts on soil, groundwater, and surface water within the proposed construction area. Excavation or earth moving activities at these locations could result in the migration of contaminated soil, surface water, and groundwater media off-site if not properly remediated or disposed. If contaminated media with concentrations exceeding regulatory limits is unearthed or discovered during construction, CPRA would be required to notify the LDEQ in accordance with 33 LAC and ensure the appropriate disposal of contaminants off-site.

Maintenance, refueling, and the use of heavy equipment, machinery, and vehicles during construction could create the potential for inadvertent releases of contaminants. Liquid materials required for construction include, but are not limited to, fuels, oil, lubricants, and coolants. These materials could be transported and stored on-site. During refueling and maintenance activities, these chemicals could reach the ground surface and impact localized soil, shallow groundwater, and surface water. Additionally, spills could occur during transport to the proposed active construction areas as well as during loading and unloading.

During operation of the proposed project, CPRA proposes to cease diversion operations immediately in the event of a spill or other hazardous discharge requiring notification or other reportable release of hazardous materials in the Mississippi River upstream of the diversion intake with high likelihood to be imminently entrained. For spills or other hazardous discharges in the Mississippi River downstream of the diversion, a decision would be made regarding any changes in standard operations by the operator in consultation with relevant agencies. Additionally, CPRA proposes to cease operations upon learning that an imminent threat of a spill exists (such as vessel groundings, collisions, loss of steerage). For spills occurring in the Barataria Basin, CPRA maintains they will assess the event and potential impacts in consultation with Louisiana Oil Spill Coordinator's Office (LOSCO) or LDEQ and other relevant response agencies to determine what, if any, changes in diversion operations are warranted. See Appendix F2 of the Final EIS for additional details regarding CPRA's Operations Plan.

To minimize impacts associated with construction, CPRA would implement its Spill Prevention, Control, and Countermeasure (SPCC) Plan, Waste Management Plan, Contaminant Prevention Plan, and Environmental Monitoring Plan which are included in an overall environmental protection plan (EPP) and would report any large-quantity spills to the appropriate regulatory agency in accordance with 49 CFR 161.15, 40 CFR 112, and 33 LAC, Part IX, Chapter 9. Further, transporters of these materials would develop and implement a spill contingency plan in accordance with LAC 33, Section 1315.

6.7 Actions to minimize adverse impacts (Subpart H)

The following actions, as appropriate, have been taken through application of 40 CFR 230.70-230.77 to ensure no more than minimal adverse effects of the proposed discharge (see Table 7):

Table 7 – Actions to Ensure Adverse Effects are Minimized	
Actions concerning the location of the discharge	X
Actions concerning the material to be discharged	X
Actions controlling the material after discharge	X
Actions affecting the method of dispersion	X
Actions affecting plant and animal populations	
Actions affecting human use	X

Discussion:

This project will utilize earthen fill material excavated on-site (40 CFR 230.70 (d)), appropriate erosion control methods (BMP's) during and after the construction phase to help prevent erosion and degradation of water quality or non-point source pollution on-site (40 CFR 230.72 (c) & 230.73 (c)), equipment appropriate and suitable for the work and direct loading for disposal to avoid spoil deposition (40 CFR 230.74 (e)), and preservation of surrounding waters (40 CFR 230.76 (b)).

Special conditions listed in Section 10 of this document will be included in the final authorization stating that the permittee shall also ensure that any contractors, foremen, and/or any workers associated with construction of the project are equally aware of the conditions and restrictions to reduce impacts due to human occupation.

6.8 Factual Determinations (Subpart B, 40 CFR 230.11)

The following determinations are made based on the applicable information above, including actions to minimize effects and consideration for contaminants (see Table 8):

Table 8 – Factual Determinations of Potential Impacts						
Site	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Moderate/ Major Effect
Physical substrate						Varies
Water circulation, fluctuation and salinity						Varies
Suspended particulates/turbidity						Moderate
Contaminants					X	
Aquatic ecosystem and organisms						Varies
Proposed disposal site						Major

Table 8 – Factual Determinations of Potential Impacts						
Site	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Moderate/ Major Effect
Cumulative effects on the aquatic ecosystem						Varies
Secondary effects on the aquatic ecosystem						Varies

Discussion:

After the structure construction, the Project could operate as summarized in Section 1.3 of this document, allowing sediment, freshwater, and nutrients, currently confined within the Mississippi River by the MRL, to enter the mid-Barataria Basin via the project features discussed in Section 5.2 of this document. Project operation is expected to have a range of trade-offs and impacts in the project area, both beneficial and negative.

Sections 6.3 to 6.7 of this document focus primarily on the direct effects to the discharge of dredged or fill material from project construction. Section 6.8 of this document will summarize the secondary impacts associated with project operation which is discussed in greater detail in Chapter 4 of the Final EIS. Section 6.8 will also summarize the cumulative impacts associated with construction and operation of the associated project which are discussed in Section 4.25¹² of the Final EIS.

Secondary impacts on physical substrate

Operations under the Applicant's Preferred Alternative are expected to deliver 5 to 7 million tons of sediment transported through the proposed diversion and deposited in the Barataria Basin annually. This is projected to result in substantial increases in the sediment bed elevations in the vicinity of the outfall area in the Barataria Basin – primarily within 5.0 to 10.0 miles from the mouth of the diversion channel. Changes in

¹² Section 4.25.1 of the Final EIS explains the Methodology for Assessing Cumulative Impacts. Table 4.25.1-1 of the Final EIS includes the Reasonably Foreseeable Future Projects Considered in the Cumulative Analysis.

bed elevations are expected to eventually lead to deltaic splays and mudflats of coarser grained materials (greater than 63 microns in diameter). Finer grained sediments (less than 32 microns) could be transported farther from the outfall area and dispersed throughout the project area to sustain and nourish existing wetlands¹³. The movement of sediment from the Mississippi River to the Barataria Basin during operations of the Applicant's Preferred Alternative is not expected to result in discernible or measurable impacts on sediment quality in the Barataria Basin. The Applicant's Preferred Alternative is projected to have permanent, major (readily apparent, widespread), beneficial direct and indirect impacts on land building in the Barataria Basin.

By diverting sediment from the Mississippi River for diversion operations, less material is projected to be transported to the birdfoot delta and into the Gulf of Mexico. Bed changes at the birdfoot delta under the Applicant's Preferred Alternative compared to the No Action Alternative would be permanent, moderate, and adverse, with areas of both erosion and deposition that could cause an overall moderate, adverse impact on wetlands and land change in the birdfoot. Under the Applicant's Preferred Alternative, land area in the birdfoot delta is anticipated to be reduced by an additional 3,000 acres to 3,640 acres by 2070.

In the Project area (Barataria Basin and birdfoot delta), these additions are projected to result in the net creation of 4,980 acres (7.8 square miles) of land by 2030, and 17,300 acres (27.0 square miles) by 2050. In the Barataria Basin portion of the Project area the diversion is projected to create 6,260 acres of land in the Barataria Basin in its first 10 years and 17,300 acres by year 30 (2050) as compared to the No Action Alternative. However, this sediment deposition and land building is projected to occur against a backdrop of ongoing project area trends with significant land loss across the region due to subsidence and sea-level rise, so that even as diversion operations are increasing sediment deposition and land creation in the outfall area, under the Applicant's Preferred Alternative there is still projected to be a net loss of land across the Barataria Basin and the birdfoot delta between 2030 and 2070. Also, some of the land built by the diversion could be lost over time due to these ongoing processes.

Cumulative effects to the physical substrate

Cumulative impacts from construction of the reasonably foreseeable future actions (Table 4.25.1-1 in Section 4.25.1.4 of the Final EIS) combined with construction of the MBSD Project action alternatives are projected to be short-term and permanent, minor

¹³ In the Final EIS, Section 2.1.1 Overview of Sediment Diversion and 4.5.5.10 Sediment Quality discuss grain size and quality in greater detail.

to moderate and adverse in the geographic area of impact (AOI). Clearing could remove protective vegetation cover and expose the soil to the impacts of wind and rain, which could increase the potential for soil erosion. Grading, spoil storage, and equipment traffic could compact soil, reducing porosity and increasing runoff potential. Soil impacts are anticipated to be minimized by the implementation of best management practices documented in SWPPPs and SPCC Plans in accordance with Louisiana Title 33, Part IX 901 and 2707, and 40 CFR 112.

Cumulative impacts from operation of reasonably foreseeable future actions combined with operation of the MBSD Project action alternatives would likely be permanent, major, and beneficial on land building in the Barataria Basin and permanent, minor, and adverse for the first four decades of operation rising to permanent, moderate, and adverse by 2070 in the birdfoot delta. By 2070, the impacts of the Applicant's Preferred Alternative in the birdfoot delta appear relatively large because the impacts of sea-level rise and subsidence become predominant and even small changes in wetland acreage represent a large portion of what remains.

The Delft3D Basinwide Modeling results compare model-projected changes in retained sediment volume and land area that are expected due to implementation of the reasonably foreseeable projects by themselves, and together with the MBSD Project 150,000 cfs + Terraces Alternative (this is the MBSD Project alternative with the maximum land-building benefits). The Delft3D modeling for cumulative impacts was only conducted on the 150,000 cfs + Terraces Alternative; it was not conducted on the Applicant's Preferred Alternative.

Table 4.25.2-2 of the Final EIS shows the cumulative impacts from reasonably foreseeable projects combined with the 150,000 cfs + Terraces Alternative. Project operations for this alternative are projected to result in increases in land building and sediment input with a total peak net increase of 32,100 acres in land by 2060 as compared to the No Action Alternative. Most of this increase is anticipated to occur in the Barataria Basin, where implementation of the 150,000 cfs + Terraces Alternative combined with other reasonably foreseeable projects could result in a peak increase of 34,000 acres. This alternative is projected to result in a larger magnitude of change as compared to the other five MBSD action alternatives; however, the Applicant's Preferred Alternative and other MBSD Project action alternatives is expected to have the same overall impact determination as that of the 150,000 cfs + Terraces Alternative, which is permanent, major, and beneficial. The addition of the 150,000 cfs + Terraces Alternative to the other restoration projects could contribute substantial benefits in land gains in decades 2060 and 2070, indicating the major beneficial role that any of the MBSD Project action alternatives could have in creating and retaining land in spite of

the increasing adverse influences of sea-level rise and subsidence in these latter decades.

Cumulative Net Changes in Retained Sediment Volume and Land Area ^a : Foreseeable Projects with and without MBSD Project (150K+ Terraces Alternative)								
Year	Project Area Change in Sediment Volume (million cy) Relative to NAA	Project Area Total Land Area (ac) under NAA	Project Area Total Land Area (ac) under Alternative	Project Area Change in Land Area (ac) Relative to NAA	Difference in Land Area (ac and % Change Relative to NAA) – Barataria Basin Only		Difference in Land Area (ac and % Change Relative to NAA) – Birdfoot Delta Only	
Foreseeable Projects without MBSD Project Alternatives Alternative								
2030	40	342,000	344,000	2,600	3,000	1%	–100	0%
2040	17	276,000	280,000	4,400	4,000	2%	800	3%
2050	2	204,000	207,000	3,100	2,000	1%	800	4%
2060	–16	127,000	129,000	2,200	2,000	2%	200	2%
2070	–51	58,700	56,500	-2,240	0	0%	–2,200	–33%
Foreseeable Projects with MBSD 150,000 cfs + Terraces Alternative								
2030	107	342,000	353,000	11,600	14,000	5%	–2,500	–6%
2040	184	276,000	298,000	22,400	25,000	10%	–2,300	–9%
2050	293	204,000	236,000	32,100	33,000	18%	–1,200	–7%
2060	411	127,000	159,000	32,200	34,000	29%	–1,900	–18%
2070	520	58,700	86,100	27,400	29,400	56%	–2,000	–31%
^a Modeled land areas and changes have been rounded to three significant digits. Land areas are considered accurate to within ±200 acres. That produces an estimated error of ±300 acres in the land change difference values and an average ±3 percent in percent land change values. NAA is No Action Alternative								

Additional land building in the birdfoot delta may be expected to occur in the future from reasonably foreseeable projects not included in the Delft3D Basinwide Model simulation including marsh and ridge restoration projects and the beneficial use of dredged material occurring as part of CEMVN's maintenance dredging in the Mississippi River Passes. These projects were not included in the Delft3D Basinwide Model simulation due to unavailable data at the time of the model simulations. Additional benefits expected to result from implementation of these projects may counterbalance some of the land loss in the birdfoot delta projected to occur by 2070.

The cumulative impacts from reasonably foreseeable projects combined with the MBSD Project action alternatives on sediment volume retained in the Project area is projected to mirror the projected trends in land loss and gain. The reasonably foreseeable projects combined with the MBSD Project action alternatives would likely contribute additional major, beneficial impacts on the volume of sediment retained in the basin as compared with reasonably foreseeable projects on their own.

Secondary impacts on water circulation, fluctuation, and salinity

Project operation impacts on existing currents and flow in the Barataria Basin is anticipated to be permanent and minor to major (depending on distance from the immediate outfall area) due to widespread and readily apparent impacts on water flow velocity and direction when the proposed Project is operating above base flow (up to 75,000 cfs depending on flows in the river). These current and flow impacts could be beneficial for reestablishing deltaic processes in the basin and adverse on the larval transport and juvenile recruitment of some aquatic species during high and/or spring flows (see Section 4.2 Geology and Soils and Section 4.10 Aquatic Resources in the Final EIS for further details about Project impacts on land building and aquatic resources, respectively). Tides are not expected to be impacted, other than from overall impacts of higher water levels. Water levels in the Barataria Basin are expected to increase with major to minor, permanent, adverse impacts from the input of fresh water, with impacts decreasing with distance from the diversion structure (maximum increase of 1.0 foot [approximately 0.3 meter] compared with the No Action Alternative at the station nearest the diversion [CRMS 0276]). Water level impacts are expected to be experienced immediately with operations and dissipate over the project life due to sea level rise. The Applicant's Preferred Alternative is designed to have a maximum flow more than seven times that of the Davis Pond Freshwater Diversion. During operation, this amount of fresh water would likely create a general north to south flow as the fresh water moves towards the Gulf of Mexico.

Salinity impacts during project operation is expected to cause permanent, minor (detectable over a small area) to moderate (observable over a large area, readily detectable in local areas) reductions in salinity in the Barataria Basin and permanent, minor increases in salinity in the birdfoot delta. Details about salinity during project operation can be found in section 4.5.5.1 of the Final EIS and further summarized in section 6.3 of this document.

Cumulative effects to water circulation, fluctuation, and salinity

Cumulatively construction and operation of the reasonably foreseeable future projects on water levels, tides, currents, flow, and sediment transport in the AOI are expected to be consistent with those impacts for the MBSD Project action alternatives described in Section 4.4 Surface Water and Coastal Processes of the Final EIS. Cumulative impacts on tides, currents, and flow in the Barataria Basin from operation of the reasonably foreseeable projects combined with operation of the MBSD Project action alternatives are projected to be negligible to moderate on tidal ranges compared to the No Action Alternative. This would be expected, as reasonably foreseeable marsh creation, levee

construction, dredging, and channelization activities throughout the basin, in conjunction with the MBSD Project action alternatives, could impact the existing tidal, current, and flow patterns. The differences in tidal ranges throughout the basin are projected to vary; this may reflect the varying nature of the reasonably foreseeable restoration projects and their proximity to each station, but the general north to south flow projected as a result of the MBSD Project action alternatives would likely still be dominant. The magnitude of the cumulative impacts on tidal ranges is projected to decrease with distance from the diversion structure; for example, impacts in the southern basin near Grand Isle and in the birdfoot delta would be negligible. The overall cumulative impacts on salinity from operation of the reasonably foreseeable future projects combined with operation of the MBSD Project action alternatives would be moderate, permanent reductions throughout the basin primarily due to the MBSD Project action alternatives. Reasonably foreseeable projects that were not included in the Delft3D Basinwide Model are not expected to have substantial impacts on salinity because they are primarily restoration projects similar to those included in the model simulation.

Secondary impacts on suspended particulates and turbidity

The capture of turbid and sediment-laden waters from the Mississippi River to deposit into the Barataria Basin achieves the purpose and need of the project. The movement of sediment from the Mississippi River to the Barataria Basin during operations of the Applicant's Preferred Alternative is not expected to result in discernible or measurable impacts on sediment quality in the Barataria Basin.

Operation of the project is projected to cause a permanent, minor to moderate increases in average TSS concentrations in the Barataria Basin. Maximum TSS concentrations in the basin are projected to occur in February through April, when the diversion is projected to be operating at levels greater than the 5,000 cfs base flow and TSS concentrations are highest in the river.

Cumulative impacts on suspended particulates and turbidity

Cumulative impacts on TSS from operation of the reasonably foreseeable future projects combined with operation of the MBSD Project action alternatives would likely be minor to moderate increases at all six representative stations over the 50-year analysis period as compared to the No Action Alternative. The increases are projected to be more pronounced at the stations nearest to the immediate outfall area. These cumulative impacts may be considered minor to moderate and permanent. These impacts may be considered beneficial if TSS drops out of the water column, as the MBSD Project action alternatives are designed to increase sediment in the Barataria

Basin. However, these impacts may indirectly result in adverse impacts on turbidity in some areas of the basin. Louisiana has not adopted water quality standards for TSS.

Secondary impacts on contaminants

Operation of the project could make the Barataria Basin susceptible to contaminants from the Mississippi River that otherwise wouldn't. As described in Chapter 2, Section 2.8.1.3 in Action Alternatives Carried Forward for Detailed Analysis and in Appendix F2 Preliminary Operations Water Control Plan of the Final EIS, in the event of oil spills and other hazardous discharges into the Mississippi River upstream of the proposed MBSD intake structure, the applicant maintains that the diversion structure would be closed.

Cumulative impacts on contaminants

Cumulative impacts on water quality from the two reasonably foreseeable projects in the AOI when combined with the MBSD Project action alternatives would likely be negligible. Any known spills or inadvertent releases of contaminants from operation of the nearby Tallgrass PLT facility could have adverse impacts on surface water and sediment quality in the Barataria Basin depending on the nature of the release. These impacts would be minimized and mitigated in accordance with the facilities' SPCC, Stormwater Pollution Prevention Plan (SWPPP), and accident prevention plans. In the event of oil spills and other hazardous discharges into the Mississippi River upstream of the proposed MBSD intake structure, the applicant maintains that the diversion structure would be closed.

Secondary impacts on the aquatic ecosystem and organisms

Terrestrial species:

The movement of sediments and water from the Mississippi River to the Barataria Basin from project operation is expected to increase the availability of wetland habitat over time which could alter the populations of wetland-dependent terrestrial species throughout the basin. Specifically, Section 4.9 Terrestrial Wildlife and Habitat of the Final EIS analyzes Habitat Suitability Index (HSI) models to determine impacts on the Green-wing teal, Mottled duck, Gadwall, Alligator, and other reptiles and amphibians. The long-term impacts of tidal marsh creation/enhancement in the basin from operation of the Project is projected to be moderate and beneficial for those species that use both terrestrial and emergent wetland habitats. Waterfowl could substantially benefit from restoration and maintenance of fresh and intermediate marshes, as many species (including the mottled duck and gadwall) have seen previous population declines that are at least partially attributed to wetland loss and degradation of freshwater marsh

created and sustained by the proposed Project could be expected to provide habitat for a diverse assemblage of migratory and resident birds. In addition, early and ongoing land accretion in the outfall area is anticipated to create mudflats that could be used by multiple species (such as shorebirds) prior to the establishment of marsh vegetation. Although multiple species could use these mudflats, they could be particularly beneficial to female mottled ducks and their broods, which require wetlands with short emergent vegetation and mudflats that the ducklings can rest on. Conversely, the loss of wetlands in the birdfoot delta could impact terrestrial species that utilize marsh habitat. As operations continue and the fresher marshes are re-established or maintained near the outfall, it is likely that many waterfowl populations, some colonial waterbird species, and other species that prefer less saline habitats (for example, alligators) could increase in the outfall area.

Overall, project operations are expected to result in minor to moderate, permanent, direct and indirect, beneficial impacts on green-winged teal, mottled duck, and alligators from increased habitat suitability in the immediate outfall area. Negligible impacts on the gadwall are expected due to overall low habitat suitability in the Project area. Major, permanent, direct and indirect, beneficial impacts on reptiles and amphibians from project operation curtailing saltwater intrusion, but short- to long-term, minor, adverse impacts in the immediate outfall area at initial start-up of the Project.

Benthic Resources:

The shift in benthic communities in the Barataria Basin is expected to be dependent on tolerance to the change in salinity regime and increased turbidity/sedimentation, as well as the increase in wetlands in the outfall area. Benthic communities more tolerant of less saline waters would likely be benefited in the immediate outfall area, where operation of the diversion is anticipated to result in fresh or intermediate habitats year-round, and could be benefited in later years of diversion operation where marsh was created or maintained (allowing for higher benthic biomass) compared to the No Action Alternative.

Essential Fish Habitat (EFH):

A full assessment of impacts on EFH is included in Appendix N; a summary of these impacts is included below. On April 6, 2021, the NMFS Southeast Regional Office, Habitat Conservation Division concurred with the determinations identified in Appendix N and provided conservation recommendations for the Project that include monitoring and adaptive management of the Project and continued development of ecosystem modeling by CPRA and the LA TIG (see Appendix N3 of the Final EIS). On April 30, 2021, the USACE committed to providing a final, written response to NMFS'

conservation recommendations at least 10 days prior to issuance of the ROD for the Project; therefore, this consultation under the MSFCMA is ongoing.

EFH Habitat:

As explained in more detail in Section 3.10 Aquatic Resources, Table 3.10-2 of the Final EIS, EFH for managed species anticipated to occur in the Barataria Basin includes: SAV; emergent marsh; soft bottom, oyster reef, and sand/shell habitats; and the water column. Impacts from the proposed Project are anticipated to result in increases in the overall coverage and biomass of SAV (see Section 4.10.4.1 of the Final EIS) and emergent marsh (see Section 4.10.4.2 of the Final EIS), although the increases are often related to conversion from higher to lower-salinity communities. Conversely, soft bottom could decrease, compared to the No Action Alternative, as marsh is established or maintained, and areas of sand/shell may decrease, converting to soft bottom due to burial from sedimentation (see Section 4.10.4.4.2.2, Applicant's Preferred Alternative, Substrates of the Final EIS). Oyster reefs that experience reduced oyster productivity could likewise be impacted by increased sedimentation. Although changes in the amount of water column habitat are projected to be negligible, changes in salinity, temperature, and nutrient levels would likely occur, and certain areas could be affected by changes in water flow, turbidity, and DO as explained in Section 4.10.4.4 of the Final EIS). Overall, the net amount of structured EFH would likely increase for the Applicant's Preferred Alternative, when compared to the No Action Alternative, given the extent of marsh being created/maintained and the decreasing salinity of the estuarine water column, which could allow for a higher biomass of SAV. Although there would likely be decreased availability in other structured EFH types (for example oyster reef), the overall change in EFH is expected to be major, beneficial, direct and indirect, and permanent. CEMVN anticipates responding to NMFS conservation recommendations at least 10 days prior to final action on CPRA's permit application.

Managed Species:

Impacts on coastal migratory pelagics, reef fish, and highly migratory species with designated EFH in the Project area are discussed further in Section 4.10.4.3.2.2 and Appendix N of the Final EIS. Based on the predominant nearshore and offshore habitat use for these highly migratory species, the maintenance of higher salinities in the lower basin during most of the year, and the highly mobile nature of these species, habitat changes due to Project operation are likely to have a negligible effect on these species.

Key Species:

Operation impacts on key species are outlined in Section 6.4.1 of this document and further analyzed in Section 4.10 of the Final EIS. A summary of the overall anticipated impact and the primary adverse and beneficial impact drivers are included in Table 4.10-6 of the Final EIS. The table highlights the primary drivers behind impacts on key species and the degree to which they impact particular life stages of these key species as a result of project operation.

Summary of Key Species Impacts			
Species	Impacts		
	Overall Impact ^a	Adverse Impact Drivers	Beneficial Impact Drivers
Brown shrimp	Major, adverse, direct and indirect, permanent impact to species with major decrease in abundance earlier in analysis period than No Action ; impact continues through the analysis period	Disruption of larval transport/juvenile settlement, decreased salinity	Increased marsh and primary production
White shrimp	Negligible to minor, beneficial, direct and indirect, permanent impact to species with potentially greater abundance than under No Action	Disruption of larval transport/juvenile settlement, decreased salinity	Increased marsh, SAV, and primary production
Blue crab	Negligible to minor, beneficial, direct and indirect, permanent impact to species with potentially greater abundance than under No Action	Disruption of mating, megalopae transport, early juvenile settlement	Increased marsh, SAV, and primary production
Bay anchovy	Minor, beneficial, direct and indirect, permanent impact to species with slightly greater abundance than under No Action	Disruption of larval transport	Increased marsh, SAV, and primary production
Gulf menhaden	Moderate, beneficial, direct and indirect, permanent impact to species with greater abundance than under No Action	Disruption of larval transport/juvenile settlement disruption	Increased low-salinity juvenile nursery habitat, increased prey biomass
Red drum	Moderate, beneficial, indirect permanent impact to species with greater abundance than under No Action	No significant adverse drivers	Increased marsh, SAV, and primary production
Spotted seatrout	Minor, adverse, direct and indirect permanent impact to species with a slightly lower abundance than under No Action	Disruption of larval transport, juvenile growth, and adult spawning activities	Increased marsh, SAV, and primary production
Atlantic croaker	Negligible, direct and indirect, permanent impact with no measurable basin-wide change in abundance over time as compared to No Action	Disruption of larval transport	Increased marsh, SAV, and primary production

Summary of Key Species Impacts			
Species	Impacts		
	Overall Impact ^a	Adverse Impact Drivers	Beneficial Impact Drivers
Southern flounder	Negligible to minor, adverse, direct and indirect, permanent impact to species with potentially lower abundance than under No Action	Disruption of larval transport, juvenile survival in low salinities	Increased marsh, SAV, and primary production
Largemouth bass	Moderate, beneficial, direct and indirect, permanent impact to species with greater abundance than under No Action	High flows in the outfall area	Increased low-salinity habitat, SAV, and prey
Eastern oyster	Major, adverse, direct and indirect, permanent impact to species with major decrease in abundance earlier in analysis period than No Action and continues over time	Reduced salinity	Reduced predation and disease
Freshwater fishes	Moderate, beneficial, direct and indirect, permanent impact to freshwater fish introduced into basin with greater abundance than under No Action	Not applicable ^b	Increased low-salinity habitat
^a Impacts on key species include both direct and indirect impacts, depending on the specific impact driver. ^b Adverse impacts on freshwater fishes would vary by species.			

Invasive Species:

Flora: Operation of the project is anticipated to have the unintended consequence of increasing the potential for introduction and expansion of invasive plant species from the Mississippi River into the Barataria Basin. The connection is expected to alter salinity regimes, vegetation, and sediment characteristics through direct disturbance of habitat and the introduction of river waters into the estuary. A shift to freshwater conditions could result in a shift to freshwater species that could displace salt tolerant species such as sawgrass, bulrush, and cordgrass for habitat. While a shift to freshwater conditions could provide a greater amount of habitat for freshwater species, the change itself could also create opportunities for invasive plant species to colonize and become established, by outcompeting native freshwater species. Some native species may be directly adversely impacted by increased water velocities or water depth during initial Project implementation. In addition, some invasive plant species, such as alligator weed and giant salvinia, form floating or dense mats that could degrade habitat for other aquatic plants and animals and cause navigation difficulties, particularly in the slow-moving waters that provide their preferred habitat. However, the Project would divert water to the Barataria Basin, increasing water movement in the

outfall area, thus the formation of mats of floating invasive plants could likely be restricted to areas north of the outfall, where salinity and water flow are more similar to that of the No Action Alternative.

Fauna: Operation of the project provides potential pathways for invasive species dispersal into new waterways and more suitable habitat for freshwater species, including invasive species. Competition with native species for resources could continue across the entire Barataria Basin. Invasive fish species such as carp and cichlid, while typically found in open water, also use freshwater marshes and coastal wetlands as nursery or forage habitat and could travel with the flow of freshwater. Aggressive competition of bighead and silver carp with native filter feeder fish species for food and habitat, potentially disruptive of the entire food web, could occur over a large area. Larger and more extensive populations of grass carp could consume additional SAV and reduce available habitat for native fish species, while black carp could continue to forage on and threaten populations of native snails and mussels. Zebra mussels, Asian clams, and giant apple snails could also be expected to increase in distribution and abundance throughout the basin. Apple snails could reduce the amount of SAV for fish, while zebra mussels and Asian clams could gain habitat, with a corresponding loss in habitat for native species. Unlike the carp and apple snails, the Asian clam is tolerant of salinities up to 24 ppt and could therefore survive in nearly any slow-moving or still water in the Project area.

Overall, the altered nutrient, salinity, and other environmental gradients across the Barataria Basin under the Applicant's Preferred Alternative could result in the introduction, establishment, and expansion of nonnative species into the basin due to changing conditions and associated disturbance. While the shift to freshwater habitat alone would likely result in more habitat for freshwater species, nonnative species are typically better at exploiting new resources and could therefore displace many native species in the fresher habitats within the Project area. The impact of this introduction/expansion, although permanent and adverse, would likely result in indirect, moderate impacts on the diversity of species in the outfall. No impacts in the Lower Mississippi River basin or birdfoot delta are anticipated as a result of Applicant's Preferred Alternative with respect to invasive species.

Marine Mammals

Bottlenose dolphins in the Barataria Bay belong to the BBES stock with an estimated population of 2,071 and four population strata based on usage areas within the bay: Central, Southeast, West and Barrier Island. The BBES dolphins are expected to be impacted during construction of the project due to turbidity, noise, and vessel traffic but

the greatest anticipated impact to the BBES stock would be during project operation due to low salinities (0 ppt - 5 ppt) resulting from the introduction of freshwater from the Mississippi River into previously brackish and saline waters of the basin. The primary stressor on BBES dolphins from operation of the Project would be prolonged exposure to low-salinity water. Impacts from reduced salinities could vary by year based upon operation timeframes, but prolonged exposures to low salinity are likely to result in illness/disease and, in some cases, death. Stressors from low salinity levels combined with changes in the basin associated with wetlands and adverse impacts on food sources (brown shrimp, southern flounder, and spotted sea trout) is expected to result in rapid declines in the BBES Stock. Dolphins in the Central and Western strata are predicted to be functionally extinct within 10 years and dolphins in the Southeast stratum are predicted to be functionally extinct within 50 years. Dolphins in the Barrier Island stratum could experience a statistically significant reduction in survival rates; only 85 BBES dolphins living in this stratum are predicted to remain at the end of the 50-year analysis period.

Overall, the impacts on BBES dolphins under the Applicant's Preferred Alternative include immediate and permanent, major, adverse impacts on survival from low salinity throughout the BBES Stock, adverse effects on health and reproduction from multiple stressors including low-salinity exposure, loss of wetlands (and associated benefits to dolphin prey) in the BBES Stock area which is expected to affect prey, lower temperatures, and increased risk of HABs, and the residual effects from the DWH oil spill. Based on the estimated decreases in survival rates, there would be a substantial reduction in population amounting to a 97 percent reduction in the dolphin population over the 50 year period of analysis.

Cumulative impacts on the aquatic ecosystem and organisms

Aquatic Habitat:

The addition of other reasonably foreseeable projects with the MBSD Project 150,000 cfs Alternative could result in less wetland loss in the Barataria Basin representing a major, permanent, and beneficial impact on wetland habitat in the Barataria Basin. The Delft3D Basinwide Model projects an additional 26,000 acres of wetlands would be maintained or created by project operation. Cumulatively, the birdfoot delta is projected to lose an additional 2,000 acres of wetlands if the reasonably foreseeable projects are built, as compared with the No Action Alternative, by 2070. Cumulative impacts on wetlands from these projects combined with the MBSD Project action alternatives could result in similar wetland loss trends; however, the MBSD Project action alternatives would likely contribute to greater wetland losses in the birdfoot delta between 2020 and

2060. Wetland loss in the birdfoot delta are projected to be substantially less than the wetland gains described above for the Barataria Basin.

This overall gain in wetland habitat, along with the decrease in salinity in the Barataria Basin is projected to result in major, permanent, beneficial impacts on the abundance of SAV over time in the Barataria Basin. Similarly, over time the projects is expected to result in minor to moderate, permanent, and beneficial impacts in the benthic community from the increased availability of wetland habitat in the Barataria Basin. Because of the overall increase in structured habitat (wetlands and SAV), the projects is projected to also have a major, permanent, and beneficial impact on EFH. Conversely, the decrease in wetlands, and the increased water depth in the birdfoot delta would likely have a permanent, moderate, and adverse impact on EFH (structured habitat) and the benthic community (but negligible impacts on SAV) compared to the No Action Alternative.

Aquatic Fauna:

The MBSD Project action alternatives are anticipated to cause near-term population decreases for various species due to immediate decreases in salinity and related changes in habitat and biota due to project operation. Comparatively, the No Action Alternative is projected to affect the various species later in the analysis period as the habitat changes more gradually over time. Although the reasonably foreseeable marsh restoration projects do not result in substantial differences in marsh habitat over time, it is possible that their presence during earlier portions of the analysis period may provide new or higher quality habitat in areas that would not be as affected by the immediate salinity decreases from the MBSD Project action alternatives. Because Delft3D Basinwide Modeling does not indicate substantial changes in marsh habitat over the entire analysis period from the reasonably foreseeable projects, incremental impacts on aquatic fauna and key species are anticipated to be similar to that discussed for the MBSD Project action alternatives; impacts on key species are stated in Section 4.10 Aquatic Resources of the Final EIS.

Secondary impacts on the proposed disposal site

Converting 375 acres of open water to tidal marsh and nourishing an additional 92 acres of existing tidal marsh is expected to provide immediate benefits to bird species that use wetland habitats, such as waterfowl, shorebirds, and wading birds, as well as benthic organisms and aquatic species.

During construction of the proposed project, there could be moderate to major, temporary, beneficial impacts on the regional economy, employment, businesses, and

industrial activity as a result of construction-related spending in the region. Some impacts are expected to be local to the area around the Project footprint in Plaquemines Parish associated with local sales related to construction work, while other impacts may be distributed across the State of Louisiana and local jurisdictions.

In addition to the beneficial impacts, minor to moderate, short-term, adverse impacts could also be expected to occur for residents and businesses located within and immediately adjacent to the construction area associated with increases in traffic, and associated increases in noise and dust. These impacts could temporarily affect existing businesses and housing values nearby the proposed Project by decreasing their accessibility, along with decreasing air quality and increasing noise.

While operation of the proposed project could provide some economic benefits associated with an improved environment for Gulf menhaden, largemouth bass, freshwater finfish, alligator, and crawfish, it is not expected to replace the major, permanent, adverse impacts on the shrimping and oyster industry.

Cumulative impacts on the proposed disposal site

Cumulative impacts from construction of the reasonably foreseeable future actions combined with construction of the MBSD Project would likely be temporary, major, and adverse on businesses and residents located near or traveling past the MBSD construction footprint due to traffic congestion and increased noise and dust. Moderate adverse impacts on property values in localized areas and associated tax receipts could occur associated with construction activities. There could also be temporary, major, beneficial cumulative impacts on job creation and the local economy. Temporary, major, beneficial impacts associated with employment for reasonably foreseeable future projects are anticipated. This could include moderate to major, short-term, beneficial impacts on sales and use and income taxes, as well as public services associated with construction spending.

The cumulative impacts from operation of the MBSD Project combined with operation of reasonably foreseeable future actions on socioeconomics (including economy, employment, businesses and industrial activity; population; housing and property values; tax revenues; public services; community cohesion; and protection of children) are expected to range from minor to major adverse to minor beneficial and permanent. The operations of reasonably foreseeable projects could also provide minor to moderate adverse and minor beneficial effects to socioeconomic resources, associated primarily with hurricane and flood risk reduction projects and operations of major industrial projects in the Barataria Basin. The operations of major industrial projects could have

permanent impacts from the ongoing economic activity and at least 285 jobs created by these projects with negligible traffic increases during operations.

6.9 Findings of compliance or non-compliance with the restrictions on discharges (40 CFR 230.10(a-d) and 230.12)

Based on the information above, including the factual determinations, the proposed discharge has been evaluated to determine whether any of the restrictions on discharge would occur (see Table 9):

Table 9 – Compliance with Restrictions on Discharge		
Subject	Yes	No
1. Is there a practicable alternative to the proposed discharge that would be less damaging to the environment (any alternative with less aquatic resource effects, or an alternative with more aquatic resource effects that avoids other significant adverse environmental consequences?)		X
2. Will the discharge cause or contribute to violations of any applicable water quality standards?		X
3. Will the discharge violate any toxic effluent standards (under Section 307 of the Clean Water Act)?		X
4. Will the discharge jeopardize the continued existence of endangered or threatened species or their critical habitat?		X
5. Will the discharge violate standards set by the Department of Commerce to protect marine sanctuaries?		X
6. Will the discharge cause or contribute to significant degradation of waters of the United States?		X
7. Have all appropriate and practicable steps (Subpart H, 40 CFR 230.70) been taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	X	

Discussion:

The project does not need to be located within a special aquatic site; however, it has been demonstrated that this project location is the LEDPA for a structure which has

provided adequate justification of need. As explained in 6.3 of this document and informed by Chapters 3 and 4 of the Final EIS, the Barataria Basin is an estuary in decline. Human interaction has restricted the natural processes of the Mississippi River connecting with the Barataria Basin, resulting in wetland losses from a variety of natural and human causes. Shore line erosion and interior ponding has allowed for a greater volume of saline water entering and existing the Barataria Basin via the Gulf of Mexico. Changes in the tidal prism affect the Barataria Basin outer barrier island chain. Tidal passes between barrier islands widen and deepen to allow for increased water flows. In addition, new tidal passes are created via breaches of the existing barrier islands. This process results in saline waters from the Gulf of Mexico pushing further into the Barataria Basin.

Continued trends of an increasingly saline environment and wetland loss has a range of adverse impacts to terrestrial wildlife (negligible to major), spotted sea trout (minor), Atlantic croaker (minor), largemouth bass (major). While more gradual of a decline as compared to the Applicant's Preferred Alternative, adverse impacts to the commercial fishing industry are anticipated. Declines in shrimp, crab, and oyster industry are projected due to increasing salinity, reduced salinity, and predation under the No Action Alternative. The trend of a declining environment is expected to be present with the Applicant's Preferred Alternative; however, salt water intrusion is expected to be curtailed by project operation. The benefits associated with the proposed project delivering fresh water, sediments, and nutrients into the Barataria Basin under the Applicant's Preferred Alternative are anticipated to build, sustain, and maintain wetlands in an area that has been largely isolated from natural flooding inputs from the Mississippi River. Sediment accretion is expected to raise the land elevation in submerged areas to allow wetland vegetation to establish and grow; nutrients transported as part of the proposed Project could benefit vegetation growth in early-successional marsh or contribute to increased primary production (above and below-ground plant biomass); and changes in average annual salinity are expected to allow for freshwater and intermediate wetland species to establish, survive, and potentially expand in areas that have been adversely impacted by saltwater intrusion.

The Project is expected to have impacts on habitat that would translate to varying beneficial or adverse impacts on aquatic fauna; however, the impacts are predominantly related to increases in marsh habitat in the Barataria Basin and decreases in salinity from Project operation and base flow. Minor to major adverse impacts may occur on the recruitment of estuarine species, where high diversion flows overlap with peak larval transport periods for individual species. The impacts from the Project to white and brown shrimp and oysters are projected to be major and adverse, as will be the social

and economic consequences to commercial fisheries. However, although a decrease in brown shrimp abundance is anticipated in the basin, the viability of the population is not anticipated to be affected. Conversely, MBSD project would beneficially impact white shrimp (negligible to minor), blue crab (negligible to minor), bay anchovy (minor), Gulf menhaden (moderate), red drum (moderate), largemouth bass (moderate), and other freshwater fishes (moderate). Changes in salinity are also expected to result in decreases in survival rates of the BBES dolphin stock. There is a projected substantial reduction in population amounting to a 97 percent reduction in the BBES dolphin population over the 50-year period of analysis.

The environmental characteristics and values associated with the Barataria Basin serving as an estuary will change when comparing the Applicant's Preferred Alternative to the No Action Alternative. There are a range of negligible to major adverse and beneficial impacts to resources analyzed in Chapter 4 of the Final EIS. Reconnecting the Mississippi River to the Barataria Basin by way of the Project is expected to shift the salinity gradient south, closer to the tidal passes and Barataria Basin barrier island chain. The Project is expected to allow for the Barataria Basin to function as an estuary and serve as a transition zone between the riverine and marine environments with a more diverse range of flora and fauna.

Several ambient water quality parameters were analyzed at water quality stations throughout the Lower Mississippi River and Barataria Basin during the NEPA process as shown in Table 3.5-2 of the Final EIS. The only major adverse impact to water quality was fecal coliform to the oyster propagation use.

In general, impacts to Barataria Basin resources would be higher near the diversion outfall, where land building/sedimentation, salinity, and water level impacts would be greatest, and would decrease with distance from the outfall.

The creation and enhancement of tidal marsh in CPRA's proposed marsh creation areas is expected to result in a net benefit of 401.9 net acres (158.4 AAHUs). In addition, operation of the MBSD Project as proposed is expected to provide long term benefits by building 17,300 acres of habitat by 2050 (~30 yrs). By the end of the period of analysis (2070), the MBSD Project is estimated to have sustained 13,151 tidal marsh acres (3,848 AAHUs). The reduction in habitat between 2050 and 2070 is an anticipated result of ongoing subsidence and sea level rise. Without the MBSD Project, and based upon current projections of land loss and relative sea level rise, the Barataria Basin is expected to continue to experience major, permanent, adverse impacts due to the continued loss or conversion of wetlands and estuary to open salt water conditions.

The resulting habitat from MBSD will provide major benefits on species that can tolerate areas of lower salinity. Fauna using freshwater marsh or estuarine species would benefit from indirect increases in the primary productivity from marsh presence.

CEMVN analyzed the benefits that may be reasonably expected to accrue from the operation of the MBSD Project against the expected detriments (i.e., increased water levels and tidal flooding, increased storm surge in communities not protected by levees, impacts to some commercial fisheries, and severe reduction of the BBES dolphin stock).

CEMVN does not anticipate a significant degradation of WOTUS from project construction and operation. Table 4.27-1 of the Final EIS and Section 1.3 of this document include the avoidance and minimization efforts to minimize impacts to the maximum extent practicable.

The LDEQ has verified that the discharge of proposed fill material will not violate state water quality standards as provided in the Water Quality Certification (WQC 220329-01 dated June 7, 2022). On July 13, 2022, pursuant to section 401(a)(2) of the CWA EPA decided not to make a “may affect” finding concerning the Water Quality Certification issued by LDEQ.

7.0 GENERAL PUBLIC INTEREST REVIEW (33 CFR 320.4 AND REGULATORY GUIDANCE LETTER 84-09)

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest as stated at 33 CFR 320.4(a). To the extent appropriate, the public interest review below also includes consideration of additional policies as described in 33 CFR 320.4(b) through (r). The benefits which reasonably may be expected to accrue from the proposal are balanced against its reasonably foreseeable detriments.

7.1 Public interest factors review

All public interest factors have been reviewed and those that are relevant to the proposal are considered and discussed in additional detail (see Table 10):

Table 10 – Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
1. Conservation: See below for discussion.					X	
2. Economics: See below for discussion.		X				
3. Aesthetics: See below for discussion.				X		
4. General Environmental Concerns: See below for discussion.						
5. Wetlands: See below for discussion.					X	
6. Historic Properties: See below for discussion.			X			
7. Fish and Wildlife Values: See below for discussion.					X	
8. Flood Hazards: See below for discussion. Detrimental to neutral if mitigated as proposed (uncertain).		X	X			
9. Floodplain Values: See below for discussion.				X		
10. Land Use: See below for discussion.				X		
11. Navigation: See below for discussion.		X				
12. Shoreline Erosion and Accretion: See below for discussion.					X	
13. Recreation: See below for discussion.		X				
14. Water Supply and Conservation: See below for discussion.				X		
15. Water Quality: See below for discussion.				X		
16. Energy Needs:	X					
17. Safety: See below for discussion.		X				

Table 10 – Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
18. Food and Fiber Production: See below for discussion.	X					
19. Mineral Needs: See below for discussion.	X					
20. Consideration of Property Ownership: See below for discussion.			X			
21. Needs and Welfare of the People: See below for discussion.					X	

Additional discussion of effects on factors above:

7.1.1 Conservation:

Chapter 3 of the Final EIS describes the resources likely to be impacted by the No Action and Action Alternatives. General trends describe the Barataria Basin and Mississippi River Delta in decline. Direct connection and seasonal flooding between the Mississippi and Barataria Basins were cut off over time. Natural and human influence resulted in shoreline erosion and interior ponding resulting in Barataria Basin experiencing one of the highest rates of land loss in Louisiana; approximately 29 percent of the total land area in the Barataria Basin was lost between 1932 and 2016. In 2016, the Barataria Basin occupied 671,000 acres of land (approximately 1,048 square miles); it contains approximately 371,000 acres of wetlands (approximately 580 square miles).

The Mississippi River Delta has experienced a net loss of wetlands since the 1930s; however, since the 1960s, wetland loss rates in that basin declined, and a period of wetland gain occurred in the 1980s and 1990s before loss rates increased following Hurricane Katrina in 2005. The Mississippi River Delta occupies 75,000 acres of land (approximately 117 square miles) and contains approximately 58,900 acres of wetlands (approximately 92 square miles).

Land loss trends under the no action alternative are expected to continue. Chapter 4 of the Final EIS projects approximately 298,000 acres (80.4 percent) of wetlands to be lost over a 50-year period (2020 to 2070) in the Barataria Basin as the saltwater inundation of wetland resources in the basin continues. In the birdfoot delta, a projected 52,500 acres (89.1 percent) of wetlands are projected to be converted to open water by 2070.

Numerous Federal and State programs have worked to address the coastal land loss issue in Louisiana. Many coastal restoration techniques have been used with varying levels of effectiveness including, but not limited to, barrier island restoration, shoreline protection features, marsh creation using dredged material, and freshwater diversions. The concept of using a river diversion to help restore surrounding basins dates back to the 1950s when the USFWS studied using freshwater river diversions in the Barataria and Breton Sound basins to improve oyster production. Decades later, that USFWS report and other subsequent USACE reports led to the advancement of freshwater and sediment diversions being included as possible coastal restoration techniques.

In 1998, the Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority proposed several large diversions in the Barataria Basin for marsh and barrier island restoration in a report entitled *Coast 2050: Toward a Sustainable Coastal Louisiana* (Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority, 1998).

The Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) Task Force approved the initiation of a study in 2001 for the Delta Building Diversion at Myrtle Grove Project (CWPPRA Project BA-33); this study examined a range of diversion capacities, from 2,500 cubic feet per second (cfs) to 15,000 cfs and included a dedicated dredging component to create marsh. Concurrently, the USACE prepared a study for the Louisiana Coastal Area (LCA) Program to identify large-scale ecosystem restoration projects for the Louisiana coast in which projects were evaluated through the use of ecological models. USACE selected a Medium Diversion (between 5,001 cfs and 15,000 cfs) at Myrtle Grove with dedicated dredging as one of five near-term critical restoration features for further study in a feasibility report and EIS (LCA Ecosystem Restoration Study, USACE, 2004).

Subsequently, CPRA worked with several non-governmental organizations beginning in 2009 to support additional modeling of the proposed medium-capacity Myrtle Grove sediment diversion with dedicated dredging and to answer stakeholder questions about potential project impacts (Myrtle Grove Delta Building Modeling Effort, CPRA, 2011). In 2012, CPRA completed its legislatively mandated draft of Louisiana's Comprehensive

Master Plan for a Sustainable Coast (Coastal Master Plan or CMP), which contained a proposed diversion in the mid-Barataria Basin in the vicinity of Myrtle Grove. The CMP was updated and approved by the Louisiana legislature in 2017. The 2017 CMP included a MBSD Project with a 75,000 cfs capacity.

A total of 204.2 acres of jurisdictional wetlands is proposed to be directly impacted by construction of MBSD. The bottomland hardwood, scrub-shrub, wet pasture, and fragmented wetlands directly impacted will not be restored following construction. Therefore, they could no longer provide ecosystem functions such as wildlife habitat or water quality improvement, resulting in moderate, permanent, adverse impacts on wetlands in the Project construction footprint.

CPRA proposes to place suitable, excess material dredged and excavated during construction of the proposed Project in marsh creation areas that total up to approximately 467 acres in the immediate outfall area adjacent to the proposed outfall transition feature. The excavated material could be used for tidal marsh creation and enhancement. Construction would be concurrent with the construction of the other Project components. Overall, CPRA proposes to repurpose 2.0 mcy of excavated material to create 375 acres of tidal marsh and nourish 92 acres of existing tidal marsh and terrace habitat during Project construction. The placement of material at the marsh creation areas could result in localized bed elevation increases at those sites and new wetland vegetation could be established. Marsh creation through the placement of excavated material is expected to provide wetland benefits that are expected to outweigh wetland losses experienced from the direct impacts associated with Project construction. The proposed Project is anticipated to result in no net loss of wetlands because wetland losses during construction would be outweighed by gains in wetland acreage in the marsh creation areas.

In the Barataria Basin, the sediments transported by the proposed Project during operation is anticipated to be deposited on marsh surfaces and in open water areas and are expected to increase rates of land accretion. Vegetation is expected to establish on new land and new plant growth, in turn, could trap additional sediment and result in further land growth and increasing marsh elevation. The success of sediment diversions such as the proposed Project is dependent on the balance between sediment supply and associated land building when compared with subsidence and sea-level rise. The transport of sediment to Project area wetlands could be expected to slow or stop wetland losses in some locations; however, the extent of wetland benefits would be dependent upon the sediment load diverted to the Barataria Basin. The greatest negative impacts on accretion are expected to occur in the birdfoot delta, which could receive less sediment due to the diversion of fresh water and sediment to the Barataria

Basin. The reduction in sediment input could limit the capability of wetlands to balance land building against subsidence and sea-level rise, resulting in greater losses than under the No Action Alternative. However, as described above, sediments would likely be more effectively used to sustain wetlands when introduced into the Barataria Basin via the diversion.

The MBSD Project is projected to have major, permanent, beneficial impacts on wetlands in the Barataria Basin where wetlands could be sustained and created by the diversion of sediment and fresh water. With Project operations, by year 2070, total wetland acres in the Barataria Basin are projected to be 85,500 and wetland losses would be 17.4 percent less than the No Action Alternative, which is projected to have 72,800 acres in the Barataria Basin by 2070. The Project is expected to cause moderate, permanent, adverse impacts on wetlands in the birdfoot delta where wetlands could be lost due to reduced sediment and freshwater inputs. By year 2070, total wetland acres in the birdfoot delta is expected to be reduced to 3,510 acres with the proposed Project while the No Action Alternative is projected to have 6,410 acres in the birdfoot delta by 2070.

Cumulatively, direct and indirect impacts from operation of all other action alternatives combined with foreseeable projects would likely be the same as for the MBSD Project action alternatives, with major, permanent, beneficial impacts in the Barataria Basin and moderate, permanent, adverse impacts in the birdfoot delta.

Overall, the wetland benefits in the Barataria Basin also anticipated to have minor to major, permanent beneficial impacts on wetland-associated wildlife and migratory birds in the Barataria Basin. Impacts on aquatic species are expected to vary based on species tolerance to freshwater and changes to water quality and velocities.

7.1.2 Economics:

Section 3.13.1 of the Final EIS describes the Economy, Employment, Businesses, and Industrial Activity in the 10-parish project area. The largest industry by both number of establishments and employment is "Trade, transportation, and utilities," which accounts for nearly a quarter (23 percent) of establishments and employment in the parishes. The project area is a vital part of the commercial fishing industry, which is a multi-billion-dollar industry in the northern Gulf Coast region which includes large volumes of finfish, shrimp, oysters, and crab catch. Average annual pay in the parishes is about \$53,000, which varies considerably across industries, ranging from about \$28,000 for the "Leisure and Hospitality" industry to over \$115,000 for the "Natural Resources and Mining" industry.

Approximately 1.25 million people live within the 10-parish project area. About two-thirds of the population resides in Jefferson and Orleans Parishes, reflecting the high population density in and around the City of New Orleans. Residents represent about 180,000 housing units within the Project area. With median property values ranging from a low of \$113,100 in Assumption Parish to a high of \$219,600 in Orleans. In sum, residents of the 10-parish project area account for about \$773 million in sales tax, \$1.7 billion in property taxes, and \$900 million in state income tax.

During construction of the proposed project, there is projected to be moderate to major, temporary, beneficial impacts on the regional economy, employment, businesses, and industrial activity as a result of construction-related spending in the region. Some impacts could be local to the area around the Project footprint in Plaquemines Parish associated with local sales related to construction work, while other impacts could be distributed across the State of Louisiana and local jurisdictions.

Construction impacts were modeled assuming a 5-year construction period using an input-output model (IMPLAN) for the State of Louisiana, as it is expected that the majority of the Project workforce could come from within the state. Nearly \$1.5 billion in economic output (sales) are anticipated to be generated by construction expenditures. For the construction phase, estimated annual impacts could include an increased job demand (statewide) of 2,500 jobs, including direct, indirect, and induced jobs. Average annual increased labor income (wages) associated with expenditures on construction is estimated to be approximately \$130 million (assuming a 5-year construction window). Increased annual regional sales associated with the construction phase is projected to be approximately \$298 million. Although a portion of expenditures and employment would occur in the parish, much of the spending and employment supported by the proposed Project is anticipated to be distributed throughout the Project area. Regardless, the employment and expenditures on the proposed Project would be substantial and represent a major benefit.

In addition to the beneficial impacts, minor to moderate, short-term, adverse impacts would also be expected to occur for residents and businesses located within and immediately adjacent to the construction area associated with increases in traffic, and associated increases in noise and dust. These impacts could temporarily affect existing businesses and housing values nearby the proposed Project by decreasing their accessibility, along with decreasing air quality and increasing noise. CPRA would implement measures to minimize impacts from air and noise emissions and traffic congestion during construction.

Project operations are expected to have far-ranging direct, secondary, and cumulative economic impacts, most notably to the commercial fishing industry and to recreation and tourism. Section 4.13.3 of the Final EIS discusses other key drivers of socioeconomic operational impacts, including tidal flooding, storm hazards, and sedimentation in the Barataria Basin. Similar to the construction impacts an IMPLAN was requested, but never conducted by the applicant.

Impacts on commercial fisheries are discussed in detail in section 4.14 of the Final EIS. Impacts from construction of the project are expected to have temporary, minor, adverse impacts on commercial fishing activities, mostly due to expected traffic delays during the 5-year construction period along LA 23 and increases in marine traffic. Commercial fishery impacts from operation considers changes from a number of factors, including water flow (velocity and direction), salinity, temperature, turbidity, sedimentation, nutrient input and primary productivity (for fueling the food web), amount of marsh vegetation, bottom substrates, and dissolved oxygen. The impact analyses were informed in part by HSIs, modeled over time using outputs from the Delft3D Basinwide Model, which consider the value of combined habitat characteristics, such as vegetative cover and temperature, to the juvenile or sub-adult life stage of a key species. Impacts on species abundance provide a reasonable proxy for understanding likely impacts of the alternatives on commercial catch in affected areas.

Under both the No Action Alternative and Applicant's Preferred Alternative, the commercial fishing industry is faced with a great deal of uncertainty related to general economic factors such as fuel costs, prices, competition from imports, and consumer preferences for seafood harvested from the region relative to import products. Furthermore, current conditions (decreasing marsh habitat) in the Barataria Basin have trended towards a decrease in species abundance which is expected over the next 50 years, primarily after 2050¹⁴ (See Table 4.14-1 in the Final EIS and below).

Expected Trends in Project Area Fish Abundance Under the No Action Alternative	
Aquatic Species	Trend Over 50 Modeled Years
Brown Shrimp	Gradual but major decrease in abundance over time with largest decrease after 2050
White Shrimp	Gradual but major decrease in abundance over time with largest decrease after 2050
Blue Crab	Gradual decrease in abundance over time with largest decrease after 2050
Bay Anchovy	Negligible or no change over time
Gulf Menhaden	Negligible or no change over time
Spotted Seatrout	Slight decrease in abundance over time

¹⁴ The analysis found the greatest decrease in shrimp, crab, and oyster abundance is expected to be after 2050 under the no action alternative which is consistent with table 4.14-1 of the Final EIS.

Expected Trends in Project Area Fish Abundance Under the No Action Alternative	
Aquatic Species	Trend Over 50 Modeled Years
Atlantic Croaker	Slight decrease in abundance over time
Southern Flounder	Negligible or no change over time
Largemouth Bass	Gradual but major decrease in abundance over time
Eastern Oyster	Gradual but major decrease in abundance over time with largest decrease after 2050
Source: Section 4.10 Aquatic Resources of the Final EIS	

Overall, the Applicant's Preferred Alternative is expected to have both beneficial and adverse direct and indirect impacts on fish abundance in the Project area, which are expected to have beneficial impacts on the commercial catch of some targeted species, and adverse impacts on the commercial catch of other targeted species. Table 4.14-2 of the Final EIS lists the fishery, impact drivers, and the expected impact compared to the no action alternative. In general, aquatic species more tolerant to freshwater are expected to fare better than those more dependent on higher salinities. While operation of the proposed project could provide some economic benefits associated with and improved environment for Gulf Menhaden, largemouth bass, freshwater finfish, alligator, and crawfish, those benefits are not expected to replace the major, permanent, adverse economic impacts on the shrimping and oyster industries. Over the 50-year project life, operation of the proposed project is anticipated to result in major, adverse, negative impacts on the shrimping and oyster industries. As table 4.14-2 points out, the negative impacts on brown shrimp and the eastern oyster are expected to be accelerated in comparison to the No Action Alternative. Negative impacts on commercial fishing are expected to be experienced shortly after project operations begin, before the major benefits associated with accretion and land building are experienced.

Expected Trends in the Project Area Fisheries Under the Applicant's Preferred Alternative			
Fishery/Aquatic Species	Adverse Impact Drivers Under Applicant's Preferred Alternative	Beneficial Impact Drivers Under Applicant's Preferred Alternative	Expected Impacts Under Applicant's Preferred Alternative Compared to No Action Alternative
Shrimp Fishery			
Brown Shrimp	Disruption of larval transport (late January-July) and juvenile settlement, decreased salinity	Increased marsh and primary production	Major, Permanent, Adverse – decreased abundance, accelerated impacts relative to No Action Alternative
White Shrimp	Disruption of larval transport/juvenile settlement (May through November with peaks in June and September)	Increased marsh, SAV, and primary production	Negligible to Minor, Permanent, Beneficial

Expected Trends in the Project Area Fisheries Under the Applicant's Preferred Alternative			
Fishery/Aquatic Species	Adverse Impact Drivers Under Applicant's Preferred Alternative	Beneficial Impact Drivers Under Applicant's Preferred Alternative	Expected Impacts Under Applicant's Preferred Alternative Compared to No Action Alternative
Oyster Fishery			
Eastern Oyster	Decreased salinity, increased siltation and turbidity	Decreased predation and disease	Major, Permanent, Adverse – accelerated impacts relative to No Action Alternative
Crab Fishery			
Blue Crab	Mating, disruption of megalopae transport, early juvenile settlement (late May through November)	Increased marsh, SAV, and primary production	Negligible to Minor, Permanent, Beneficial
Finfish Fishery			
Gulf Menhaden	Disruption of larval transport/juvenile disruption (October through May)	Increased low salinity juvenile nursery habitat, increased prey biomass	Moderate, Permanent, Beneficial
Atlantic Croaker	Disruption of larval transport near outfall (October and May, peaking in November and February)	Increased marsh, SAV, and primary production	Negligible
Bay Anchovy	Disruption of larval transport near outfall (May through October)	Increased marsh, SAV, and primary production	Minor, Permanent, Beneficial
Southern Flounder	Disruption of larval transport, juvenile survival in low salinities (juveniles move into the Barataria Basin from December through February)	Increased marsh, SAV, and primary production	Negligible to Minor, Permanent, Adverse
Spotted Seatrout	Disruption of larval transport in outfall area, juvenile growth, and adult spawning activities (April through September or October)	Increased marsh, SAV, and primary production	Minor, Permanent, Adverse

Expected Trends in the Project Area Fisheries Under the Applicant's Preferred Alternative			
Fishery/Aquatic Species	Adverse Impact Drivers Under Applicant's Preferred Alternative	Beneficial Impact Drivers Under Applicant's Preferred Alternative	Expected Impacts Under Applicant's Preferred Alternative Compared to No Action Alternative
Largemouth Bass	Delayed spawning, early life stage flushing into unsuitable habitat, high flows at the outfall (largemouth bass fry ¹⁵ are present from April through June, with some fry still developing into early juveniles through July and August)	Increased low salinity habitat, SAV, and prey	Moderate, Permanent, Beneficial
Freshwater Finfish ^a	Varies by species	Increased low salinity habitat	Moderate, permanent, Beneficial
Source: Section 4.10 Aquatic Resources, see Table 4.10-5 of the Final EIS.			
^a Under the Applicant's Preferred Alternative, freshwater finfish in the Mississippi River could be transported to the Barataria Basin by the Project. These freshwater finfish were not analyzed under the No Action Alternative because no impacts on these aquatic species were expected under the No Action Alternative.			

As noted in Section 4.10.4.4.2.1 of the Final EIS, depending on the timing and duration of larval influx, which varies by species (see Section 4.10.4.5 of the Final EIS) and the volume of discharge from the diversion, it is likely that larvae of some species would be restricted to differing degrees from advection into portions of the Barataria Basin, or that advection may be delayed and may occur in larger pulses when saltwater is able to push throughout the basin. Further, the changing currents in the outfall area of the proposed Project would also be likely to result in the modification of larval transport and juvenile settlement in and around the outfall area, with the impacts of high outflow decreasing with increasing distance from the immediate outfall area. However, as discussed above, recruitment could still occur in areas that are less affected by these flows (for example, tidal passes, channel margins, down-flow from landforms), even in areas where flow directions are significant (see Figures 4.10-4 and 4.10-5 of the Final EIS). Similar instances of freshwater plumes possibly acting to restrict or preclude larval transport have been documented in previous studies, although juvenile catch rates in LDWF data were identified as recovering within 2 months, suggesting that sufficient larval transport and recruitment occurred in the system to offset impacts from the freshwater pulse. The disruption of larval transport in the outfall area, and in certain

¹⁵ Refers to a more developed hatchling that has reached the stage where its yolk sac has almost disappeared, and its swim bladder is operational to the point where the fish can somewhat move around and feed for itself. At this stage, the fish usually consumes planktons as it is still too small and slow to venture away from covers.

areas of the Barataria Basin, could lead to larvae being precluded from settling in optimal habitats, transported to available suitable habitats outside the outfall area, or transported to unsuitable habitats; movement into less suitable habitats may result in reduced growth and increased mortality. These impacts would result in minor to major, permanent (recurring throughout the Project life), direct, and adverse impacts on faunal recruitment depending on the spatial and temporal overlap of high diversion flows (which can differ on an annual basis) and larval transport periods (which differ by species).

Cumulative impacts from construction of the reasonably foreseeable future actions combined with construction of the MBSD Project would likely be temporary, major, and adverse on businesses and residents located near or traveling past the MBSD construction footprint due to traffic congestion and increased noise and dust. Moderate adverse impacts on property values in localized areas and associated tax receipts could occur associated with construction activities. There may also be temporary, major, beneficial cumulative impacts on job creation and the local economy during the construction period. Temporary, major, beneficial impacts associated with employment for other reasonably foreseeable future projects are anticipated. This could include moderate to major, short-term, beneficial impacts on sales and use and income taxes, as well as public services associated with construction spending.

The cumulative impacts from operation of the MBSD Project combined with operation of reasonably foreseeable future actions on socioeconomics (including economy, employment, businesses and industrial activity; population; housing and property values; tax revenues; public services; community cohesion; and protection of children) are expected to range from minor to major adverse to minor beneficial and permanent. Ongoing trends in increasing sea-level rise, subsidence, flooding, and storm hazards in the Project area has and will likely continue to result in infrastructure damages, increased frequency of business disruptions and losses, and diminished employment opportunities. These have and will likely result in major, adverse, permanent impacts on many economic activities as well as resident populations. The operations of reasonably foreseeable projects is anticipated to also provide minor to moderate adverse and minor beneficial effects to socioeconomic resources, associated primarily with hurricane and flood risk reduction projects and operations of major industrial projects in the Barataria Basin. The operations of major industrial projects could have permanent impacts from the ongoing economic activity and at least 285 jobs created by these projects with negligible traffic increases during operations.

Due to the anticipated changes in the Barataria Basin as a result of MBSD CPRA has proposed the following mitigative measures in their August 22, 2022 "Mitigation and

Stewardship Plan for the Mid-Barataria Sediment Diversion Project” (mitigation plan). Uncertainty remains as to the effectiveness of these measures to mitigate anticipated impacts and whether sufficient funds have been identified to accomplish stated mitigation goals.

- Oyster Industry
 - Establish new public seed ground in Lower Barataria Basin
 - Estimated cost \$4 million.
 - Measure would include relocating the current public seed grounds in Barataria Basin (Hackberry Bay Seed Reservation, Little Lake, and Barataria Bay Seed Grounds) to a more suitable area in-basin or in a neighboring basin.
 - CPRA states in their mitigation plan “...public seed ground will be established after operations have occurred for a sufficient length of time... If no suitable conditions are found in lower Barataria Basin, this public seed ground would be sited in the nearest suitable area, with input from oyster fishers and oyster industry representatives.”
 - CPRA maintains that the existing conditions at the current public seed grounds in the Barataria Basin offer little to no production due to salinities, disease and predation. Relocation and establishment of new public seed grounds is expected by CPRA to be a public benefit; however, CEMVN was not provided information from CPRA to justify whether \$4 million is an adequate allocation of funds to identify, construct, and maintain new public seed ground areas. It is also unclear if the new public seed grounds would offer an acre for acre (or dollar for dollar) replacement for the Hackberry Bay Seed Reservation, Little Lake, and Barataria Bay Seed Grounds. This measure does not identify a time-frame or account for the temporal loss of use of public seed ground areas or what that may mean for individuals that currently use these public seed grounds. The new seed grounds may be relocated in areas that current users of the Barataria Basin public seed grounds can not access.
 - Enhance public and private oyster grounds
 - Estimated cost \$15 million.

- CPRA states that the program includes three primary components:
 - Cultch or spat/shell will be used to enhance public areas adjacent to Barataria Basin (in the Terrebonne, Pontchartrain and/or Breton Sound basins) prior to and after commencement of diversion operations.
 - For 10 years after Project operations commence, or until funds are expended, affected state leaseholders will be reimbursed for cultch or spat/shell used to rehabilitate leases in the lower Barataria Basin both prior to and after the commencement of diversion operations.
 - Affected state leaseholders will be reimbursed for cultch or spat/shell placed on new leases within Barataria Basin or in other suitable areas prior to and after the commencement of diversion operations.
- CPRA maintains that the program will directly benefit public and private oyster fishers, specifically those that provide trip ticket and lease holder information. Additionally, CPRA is proposing to reserve an undisclosed percentage of funds for those that are disproportionately impacted by MBSD operations.
- Based on the information provided by CPRA in its mitigation plan, it is unclear whether \$15 million is an adequate allocation of funds to administer, identify, and adequately compensate individuals that qualify for the program.
- Create or enhance broodstock reefs
 - Estimated cost \$4 million.
 - CPRA states “To mitigate for potential future adverse changes in hydrology, circulation, and overall habitat from the MBSD Project, broodstock reefs will be used to provide a larval supply to areas either separated hydrologically or located in a salinity regime that does not result in an annual recruitment event...These reefs will be located, where possible, in shallow or intertidal areas to enhance that resource as well as protect new reefs from predators.”

- CPRA maintains that oyster larvae placement in identified areas for optimal oyster growth will provide benefits to the oyster industry; however, the measure does not identify a time-frame or account for the temporal loss while operations data is compiled to identify optimal areas for placement.
 - Based on the information provided by CPRA in its mitigation plan, it is unclear whether \$4 million is an adequate allocation of funds to administer, identify, and quantify how many reefs could be enhanced/created with these funds.
- Alternative oyster aquaculture
 - Estimated cost of \$8 million.
 - CPRA states that the program includes some or all of the following: introduction and training opportunities, startup assistance, hatchery establishment/enhancement, designated use areas.
 - CPRA maintains that program will benefit and diversify the oyster fishing industry. CPRA is proposing to reserve an undisclosed percentage of funds for those that are disproportionately impacted by MBSD operations.
 - Based on the information provided, it is unclear whether \$8 million is an adequate allocation of funds to administer, identify, and establish a profitable oyster aquaculture industry.
- Crab Industry
 - Gear funding
 - Estimated cost of \$1 million.
 - The proposed project is not anticipated to negatively impact the Barataria crab fishery, but location of productive crab grounds could change due to project operation.
 - CPRA states that funds would go to a grant program to improve crab fishing gear based on those with trip tickets and vessel licenses.

- Shrimp Industry
 - Vessel/Facility improvements
 - Estimated cost of \$15 million.
 - Measure proposes to retrofit or upgrade fishing vessels with refrigeration and/or other gear/vessel modifications to offset the impacts associated with productive shrimping grounds being further south in the Barataria Basin and the reduction in overall shrimp abundance.
 - CPRA maintains that the program will directly benefit shrimp fishers, specifically those that provide trip ticket holder information. Additionally, CPRA is proposing to reserve an undisclosed percentage of funds for those that are disproportionately impacted by MBSD operations.
 - Based on the information provided by CPRA in its mitigation plan, it is unclear whether \$15 million is an adequate allocation of funds to administer, identify, and upgrade the shrimp fishing fleet. It is also unclear whether the shrimping industry will be viable in the Barataria Basin after commencement of project operations.
- Overall Fisheries Industry
 - Workforce and business training
 - Estimated cost of \$2 million.
 - Measure proposes to offer workforce and business training to individuals in the fishing industry. CPRA states “The State, working through the Louisiana Economic Development, the Louisiana Workforce Commission, local colleges, trade schools and other partners, will develop a workforce and business training program to provide business training to enhance current business operations and provide training in new skills for individuals that want to transition to new employment opportunities.”
 - An undisclosed percentage of funds is proposed to be reserved for those that are disproportionately impacted by MBSD operations.

- CPRA maintains that the program will directly benefit individuals in the fishing industry.
- Based on the information provided by CPRA in its mitigation plan, workforce and business training is specifically for individuals in the fishing industry (aging workforce). Benefits do not extend to immediate family members.
- Subsistence fishing access
 - Estimated cost of \$1 million.
 - CPRA states “Funds in this program will be used to increase shore-based subsistence fishing in both Barataria Basin and along the Mississippi River prior to initiation of Project operations. Funds in this program may also be used to improve boat launch access.”

Summary of mitigative measures from CPRA's mitigation plan:

Proposed Measure	Location	Implementation Period	Program Status	Project Associated Funding	Implementing Entity
Establishment of Reefs within Public Seed Grounds	Barataria Basin or adjacent areas identified by industry	Operation	New	\$4,000,000	LDWF
Enhance Public and Private Oyster Grounds	Barataria/ Outside	Construction/ Pre-operation	New program adapted from previous programs	\$15,000,000	LDWF
Create or Enhance Broodstock Reefs	Barataria	Operation	New program but companion to NRDA program	\$4,000,000	LDWF
Alternative Oyster Culture (AOC) <i>Introduction and Training</i>	Barataria/ Outside	Pre-operation and Operations	New program building off existing statewide effort	\$8,000,000	Louisiana Seafood Future
Alternative Oyster Culture (AOC) <i>Startup Assistance,</i>	Barataria/ Outside	Pre-operation and Operations	New program building off existing statewide effort		Louisiana Seafood Future
Alternative Oyster Culture (AOC) <i>Designated Use Areas</i>	Barataria/ Outside	Pre-operation and Operation	New program building off existing statewide effort		Louisiana Seafood Future
Marketing to Support the Oyster Industry	Industry	Pre-operation and Operation	New Program informed by industry	\$1,000,000	Louisiana Seafood Future

Proposed Measure	Location	Implementation Period	Program Status	Project Associated Funding	Implementing Entity
Marketing to Support the Finfish Industry	Industry	Pre-operation and Operation	New Program informed by industry	\$1,000,000	Louisiana Seafood Future
Marketing and Gear Improvements to Support the Crab Industry	Industry	Pre-operation and Operation		\$1,000,000	Louisiana Seafood Future; LDWF
Grant Program for Shrimp Vessel/Facility Improvements	Basin/ Industry	Pre-operation and Operation	New, based on previous successful programs	\$15,000,000	Louisiana Seafood Future
Marketing to Support the Louisiana Shrimp Industry	Industry	Pre-operation and Operation	New Program informed by industry	\$2,000,000	Louisiana Seafood Future
Subsistence Fishing	Basin and River	Pre-Operation	New Program with stakeholder input	\$1,000,000	CPRA
Workforce and Business Training for Commercial Fishers	Basin/ Industry	Pre-operation	New	\$2,000,000	TBD

During the comment period of the Draft EIS, CEMVN received comments about the economic impacts on local commercial fishermen from project operation. CPRA's monetary mitigative measures in the mitigation plan are new additions to the Final EIS. CEMVN understands that the funding of these mitigative programs is part of the proposed project's overall cost. No additional financial assurances have been provided.

As noted, uncertainty remains as to the effectiveness of these measures to mitigate anticipated impacts and whether sufficient funds have been identified to accomplish stated mitigation goals. The mitigative measures including funding for fisheries impacts are not required in the Section 10/404 permit conditions.

7.1.3 Aesthetics:

The Project area's existing viewshed includes predominately open lands with scrub vegetation, agricultural crops, sporadic homes, and industry. The viewshed also includes the Mississippi River and MR&T Levee east of the location proposed for the Project diversion structure, open land to the north and south, and wetlands to the west associated with the NOV-NFL Levee and the Barataria Basin. LA 23 and the NOGC Railroad run generally parallel to the Mississippi River and through the Project site. There are no institutional or publicly significant visual features in or around the location

proposed for the Project diversion structure such as federal or state lands, or national or state-designated wild or scenic rivers near the construction footprint.

During project construction temporary, minor, adverse impacts on aesthetics are expected to occur. Land-based construction would require ground disturbance and the removal of existing vegetation associated with installation of the built structures, relocation of portions of LA 23 and the NOGC Railroad, as well as alteration to portions of the MR&T and NOV-NFL Levees. These construction activities could generate dust, which may be a nuisance to visual receptors, and could generally diminish the quality of the existing viewshed. Water-based construction activities in the Barataria Basin immediate outfall area is proposed to include dredging operations for the outfall transition feature and conveyance channel, access routes for barge deliveries of construction materials, and placement of dredged material at designated marsh creation areas.

Excavation and pile-driving activities for construction of the diversion complex features is proposed in the basin. Water-based construction activities is expected to occur in the Mississippi River for installation of diversion complex features such as the cofferdam and intake channel structure. In addition, land- and water-based traffic could increase in the Project area to accommodate the delivery of construction materials, equipment, and personnel to and from the Project construction footprint. These activities are expected to occur during the 5-year construction period for the proposed Project and could affect the views of people at nearby residences and businesses, motorists on transportation corridors, and people engaging in water-based activities on the Mississippi River and in the Barataria Basin. Impacts on a specific visual receptor could vary based on the viewer's location, the adjacent land use type, and the specific construction activity occurring at that time. The increase in construction-related water-based traffic could have a minor impact on the viewshed because the vessels could be consistent with current use and the visual character of these waterways.

Permanent, moderate, adverse impacts on visual resources are anticipated to result from operation of the proposed Project due to the presence of aboveground structures. The most prominent visual feature of the proposed Project would be the diversion complex. While the diversion complex is proposed to be about 793 acres, including the outfall transition feature in the basin where dredging would occur, it would have a low physical profile, thereby minimizing its impact on the viewshed. Project structures (for example, the levees, administrative buildings, and diversion control structure) are proposed to range from 20 to 25 feet in height. The tallest Project structure is proposed to be the machine rooms on top of the gated control structure at about 41 feet, which

would consist of three 45-foot wide steel gates with an invert elevation of 40 feet and a top-of-wall elevation of 16.4 feet.

Other visible structures within the diversion complex would include the portions of LA 23 and the NOGC Railroad rights-of-way that would be raised and relocated over the conveyance channel. The relocation of LA 23 would occur via a bridge that would be approximately 34 feet in height. The relocated segment of railroad would be achieved through construction of a bridge over the proposed conveyance channel with a bottom elevation of 16.4 feet and track elevation of 20.4 feet.

In accordance with federal safety regulations, facilities are proposed to be illuminated at night. The Applicant is expected to implement measures that would reduce night time visibility of the aboveground facilities, including light reduction techniques such as limiting the amount of outdoor lighting installed, dimming lights at night, and directing light downward.

Mowing and other vegetation maintenance would also be conducted in vegetated areas at the diversion complex. These activities could occur intermittently and could be consistent with other periodic vegetation maintenance activities at other existing facilities and maintained rights-of-way in the Project area, such as the mowing of roadside vegetation, the MRL, and lawns on developed land.

While the built structures for the proposed Project would represent new aboveground facilities, which could permanently change the viewshed for nearby receptors, the Project is anticipated to be consistent with existing development in the general area. To further minimize impacts on visual resources from operation of the proposed Project, the Applicant could limit the height of structures to the extent practicable and utilize a color scheme that is harmonious with the natural landscape.

During operations, permanent, minor impacts on the existing viewshed within the Barataria Basin is projected to occur from wetland creation and restoration. The 13,400-acre increase in land mass is expected to be gradual and occur over the 50-year analysis period in areas where visual receptors are present only intermittently (for example, fishermen, boaters, hunters); as such, impacts on the viewshed for these visual receptors would be minor. Whether this impact on the viewshed is beneficial or adverse would depend on the perspective of the individual receptor; for example, the increase in wetlands may be perceived as beneficial for those individuals participating in wildlife viewing, where water-based users may find the loss of open water to be adverse.

New and restored marsh areas within the basin could represent new permanent impacts on the viewshed for nearby receptors, but would be consistent with historical views in the basin. The restored wetlands are expected to provide additional habitat for wildlife and plant species, which could result in long-term enhancement of the natural character of the viewshed. Dredging may be conducted on an as-needed basis to allow the proposed Project to function as designed. These activities would likely be similar to other maintenance dredging within the viewshed of the Project area.

Expected land loss in the birdfoot delta under the Applicant's Preferred Alternative is expected to be gradual and occur over the 50-year analysis period in areas where visual receptors are present only intermittently (for example, fishermen, boaters, hunters); as such, impacts on the viewshed for these visual receptors would be minor, and either beneficial or adverse depending on the individual's perspective as discussed above for the basin.

Cumulatively, past or recently completed projects with ongoing potential to contribute to the characteristics of the current viewshed in the Project area would be major industrial projects that include built structures and/or require a substantial amount of tree clearing or other landscape alterations. Foreseeable projects encompassed by the operational AOI for visual resources associated with the diversion complex are expected to be the same as those for construction while the hurricane and flood risk reduction projects and restoration projects have the greatest potential to contribute to cumulative impacts in the basin (described below and in Final EIS table 4.25.19-1).

Other Actions with the Potential to Cumulatively Impact Aesthetic and Visual Resources		
Action (Mapped # in Figure 4.25.1-1)	Range of Distances from Operation Footprint Boundary (in miles)	Notable Features that would be Readily Visible
NOV-NF-W-05a.1 Project (1)	0.0	Three new floodwalls and 6.3-mile-long levee
Tallgrass PLT (2)	0.3 mile	Export terminal, storage tanks, rail offloading facility, and a dock
Loading Dock on Mississippi River (3)	0.3 or 0.7 mile	Loading dock, pipe rack, and a raised road.
Restoration Projects ^a (not mapped)	0.0 – throughout basin	Diversion complex, Containment Dikes, Levees
Hurricane and Flood Risk Reduction Projects (not mapped)	0.3 – throughout basin	Floodwalls, Flood Gates, Drainage Structures, Levees, Pump Stations,
^a These projects would also restore and/or create shoreline, wetlands, marsh, and/or habitat within the Barataria Basin.		

7.1.4 General Environmental Concerns:

Table 2.9-1 of the Final EIS summarizes the construction and operational impacts of each alternative on the Project area's resources and is included below (corresponding Chapter 4 sections are noted within parentheses under each resource). As described in Chapter 4, Environmental Consequences, construction impacts are those impacts resulting from construction activities over the anticipated 5-year construction period; operational impacts are those resulting from O&M of the alternatives during the 50-year analysis period. The No Action Alternative is compared to existing conditions to understand the anticipated changes in the environment that could occur irrespective of the proposed Project. Thereafter, the anticipated environmental consequences of the Project action alternatives are compared to the results of the No Action Alternative analysis.

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
Geology and Soils (Section 4.2 of the Final EIS)	<ul style="list-style-type: none"> Continued land loss in the Barataria Basin and birdfoot delta would cause major, permanent, and adverse impacts due to subsidence and sea-level rise. 	<p>Construction:</p> <ul style="list-style-type: none"> Moderate, permanent, adverse impacts on the existing topography, geology, and geomorphology of the construction footprint from excavation, dredging, compaction, grading, or filling. Moderate, permanent, beneficial and adverse impacts on the geology and geomorphology of the open-water, shallow-bay bottom, and emergent marshes in the Project outfall area from the emplacement of dredged material for beneficial use and from access dredging, respectively. Moderate, permanent, adverse impacts on soils present in the construction footprint, including prime farmland soils. Minor, temporary, adverse impacts on the extraction of mineral resources due to the relocation of infrastructure or temporary, minor delays during transport. <p>Operational:</p> <ul style="list-style-type: none"> Major, permanent, beneficial impacts on land building in the Barataria Basin due to the diversion of flow and sediment load into the Barataria Basin. Approximately 17,300 acres of wetland are projected to be created and sustained in the Barataria Basin by 2050 (third decade of operations), decreasing to 13,400 acres of wetlands by 2070 due to the ongoing effects of sea-level rise and subsidence. Modeled land areas and changes presented in this table have been rounded to three significant digits. Land areas are considered accurate to within plus or minus 200 acres. Moderate, permanent, adverse impacts on land building in the birdfoot delta due to the diversion of flow and sediment load into the Barataria Basin that would otherwise be transported downstream. Wetlands in the birdfoot delta would be reduced by 3,000 acres by 2070. Moderate, short-term to permanent adverse and beneficial impacts on soils in the outfall area. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 9,660 acres of wetlands would be created and sustained in the Barataria Basin by 2070. Wetlands in the birdfoot delta would be reduced by 2,820 acres by 2070. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 29,200 acres of wetlands would be created and sustained in the Barataria Basin by 2070. Wetlands in the birdfoot delta would be reduced by 2,820 acres by 2070. 	<p>Construction:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the terrace alternatives would cause additional construction impacts, both adverse and beneficial, as compared with the corresponding capacity alternatives without terraces) in that they would modify the existing natural topography (adverse) but result in emergent uplands with higher ecological value (beneficial). <p>Operational:</p> <ul style="list-style-type: none"> The presence of terraces would yield only slight increases in land building in the Barataria Basin and slight decreases in land loss in the birdfoot delta as compared with the corresponding capacity alternatives without terraces. These differences would vary from decade to decade. Otherwise, these alternatives are substantially similar to the corresponding capacity alternatives without terraces.

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<ul style="list-style-type: none"> Minor, long-term to permanent, adverse and beneficial impacts on mineral resources due to deposition of sediment that may prevent access to oil and gas extraction infrastructure (adverse impact) and protect pipelines from wave and collision exposure (beneficial impact). 			
Groundwater (Section 4.3 of the Final EIS)	<ul style="list-style-type: none"> Existing agricultural, industrial, and commercial land use trends would continue in the location of the proposed diversion complex, where shallow groundwater flow and depths have historically been and would continue to be altered through the operation of drainage canals and pumping to reduce flooding. Use of the groundwater from the deeper aquifer systems underlying the Project area for irrigation or other purposes would remain restricted. Current trends in saltwater intrusion and water well use would continue. 	<p>Construction:</p> <ul style="list-style-type: none"> Temporary, minor, adverse impacts on overland water flow, groundwater flow direction, and local water table elevations of shallow aquifers would be caused by clearing, grading, dewatering, and near-surface soil compaction of the work areas. Negligible impacts on the Mississippi River Alluvial Aquifer and the Chicot Equivalent Aquifer System. Temporary and negligible to long-term and moderate adverse impacts on groundwater quality depending on the severity of potential spills and leaks of hazardous materials and the effectiveness of the spill response action. Impacts would be negligible with the implementation of an effective Project Spill Prevention, Control, and Countermeasure Plan (SPCC Plan). <p>Operational:</p> <ul style="list-style-type: none"> Permanent, minor, adverse impacts on shallow groundwater elevations and flow direction in surficial aquifers due to the presence of Project structures and modifications to existing drainage channels and forced drainage pumping. Negligible impacts on groundwater use. Minor short- and long-term impacts on shallow groundwater quality due to the introduction of fresh water in the outfall area during operations. These impacts may be either beneficial or adverse depending on the nature of the chemical changes and their indirect impacts on vegetation and aquatic life. Although saltwater intrusion would continue to impact groundwater in the Project area, the freshwater inputs may temporarily reduce shallow groundwater salinity and specific conductance in the outfall area. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
Surface Water and Coastal Processes (Section 4.4 of the Final EIS)	<ul style="list-style-type: none"> Continued processes of land subsidence and sea-level rise leading to major, permanent, adverse impacts by lowering bed elevations and increasing water levels. Moderate, permanent, adverse trends in tidal influence extending farther northward into the basin and circulation patterns changing, as sea level continues to increase. 	<p>Construction:</p> <ul style="list-style-type: none"> Minor, temporary, adverse impacts on water flows and sediment transport in the Mississippi River due to the presence of the cofferdam, including localized increases in water velocity, scouring near the cofferdam, and deposition downstream of the cofferdam. Moderate, short-term, adverse impacts on existing bed elevations in the basin due to dredging and the placement of material for beneficial use compared to the No Action Alternative with impacts becoming beneficial over the long term as wetlands are created and sustained in the beneficial use areas. <p>Operational:</p> <ul style="list-style-type: none"> Major to minor, permanent, beneficial impacts in Barataria Basin bed elevations and land building from the influx of sediments (~275 million tons over 50 years) with impacts decreasing with distance from the diversion structure (maximum increase of 3.7 feet in the immediate outfall area by 2070). Moderate, permanent, adverse impacts on bed elevations and land building in the birdfoot delta from the diversion of water and sediment out of the river. Major to minor, permanent, adverse impacts on water levels in the basin from the input of fresh water, with impacts decreasing with distance from the diversion structure (maximum increase of 1.0 foot in the immediate outfall area). Major to minor, permanent, adverse impacts on the speed and direction of currents and flows in the Barataria Basin and moderate, permanent, adverse impacts on water levels and flows in the Mississippi River near the intake structure. Minor, intermittent, beneficial impacts on water levels in the Mississippi River, with local reductions of up to 1.0 foot during maximum Project operations. Moderate, permanent, and adverse impacts on currents and flow in the Mississippi River due to the creation of a cross-stream (perpendicular to the existing general 	<ul style="list-style-type: none"> Major to minor, permanent, beneficial impacts in Barataria Basin bed elevations and land building from the influx of sediments (~190 million tons over 50 years) with impacts decreasing with distance from the diversion structure (maximum increase of 2.9 feet in the immediate outfall area by 2070). Major to minor, permanent, adverse impacts on water levels in the basin from the input of fresh water, with impacts decreasing with distance from the diversion structure (maximum increase of 0.7 foot in the immediate outfall area). All other impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Minor, intermittent, beneficial impacts on water levels in the Mississippi River, with local reductions of up to 1.0 foot during maximum Project operations. Major to minor, permanent, beneficial impacts in Barataria Basin bed elevations and land building from the influx of sediments (~525 million tons over 50 years) with impacts decreasing with distance from the diversion structure (maximum increase of 5.9 feet in the immediate outfall area by 2070). Major to minor, permanent, adverse impacts on water levels in the basin from the input of fresh water, with impacts decreasing with distance from the diversion structure (maximum increase of 2.0 feet in the immediate outfall area). All other impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the terrace alternatives would have substantially similar impacts as the corresponding alternatives without terraces, plus additional minor, short-term, adverse construction impacts on local hydrology and bed elevations in the immediate outfall area. <p>Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding alternatives without terraces, plus, additional minor impacts on diversion-induced deposition patterns resulting in less sediment accretion and land building in the vicinity of the terraces, and greater sediment accretion and land building to the northwest and west of the terraces.

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<p>downstream flow) velocity component near the proposed diversion site.</p> <ul style="list-style-type: none"> Negligible impacts on stormwater management and drainage in the land between the levees where the diversion structure would be located; minor, permanent, adverse impacts on stormwater management and drainage in the immediate outfall area due to increased water levels and head differential between the basin and protected side of levees, requiring increased pumping. 			
<p>Surface Water and Sediment Quality</p> <p>(Section 4.5 of the Final EIS)</p>	<ul style="list-style-type: none"> No construction related impacts would occur. Land subsidence and sea-level rise would continue, resulting in permanent elevated salinity, total suspended sediments (TSS), and sulfate throughout the basin. Minor permanent increases in average minimum water temperatures in the basin. Basin subsegments impaired by fecal coliforms would remain impaired. Sediment quality in the Mississippi River and the basin would remain similar to current conditions. 	<p>Construction:</p> <ul style="list-style-type: none"> Temporary, minor or moderate adverse construction impacts on water quality would result from the resuspension of fine sediments into the water column from in-water activities or runoff of sediment from adjacent work zones, resulting in increased turbidity and suspended sediments. Construction activities associated with the use of heavy equipment would create the potential for inadvertent releases of contaminants (fuel, oil, and other construction materials) to surface water in both the Mississippi River and the Barataria Basin. These impacts would be temporary and minor and mitigated by the implementation of SPCC Plan and SWPPP. <p>Operational:</p> <ul style="list-style-type: none"> Permanent, minor to moderate decreases in salinity in the basin; minor increases in salinity in the birdfoot delta. Permanent, minor decrease in basin water temperatures corresponding to diversion opening (flowing greater than the 5,000 cfs base flow). Permanent, minor to moderately elevated total nitrogen (TN) and total phosphorus (TP) concentrations throughout the basin. Impacts on DO would vary throughout the basin, but overall minor to moderate, permanent impacts. Permanent, minor to moderate increase in TSS concentrations throughout the basin; negligible to minor 	<p>Construction:</p> <ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. <p>Operational:</p> <ul style="list-style-type: none"> Minor to moderately elevated (slightly less elevated than Applicant's Preferred Alternative) TN and TP concentrations throughout the basin. Negligible to moderate decrease (slightly less decreased than Applicant's Preferred Alternative) in average sulfate concentrations in the basin. Permanent, minor to moderate increase (slightly less elevated than Applicant's Preferred Alternative) in TSS concentrations throughout the basin; negligible to minor increases in TSS in the birdfoot delta; seasonal shift in TSS trends in the northern basin. 	<p>Construction:</p> <ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. <p>Operational:</p> <ul style="list-style-type: none"> Minor to moderately elevated (slightly more elevated than Applicant's Preferred Alternative) TN and TP concentrations throughout the basin. Permanent, minor to moderate increase (slightly more elevated than Applicant's Preferred Alternative) in TSS concentrations throughout the basin; negligible to minor increases in TSS in the birdfoot delta; seasonal shift in TSS trends in the northern basin. Negligible to moderate decrease (slightly more decreased than Applicant's Preferred Alternative) in average sulfate concentrations in the basin. 	<p>Construction:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs). <p>Operational:</p> <ul style="list-style-type: none"> Each terrace alternative generally would have the same impacts as listed for each corresponding capacity flow alternative without terraces (50,000, 75,000, and 150,000 cfs) with some noted differences in fecal coliform and other parameters.

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<p>increases in TSS in the birdfoot delta; seasonal shift in TSS trends in the northern basin.</p> <ul style="list-style-type: none"> Permanent minor to moderate decrease in average sulfate concentrations in the basin. Permanent, major adverse impacts caused by elevated fecal coliform concentrations in the basin possibly causing an oyster propagation use impairment. Movement of sediment from Mississippi River to basin is not expected to result in measurable impacts on sediment quality in the basin. 	<ul style="list-style-type: none"> All other impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> All other impacts would be similar to the Applicant's Preferred Alternative. 	
Wetlands (Section 4.6 of the Final EIS)	<ul style="list-style-type: none"> Major, permanent, adverse impacts due to the continued loss or conversion of wetlands in the Barataria Basin and birdfoot delta. By year 2070, total wetland acres would be 72,800 in the Barataria Basin and 6,410 acres in the birdfoot delta. Invasive plant species would continue to persist and the net impact on invasive plants would be minor, permanent, and adverse. 	<p>Construction:</p> <ul style="list-style-type: none"> Minor to moderate, adverse impacts due to dredging and filling wetlands to construct the Project features. Moderate, permanent, beneficial impacts in beneficial use areas due to creation and enhancement of wetlands. Minor, temporary, adverse, localized impacts on wetlands adjacent to construction footprint due to sedimentation and contaminants from runoff during construction. Minor, permanent, localized beneficial impacts in the Project construction footprint due to invasive species mortality during excavation activities and minor to moderate, long-term, adverse impacts in the event that construction results in the spread of invasive species. <p>Operational:</p> <ul style="list-style-type: none"> Major, permanent, beneficial impacts on wetlands in the delta formation area and new marsh/marsh creation projects in the diversion outfall area that would be sustained or created by the diversion of sediment and fresh water. By year 2070, total wetland acres would be 85,500 and wetland losses would be 17.4 percent less than the No Action Alternative. Moderate, permanent, adverse impacts on wetlands in the birdfoot delta. By year 2070, total wetland acres would be reduced to 3,510 acres. Negligible impacts on wetlands outside of the delta formation area. 	<ul style="list-style-type: none"> Major, permanent, beneficial impacts on wetlands in the delta formation area and new marsh/marsh creation projects in the diversion outfall area that would be sustained or created by the diversion of sediment and fresh water. By year 2070, total wetland acres would be 82,000 and wetland losses would be 12.7 percent less than the No Action Alternative. Moderate, permanent, adverse impacts on wetlands in the birdfoot delta. By year 2070, total wetland acres would be reduced to 3,680. All other impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Major, permanent, beneficial impacts on wetlands in the delta formation area and new marsh/marsh creation projects in the diversion outfall area that would be sustained or created by the diversion of sediment and fresh water. By year 2070, total wetland acres would be 98,600 and wetland losses would be 35.4 percent less than the No Action Alternative. Moderate, permanent, adverse impacts on wetlands in the birdfoot delta. By year 2070, total wetland acres would be reduced to 3,710. All other impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, terrace alternatives would have substantially similar construction impacts as that of corresponding capacity flow alternatives without terraces, except that terrace construction would cause additional minor, short-term, adverse impacts on existing wetlands due to potential vegetation mortality from material placement. <p>Operational</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, terrace alternatives would have substantially similar impacts as those listed for the corresponding capacity flow alternatives without terraces, except that they would cause a negligible increase in wetland loss in the birdfoot delta.

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<ul style="list-style-type: none"> Moderate, short-term, adverse impacts due to erosion and loss of some emergent wetlands near the immediate outfall area, which would be offset when total wetland impacts are considered over the 50-year analysis period. Minor to moderate, permanent, adverse impacts by increasing the spread of invasive species in the Barataria Basin. Negligible to minor, permanent, beneficial impacts by decreasing the spread of invasive species in the birdfoot delta. 			
Air Quality (Section 4.7 of the Final EIS)	<ul style="list-style-type: none"> Continued loss of wetlands in the Barataria Basin via conversion to open water would release methane and CO₂ trapped in plant biomass and marsh sediments, contributing to increased atmospheric greenhouse gases (GHGs). 	<p>Construction:</p> <ul style="list-style-type: none"> Minor, direct, temporary, adverse impacts on air quality would occur during construction due to emissions from combustion-powered equipment. Minor to moderate, direct temporary, adverse impacts on air quality due to emissions from fugitive dust, including during operation of the on-site concrete manufacturing plant. <p>Operational:</p> <ul style="list-style-type: none"> Negligible impacts on air quality due to operations. Minor, indirect, permanent, beneficial impacts on carbon sequestration and atmospheric GHG concentrations due to wetland creation and restoration within the Barataria Basin. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).
Noise (Section 4.8 of the Final EIS)	<ul style="list-style-type: none"> No impacts on noise levels from construction, operation, or maintenance of the Project would occur. 	<p>Construction:</p> <ul style="list-style-type: none"> Temporary, direct, minor to moderate, adverse noise impacts during construction of the Project, due to operation of combustion-powered construction equipment and pile driving. <p>Operational:</p> <ul style="list-style-type: none"> Negligible airborne noise impacts due to operations and maintenance during active maintenance activities, diversion gate operation, and water flow through the diversion. Impacts on marine and aquatic species due to noise from maintenance dredging would be intermittent and limited to maintenance dredging activities (In the Final EIS see Section 4.10 Aquatic Resources, Section 4.11 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		Marine Mammals, and Section 4.12 Threatened and Endangered Species for specific noise impacts on species).			
Terrestrial Wildlife and Habitat (Section 4.9 of the Final EIS)	<ul style="list-style-type: none"> Major, permanent, adverse impacts on terrestrial wildlife due to the continued loss or conversion of wetlands. Minor to moderate, short-term to permanent, adverse impacts on upland vegetation due decreased presence of wetlands and storm surge protection. Major, permanent, adverse impacts on modeled species (green-winged teal, mottled duck, and alligator) from a model-projected decrease in habitat suitability; negligible to minor permanent, adverse impact on gadwall. 	<p>Construction:</p> <ul style="list-style-type: none"> Minor to moderate, temporary to permanent, adverse impacts on upland vegetation due to clearing associated with Project construction. Negligible to moderate, temporary to permanent adverse impacts on wildlife from habitat clearing and construction disturbance. <p>Operational:</p> <ul style="list-style-type: none"> Negligible to minor, permanent, direct and indirect, adverse impacts on terrestrial species from operational noise and lighting, and potential impacts on migration/movement. Minor to major, permanent, beneficial impacts on wildlife using wetland habitat from the creation of wetland in the basin by year 2070. Moderate, permanent, adverse impacts on wildlife in the birdfoot delta through the loss of wetlands by year 2070. Minor to moderate, permanent beneficial impacts on green-winged teal, mottled duck, and alligators; negligible impacts on gadwall. Moderate to major, permanent, adverse impacts on species that predominantly use higher salinity marsh such as diamondback terrapin. Negligible to minor, permanent, adverse impacts on upland vegetation and minor, permanent, adverse impacts on wildlife and wildlife habitat from the potential spread of invasive plants and animals. 	<ul style="list-style-type: none"> Moderate, permanent, direct and indirect, beneficial impacts on green-winged teal, mottled duck, and alligators from increased habitat suitability near the immediate outfall area; negligible impacts on the gadwall due to overall low habitat suitability in the Project area. All other impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Moderate to major, permanent, direct and indirect, beneficial impacts on green-winged teal, mottled duck, and alligators from increased habitat suitability near the immediate outfall area; negligible impacts on the gadwall due to overall low habitat suitability in the Project area. All other impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).
Aquatic Resources (Section 4.10 of the Final EIS)	<ul style="list-style-type: none"> Moderate, permanent, indirect, adverse impacts on SAV. Major, permanent, direct and indirect adverse impacts on benthic resources and EFH and managed species. 	<p>Construction:</p> <ul style="list-style-type: none"> Minor, temporary to permanent, direct and indirect, adverse impacts on SAV. Minor to moderate, short-term to permanent, direct and indirect impacts on benthic resources. Negligible to minor, temporary to permanent, direct and indirect, adverse impacts on EFH and managed species. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. Key species: Generally consistent with Applicant's Preferred Alternative but with slight decreases in benefits due to smaller 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. Key species: Generally consistent with Applicant's Preferred Alternative but with slight increases due to larger 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
	<ul style="list-style-type: none"> Habitat suitability for key species decreases overtime with changing salinity and marsh loss. Continued trend of invasive species expansion or maintenance. Key Species <ul style="list-style-type: none"> Brown shrimp – Major, adverse, indirect, permanent impacts. White shrimp – Major, adverse, indirect, permanent impacts. Blue crab – Moderate, adverse, indirect, permanent impacts. Bay anchovy – Negligible, indirect, permanent impacts. Gulf menhaden – Negligible, indirect, permanent impacts. Red drum – Minor, adverse, indirect, permanent impacts. Spotted seatrout – Minor, adverse, indirect, permanent impacts. Atlantic croaker – Minor, adverse, indirect, permanent impacts. 	<ul style="list-style-type: none"> Minor to moderate, adverse, temporary to permanent impacts on aquatic invasive plants and animals. Operational: <ul style="list-style-type: none"> SAV: Major, temporary, indirect, adverse impact through the initial and immediate change in salinity in the Barataria Basin, followed by major, permanent, indirect, beneficial impacts. Permanent, adverse, indirect, and negligible impacts in the birdfoot delta from increasing salinity. Benthic resources: Minor to moderate, permanent, direct and indirect impacts in the Barataria Basin (beneficial or adverse, depending on species). Moderate, permanent, and adverse impact in the birdfoot delta from marsh loss. EFH: Major, permanent, direct and indirect, beneficial changes. Moderate, permanent, adverse impacts in the birdfoot delta from loss of marsh habitat. Managed species: Negligible impacts on coastal migratory pelagics and highly migratory species due to predominant use of nearshore and offshore waters. Minor, adverse, indirect, and permanent impacts on reef fish from changes in prey species (gray snapper) or salinity and nursery habitat (lane snapper). Habitats impacts range from major beneficial to major adverse. Key species: <ul style="list-style-type: none"> Brown shrimp – Major, adverse, direct and indirect, permanent impact to species with major decrease in abundance earlier in analysis period than No Action; impact continues through the analysis period. White shrimp – Negligible to minor, beneficial, direct and indirect, permanent impact to species with potentially greater abundance than under No Action. Blue crab – Negligible to minor, beneficial, direct and indirect, permanent impact to species with potentially greater abundance than under No Action. Bay anchovy – Minor, beneficial, direct and indirect, permanent impact to species with slightly greater abundance than under No Action. 	increases in marsh, slight decreases in adverse impacts from the smaller area of disrupted larval transport, and incremental changes in either beneficial or adverse impacts associated with the decreased area of salinity modification (depending on species preferences).	increases in marsh, slight increases in adverse impacts from the larger area of disrupted larval transport, and incremental changes in either beneficial or adverse impacts associated with the expanded area of salinity modification (depending on species preferences).	terraces (50,000, 75,000, and 150,000 cfs).

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
	<ul style="list-style-type: none"> ○ Southern flounder – Negligible, indirect, permanent impacts. ○ Largemouth bass – Major, adverse, indirect, permanent impacts. ○ Eastern oyster – Major, adverse, indirect, permanent impacts. 	<ul style="list-style-type: none"> ○ Gulf menhaden – Moderate, beneficial, direct and indirect, permanent impact to species with greater abundance than under No Action. ○ Red drum – Moderate, beneficial, indirect permanent impact to species with greater abundance than under No Action. ○ Spotted seatrout – Minor, adverse, direct and indirect permanent impact to species with a slightly lower abundance than under No Action. ○ Atlantic croaker – Negligible, direct and indirect, permanent impact with no measurable basin-wide change in abundance over time as compared to No Action. ○ Southern flounder – Negligible to minor, adverse, direct and indirect, permanent impact to species with potentially lower abundance than under No Action. ○ Largemouth bass – Moderate, beneficial, direct and indirect, permanent impact to species with greater abundance than under No Action. ○ Eastern oyster – Major, adverse, direct and indirect, permanent impact to species with major decrease in abundance earlier in analysis period than No Action and continues over time. ○ Freshwater fishes – Moderate, beneficial, direct and indirect, permanent impact to freshwater fish introduced into basin with greater abundance than under No Action. ○ Minor to moderate, permanent, indirect, adverse impacts on aquatic invasive plants and animals. 			
Marine Mammals (Section 4.11 of the Final EIS)	<ul style="list-style-type: none"> • Gradually increasing minor, permanent, adverse impacts on Barataria Bay Estuarine System (BBES) dolphins. 	<p>Construction:</p> <ul style="list-style-type: none"> • Negligible to minor, temporary, indirect, and adverse impacts on bottlenose dolphins from construction noise and dredging. <p>Operational:</p> <ul style="list-style-type: none"> • Major adverse impacts on BBES dolphins and dolphin habitat (due mostly to salinity) that would continue throughout the lifetime of the Project. Immediate decreases in salinity levels within the BBES Stock area, which would persist throughout the analysis period, 	<ul style="list-style-type: none"> • Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> • Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> • As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<p>would cause permanent, major adverse impacts on BBES dolphin health, survival, and reproduction. Dolphins north of the Barrier Islands would be especially adversely impacted, while Barrier Island-associated dolphins would be less-adversely impacted; however, all groups would be more adversely impacted than compared to conditions under the No Action Alternative.</p> <ul style="list-style-type: none">Based on the projected decreases in survival rates due to prolonged low-salinity exposure, there would be a substantial reduction in population numbers.			
Threatened and Endangered Species (Section 4.12 of the Final EIS)	<ul style="list-style-type: none">No impact on the West Indian manatee, hawksbill and leatherback sea turtle, pallid sturgeon, and giant manta ray.Minor adverse impact on the loggerhead and green sea turtles, and saltmarsh topminnow.Negligible impact on the black rail and bald eagle.Minor to moderate adverse impact on Kemp's ridley sea turtle, piping plover (and critical habitat), and red knot (and proposed critical habitat).	<p>Construction:</p> <ul style="list-style-type: none">No effect (no impact) on loggerhead sea turtle critical habitat, five species of sea turtles on nesting beaches, and designated (piping plover) or proposed (red knot) critical habitat.Likely to adversely affect (minor adverse impact on) pallid sturgeon due to construction noise.Not likely to adversely affect (negligible to minor impact on) West Indian manatee, piping plover, red knot, five species of sea turtles in marine environments, black rail, and giant manta ray.Minor, temporary, adverse, and direct/indirect impacts on saltmarsh topminnow.Negligible impact on bald eagles from loss of potential nesting trees and indirect disturbances from construction activities. <p>Operational:</p> <ul style="list-style-type: none">No effect (no impact) on four species of sea turtles on nesting beaches, or loggerhead or designated (piping plover) or proposed (red knot) critical habitat (compared to the No Action Alternative).Not likely to adversely affect (negligible to minor adverse impact on) West Indian manatee; hawksbill and leatherback sea turtles in marine environments; the loggerhead sea turtle on nesting beaches; piping plover; red knot; black rail, and giant manta ray.Likely to adversely affect (minor to moderate adverse impact on) the Kemp's ridley, loggerhead, and green sea turtles and pallid sturgeon.	<ul style="list-style-type: none">Impacts would be similar to the Applicant's Preferred Alternative.	<ul style="list-style-type: none">Impacts would be similar to the Applicant's Preferred Alternative.	<p>Construction and Operational:</p> <ul style="list-style-type: none">As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<ul style="list-style-type: none"> Minor to moderate, permanent, direct and indirect, beneficial impacts on the saltmarsh topminnow. Negligible to moderate, permanent, indirect, and adverse impacts on bald eagle from potential contaminant uptake. 			
Socioeconomics (Section 4.13 of the Final EIS)	<ul style="list-style-type: none"> Economy, Employment, Businesses, and Industrial Activity: General trend continues: moderate to major, permanent, adverse impacts on economic activities. Population: Major, permanent, adverse impacts on population outmigration. Housing and Property Values: Negligible (inside flood protection) to major (outside flood protection), permanent, adverse impacts on property values. Tax Revenue: Minor to moderate permanent, adverse impacts on sales and use revenues in the Project area. Impacts on property taxes are expected to be negligible for areas inside of flood protection, while for areas outside of flood protection, where populations are generally smaller, moderate to major, permanent, adverse impacts are expected. Public Services and Utilities: Moderate to 	<p>Construction:</p> <ul style="list-style-type: none"> Economy, Employment, Businesses, and Industrial Activity: Moderate to major, temporary, beneficial impacts from job creation and increased economic activity in the Project area. Short-term, minor to moderate, adverse impacts on some businesses located in the direct vicinity of construction activities associated with increased traffic, noise, and dust during construction. Minor, permanent, adverse impacts on agricultural outputs and employment in areas in and near the proposed Project footprint. Population: Negligible impacts on population in the Project area. Housing and Property Values: Minor, short-term, adverse impacts on properties within the construction footprint as well as properties within approximately 0.5-mile around the footprint. Minor to moderate, temporary, adverse direct construction impacts would occur on lands within the construction footprint, as well as adjacent lands, including nearby residences and businesses. Tax Revenue: Minor to moderate, short-term, beneficial impacts on sales and use and income taxes across the State of Louisiana and local jurisdictions associated with construction spending, particularly in Plaquemines Parish. Minor, permanent, adverse impacts on property taxes receipts in Plaquemines Parish associated with reduced housing and property values. Public Services and Utilities: Minor short-term benefits to public services associated with increased sales tax receipts, primarily in Plaquemines Parish. Minor short-term adverse impacts on public services associated with reduced property taxes. Negligible impacts on utilities. Community Cohesion: Negligible impacts on community cohesion. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Economy, Employment, Businesses, and Industrial Activity: Each terrace alternative would have similar construction impacts as listed for each corresponding flow capacity alternative without terraces (50,000, 75,000, and 150,000 cfs). Inclusion of spending on marsh terraces under any of the capacity alternatives would slightly increase the regional economic benefits of these alternatives as compared to the flow capacity alternatives. All Other Socioeconomic Activities: Each terrace alternative would have the same impacts as listed for each corresponding capacity flow alternative without terraces (50,000, 75,000, and 150,000 cfs) and would be similar to the Applicant's Preferred Alternative.

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
	<p>major, permanent, adverse impacts. Current trends of closures and decreases in public services in expected to continue.</p> <ul style="list-style-type: none">Community Cohesion: Moderate permanent, adverse impacts on community cohesion.Protection of Children: Minor, permanent, adverse impacts on the welfare of children.	<ul style="list-style-type: none">Protection of Children: Negligible impacts on protection of children.Operational:<ul style="list-style-type: none">Economy, Employment, Businesses, and Industrial Activity, Negligible to minor, permanent, beneficial impacts on businesses and industrial activity in the west bank New Orleans area north of the diversion. Minor permanent, adverse impacts on the regional economy, employment, businesses, and industrial activity as a result of increased tidal flooding and storm surge in areas outside flood protection in the Barataria Basin, particularly in the 2030s to 2050s in areas near (within 10 miles north or 20 miles south) the immediate outfall area. Depending on the degree of flood impact, CPRA plans to acquire Project servitudes on affected properties within communities to compensate property owners for the impact of diversion-induced flooding on the value of their properties.Population: Minor to moderate, permanent, adverse impacts on communities near the immediate outfall area (within 10 miles north or 20 miles south) outside of flood protection due to increased tidal flooding and associated outmigration. Depending on the degree of flood impact, CPRA plans to acquire Project servitudes on affected properties within communities to compensate property owners for the impacts of diversion-induced flooding on the value of their properties. Long-term, negligible to minor, beneficial impacts due to additional storm surge protection for the west bank New Orleans area north of the diversion.Housing and Property Values: In the west bank New Orleans area north of the diversion, the Project would be expected to have minor, permanent, beneficial impacts on housing and property values as the land gained as a result of the proposed Project would decrease the risks of storm hazards. Minor to moderate, permanent, adverse impacts on housing and property values would occur in communities near the immediate outfall area (within 10 miles north or 20 miles south) outside of flood protection. Negligible to minor impacts for areas inside			

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Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<p>flood protection and for areas further (more than 20 miles) south of the diversion.</p> <ul style="list-style-type: none"> • Tax Revenue: Minor to moderate, permanent, beneficial impacts on property tax revenues in the west bank New Orleans area north of the diversion. Minor, permanent, adverse impacts in areas outside of flood protection near the immediate outfall area (within 10 miles north or 20 miles south); negligible impacts expected in areas further from the immediate outfall area. Negligible impacts for areas inside flood protection. • Public Services and Utilities: Minor, permanent, beneficial impacts on public service facilities and delivery in the west bank New Orleans area due to decreased storm hazard risks and increased tax revenue. Public services and utilities infrastructure located outside of federal flood protection near (within 10 miles north or 20 miles south) the immediate outfall area would experience direct adverse impacts. Decreased tax revenues in Plaquemines and Jefferson Parishes would reduce funding for public services. Overall minor, permanent, adverse impacts on delivery of public services in Plaquemines and Jefferson Parishes. • Community Cohesion: Minor to moderate, permanent, adverse impacts on community cohesion in communities near the immediate outfall area (within 10 miles north or 20 miles south) outside of flood protection related to outmigration. • Protection of Children: Minor, permanent, adverse impacts on children in communities near the immediate outfall area (within 10 miles north or 20 miles south) outside of flood protection. Minor, permanent, beneficial impacts on children in the in the west bank New Orleans area north of the diversion. 			
Commercial Fisheries (Section 4.14 of the Final EIS)	<ul style="list-style-type: none"> • Adverse impacts on the commercial shrimp fishery due to decrease in shrimp abundance from reduced marsh habitat and increased salinity over time. 	<p>Construction:</p> <ul style="list-style-type: none"> • Minor, adverse, temporary impacts on commercial fishing during construction due to delays in accessing areas used for fishing as compared to No Action Alternative. <p>Operational:</p>	<ul style="list-style-type: none"> • Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> • Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> • As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
	<ul style="list-style-type: none"> Adverse impacts on the commercial oyster industry due to salinity shift over time, particularly after 2050. Adverse impacts on commercial crab fishery due to decrease in blue crab abundance from reduced marsh habitat over time. Adverse impacts on commercial fisheries for spotted seatrout, Atlantic croaker, and largemouth bass (proxy for freshwater species) as abundance declines in the long term due to reduced marsh habitat and increased salinity and water depth. No or negligible impacts anticipated for southern flounder, Gulf menhaden, and bay anchovy commercial fisheries due to negligible impacts on species abundance over time. 	<ul style="list-style-type: none"> Moderate to major, permanent, adverse impacts on shrimp fisheries associated with adverse impacts on brown shrimp abundance over time. Impacts would further encourage fishers to exit from the industry. Major, permanent, adverse impacts on eastern oyster fisheries due to adverse impacts on eastern oyster abundance. Negligible to minor, permanent, beneficial impacts on blue crab fishery would be anticipated due to changes in species abundance. A range of impacts on finfish fisheries would be expected. Decreases in species abundance in the Project area would cause direct reductions in commercial catch, discourage entrants into the fishery, and encourage exits, while the converse would be true where increases in abundance and catch would be anticipated. Specifically, as compared to the No Action Alternative: <ul style="list-style-type: none"> Moderate, permanent, beneficial impacts on Gulf menhaden; Minor, permanent, beneficial impacts on bay anchovy; Negligible, impacts on Atlantic croaker; Negligible to minor, permanent, adverse impacts on southern flounder; Minor, permanent, adverse impacts on spotted seatrout; and Moderate, permanent, beneficial impacts on freshwater finfish fisheries. 			flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).
Environmental Justice (Section 4.15 of the Final EIS)	<ul style="list-style-type: none"> Major, permanent, adverse impacts on low-income and minority populations. Environmental changes may impact low-income and minority populations more intensely than general population due to social and economic 	<p>Construction:</p> <ul style="list-style-type: none"> Minor to moderate, temporary, adverse impacts on low-income and minority populations within 0.5-mile of the construction footprint. Construction impacts on minority and low-income populations, including the population of Ironton, could be disproportionately high and adverse depending on the unique vulnerabilities within that community. <p>Operational:</p>	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
	vulnerabilities, ties to traditional lands and lifeways, and dependence on commercial and subsistence fisheries that would be expected to decline over time.	<ul style="list-style-type: none"> May have disproportionately high and adverse, long-term impacts on some low-income and minority populations in communities located near the immediate outfall area (within 10 miles north and 20 miles south) and outside of federal levee protection including populations within Myrtle Grove, Woodpark, Suzie Bayou, Hermitage, Grand Bayou, and Happy Jack due to increased tidal flooding and storm hazards, to the extent that such populations are uniquely vulnerable to tidal flooding and storm hazard impacts. In addition, negligible to minor increase in risk of levee overtopping in communities gulfward of the immediate outfall area during certain 1 percent (100 year) storms could result in disproportionately high and adverse impacts on low-income and minority populations in Ironton to the extent that overtopping leads to flooding in that community. To a lesser extent, tidal flooding could increase in the Lafitte area, which includes multiple communities with varying levels of existing non-federal flood protection. May have disproportionately high and adverse impacts on low-income and minority populations engaged in commercial and subsistence fishing and dependent on adversely impacted fisheries in the Barataria Basin; disproportionate impacts may vary according to levels of engagement and dependence. For low-income or minority populations located in areas inside the federal levee system, or farther than 10 miles north and 20 miles south of the immediate outfall area, impacts from increased tidal flooding and storm surge caused by operation of the Project are expected to be negligible. Impacts on low-income and minority populations in these areas would not be disproportionate. For low-income or minority populations located in areas north of the diversion, some beneficial impacts related to additional protection from storm hazards due to reduced storm surge and wave heights as a result of land building may occur relative to the No Action Alternative. 			
Recreation and Tourism	<ul style="list-style-type: none"> No impacts on recreation and tourism from construction of the 	Construction: <ul style="list-style-type: none"> Temporary, minor, localized, adverse impacts from construction due to traffic, increased dust, and noise 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	Construction and Operational: <ul style="list-style-type: none"> As compared to the No Action Alternative, the

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
(Section 4.16 of the Final EIS)	<p>proposed Project would occur. Ongoing trends would continue.</p> <ul style="list-style-type: none"> Negligible (early decades) to major (later decades) declines in recreation site accessibility. Minor, permanent decreases in the abundance and recreational fishing of spotted seatrout and red drum. Moderate, permanent, decreases in site accessibility for recreational boating. Adverse impacts on hunting and wildlife watching. Major, permanent adverse impacts on visitation to privately-managed recreation areas. Recreational expenditures in the region and the associated economic impacts would decrease over time. 	<p>impacts which may contribute to delays in accessing sites. Water-based construction traffic in the Mississippi River and Barataria Basin may also have minor impacts on recreational site access for recreational users.</p> <p>Operational:</p> <ul style="list-style-type: none"> Long-term to permanent, minor to moderate, adverse impacts on site accessibility, recreational boating, and boat-based recreational fishing due to tidal flooding, sedimentation, and expansion of invasive plant species. Minor, permanent, adverse impacts on recreational fishing for spotted seatrout. Moderate, permanent, beneficial impacts on recreational fishing for red drum. Minor to moderate, permanent, beneficial impacts on hunting and wildlife watching due to increases in wetland habitat. Minor, permanent, adverse or beneficial impacts on the regional economy associated with recreational expenditures in the region. 			<p>three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).</p>
Public Lands (Section 4.17 of the Final EIS)	<ul style="list-style-type: none"> Major, permanent, and adverse impacts on public lands due to decreases in wetland habitat availability for fish and wildlife and adverse impacts on visitation accessibility. 	<p>Construction:</p> <ul style="list-style-type: none"> Temporary, minor, adverse impacts from construction due to temporary and localized traffic congestion from the mobilization of crews and equipment, which may contribute to delays in accessing public lands. <p>Operational:</p> <ul style="list-style-type: none"> Negligible to minor, adverse, permanent impacts on public lands in the Barataria Basin due to negligible to minor, adverse impacts on wetland habitat at these sites. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<ul style="list-style-type: none"> Minor to moderate, adverse, permanent impacts on the Pass A Loutre WMA and Delta NWR in the birdfoot delta due to projected decreases in wetland habitat. Long-term, minor to moderate, adverse direct and indirect impacts on site accessibility due to increased tidal flooding at public lands and private recreation sites (or roads leading to those sites). 			
Land Use and Land Cover (Section 4.18 of the Final EIS)	<ul style="list-style-type: none"> No impacts on land use from construction of the proposed Project would occur. Any future impacts would be required to comply with applicable permits and laws. Major, permanent, adverse impacts due to continued land loss in the Barataria Basin and birdfoot delta. 	<p>Construction:</p> <ul style="list-style-type: none"> Moderate, temporary and short-term, adverse impacts due to vegetation clearing, ground disturbance, and fill placement. <p>Operational:</p> <ul style="list-style-type: none"> Moderate, permanent impacts on existing land use. Major, permanent beneficial impacts in the Barataria Basin due to lands that are sustained or created (13,400 acres by year 2070). Moderate, permanent, adverse or beneficial (depending on the user) impacts on wetland land loss in the birdfoot delta (an additional 3,000 acres lost by 2070). 	<ul style="list-style-type: none"> Major, permanent beneficial impacts in the Barataria Basin due to lands that are sustained or created (9,660 acres by year 2070). Moderate, permanent, adverse or beneficial (depending on the user) impacts on wetland land loss in the birdfoot delta (an additional 2,820 acres lost by 2070). All other impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Major, permanent beneficial impacts in the Barataria Basin due to lands that are sustained or created (29,200 acres by year 2070). Moderate, permanent, adverse or beneficial (depending on the user) impacts on wetland land loss in the birdfoot delta (an additional 2,820 acres lost by 2070). All other impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).
Aesthetic and Visual Resources (Section 4.19 of the Final EIS)	<ul style="list-style-type: none"> No impacts on aesthetic and visual resources from construction of the proposed Project would occur. Any future impacts would be required to comply with applicable permits and laws. Minor to major, adverse to beneficial, permanent impacts on aesthetic and visual resources depending on type and 	<p>Construction:</p> <ul style="list-style-type: none"> Temporary, minor, adverse impacts on visual resources during construction of the Project. <p>Operational:</p> <ul style="list-style-type: none"> Permanent, moderate, adverse impacts on visual resources from operation of the Project due to presence of aboveground structures. During operations, permanent, minor, beneficial changes in the existing viewshed within the Barataria Basin due to wetland creation and restoration. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
	scope of potential future development.				
Public Health & Safety, Including Flood and Storm Hazard Risk Reduction (Section 4.20 of the Final EIS)	<ul style="list-style-type: none"> Minor to major, permanent, adverse impacts from increase in frequency and severity of non-storm and storm related flooding inside and outside federal levee systems. 	<p>Construction:</p> <ul style="list-style-type: none"> Minimized risk of inadvertent releases of contaminants which could cause temporary, adverse impacts that range from no impact to moderate, depending on nature of release. Minimized risk of storm events which could cause construction equipment and material related impacts which could have short-term, adverse impacts that range from minor to moderate impact. <p>Operational:</p> <ul style="list-style-type: none"> Minor to major, adverse, long-term impacts on public health and safety due to increased tidal flooding in the Barataria Basin communities near the immediate outfall area not protected by federal levees. Minor to moderate, beneficial, permanent impacts on public health and safety associated with storm hazards in communities outside of federal levee systems north of the immediate outfall area. Minor to moderate, adverse, permanent impacts on public health and safety risks associated with storm hazards in communities outside of federal levee systems south of the immediate outfall area. Negligible to minor, beneficial, permanent impacts on decreasing levee overtopping north of the immediate outfall area and permanent, negligible to minor, adverse impacts on increasing levee overtopping immediate outfall area. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Similar impacts as Applicant's Preferred Alternative, with greater major intensity of impact on public health and safety than the Applicant's Preferred Alternative during the first 20 years of the analysis period, particularly in communities outside the federal levee system closer to the immediate outfall area. 	<p>Construction</p> <ul style="list-style-type: none"> Construction of terraces would alter approximately 88 additional acres of 100-year floodplains than the corresponding capacity flow alternative without terraces (50,000, 75,000, and 150,000 cfs) Alternative, but no impacts on public health and safety. <p>Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).
Navigation (Section 4.21 of the Final EIS)	<ul style="list-style-type: none"> Cargo tonnages and marine vessels transiting the Lower Mississippi River, GIWW, Barataria Bay Waterway, and Bayou Lafourche would continue to show little or no growth. Existing dredging trends would continue. 	<p>Construction:</p> <ul style="list-style-type: none"> Minor, temporary, adverse impacts on traffic capacity in the Lower Mississippi River and the Barataria Basin federal navigation channels due to 10 monthly barge deliveries of construction materials via both the Mississippi River and Barataria Basin channels during the construction period. Minor, temporary, adverse impacts on safety and efficiency of shallow-draft vessels transiting past the proposed Project site in the Mississippi River during 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<p>Construction and Operational:</p> <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

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Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<p>construction due to waterway obstructions associated with the proposed cofferdam for the 3.5-year construction timeframe of the river intake system.</p> <p>Operational:</p> <ul style="list-style-type: none">• Moderate, intermittent but permanent, adverse impacts on marine traffic efficiency and safety for shallow-draft vessels in the Mississippi River during operations due to cross-currents extending into the channel from the proposed intake structure. Some congestion may be unavoidable and could cause transit delays.• Minor, permanent, adverse impacts on maintenance dredging between the proposed intake structure (RM 60.7 AHP) and Venice (RM 13 AHP) in the Mississippi River due to changes in typical shoaling patterns and locations and minor increases in dredging quantities if new point bar growth intrudes into the navigation channel.• Moderate, permanent, adverse impacts on maintenance dredging in the Mississippi River from Venice to the Gulf, including Head of Passes and in Southwest Pass, and in other passes carrying flow to the Gulf (for example, South Pass, Tiger Pass).• Minor, permanent, indirect impacts on marine traffic in the Barataria Basin navigation channels due to increased dredging frequencies (dredging activities may cause delays for marine traffic).• Moderate, permanent, adverse impacts on maintenance dredging in the Barataria Bay Waterway due to increased sedimentation.• Minor, permanent, adverse impacts on maintenance dredging in Bayou Lafourche due to increased sedimentation.			
Land-Based Transportation (Section 4.22 of the Final EIS)	<ul style="list-style-type: none">• Future increases in LA 23 traffic volumes of 2.2 percent annually.• NOGC train traffic expected to remain at current levels.	<p>Construction:</p> <ul style="list-style-type: none">• Temporary, moderate, adverse impacts on roadway traffic delays and congestion from construction-generated traffic and reduced roadway capacity for southbound traffic on LA 23.• Temporary, minor, adverse impacts on increased NOGC train traffic from rail deliveries of construction materials.	<ul style="list-style-type: none">• Impacts would be similar to the Applicant's Preferred Alternative.	<ul style="list-style-type: none">• Impacts would be similar to the Applicant's Preferred Alternative.	<p>Construction and Operational:</p> <ul style="list-style-type: none">• As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
	<ul style="list-style-type: none"> Future industrial and commercial development in vicinity of the Project site may induce increases in roadway and railroad traffic volumes, which may result in congestion and delays for motorists. 	Operational: <ul style="list-style-type: none"> Permanent, minor, adverse impacts on LA 23 traffic access due to closure of two median cross-over locations. Permanent, minor, beneficial impacts on LA 23 traffic safety due to limited wildlife access on proposed LA 23 bridge. 			flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).
Hazardous, Toxic, and Radioactive Waste (Section 4.23 of the Final EIS)	<ul style="list-style-type: none"> Only limited impacts on hazardous, toxic, and radioactive waste (HTRW) are expected to occur during the 5-year analysis period (the period that would otherwise be required for construction of the proposed Project); therefore, there would likely be only negligible HTRW impacts during that timeframe. Existing HTRW within the basin and the birdfoot delta could be impacted as a result of future development or ongoing processes, potentially resulting in minor to major, permanent adverse impacts over time, depending on the type of future developments or events. 	Construction: <ul style="list-style-type: none"> Temporary, minor to moderate, adverse impacts due to potential unexpected discovery of and exposure to existing contaminated sites. Operational: <ul style="list-style-type: none"> Short- to long-term, minor to major adverse impacts resulting from the transport and use of potentially harmful chemicals and fuels needed for general equipment maintenance and operation and increased water flow and sedimentation. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	Construction and Operational: <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).
Cultural Resources (Section 4.24 of the Final EIS)	<ul style="list-style-type: none"> Existing and future trends, including subsidence and erosion, within the Operational Impacts Area of Potential Effects (APE) would continue. 	Construction: <ul style="list-style-type: none"> USACE determined that the undertaking will have an adverse effect on one (1) historic property (archaeological site, 16PL107) within the Construction Impacts APE. Operational:	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the Applicant's Preferred Alternative. 	Construction and Operational: <ul style="list-style-type: none"> As compared to the No Action Alternative, the three terrace alternatives would have substantially similar impacts as the corresponding capacity

Comparative Summary of Potential MBSD Impacts Under Each Alternative (as Compared to the No Action Alternative unless Otherwise Stated)					
Resource	No Action Alternative	75,000 cfs Alternative (Applicant's Preferred)	50,000 cfs Alternative	150,000 cfs Alternative	Terrace Alternatives
		<ul style="list-style-type: none">USACE determined the undertaking will have an adverse effect on 5 historic properties (archaeological sites) within the Operational Impacts APE.			flow alternatives without terraces (50,000, 75,000, and 150,000 cfs).

7.1.5 Wetlands:

Section 3.6 of the Final EIS describe the diverse set of functions wetlands provide to ecological, economic, and social benefits. Louisiana's coastal wetlands provide habitat for the largest concentration of over-wintering waterfowl in the U.S. as well as habitat for wildlife, finfish, shellfish, and other aquatic organisms, including threatened or endangered species. Further, they support the largest commercial fishery in the contiguous United States, by volume. Wetlands improve water quality by removing organic and inorganic toxic materials, suspended sediments, and nutrients via plant uptake and sedimentation. Primary productivity, decomposition, and other chemical processes also contribute to the removal of certain chemicals from the water. Wetlands also provide a level of flood control; wetland vegetation can attenuate waves and storm surges, and communities sheltered by wetlands may sustain less damage from storm surges. Climate change is projected to intensify the threat of flooding in the Project area due to more frequent, stronger hurricanes, sea-level rise, higher river discharges, and extreme weather events, further highlighting the importance of the ecological and economic function of wetlands. Further, due to their anoxic, wet conditions, wetlands provide a natural environment for sequestration and storage of carbon from the atmosphere. Most wetlands are net carbon sinks where methane emissions and carbon sequestration are balanced. Wetlands also provide aesthetic and recreational value for human uses.

Wetland types within the Project area include forested (bottomland hardwood and swamp), scrub/shrub, and emergent wetlands, which are further classified by their salinity regimes and tidal influence. The wetlands present are remnants of depositional processes associated with the Mississippi River's deltaic cycle. Emergent wetlands in the Barataria Basin and Mississippi River Delta are typically classified as freshwater, intermediate, brackish, or saline marsh based on salinities and the corresponding plant communities present. Wetland types on the west bank of the Mississippi River near the proposed Project diversion complex include mostly freshwater forested bottomland hardwood and scrub/shrub wetlands, as well as some areas of freshwater emergent wetlands. MRL batture vegetation communities include seasonally flooded forested bottomland hardwood wetlands in the immediate vicinity (within 0.5-mile) of the location proposed for the Project diversion complex.

Wetlands within the proposed construction footprint were documented during wetland delineation surveys conducted by CPRA and verified by CEMVN in the August 29, 2022 in-house delineation. Jurisdictional wetlands within the construction footprint include forested, scrub/shrub, emergent wetland types. Forested wetlands in the construction footprint are dominated by invasive Chinese tallow and native species commonly found

in disturbed, early successional forested wetlands, rather than high-quality bottomland hardwood wetlands. Scrub/shrub were primarily observed along dredged areas with a higher elevation than the adjacent emergent wetlands and open water. Emergent wetlands in the Project footprint are dominated by smartweed (*Polygonum* sp.) and cattail (*Typha* sp.). These wetlands are within the permanent footprint of the Project facilities and would not be restored following construction. Therefore, they could no longer provide ecosystem functions such as wildlife habitat or water quality improvement, resulting in moderate, permanent, adverse impacts on wetlands in the Project construction footprint. A total of 204.2 acres of wetlands is proposed to be dredged or filled within the Project construction footprint. In addition, 307.2 acres of other waters of the U.S. (including other open water and vegetated shallows containing SAV) is proposed within the Project construction footprint.

Wetlands and Waters of the U.S. within the Project Construction Footprint^a	
Type	Acreage^{b,c}
Wetlands	
Forested wetlands	27.1
Emergent wetlands	173.9
Scrub/shrub wetlands	3.2
Total, Wetlands	204.2
Other Waters of the U.S.	
Vegetated shallows (SAV)	6.1
Other open waters (including Waters of the US)	301.2
Total, Other Waters of the U.S.	307.2
Grand Total	511.4
^a The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends. These data are based on field surveys and desktop delineations in consultation with CEMVN; therefore, wetland acreages differ from those presented in Section 4.18 of the Final EIS (Land Use and Land Cover), which are based on land use data. ^b The construction and operational footprint of the diversion complex, along with the river trestle dock, haul road, and access channel would affect wetlands. Other Project components, including disposal areas and deepening Bayou Dupont for access where it crosses The Pen would affect other Waters of the U.S. ^c Impacts on 69.1 acres of emergent wetlands, 23.0 acres of scrub/shrub wetlands, and 375 acres of other waters in the beneficial use areas would also occur and would be beneficial because suitable dredged and excavated material would result in localized elevation increases that are expected to result in the establishment of wetland vegetation.	

Operation of the proposed MBSD is anticipated to have major, permanent beneficial impacts on wetlands in the Barataria Basin where wetlands are sustained and created by the diversion of sediment and fresh water, and moderate, permanent, adverse impacts on wetlands in the birdfoot delta where wetlands are lost due to reduced sediment and freshwater inputs. While the applicant's preferred alternative could sustain and create wetlands in the Project area, significant wetland loss across the region due to subsidence and sea-level rise is anticipated to be ongoing, resulting in a net loss of wetland acreage over the 50-year analysis period.

The benefits associated with the proposed project delivering fresh water, sediments, and nutrients into the Barataria Basin under the Applicant's Preferred Alternative is to build, sustain, and maintain wetlands in an area that has been largely isolated from natural flooding inputs from the Mississippi River. Sediment accretion is expected to raise the land elevation in submerged areas to allow wetland vegetation to establish and grow; nutrients transported as part of the proposed Project could benefit vegetation growth in early-successional marsh or contribute to increased primary production (above and below-ground plant biomass); and changes in average annual salinity is expected to allow for freshwater and intermediate wetland species to establish, survive, and potentially expand in areas that have been adversely impacted by saltwater intrusion.

The Final EIS summarizes available literature which describes variable short- and long-term impacts of diversions on wetland health, specifically with regard to plant productivity, surface elevations, and marsh soil shear strength. Studies that have shown positive impacts of diversions on wetlands show a stimulation of wetland plant production in response to lower salinities, increased available nutrients, and delivery of mineral sediments; higher bulk density and belowground vegetation that can maintain elevation against subsidence and sea-level rise; and increased soil strength and sediment retention through compaction and consolidation from pulsed operations. Alternatively, the introduction of nutrients may reduce soil shear strength, increase decomposition of organic matter, and adversely reduce marsh elevation. Adverse impacts on wetland accretion are expected to occur in the birdfoot delta, which may receive less sediment from the Mississippi River due to the diversion of fresh water and sediment to the Barataria Basin. However, because a deep-draft navigation channel is maintained through the birdfoot delta, much sediment is lost to the deep Gulf of Mexico. Given the very high subsidence rate in the birdfoot delta along with the sediment loss via the navigation channel, Mississippi River sediments could be more effectively used to sustain wetlands when introduced into the Barataria Basin via the diversion.

The proposed Project is expected to introduce significant volumes of sediment into the Barataria Basin, and much of that sediment is expected to be retained, with an expected net addition of 53 mcy of sediment retained in the Project area (Barataria Basin and birdfoot delta) by 2030 and 310 mcy by 2070. These additions are projected to increase sediment bed elevations in the outfall area and result in the net creation of about 12,700 acres of wetlands by modeled year 2070. Conversely, due to the diversion of sediments that could otherwise reach the birdfoot delta via the Mississippi River, wetland losses of 2,890 acres are projected in the birdfoot delta by modeled year 2070.

Percentage of wetland gains and losses compared to the No Action Alternative are shown in Table 4.6-4 of the Final EIS.

Percentage of Wetland Gains and Losses when Compared with the No Action Alternative Acres (Percent) ^a							
Alternative	Watershed	2020	2030	2040	2050	2060	2070
Applicant's Preferred Alternative	Barataria Basin	33	5,590	12,300	16,700	17,100	12,700
		(<0.1%)	(1.6%)	(4.3%)	(7.6%)	(12.3%)	(17.4%)
	Birdfoot Delta	-9	-1,510	-1,040	-120	-642	-2,890
		(<-0.1%)	(-3.7%)	(-4.1%)	(-0.7%)	(-6.1%)	(-45.1%)
	Total	24	4,080	11,300	16,500	16,500	9,790
		(<0.1%)	(1.1%)	(3.6%)	(7.0%)	(11.0%)	(12.4%)
^a Modeled wetland acreages have been rounded to three significant digits. Percent change is based on modeled output prior to rounding.							

The following table (table 4.2-4 in the Final EIS) depicts model-projected impacts on land loss and gain in the Project area under the Applicant's Preferred Alternative relative to the No Action Alternative. In the Barataria Basin, the rate of overall land loss is projected to slowly increase until about 2050 (which is why adverse impacts associated with changes in water quality are expected to be experienced before the accretion benefits). The projected rate of land built in just the Barataria Basin (not birdfoot delta) relative to the No Action Alternative peaks around 2050 after which sea-level rise and subsidence may increasingly counter the land building effects of diversion operations, resulting in a net creation of land of 13,400 acres (20.9 square miles) in 2070. Note that while the absolute difference in land area in the Barataria Basin between the Applicant's Preferred Alternative and the No Action Alternative peaks in 2050, the proportion of the projected area remaining as a result of the proposed Project may steadily increase in time. As land loss accelerates, more of the remaining land area is attributed to diversion operations. Note that the total area of land loss and gains is presented for all land gains, regardless of vegetation establishment, and therefore differs from the total projected changes in vegetated wetlands.

Delft3D Basinwide Model-projected Cumulative Net Changes in Retained Sediment Volume and Land Area ^a under Action Alternatives Relative to No Action Alternative (NAA)								
Year	Project Area Change in Sediment Volume (million cy) Relative to NAA	Project Area Total Land Area (ac) under NAA	Project Area Total Land Area (ac) under Alternative	Project Area Change in Land Area (ac) Relative to NAA	Difference in Land Area (ac and % Change Relative to NAA) – Barataria Basin Only		Difference in Land Area (ac and % Change Relative to NAA) – Birdfoot Delta Only	
75,000 cfs (Applicant's Preferred Alternative)								
2030	53	342,000	347,000	4,980	6,260	2%	-1,280	-3%
2040	103	276,000	288,000	11,900	12,800	5%	-922	-3%
2050	185	204,000	221,000	17,300	17,300	9%	6	0%
2060	261	127,000	142,000	15,800	16,400	14%	-628	-6%
2070	310	58,700	69,100	10,400	13,400	26%	-3,000	-45%
^a Modeled land areas and changes have been rounded to three significant digits. Land areas are considered accurate to within ±200 acres. That produces an estimated error of ±300 acres in the land change difference values and an average ±3 percent in percent land change values.								

Operation of the project is anticipated to have the unintended consequence of increasing the potential for introduction and expansion of invasive plant species from the Mississippi River into the Barataria Basin. The connection is expected to alter salinity regimes, vegetation, and sediment characteristics through direct disturbance of habitat and the introduction of river waters into the estuary. A shift to freshwater conditions could result in a shift to freshwater species that is expected to displace salt tolerant species such as sawgrass, bulrush, and cordgrass for habitat. While a shift to freshwater conditions could provide a greater amount of habitat for freshwater species, the change itself would likely create opportunities for invasive plant species to colonize and become established, by outcompeting native freshwater species. Some native species may be directly adversely impacted by increased water velocities or water depth during initial Project implementation. In addition, some invasive plant species, such as alligator weed and giant Salvinia, form floating or dense mats that could degrade habitat for other aquatic plants and animals and cause navigation difficulties, particularly in the slow-moving waters that provide their preferred habitat. However, because the Project would divert water to the Barataria Basin, increasing water movement in the outfall area, thus the formation of mats of floating invasive plants would likely be restricted to areas north of the outfall, where salinity and water flow may be more similar to that of the No Action Alternative.

Cumulative impacts on wetlands from construction of the reasonably foreseeable future actions combined with construction of the MBSD Project action alternatives is projected to be temporary to permanent, negligible to moderate, and adverse. Impacts on

wetlands resulting from the MBSD Project action alternatives is expected to be minimized and outweighed by the construction of the marsh creation areas and operational benefits.

Cumulative impacts on wetland accretion from operation of the reasonably foreseeable future projects combined with operation of the MBSD Project action alternatives would likely result in fewer losses in wetlands in both the Barataria Basin and birdfoot delta, but most notably in the Barataria Basin where implementation of the MBSD Project action alternatives is expected to prevent the loss of an additional 26,000 acres. The change in wetland gains over each decade of operations is shown in the table below (Final EIS Table 4.25.6-2). If all of the reasonably foreseeable projects plus the MBSD Project action alternatives are built, the results of the Delft3D Basinwide Model project a 35.7 percent increase in total wetland area in the Barataria Basin when compared with the No Action Alternative by 2070. Additional wetland benefits could occur through the implementation of the foreseeable future restoration projects not included in the model simulation. Therefore, the MBSD Project action alternatives in combination with other reasonably foreseeable projects could contribute major, direct, permanent, beneficial impacts on wetlands in Barataria Basin.

Both the MBSD Project action alternatives and Mid-Breton Sediment Diversion are expected to reduce sediment transport to the birdfoot delta, thereby reducing the capability of wetlands to build land at a rate sufficient to overcome relative sea-level rise. However, other reasonably foreseeable restoration projects in the birdfoot delta are projected to address some of those losses between 2020 and 2060, resulting in a temporary benefit to wetland area. The change in wetland gains over each decade of operations are shown in Table 4.25.6-2 when compared with the No Action Alternative. Overall, cumulative impacts of the MBSD Project action alternatives and the reasonably foreseeable projects on land accretion in the birdfoot delta are projected to be adverse, moderate, and permanent (a loss of 2,060 acres by 2070 as compared with the No Action Alternative).

While the Delft3D Basinwide Model simulation for cumulative impacts uses the 150,000 cfs + Terraces Alternative to capture the greatest potential cumulative wetland impacts associated with the action alternatives, the impacts associated with the applicant's preferred alternative are expected to be similar, but measurably reduced due to the volume of sediment and fresh water diverted. As such, the direct and indirect impacts from operation of the applicant's preferred alternative combined with foreseeable projects would result in major, permanent, beneficial impacts in the Barataria Basin and moderate, permanent, adverse impacts in the birdfoot delta.

Results of Vegetation Modeling and Projected Acreage of Wetland Acreage, by Decade and Wetland Type, for the Project Alternatives								
Alternative / Area	Wetland Cover Type	2020	2030	2040	2050	2060	2070	Total Acres of Wetland Loss by 2070^a
Foreseeable Projects without MBSD Project Action Alternatives								
Barataria Basin	Fresh/ Intermediate Marsh	233,000	228,000	210,000	177,000	122,000	60,600	173,000
	Brackish Marsh	66,500	58,900	44,100	23,900	12,100	5,890	64,700
	Saline Marsh	73,700	56,600	36,400	19,100	8,590	6,300	60,500
	Total	373,000	343,000	290,000	220,000	143,000	72,800	298,000
Birdfoot Delta	Fresh/ Intermediate Marsh	44,400	35,600	21,000	13,100	8,900	2,420	42,000
	Brackish Marsh	10,300	3,510	3,640	4,070	1,570	1,670	8,670
	Saline Marsh	4,220	1,880	1,360	1,030	240	160	3,990
	Total	58,900	41,000	26,000	18,200	10,700	4,260	54,700
Foreseeable Projects with MBSD 150,000 cfs + Terraces Alternative								
Barataria Basin	Fresh/ Intermediate Marsh	275,000	279,000	270,000	227,000	164,000	93,700	140,000
	Brackish Marsh	54,500	51,600	25,600	12,600	3,040	950	69,700
	Saline Marsh	43,700	23,100	13,100	10,100	4,580	4,120	62,700
	Total	373,000	354,000	309,000	250,000	172,000	98,800	272,000
Birdfoot Delta	Fresh/ Intermediate Marsh	43,600	32,800	18,800	11,900	7,360	3,260	41,200
	Brackish Marsh	10,600	3,770	2,990	3,330	922	935	9,410
	Saline Marsh	4,710	2,080	1,420	871	322	158	3,990
	Total	58,900	38,600	23,200	16,100	8,600	4,350	54,600
^a As compared with the No Action Alternative in 2020.								

The proposed project includes a marsh creation component to the overall project features. The marsh creation areas located adjacent to the proposed project's outfall transition feature are proposed to be excavated material beneficially deposited within marsh creation cells congruent with project construction. Material excavated for construction of the conveyance channel and the outfall transition feature could, if suitable, first be used for construction of the marsh creation component of the proposed project. The placement of beneficial use materials is proposed to be designed to

convert 375 acres of open water to new tidal marsh and nourish 92 acres of existing tidal wetlands, which is anticipated to outweigh the direct wetland impacts associated with Project construction.

CEMVN coordinated with U.S. Fish and Wildlife Service (USFWS) to utilize the WVA to consistently quantify adverse and beneficial impacts associated with construction and operation of the proposed project. The outputs of the WVA are provided in AAHUs. Table 4.27-3 in the Final EIS provides a summary of the wetland impacts and benefits. Impacts associated with project construction are identified with the negative numbers, benefits associated with construction of the marsh creation areas and operation of the project are identified with the positive numbers¹⁶.

In CPRA's JPA it states the Project is "self-mitigating"; however, CEMVN did not evaluate the proposed Project's performance to replace the direct and permanent loss of wetlands for Project construction. Instead, CEMVN evaluated the overall benefits associated with the marsh creation areas to be constructed by CPRA as a project component in comparison to the direct impacts associated with construction. The WVA demonstrates that the long term benefits, a net increase of 401.9 marsh acres and 158.4 AAHUs in 50 years, is expected to exceed the long -term and direct impacts, - 193.1 net acres and -102.0 AAHUs, experienced from construction of the Project. The creation and enhancement of tidal marsh would occur during construction of other Project features and outweighs the adverse direct impacts of the Project.

¹⁶ CEMVN acknowledges the difference in direct impact totals and net acres in the WVA table. Net acres account for the losses by the end of the 50-year Project life. Further explanation about Net Acre tabulations can be found in USFWS May 25, 2022 Fish and Wildlife Coordination Report in Appendix T of the Final EIS.

Wetland Type	Impacts	
	Net Acres	AAHUs
Forested wetlands	-26.1	-14.9
Emergent Wetlands (Wet Pasture)	-163.4	-66.9
Emergent Wetlands (Marsh/scrub/shrub)	-3.6	-20.3
Total Project Impacts	-193.1	-102.0
Project Benefits	13,151	3,848
Difference (Benefits - Impacts)	13,344	3,746
Beneficial Use Site		
	Net Acres	AAHUs
Outfall North	146.8	59.3
Outfall South 1	152.2	60.6
Outfall South 2	102.9	38.5
Total Direct Benefits	401.9	158.4

7.1.6 Historic Properties:

Consultation with Section 106 consulting parties began in May 2018 for NHPA compliance. The first step in the consultation was developing an APE. It was decided that the project APE would include a smaller “Construction Impacts APE” and a much larger “Operational Impacts APE.” The boundaries are described as follows:

Construction Impacts APE: the area affected by the construction of the proposed Project diversion complex and auxiliary structures. This area includes the footprint of the diversion channel, a buffer outside the east and west conveyance channel guide levees, locations of the LA 23 and NOGC Railroad realignments, and the outfall transition feature in the immediate basin outfall that is proposed to be dredged to enhance water conveyance and sediment deposition in the initial years of operation. In total, the Construction Impacts APE includes approximately 3,095 acres.

Operational Impacts APE: the outfall area in the Barataria Basin where operation of the proposed Project sediment diversion would transport sediment-laden water, filling water bottoms and both creating new wetlands and sustaining existing wetlands that could

otherwise be lost with no action. In total, the Operational Impacts APE currently includes 70,630 acres.

Eight archaeological resources have been previously identified within the Construction Impacts APE. An additional 30 known resources are documented within the Operational Impacts APE. In general, most of the archaeological resources are classified as prehistoric shell middens composed of layers of Rangia shells and ceramic sherds commonly associated with the both the Coles Creek (AD 700 – 1000) (Woodland) and/or Plaquemine (AD 1200 – 1500) (Mississippian) cultural periods, which are characterized by increasingly complex sociopolitical organization, as well as complex earth work, or mound building. Sites associated with both cultural periods are often identified in marsh areas on the natural levees of old channels of the Mississippi River. Cultural resource reports cite a significant amount of disturbance and/or destruction of midden sites resulting from wave action, erosion, and or submergence associated with landform subsidence.

Historic sites, cemeteries, and standing structures are most commonly recorded along the west bank of the Mississippi River within the Construction Impacts APE and range in age from the antebellum period to the mid-twentieth century industrial/modern period and typically included sites associated with plantations, farmsteads, and/or house sites.

A Phase I survey was conducted within the Construction Impacts APE in 2014. Phase II testings were conducted in 2017, 2019, 2020, and 2022.

Known cultural resources are present within the Construction Impacts APE. Based on a review of the proposed construction footprint, the Applicant's Preferred Alternative would not impact the recently identified St. Rosalie Plantation Cemetery (16PL280) or the nearby Ironton Cemetery. Visitation access to both locations would not be impacted by construction or operation of the proposed MBSD Project.

Two cultural resources located in the Construction Impacts APE were not previously evaluated for National Register of Historic Places (NRHP) eligibility. As part of the NHPA Section 106 consultation process, CEMVN determined that archaeological site 16PL296, within the proposed Project construction footprint in the Construction Impacts APE, is not eligible for the NRHP; SHPO concurred with this determination. Later Phase II testing at 16PL107 (St. Rosalie Plantation) within the Construction Impacts found 26 brickwork architectural features, three refuse pits, two prepared pavements, and eight rubble features of indeterminate origin/function. The brickwork architectural features outline buildings that may have been residences for the St. Rosalie Sugar Plantation labor force after the Civil War. Thousands of historic artifacts dating from the

late 19th to early 20th century were recovered and analyzed. The analysis of available data suggests that the residents of the post-Civil War St. Rosalie community were African-Americans living in tenant housing. Based on the review of the results of this investigation, CEMVN determined, and SHPO concurred, that the portion of 16PL107 within the proposed Project's construction footprint is eligible for the NRHP under Criteria A and D.

A Programmatic Agreement (PA) was prepared by CEMVN in coordination with CPRA and the Consulting parties. The PA was signed by all interested parties on or before October 20, 2022.. The PA states a treatment plan will be developed by the Applicant, signatories to the PA, and consulting parties in order to mitigate impacts on the portion of 16PL107 within the construction footprint of the proposed Project. The PA also includes an unanticipated discovery plan that outlines a process for the Applicant to follow if additional cultural resources or historic properties are discovered during construction activities. The Final EIS includes an unsigned final draft of the PA in Appendix K.

7.1.7 Fish and Wildlife Values:

Section 6.8 of this document summarizes aquatic ecosystems and organisms broken down by terrestrial species, benthic resources, EFH, managed species, key species, invasive species, and marine mammals. Aquatic resources are further analyzed in Section 4.10 of the Final EIS. Aquatic resources in Section 4.10 of the Final EIS are broken down by aquatic vegetation; benthic resources; EFH; fish, shellfish, and fisheries; and invasive species. Overall, fish and wildlife values are dependent on organism diversity and health of the ecosystem. The trends associated with coastal land loss, sea level rise, and subsidence are expected to continue with the Applicant's Preferred Alternative and No Action Alternative which negatively impact ecosystem health and the organisms that exist in the Barataria Basin for all or a portion of their life.

Under the No Action Alternative monthly water levels would continue to trend upwards over the simulation period due to sea-level rise. Tides and wind-driven currents would continue to be the principal driver of circulation within the Barataria Basin. Existing circulation patterns would continue as discussed in Section 3.4.2.4 Tides, Currents, and Flow in Surface Water and Coastal Processes in the Final EIS. As relative sea level continues to increase, the existing tidal influence would extend farther northward into the basin, the daily tidal signal is projected to become stronger, and the overall tidal range is projected to be larger in 2070 as compared to 2020. This change over time would cause daily tides to impact vegetation at locations farther north than existing conditions, which could alter primary productivity in existing wetlands, and increased

water levels could cause prolonged inundation, leading to wetland loss and thus loss of faunal nursery habitat. This loss of habitat is projected to have major, permanent, indirect and adverse impact on aquatic fauna.

As discussed in more detail in Section 4.10.4.4.1.8 of the Final EIS, under the No Action Alternative, the system would likely shift over time to support more coastal and marine species (for example, snappers, mackerels, and other salt tolerant species) and away from more freshwater fauna (for example, bass, sunfish, catfish) with salinity encroachment continuing into the estuary. Unless the converted open waters remain shallow enough to support SAV establishment and growth in place of the lost marsh, the production of shrimp, crab, and estuarine fishes like minnows, killifish, pinfish, seatrout, croaker, and drum that rely on vegetated habitats in the estuary, particularly as juveniles, could steadily decline. In a system that would become predominantly open water and soft bottom habitat with a low amount of wetlands, the food web would likely become more plankton-based and less detrital-based. This could represent a reduction in net system energy flow, trophic diversity, and faunal diversity compared to the existing system. The system could therefore be less resilient compared to one with multiple trophic pathways and detrital subsidies. In addition, major, permanent, adverse, direct and indirect impacts on terrestrial wildlife due to the continued loss or conversion of wetlands in the Barataria Basin and birdfoot delta. Existing aquatic invasive populations may be maintained or expand their range in accordance with current trends until or unless habitat characteristics were otherwise modified.

This shift in species assemblage, reduced trophic diversity, and lost production is projected to be a major, permanent and direct impact of the No Action Alternative that is anticipated primarily to occur in the later years of the period of analysis (after 2050). While such a shift in species assemblage and loss of trophic diversity could inherently benefit certain species while adversely impacting others, the shift is neither beneficial nor adverse from an ecosystem-level perspective; however, lost wetland habitat, detritus and benthic production, and estuarine-dependent species recruitment is a major adverse impact to primary and secondary production and food web energy cycling in the estuary.

Under the no action alternative, as foraging areas decrease incrementally over time, it is possible that otherwise healthy dolphins could acclimate to shifts in the food web and their prey over the course of the 50-year analysis period. Depending on individual levels of behavioral plasticity and the specific locations where habitats change, some individuals or groups of dolphins (for example, barrier island-associated dolphins or dolphins that successfully shift to hunting in open water) may experience negligible or minor beneficial impacts.

As discussed in Section 4.11.5.2.1.3 of the Final EIS, BBES dolphins under the No Action Alternative would likely have gradually increasing minor, permanent, adverse impacts because (1) they would experience gradually increasingly adverse impacts throughout the analysis period from seasonal (spring) decreases in minimum salinity and decreased wetlands and prey, with the impacts being most problematic in the last two to three decades of the analysis period (as wetland loss accrues), allowing for potential acclimation; (2) they would experience seasonal low-salinity effects due to increased freshwater influence from the Mississippi River discharges in the basin (3) the potential adverse impacts would mostly affect dolphins in the northern part of the BBES Stock area where there is a lower density of dolphins; and (4) population numbers would likely remain functional to maintain the viability of the stock in most places throughout the BBES Stock area.

The shift in available wetlands and conditions that favor more salt tolerant species makes the food web less stable resulting in increasingly negative impacts on fish and wildlife values in the Barataria Basin.

Operational impacts of the Applicant's Preferred Alternative on existing currents and flow are projected to be direct, permanent and minor to major (depending on distance from the immediate outfall area) due to widespread and readily apparent impacts on water flow velocity and direction when the proposed Project is operating above base flow (greater than 5,000 cfs and up to 75,000 cfs depending on flows in the river). Tides could not be altered, other than from overall impacts of higher water levels related to sea-level rise. It is likely that high currents during diversion openings could modify and potentially disrupt transport and settlement of larval and juvenile fish and invertebrates that would normally be carried to nursery habitats in the outfall area. However, larval transport and retention is likely to be unaffected in the most western and southern regions of the basin, in areas where tidal flow is unaffected by diversion operation. Potential benefits to fish and wildlife values from waterbottom elevation, SAV, accretion, and land building could be countered by the disruption of larval transport in the outfall area, and in certain areas of the Barataria Basin, could lead to larvae being precluded from settling in optimal habitats, transported to available suitable habitats outside the outfall area, or transported to unsuitable habitats; movement into less suitable habitats may result in reduced growth and increased mortality (Rose et al. 2014). These impacts are projected to result in minor to major, permanent (recurring throughout the Project life), direct, and adverse impacts on faunal recruitment depending on the spatial and temporal overlap of high diversion flows (which can differ on an annual basis) and larval transport periods (which differ by species).

Since a large part of the Barataria Basin food web uses detritus (dead organic matter) as an energy source, there exists a temporary energy reserve in the system that is somewhat independent of primary production and is therefore less sensitive to light limitation, nutrient ratios, and other factors impacted by operation of the Applicant's Preferred Alternative that may limit primary production. This potential buffer suggests that there may be some stability in the production rate of detritivorous species and their predators during temporary increases in system turbidity (which may occur in the outfall area during operation above base flow) that may limit phyto-benthos or phytoplankton (live organic matter) production. The amount of energy in the system from detritivory, or detritus consumption, suggests that detritus plays a substantial role in supporting fish and fisheries in the Barataria Basin and that the food web has multiple pathways of moving fresh (chlorophyll) and recycled (detritus) organic matter through the food web. Therefore, the detritus-based food web should provide some resilience to overall system production, and it is likely that plankton-based consumption may be incorporated back into the food web when light conditions are not limiting in regions of the estuary. Responses in the food web to diversion operations would likely range from negligible to minor in relation to energy cycling and overall production as detrital energy sources may compensate for turbidity driven loss of phyto-benthos or phytoplankton in the outfall area.

Spring inputs of fresh water and nutrients into Barataria Bay from the Mississippi River is expected to stimulate primary and secondary production in the spring and summer. Higher than average nutrient inputs would likely contribute to seasonal increases in high biomass, low trophic-level species such as shrimps and crabs, and small planktivorous fish species such as bay anchovy and Gulf menhaden. These species groups are important to inshore fisheries and serve an important ecological role, as they facilitate energy transfer to higher trophic-level predators. Environmental changes, such as the changes in the supply of nutrients projected under the Applicant's Preferred Alternative (Section 4.10.4.4, Nutrient Loading of the Final EIS), therefore have the potential to alter the seasonal production of these high- biomass, low trophic-level consumer groups. Numerous and redundant food web connections may reduce the impact of severe food limitation for predators even if important prey groups are disturbed or eliminated since many of the species are opportunistic, trophic generalists feeding on multiple prey types. Overall, even if minor to moderate changes in the lower trophic-level biomass is caused by prolonged operation of the Applicant's Preferred Alternative due to changes in abiotic habitat characteristics discussed above (salinity, turbidity, water flow and tidal transport), a detectable response in a predator's response to these food web changes may not occur.

The negligible to minor impact from reduced primary productivity in the outfall area could be countered by increased primary production within the wider basin. Overall, the combination of adverse and beneficial impacts is anticipated to have permanent, moderate, beneficial impacts on energy flow to lower trophic-level consumers and permanent, negligible to minor, beneficial impacts on higher trophic-level predators. In addition, minor to major, permanent, direct and indirect, beneficial impacts on more freshwater tolerant terrestrial wildlife is expected due to added habitat from diversion operations. The general shift to a more freshwater ecosystem is expected to result in minor to moderate, permanent, indirect, adverse impacts from changing conditions allowing the introduction and expansion of invasive species.

Currently, there are an estimated 2,071 bottlenose dolphins in the Barataria Basin, which comprise the BBES stock. BBES dolphins under the Applicant's Preferred Alternative would result in (1) immediate and permanent, major, adverse impacts on survival from low salinity throughout the BBES Stock area resulting in two of the four sub-populations of the BBES dolphins becoming functionally extinct within 10-years and a third sub-population becoming functionally extinct during the period of analysis; (2) adverse effects on health and reproduction from multiple stressors including low-salinity exposure, loss of wetlands (and loss of associated benefits to dolphin prey) in the BBES Stock area (loss of wetlands would also occur under the No Action Alternative) which is expected to affect prey, lower temperatures, an increased risk of HABs, and the residual effects from the DWH oil spill; and (3) based on the estimated decreases in survival rates, there could be a reduction in population numbers. The Final EIS estimates a 97 percent reduction in population numbers compared to No Action and 85 BBES dolphins living in this stratum are predicted to remain at the end of the 50-year analysis period. Thus, the Applicant's Preferred Alternative would likely have permanent, major, adverse impacts on BBES dolphins.

In its mitigation plan, CPRA states it will explore operational strategies to minimize, to the extent practicable and consistent with the purposes of the Project, the Project's impacts on bottlenose dolphins. CPRA, in coordination with the LA TIG and NOAA developed a "Dolphin Intervention Plan: A framework for potential marine mammal interventions related to the Mid-Barataria Sediment Diversion Project." CEMVN does not know whether the MMIP will be implemented. According to comments submitted on the Final EIS by the Marine Mammal Commission, a federal agency created by the Marine Mammal Protection Act that reviews and provides recommendations regarding policies and federal agency actions impacting marine mammals, "...none of the activities outlined in the Dolphin Intervention Plan appear to be targeted at mitigating or

preventing harm to or death of bottlenose dolphins expected from exposure to the low-salinity conditions that will result from the MBSD project.”

“This Dolphin Intervention Plan for the Mid-Barataria Sediment Diversion (MBSD) Project (the Project) provides a strategy and best practices for marine mammal interventions. This Plan is by nature a living document and never “final.” This Plan will be “draft” at least until if, and if so when, the US Army Corps of Engineers (USACE) New Orleans District issues the permits and authorizations required for the Project and the Louisiana Trustee Implementation Group (LA TIG) decides to fund the Project. The State of Louisiana Coastal Protection and Restoration Authority (CPRA), at that point, will then work with the National Oceanic and Atmospheric Administration (NOAA) to add any Compliance Monitoring requirements contained in those permits related to marine mammal interventions to this Plan and make any decisions on implementation of any of the aspects of this framework...

...The purpose of the Dolphin Intervention Plan is to outline a framework for potential intervention activities and the process for decision making that may be used to respond to free-swimming, live dolphins that are ill; behaving abnormally; injured; in poor condition/health; or are at risk for injury, illness, or death due to adverse environmental changes in the Barataria Basin, Louisiana. Models project that the Project will result in substantial morbidity and mortality of dolphins in the Barataria Bay Estuarine System stock, including 585 dolphin mortalities (95 percent confidence interval [CI]: 131 to 1459) in the first year of operations alone and loss of 96 percent of the entire population (95 percent CI: 80 percent to 100 percent) by the end of the Project (Thomas et al. 2021). Obviously, no set of dolphin mitigation/intervention activities could entirely offset such an impact, however, the resources available (including trained and qualified personnel, equipment and supplies, budget, and time) need to be deployed in a strategic manner in order to be as effective as possible. The goals of this intervention framework for dolphins in the Barataria Basin are to reduce illness, pain, and suffering, as well as collect scientific information that may inform operational mitigation actions and adaptive management of the monitoring and response activities.”

The increase in available wetlands and conditions that favor more freshwater tolerant species makes the food web more stable resulting in beneficial impacts on fish and wildlife values in the Barataria Basin due to the food web being bottom-up/detritus based.

Cumulative impacts on fish and wildlife values are expected to be similar to the direct and secondary impacts. Reasonably foreseeable coastal restoration projects are expected to provide additional benefits to terrestrial wildlife, aquatic wildlife, the food web and overall fish and wildlife values.

7.1.8 Flood hazards:

In this section flood hazards are discussed in relation to impacts on the human and built environment, not inundation of wetlands within the project area.

As discussed in Section 3.20 of the Final EIS, because of the extremely low elevation of the Project area and its proximity to coastal lakes and bays and the open water of the Gulf of Mexico, the area is particularly vulnerable to storm surge and flooding caused by the landfall of tropical storms and hurricanes. Hazards associated with hurricanes include storm surges, heavy rainfall, inland flooding, high winds, tornadoes, and rip currents. Hurricanes also impact the marsh by killing mature trees (through canopy wind impacts and salty storm surge), eroding shorelines and canal banks, pushing salty water and wrack (organic debris) into interior marsh, tearing and compacting floatant marsh (floating marsh), and pushing saline water into fresh groundwater lenses. Salty storm surge driven through canals and across wetland surfaces can impact plants and animals in freshwater coastal wetland habitat by causing habitat change or loss. The heavy precipitation during hurricanes can also introduce fresh water and nutrients via runoff, reducing salinity and enhancing coastal productivity, sometimes causing algal blooms. They also re-suspend and deposit sediment on wetland surfaces, which helps to address relative sea-level rise and increase marsh elevation.

Flood hazards are not limited to tropical storms and hurricanes. Communities located outside risk reduction levees have experienced flooding from frontal boundaries or elevated water levels from several days of strong winds in the same direction.

Coastal risk reduction in Louisiana is achieved through a variety of measures, including natural features such as barrier islands and wetlands that help attenuate storm energy and built infrastructure (for example, levees, storm surge barrier gates, floodwalls, and pump stations); infrastructure adaptations (for example, elevated foundations, pilings, and setbacks from the shoreline); and non-structural measures such as emergency response and evacuation plans.

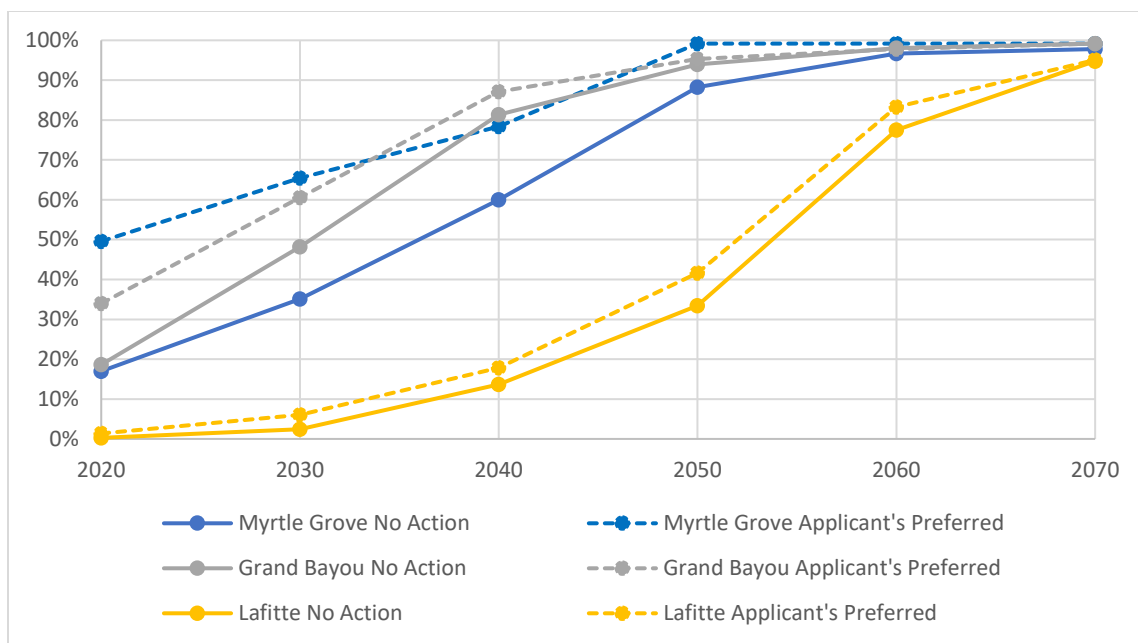
As part of the analysis conducted for the EIS and permit review process, water levels and land change were projected in the Barataria Basin and birdfoot delta through the Delft3D Basinwide Model in conjunction with topography analysis to quantify existing tidal flood risk within the Project area, and to project potential impacts on such risk associated with the Project alternatives, including the No Action Alternative. In addition, the coupled ADvanced CIRCulation (ADCIRC) and Simulating WAVes Nearshore (SWAN) high fidelity models (referred to as ADCIRC) were used to quantify existing coastal storm hazards (surge and wave height magnitude) in the Project area, and to project potential impacts on storm surge and wave height magnitude associated with the Project alternatives.

Within the levee system, stormwater management and drainage is proposed to be altered during project construction, this alteration is not expected to cause an impact on the risk of flooding, as the existing level of drainage is proposed to be maintained throughout construction of the proposed Project. New levees are proposed to be constructed paralleling the conveyance channel, which require rerouting stormwater channels to the Wilkinson Canal Pump Station. Watershed drainage are expected to be redirected through a siphon constructed under the proposed conveyance channel. This siphon would be designed to carry drainage flow under the conveyance channel to the southeast and then down to the Wilkinson Canal Pump Station. The siphon is proposed to be constructed in advance of the conveyance channel construction to maintain water flow during construction of the levees.

With operation of the Applicant's Preferred Alternative, the portion of the Project area outside of levee systems is expected to experience changes in bathymetry and topography as sediment entering the basin through the diversion settles into areas of open water and existing marsh. As described in Section 4.6 Wetland Resources and Waters of the U.S. of the Final EIS, the Applicant's Preferred Alternative is anticipated to sustain and create wetlands within Barataria Basin outside of federal levee systems; however, ongoing subsidence and sea-level rise could ultimately lead to a net loss of wetland acreage in the Project area over the 50-year analysis period. Floodplains within the Project area may continue to be subject to the projected hydrologic changes associated with relative sea-level rise as described in Section 4.4 Surface Water and Coastal Processes of the Final EIS, leading to increased water levels throughout the basin, regardless of the implementation of the Applicant's Preferred Alternative. Thus, populated areas outside of federal levee systems within the Project area are expected to continue to be susceptible to the adverse, long-term, and minor to major indirect impacts associated with tidal flooding and flood hazards with or without the project.

Increased water levels due to diversion operations are expected to cause an increased risk to flood hazards outside of federal levee systems, specifically within areas approximately 10 miles to the north of the immediate outfall area and 20 miles to the south of the immediate outfall area. Communities in these areas could experience an increased percentage of annual days of inundation due to tidal flooding when the diversion is operating above base flow. Table 4.20-2 and Figure 4.20-3 in the Final EIS show the projected number and percentage of days, respectively, that inundation may be experienced. These projections are based on the 2011 Mississippi River hydrograph (high, late spring flood flow), which represents a year of high river flows in which the proposed Project could be operated at its maximum capacity for an extended period of time during the year. Lower-flow years are projected to result in a lower impact on inundation frequency or duration of inundation, particularly in areas farther from the immediate outfall area.

Number of Annual Days of Tidal Flooding Under the Applicant's Preferred Alternative Relative to the No Action Alternative^a							
Community	Alternative	2020	2030	2040	2050	2060	2070
Lafitte	No Action	1	9	50	122	283	346
	Applicant's Preferred	5	22	65	152	304	347
	Change	4	13	15	30	21	1
Myrtle Grove	No Action	62	128	219	322	353	357
	Applicant's Preferred	181	239	286	362	362	362
	Change	119	111	67	40	9	5
Grand Bayou	No Action	68	176	297	343	358	362
	Applicant's Preferred	124	221	318	348	357	362
	Change	56	45	21	5	-1	0
^a Fixed thresholds for Grand Bayou, Myrtle Grove, and Lafitte are 1.5 feet (45.7 centimeters), 1.75 feet (53.3 centimeters), and 2.5 feet (76.2 centimeters), respectively. Based on Hydrograph year 2011 (high, late spring flood flow). Source: Water Institute (2019).							



Projected Percent Days of Water Surface Elevation Exceeding Inundation Threshold Elevation under Applicant's Preferred Alternative and the No Action Alternative (2011 Hydrograph [high, late spring flood flow]).

The largest impact on inundation frequency due to the diversion is projected to occur in Myrtle Grove, as this is the community closest to the immediate outfall area of the proposed diversion structure and thus would likely see the greatest increase in water levels. The negative impacts associated with higher water levels and flood hazards is expected to be experienced immediately (2020). Over time, the impact of the diversion on inundation frequency is projected to become less dominant, particularly in Myrtle Grove and Grand Bayou, as sea-level rise increasingly drives water levels throughout the basin.

Seasonal increases in water levels outside of the federal levees due to diversion operations are projected to be minor to major depending on community location, diversion flow rate, and Mississippi River flows. Impacts on water levels are expected to be highest during periods of maximum diversion discharge and could decrease with reduced discharge.

Projected water level increases using a hydrograph representative of high, late spring flood flow (the 2011 Mississippi River hydrograph) are projected to have major impacts in communities in the basin near the immediate outfall area of the proposed Project such as Myrtle Grove. Myrtle Grove is projected to have approximately three times as many days of threshold exceedance under the Applicant's Preferred Alternative in the first decade of operation and twice as many in the second decade of operation as compared to the No Action Alternative. Given the similar location in the basin and

assuming a similar topography, Woodpark is expected to have a similar intensity of impact as Myrtle Grove. Moderate impacts are projected in communities such as Grand Bayou, which is the farthest community from the immediate outfall area but has the lowest inundation threshold of the three communities analyzed, resulting in approximately twice as many days of projected threshold exceedance under the Applicant's Preferred Alternative in the first decade of operation and an approximate 25 percent increase in the second decade of operation, as compared to the No Action Alternative. Nearby communities such as Suzie Bayou, Hermitage and Happy Jack would likely experience impacts similar to Grand Bayou, based on their location and assumed topography. Minor impacts are projected in communities in the Lafitte area, which is closer to the immediate outfall area than Grand Bayou but has a higher inundation threshold. Although Lafitte is projected to experience an increase in the number of days of threshold exceedance similar in proportion to the other communities, the resulting total days of inundation is relatively low compared to the other communities analyzed. The Lafitte area includes multiple communities with varying levels of existing non-federal flood protection.

All tidal flooding impacts are projected to be reduced to minor by the end of the 50-year analysis period, when the dominant driver of tidal flooding may be relative to sea-level rise. Therefore, the Applicant's Preferred Alternative is expected to cause adverse, long-term, but minor to major indirect impacts on flood hazards in these areas.

Construction activities associated with reasonably foreseeable projects could potentially span multiple years and hurricane seasons and could carry the risk of storm event- or hurricane-related surge or rainfall inundation of the construction site. Cumulative impacts would likely range from minor to moderate and adverse, depending on the scope of the weather event.

Cumulative impacts on storm hazards in communities outside the federal levee system during operation of the MBSD Project action alternatives combined with the reasonably foreseeable projects is projected to range from negligible to moderate, depending on community location and the diversion flow capacity. Restoration projects north of the MBSD Project action alternatives may further decrease surge elevation and wave height. In communities near the MBSD Project immediate outfall area, the intensity of the cumulative impacts may be more influenced by, and more similar to, the intensity of impacts of the MBSD Project action alternatives alone. The adverse impacts of the MBSD Project related to increased storm surge in areas immediately south of the immediate outfall area could increase the risk of overtopping and inundation on the protected side of the NOV-NF-W-05a.1 levee reach, despite the increased level of protection provided by this levee. In communities farther from the immediate outfall

area, the intensity of the cumulative impacts is expected to be less influenced by the MBSD Project action alternatives, and more similar to the intensity of impacts of the reasonably foreseeable projects without the MBSD Project action alternatives.

CPRA has proposed mitigation measures that it says are intended to mitigate the consequences of the flooding and increased water levels that will be caused by the Project in communities outside of protective levees. CEMVN does not have authority or jurisdiction to require that these measures be implemented. None of the proposed measures would be required in the Section 10/404 permit conditions. Because CEMVN cannot require implementation of the flooding mitigation measures, for the purposes of CEMVN's Section 10/404 permit decision, CEMVN is not considering these mitigation measures and assumes that the adverse flooding effects would not be mitigated.

CPRA's Proposed Community Flooding Mitigation Measures* <i>These measures will not be a condition of a Section 10/404 permit.</i>	
General	<ul style="list-style-type: none"> • Road and lane improvements: CPRA may elevate publicly maintained roads or lanes that are below the Project Impact and Project Impact Water Surface Elevation (PIWSE) to the Mitigation Standard Elevation (MSE), and make corresponding road drainage improvements. • Boat dock/boat house improvements: CPRA may provide property owners with funds sufficient to elevate boat docks and boat houses that are currently located below the PIWSE to the MSE. • Septic or sewage treatment system improvements: In communities that rely on septic systems, CPRA may improve on-site septic systems impacted by Project operations that are located below or discharge below the PIWSE so that they are located at or above the MSE. In communities with community sewer systems, CPRA may improve and/or flood proof central sewerage elements (for example, lift stations). Both measures are intended to ensure system function and treatment performance with increased water levels from the Project. • Bulkhead improvements: In limited communities (Myrtle Grove), CPRA may improve the existing bulkhead along a property's edge abutting the Basin to the Mitigation Standard Elevation (or in some cases, higher). This bulkhead may reduce the number of days that properties will experience tidal flooding.

	<ul style="list-style-type: none"> • Elevating residences: Where the lowest floor of the living area of a residence is at or below the PIWSE, CPRA may provide the property owner funds sufficient to elevate the residence to, at a minimum, the Mitigation Standard Elevation. • Voluntary individual buyouts: CPRA may consider purchasing an impacted property outright (in fee) if requested by the owner. Decisions whether to purchase a property in fee could be made on a case-by-case basis.
Myrtle Grove	<ul style="list-style-type: none"> • Improving/replacing boat docks, and boat houses; • Improving/replacing bulkheads; and • Voluntary individual buyouts. <p>CPRA states that if it raises the bulkhead around the Myrtle Grove Marina Estates Subdivision to a height that is higher than the increased water levels caused by the diversion on every waterfront lot in the subdivision, the number of days that properties in Myrtle Grove Marina Estates Subdivision experience tidal flooding could be reduced compared to the No Action Alternative. The bulkhead improvements would require DA permits as well as successful negotiations with every affected landowner, which are not guaranteed. Upgrading boat docks and boat houses may allow landowners to maintain functionality of their structures with expected increases in water surface elevation from diversion operation. Timing is uncertain.</p>

Woodpark, Suzie Bayou, Deer Range, Lake Hermitage, Happy Jack, and Grand Bayou	<ul style="list-style-type: none"> • Providing funds to property owners to improve/replace boat docks and boat houses; • Improving/raising access roads; • Improving/replacing septic/sewerage systems; • Providing funds to property owners to elevate their residences; and • Voluntary individual buyouts. <p>CPRA states that raising roads used to access these communities may reduce the number of days these communities would not have access compared to the No Action Alternative and may improve access for emergency services (for example, police and fire). By elevating of homes whose living areas are currently below the PIWSE, CPRA states it would reduce damages to residences within these communities compared to the No Action conditions. Similarly, CPRA states that by improving/replacing the sewerage systems to address increases in water surface elevation, water quality may be improved in the Barataria Basin compared to No Action conditions. CPRA would not elevate the lots or bulkheads within these communities. Some of these measures would require DA permits, which are not guaranteed. Timing is uncertain.</p>
Grand Bayou	<ul style="list-style-type: none"> • Floating gardens; • Community connecting sidewalks; and • Backfilling and ridge restoration project (project funded for engineering and design (E&D) through NFWF and CPRA; CPRA has received funding for construction).
Lafitte	<p>CPRA is not proposing any tidal flooding mitigation in Lafitte as part of this Mitigation Plan. CPRA states it is facilitating funding and providing technical support to the Lafitte Independent Levee District to advance the construction of tidal flood protection (elevation ~ 7.5 ft) for the Lower Lafitte and Goose Bayou polders. CPRA expects these projects to be completed prior to the operation of the Project. Proper planning, design, permitting, and construction is likely required by CPRA before completing these risk reduction upgrades. The timing of construction of</p>

	the Lower Lafitte and Goose Bayou polder upgrades relative to MBSD operation is uncertain.
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***Information summarized from CPRA’s August 22, 2022 “Mitigation and Stewardship Plan for the Mid-Barataria Sediment Diversion Project”.**

7.1.9 Floodplain Values:

This section will discuss floodplain values with respect to their benefits to the adjacent built/human environment.

Floodplains are generally low-lying areas found adjacent to rivers and/or tidal waterbodies that experience flooding during high water events. Floodplains help support diverse and productive ecosystems. Their productivity makes them attractive to humans that wish to develop in and adjacent to them. Development in and adjacent to floodplains leads to an increased risk to flood hazards that are discussed above and in Section 4.20 of the Final EIS. The importance of floodplains and risks to developing in and near them results in laws and regulations. Specifically, Jefferson and Plaquemines Parishes have floodplain management ordinances that include requirements for new construction and substantial improvements that decrease the risk of flooding such as minimum elevation requirements for structures Plaquemines Parish Ord. No. 08-211; Jefferson Parish Ord. No. 25457). Similarly, local land use decisions, such as zoning, can affect flood risk faced by homeowners and businesses. The Louisiana Department of Natural Resources (LDNR) Coastal Use Permitting (CUP) process is guided towards making development in the Coastal Zone accomplished by the greatest benefit and the least amount of damage. Similarly, USACE administers Section 404 of the Clean Water Act which establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands.

To balance overall risk and development, Federal Emergency Management Agency’s (FEMA) National Flood Insurance Program (NFIP) provides the majority of residential flood insurance in the United States. FEMA generates flood insurance rate maps (FIRM) for communities that opt to join the program. Section 3.20.2.1 Floodplains in the Final EIS describes the FIRM zones for the Project area. Much of the Project area falls in Zone A, VE, or AE, meaning they are Special Flood Hazard Areas (SFHA) within the 100-year floodplain. Property owners within SFHAs must purchase flood insurance as a condition of receiving federally backed mortgages.

FEMA recently implemented changes to its insurance risk rating system under the NFIP, which has resulted in premium changes for the majority of policyholders. These revisions, called Risk Rating 2.0, are the first update to NFIP risk ratings in over four decades. The aim of Risk Rating 2.0 is to create premiums that are more equitably

distributed across policyholders as well as to improve the communication of flood risk for individual properties and current or prospective policyholders.

Under Risk Rating 2.0, insurance rates are not defined by the FIRM zone the property is in and instead are based on a variety of property specific measures. As of 2022, the average NFIP policy premium in Louisiana was \$675 per year (in 2019 dollars). Pre-Risk Rating 2.0, premiums for NFIP flood insurance policies vary based on FIRM flood zone, ranging from approximately \$500 per year in Zone X (outside 100-year flood) to over \$3,000 per year in Zone VE (areas closest to the shoreline at base flood elevation [BFE] levels subject to wave action, high-velocity flow, and erosion during the 100-year flood). As of 2022, the majority (61 percent) of NFIP policies in Louisiana were in FIRM Zone X, with another 31 percent in Zone AE. Less than 1 percent of policies are in the highest risk zones.

FEMA anticipates that approximately 85 percent of policyholders will experience increases in policy premiums under Risk Rating 2.0. Plaquemines Parish is the only parish in the study area where over 10 percent of existing policies are anticipated to increase by over \$20 per month.

The proposed Project features that would be located in Plaquemines Parish include the proposed Project diversion complex, auxiliary features including LA 23 and NOGC railroad modifications, the outfall transition feature, the Outfall South marsh creation areas, a portion of the Outfall North marsh creation area, and a portion of the barge access channels in the basin (see Figure 2.8-1 Construction Footprint in Chapter 2). These facilities would be located in the floodplain district, which comprises areas that are prone to periodic or occasional inundation and that are not within publicly owned hurricane protection levees or pump drainage systems. Certain residential, commercial, and industrial uses that meet building and sanitary codes are allowed in the district; other uses are allowed subject to approval.

The proposed Project features that would be located in Jefferson Parish include a portion of the Outfall North marsh creation area and a portion of the barge access channels in the basin. These areas are currently zoned as unrestricted rural and located within the floodplain.

Approximately 793 acres of the 100-year floodplain are proposed to be altered by the proposed construction footprint. Floodplain alteration caused by construction of the portion of the Project within and outside the levee system is not expected to alter floodplain values. Because both the existing level of drainage and federal flood risk reduction would be maintained, there is no anticipated change to the FEMA FIRM

designation or base flood elevations due to the construction of the diversion. However, as noted, under Risk Rating 2.0, flood insurance rates are no longer based on the FIRM designation.

During project operations, the floodplains within the Project area would continue to be subject to storm and non-storm-related flooding. Water levels within the Barataria Basin are projected to follow an upward trend over the next 50 years due to sea-level rise and an increased tidal influence farther north in the basin associated with sea-level rise and land loss. Due to Project operations, increased water levels are expected to increase the frequency and severity of tidal flooding, especially in the first 3 decades of operation. Whether flood insurance rates may change under FEMA's Risk Rating 2.0 due to diversion operation is uncertain.

Cumulatively, floodplain alteration from construction of the MBSD Project action alternatives combined with the construction of these reasonably foreseeable projects could continue to stress floodplain values. Ecological restoration and coastal restoration projects are expected to enhance floodplain values long term.

7.1.10 Land Use:

The Project area includes all or portions of the following parishes: Ascension, Assumption, Lafourche, Jefferson, Orleans, Plaquemines, St. Charles, St. John the Baptist, St. James, and St. Bernard. While these parishes are characterized by a variety of land types, 45.1 percent of the Project area is open water, 25.7 percent is emergent herbaceous wetlands, 12.0 percent is woody wetlands, 6.5 percent is a mix of agricultural (cultivated crops) or open land (including pasture, hay, and shrub/scrub), 5.1 percent is developed (high, low, medium intensity and open space, as well as barren land), and 0.2 percent is upland forest land (deciduous, evergreen, and mixed forest). Table 3.18-1 in Section 3.18 of the Final EIS (Land Use Land Cover) summarizes the percentage of each land use type within the Project area based on the 2019 National Land Cover Dataset.

Project Area Land Use Types	
Land Use Type	Percentage of Project Area
Open Water	45.1%
Barren Land (Rock/Sand/Clay)	0.8%
Developed, High Intensity	0.5%
Developed, Low Intensity	2.4%
Developed, Medium Intensity	0.7%
Developed, Open Space	0.8%
Emergent Herbaceous Wetlands	25.7%
Woody Wetlands	12.0%
Grassland/herbaceous	0.3%
Deciduous Forest	0.1%
Mixed Forest	0.1%
Evergreen Forest	0.0%
Cultivated Crops	4.4%
Pasture/Hay	2.1%
Shrub/Scrub	0.0%
Unclassified	5.2%
Total Project Area	100%

The location proposed for the Project diversion complex would be in Plaquemines Parish, Louisiana in an area that is mostly rural in nature with residential and industrial/commercial development concentrated along LA 23 and the Mississippi River.

The conversion of agricultural, open, and forested land to developed land is projected to be a direct, moderate, permanent adverse impact on land use and land cover in the Project area. Construction of the proposed Project is proposed to impact a total of approximately 1,376.0 acres of uplands, wetlands, and open water in Jefferson and Plaquemines Parishes (see Table 4.18-1 and Figure 4.18-1 Final EIS), with the majority of impacts occurring in uplands (see Section 4.2 Geology and Soils, Table 4.2-1 for Project component acreages in the Final EIS). The upland portion of the construction footprint would impact a mix of agricultural (which may be actively tilled or fallow land), forest land, developed, and open land. Water-based construction activities is expected to occur in the Mississippi River for installation of diversion complex features such as the cofferdam, intake system, and river trestle dock. Water-based construction activities in the Barataria Basin outfall area are proposed to include dredging operations for the outfall transition feature and access routes for barge deliveries of construction materials. Excavation and pile-driving activities for construction of the diversion complex features may also occur from the basin.

In addition to the 1,376.0 acres impacted by construction shown in Table 4.18-1 of the Final EIS, dredged material may be placed in the basin near the proposed outfall

transition feature in designated marsh creation areas that is comprised predominately of open water (375 acres) but also include 92 acres of tidal wetlands.

Land Use Types Impacted by Project Construction Footprint ^a				
Land Use Type	Diversion Complex and Associated Construction Components ^b		Access Channels ^c	
	Acres	Percentage	Acres	Percentage
Uplands				
Cultivated Crops	4.4	0.4%	0.0	0.0%
Deciduous Forest	119.2	11.4%	0.0	0.0%
Developed, Low Intensity	36.7	3.5%	0.0	0.0%
Developed, Medium Intensity	6.0	0.6%	0.0	0.0%
Developed, High Intensity	0.2	0.0%	0.0	0.0%
Shrub/Scrub	6.9	0.7%	0.0	0.0%
Mixed Forest	30.7	2.9%	0.0	0.0%
Pasture/Hay	458.1	43.9%	0.0	0.0%
Grassland/herbaceous	32.9	3.2%	0.9	0.3%
Barren Land (Rock/Sand/Clay)	83.6	8.0%	0.0	0.0%
Developed, Open Space	4.7	0.5%	0.0	0.0%
Evergreen Forest	1.8	0.4%	0.0	0.0%
Subtotal	785.2	75.2%	0.9	0.3%
Open Water and Wetlands ^d				
Open Water	204.4	19.6%	266.7	80.3%
Emergent Herbaceous Wetlands	38.7	3.7%	64.7	19.5%
Woody Wetlands	15.3	1.5%	0.0	0.0%
Subtotal	258.4	24.8%	331.4	99.7%
Total Acres	1,043.6	100.0%	332.3	100.0%
Total Acres of Diversion Complex + Access Channels	1,376.0 acres			
Source: MRLC 2019				
^a The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends. Further, certain Project features overlap; however, the overlap has been accounted for in this table to avoid double counting. Therefore, acreages presented in this table are not equated to component acreages presented in Chapter 2, Table 2.8.2.				
^b This includes the outfall transition feature in the basin where dredging would occur. It also includes associated Project components like the river trestle dock, haul roads, disposal areas, and construction contractor yards that would not be maintained during Project operations.				
^c This includes adjacent stockpile/disposal sites that would not be required for operation of the Project.				
^d These data are based on land use data and therefore differ from wetland acreages presented in Section 4.6 of the Final EIS (Wetland Resources and Waters of the U.S.), as well as the forested acreage presented in Sections 4.9 and 4.12 of the Final EIS, which are based on field surveys as well as desktop delineations that were coordinated with CEMVN.				

Construction impacts in the immediate outfall area associated with dredging the outfall transition feature and barge access channels is expected to eventually be filled in with sediment to create new wetlands during Project operations. Impacts on wetlands

associated with marsh creation areas are expected to result in beneficial impacts on wetland resources.

Direct impacts would occur on lands where active construction occurs as well as any exclusion areas established by the installation of safety fencing. Minor, temporary adverse, indirect impacts could occur on adjacent lands, including nearby residences and businesses, from construction noise and dust; disturbance or removal of lawns, trees, landscaped shrubs, or similar vegetation; and the relocation of existing infrastructure within the Project area. Use of open water within the Mississippi River and Barataria Basin associated with construction of the diversion complex and auxiliary structures could include minor increases in water-based traffic and minor reductions in access for commercial and recreational users when Project vessels are in transit through these waterbodies. These minor, adverse impacts are expected to be temporary, occurring over the 5-year construction period, and intermittent, based on the expected number and frequency of construction vessels, as described in Section 4.21 Navigation of the Final EIS. Impacts on recreational and commercial use of the river and basin are described in Sections 4.16 Recreation and Tourism and Section 4.21 Navigation of the Final EIS, respectively.

Operation of the proposed Project is projected to have permanent, moderate, adverse and permanent, major, beneficial impacts on existing land use in the Project area as compared to the No Action Alternative. Whether these changes in land use types are adverse or beneficial depends on the particular use or user in question. For example, as discussed in Section 4.16 Recreation and Tourism of the Final EIS, the creation of wetlands within the basin could be beneficial for certain uses such as hunting of waterfowl. Alternatively, impacts could be considered adverse for other water-based users where open water is more desirable.

Certain Project components like the river trestle dock, haul roads, disposal sites, and construction contractor yards may not be maintained for operation. Also, the temporary cofferdam in the Mississippi River would be removed upon completion of construction of the diversion complex. Therefore, the operational, permanent footprint required for the diversion complex and auxiliary structures is proposed to be approximately 793 acres.

After commencement of operations, the access channels in the immediate outfall area in the basin is expected to fill in with sediment. As previously discussed, about 151.7 acres of forest land (deciduous, mixed, and evergreen forest) is proposed to be disturbed during construction of the diversion complex and auxiliary facilities, all of which could be maintained for operation of the Project facilities. Further, in addition to 131.2 acres of land classified as developed or barren, about 462.5 acres of agricultural

land (most of which is not actively cultivated), 204.4 acres of open water, 39.8 acres of open land (shrubland and herbaceous lands), and 54.0 acres of wetlands (woody wetlands and emergent herbaceous wetlands) within the operational footprint would be permanently converted to developed land and is not available for development by others during the Project analysis period. This would result in moderate, permanent, adverse impacts on existing land use as compared to the No Action Alternative. Although land currently classified as developed would not result in a conversion of land type, the Applicant's use of the land would be different than the current industrial or commercial use.

Based on the results of Delft3D Basinwide Modeling, new land is anticipated to be created from operation of the proposed Project within the Barataria Basin, and land loss would likely occur in the birdfoot delta. Changes in land use and land cover (specifically wetlands and open water) within the Barataria Basin and the birdfoot delta, as well as changes in use (for example, fishing, recreation, and tourism; as discussed in Chapter 3 Section 3.16 and in 4.16 Recreation and Tourism of the Final EIS) are considered direct impacts, while impacts such as these that occur on adjacent lands outside of the basin and birdfoot delta are considered indirect impacts.

Land gains in the Barataria Basin are projected to have permanent, major, beneficial impacts on certain uses through the creation of wetland habitat that supports fishing, wildlife viewing, and other tourism activities as discussed in Section 4.16 Recreation and Tourism of the Final EIS. Under the Applicant's Preferred Alternative, the creation of wetlands in the Barataria Basin is expected to aid in achieving the goals set forth by the state and parishes' respective plans, such as coastline restoration and flood protection, which could induce investment in the Project area. Future issues and needs identified by Plaquemines Parish in its 2020 master plan focus on the lower delta. The loss of wetlands expected in the birdfoot delta are projected to have permanent, moderate, impacts on land use. Whether this loss is perceived as beneficial or adverse depends on the perspective of the user, in terms of land- versus water-based users, as discussed above.

Construction of the reasonably foreseeable projects are expected to involve the removal of existing vegetation, forest lands, and wetlands and could also impact agricultural and open lands. The conversion of these land use types to developed land is expected to result in a direct, minor to moderate, permanent adverse impact on land use and land cover.

Similar to the MBSD Project action alternatives, best management practices to minimize construction impacts are likely to be implemented during construction of the other

projects in accordance with applicable permits. Cumulative impacts of the reasonably foreseeable future actions combined with the MBSD Project action alternatives could convert more than 2,100 acres of land in Plaquemines and Jefferson Parishes from the current land uses to developed land. Following construction, about 1,300 acres are expected to be encumbered by the project facilities for these projects resulting in moderate, permanent, adverse cumulative impacts on existing land use.

As the MBSD Project action alternatives and other reasonably foreseeable projects would not substantially change the character of the AOI, which is a mix of residential, commercial, and industrial uses, and are consistent with Jefferson and Plaquemines Parish zoning regulations, the cumulative impacts from construction and operation of the MBSD Project action alternatives combined with other reasonably foreseeable projects on land use and land cover are expected to be minor to moderate and temporary to permanent.

7.1.11 Navigation:

Commercial navigation in the Project area is characterized using the cargoes and vessels transiting the Mississippi River System and Barataria Basin.

Mississippi River

The Mississippi River navigation channel is commonly divided into upper and lower segments, with the Upper Mississippi River extending from Minneapolis, Minnesota to Cairo, Illinois, and the Lower Mississippi River extending from Cairo, Illinois to the Gulf. The main stem waterway below Cairo often has navigation depths greater than nine feet that allow deeper loading barges in the range of 12 to 15 feet in depth. North of Baton Rouge, the Mississippi River navigation channel is maintained to a depth of 9 feet.

South of Baton Rouge is the deep-draft navigation portion of the Lower Mississippi River. The navigation channel is maintained to a depth of 40 feet from RM 233.8 AHP to RM 232.4 AHP. Between RM 232.4 AHP to the Gulf, it is maintained to a depth of 45 feet although authorized to a depth of 55 feet by the Supplemental Appropriations Act of 1985 (PL 99-88) and the 1986 WRDA (PL 99-662). For the MRSC, Gulf to Baton Rouge, Louisiana Project, Phase III Deepening, the USACE prepared an integrated General Re-evaluation Report and SEIS to deepen the existing Mississippi River Ship Channel from the current depth of 45 feet to a depth of 50 feet. Construction of the MRSC Deepening Project began in 2020.

South of RM 0.0 (Head of Passes) in the birdfoot delta, the Southwest Pass extends into the Gulf to RM 22 BHP and is maintained to a depth of 45 feet. Within the next few

years, Southwest Pass is expected to be deepened to a depth of 50 feet as part of the MRSC Deepening Project. The South Pass is 14.2 miles in length and is maintained to a depth of 13 feet (see Figure 3.21-1).

CEMVN has the largest annual navigation O&M program in the nation. The CEMVN dredges an average of 77 mcy of material annually during maintenance dredging of federal navigation channels, most of which occurs in the Mississippi River, the Calcasieu River, and the Atchafalaya River. South of Baton Rouge, the Mississippi River navigation channel includes two segments that are consistently dredged to maintain navigation depths: New Orleans Harbor (RM 101.1 AHP to RM 94.6) and Venice to the Gulf (RM 13.0 AHP to RM 22.0 BHP).

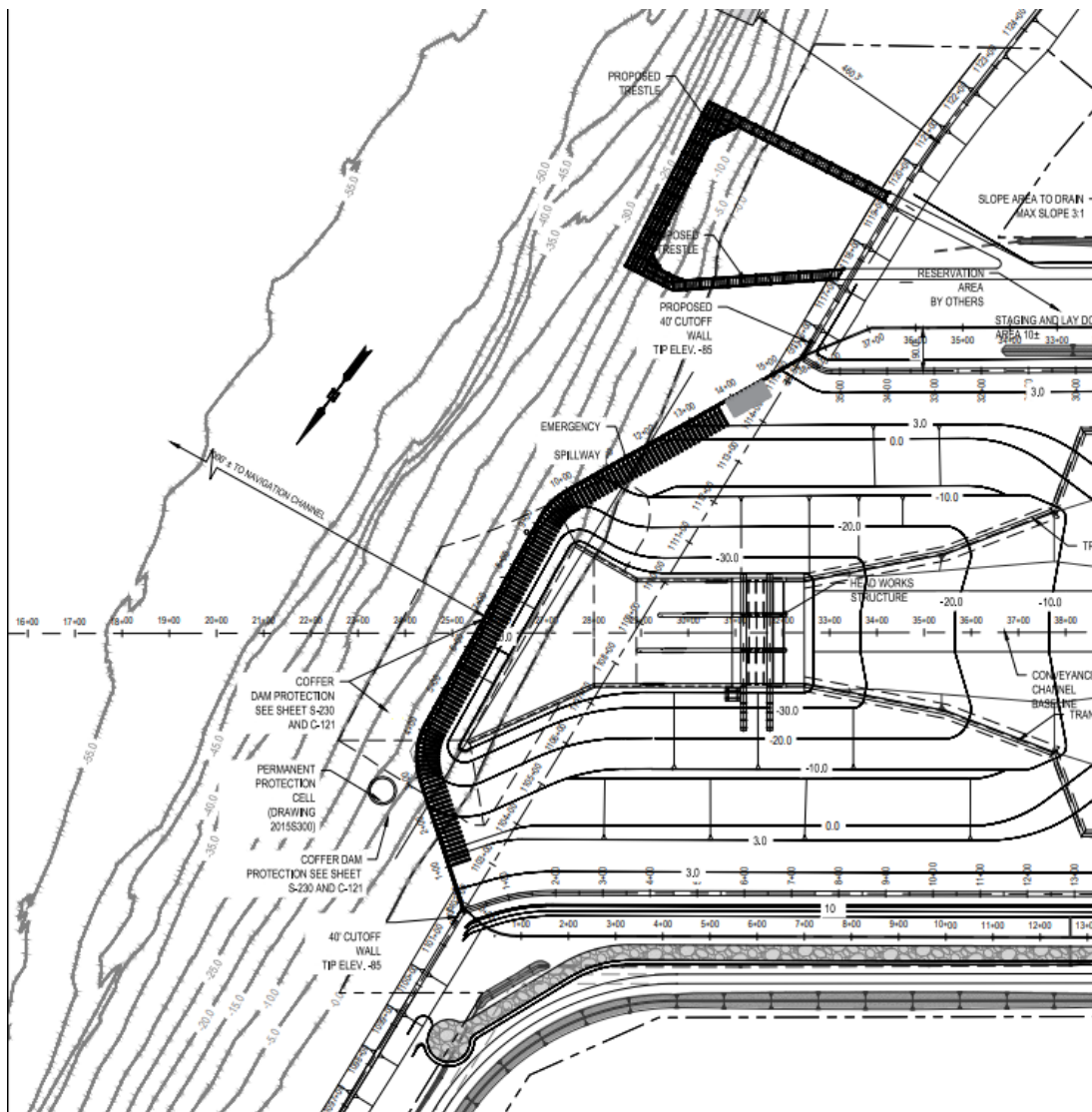
Where the proposed Project diversion intake structure is located, the sailing line is located along the opposite bank. The sailing line is the approximate track a vessel would follow downstream during a low river stage. Actual channel boundaries are established and marked by the USCG. Deep-draft vessels must closely adhere to the marked channel; however, shallow-draft vessels may use any part of the river cross-section.

In the Mississippi River, direct impacts on marine traffic operations associated with construction of the proposed training walls and cofferdam could occur within about 1 mile upstream and downstream of Project construction. Direct impacts on marine traffic volumes in the Mississippi River from barge deliveries of construction materials could occur in the river from New Orleans to the Gulf of Mexico. Indirect impacts on marine traffic could affect additional segments of the Mississippi River upstream of New Orleans and in the Gulf depending upon the origin of construction materials. The area of potential traffic and dredging impacts from sedimentation during proposed Project operations include the Mississippi River from New Orleans to the Gulf of Mexico.

Construction of the proposed Project is expected to have negligible impacts on navigation-related maintenance dredging frequencies or volumes in the Mississippi River, including at the Port of New Orleans. Project construction is projected to cause temporary, minor, adverse direct impacts on traffic capacity in the Lower Mississippi River. The navigation channel is approximately 1,200 feet from the nearest diversion structure (see figure 4.21-1 of the Final EIS). A temporary dewatering cofferdam is proposed to be installed in the Mississippi River and would tie into an interim levee during construction of the intake system to allow for construction in-the-dry for at least 3 years. The navigation channel is approximately 1,000 feet from the temporary cofferdam. Due to potential safety issues, proposed Project construction is projected to cause temporary, minor, adverse impacts on the safety and transit time of shallow-draft

vessels transiting past the proposed Project site during the 3.5-year construction period for the MBSD intake system. CPRA's navigation study determined that the cofferdam and protection cells could result in delays on the order of 5 minutes based on the simulations conducted for that analysis. It is possible, however, that such delays could extend up to an hour, particularly during the construction period when traffic volumes could increase.

Deep-draft vessels transiting past RM 60.7 are restricted to the designated navigation channel. Proposed Project construction is anticipated to have negligible impacts on deep-draft vessels because of their distance from construction activities (approximately 1,000 feet away from proposed cofferdam and protection cells). To ensure safety, deep-draft vessels may need to coordinate transits past the Project construction area. See Appendix Q of the Final EIS for more details about the navigation simulation study.



Mississippi River 60 Percent Conceptual Layout of Proposed Intake Structure with Temporary Cofferdam.

Modeling results from CPRA's Delft3D Basinwide, AdH, and HEC-6T models were used to analyze and forecast dredging impacts from operation of the proposed Project. The models have limitations that allow for a primarily qualitative interpretation of their results. Model limitations led to conservative impact determinations in the NEPA analysis. See Section 4.21.2 and Appendix Q of the Final EIS for more details about modeled impacts on dredging. Below is a summary of impacts for each section of the Mississippi River in the Project area.

Upriver of Proposed Project Site:

Operation of the Applicant's Preferred Alternative is projected to cause negligible impacts on dredging in the Mississippi River upriver of the proposed Project site (RM 60.7 AHP). The Port of New Orleans is located upriver of the proposed Project site and may experience negligible impacts on dredging due to MBSD Project operations.

Project Site and Vicinity:

Model results project that although Project operations is expected to cause negligible to minor increases in sedimentation from 1 mile upstream to 1 mile downstream of the proposed MBSD structure, dredging frequency and volumes are not expected to be impacted because this segment of the river is naturally deeper than the maintained channel depth and does not require maintenance dredging.

Project Site to Venice:

Operation of the Applicant's Preferred Alternative is projected to cause permanent, minor, potentially adverse impacts on maintenance dredging operations in the Lower Mississippi River between the proposed intake structure location (RM 60.7 AHP) and Venice (RM 13 AHP) by inducing changes to typical shoaling patterns and locations, which may in turn change where maintenance dredging is typically required in the navigation channel such as if new point bar growth intrudes into the navigation channel. Such changes could arise as part of the Mississippi River's long-term geomorphic response to the diversion.

Venice to the Gulf:

Model results project that operation of the Applicant's Preferred Alternative could cause permanent, moderate, potentially adverse impacts on maintenance dredging operations from Venice to the Gulf of Mexico, including Southwest Pass. Modeling results suggest,

but do not prove due to uncertainty, that the proposed Project operations may increase sedimentation in these areas, either immediately or in the future, which could require increased dredging (see Appendix Q of the Final EIS for the dredging impact analysis). The reason for this is that even though the diversion may reduce the total amount of sand in the river downstream, the flow transport capacity of the river could be reduced because of the diversion of river water through the MBSD diversion structure, causing the deposition of sand in the river to be deposited farther upstream than under No Action Alternative conditions. This upstream migration of deposition could have a dynamic influence on dredging, because the specific location of deposition in a given year could change with conditions. Similar increases in sedimentation rates could potentially occur in South Pass, Tiger Pass, Baptiste Collette, and other passes carrying flow to the Gulf, and may cause permanent, moderate, adverse impacts on maintenance dredging operations in these areas.

Due to safety issues, proposed Project operations may have intermittent but permanent, moderate, adverse, direct impacts on marine traffic efficiency (transit time) for shallow-draft vessels transiting the Mississippi River near RM 60.7 AHP during the 50-year analysis period. The simulations were based on anticipated river and traffic conditions in the Project area, from RM 58.5 to RM 62.5, during construction and operation of the proposed Project and especially focused on impacts on tow traffic.

Experienced marine vessel pilots participated in CPRA's navigation simulation to evaluate vessel handling and safety under realistic river flows and channel configuration. Rerouting of river water from the Mississippi River into the diversion intake channel has the potential to induce cross-currents extending about 200 feet into the river from the proposed intake structure. With the projected cross-currents, shallow-draft vessel traffic would have an area of about 849 feet between the cross-currents and the navigation channel to use for transit (compared to a current area of about 1,300 feet), requiring marine vessel pilots to coordinate transit times in advance to avoid congestion and accidents during proposed Project operations. Some congestion may be unavoidable and could cause transit delays. After the navigation study was conducted, further design work reduced the protrusion distance of the intake walls by 400 feet into the channel as compared to what was assessed in the Waterway Simulation Technology, Inc. (WST) study. Deep-draft vessels transiting within the limits of the Mississippi River navigation channel are projected to be only negligibly affected by proposed Project operations because the navigation channel is outside the area of influence of induced cross-currents. Operation of the proposed Project is expected to also induce negligible direct and indirect impacts on waterborne traffic in the Mississippi

River from occasional maintenance-related, shallow-draft vessel calls to the diversion structure.

The proposed Project could have direct impacts on maintenance dredging requirements in the Mississippi River navigation channel below Venice. Increased maintenance dredging operations could restrict access to parts of the channel and result in minor, permanent, indirect impacts on marine traffic due to delays because when dredging equipment is working in the channel, large vessels are often limited to one-way passage or are required to wait for dredging equipment to re-position.

Barataria Basin:

The Barataria Basin includes multiple shallow-draft waterways that are used for commercial and recreational purposes. The primary federally maintained channels in the Barataria Basin include the Barataria Waterway, the GIWW, and Bayou Lafourche and Lafourche-Jump Waterway.

The primary centrally managed ports in the Barataria Basin are Port Fourchon, Port of Grand Isle, and Port of Plaquemines Parish; however, numerous terminals, wharves, and publicly available docks lie along the major and minor channels of the basin. Commercial waterborne traffic in the Barataria Basin consists mainly of vessels engaged in petroleum, fishing, and related industries.

In the Barataria Basin, the area of potential direct impacts on navigation volumes (number of vessel transits) due to barge deliveries of construction materials include the Harvey Canal/GIWW from New Orleans to Bayou Lafourche, and the Barataria Bay Waterway. Indirect impacts on marine traffic could affect traffic volumes in the Mississippi River and the Gulf depending upon the origin of construction materials. During proposed Project operations, the area of potential impacts on navigation from sedimentation includes the Barataria Bay Waterway, the GIWW, and Bayou Lafourche, as well as non-federal channels and waterways affected by sedimentation during proposed Project operations.

Construction of the proposed Project is expected to cause negligible impacts on maintenance dredging in the Barataria Basin federal navigation channels. During construction, minor increases in vessel traffic for the delivery of construction materials may exacerbate bankline erosion of the navigation channels, which may cause a negligible increase in sedimentation. This may require negligible increases in maintenance dredging volumes in the basin navigation channels during construction of the proposed Project.

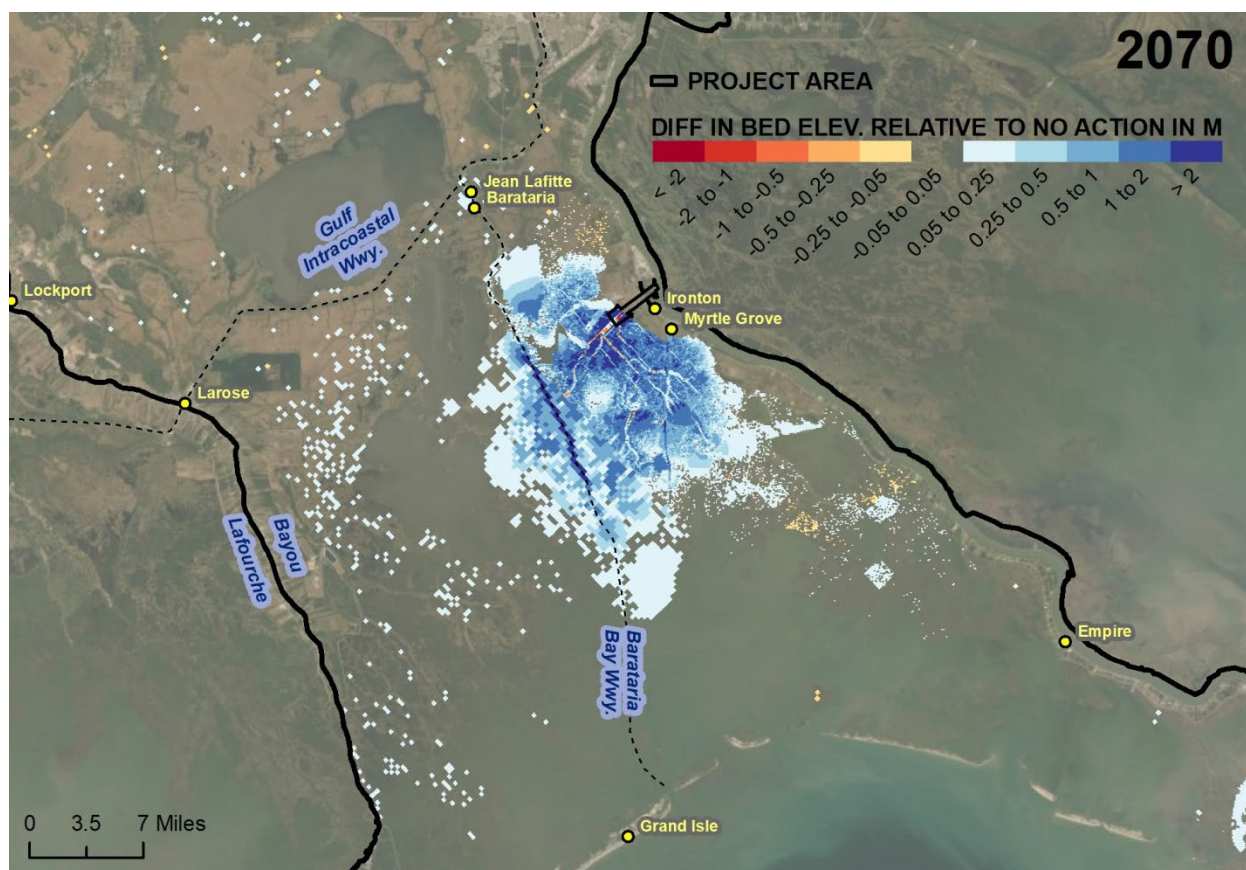
Project construction is expected to cause temporary, minor, adverse impacts on safety and traffic capacity in the Barataria Basin federal navigation channels. Truck transport is expected to be the primary method of delivering construction materials to the proposed Project construction site, with marine barge transportation serving a supplementary role. Equipment and materials could be barged from vendors north and south of the Barataria Basin from the Mississippi River and the Gulf of Mexico via the Harvey Canal, the GIWW, the Barataria Bay Waterway, and Bayou Dupont. Construction materials and equipment could be delivered at a boat ramp that CPRA is proposing to construct along the shoreline of the proposed conveyance channel construction footprint. CPRA proposes to dredge access channels as needed from Bayou Dupont to the proposed boat ramp to accommodate vessels carrying equipment and materials to and from the construction site (see Figure 4.2-1).

CPRA estimates that barge deliveries of construction materials may generate approximately 400 roundtrips to the proposed Project site via the Barataria basin channels over a period of 42 months (3.5-years) to deliver materials such as riprap, stone, and sand for construction of the conveyance channel, averaging about 10 barge deliveries per month. This is expected to represent a temporary, minor, adverse impact on existing traffic capacity in the basin navigation channels. Indirect, negligible impacts on marine traffic volumes could occur in the Mississippi River and in the Gulf depending upon the origin of construction.

Operation of the proposed Project could cause permanent, moderate, adverse impacts on maintenance dredging in the Barataria Bay Waterway; permanent, minor, adverse impacts on maintenance dredging in Bayou Lafourche; and negligible impacts on dredging in the GIWW due to sedimentation caused by the proposed Project.

Dredging volumes in the Barataria Bay Waterway are projected to increase substantially as a result of sediment load delivered by the diversion. Such increases could require CEMVN to investigate available dredged material placement areas to accommodate the additional material generated by the Project. The additional material could provide more sediment for marsh creation in the basin but at an increased cost for dredging and placement.

It can be reasonably assumed that Bayou Lafourche could experience less sedimentation than the Barataria Bay Waterway under the Applicant's Preferred Alternative because it is west of the main area of sedimentation impacts projected from proposed Project operations, and those impacts have been projected based on physical processes-based extrapolation of model results (see Figure 4.21-2 of the Final EIS).



Location of Federal Navigation Channels in Relation to Projected Sedimentation Impacts in Year 2070 of Project Operations. “Bed elevation increases” shown in the map are synonymous with the term “sedimentation increases” discussed in this section.

The Project is projected to have direct impacts on maintenance dredging requirements in the Barataria Basin federal navigation channels. Increased dredging operations could result in minor, permanent, indirect, adverse impacts on marine traffic in the basin due to dredging activities restricting or blocking parts of the channel and delaying traffic.

Cumulative Impacts:

Reasonably foreseeable projects are not expected to appreciably contribute impacts on marine traffic in the Mississippi River during the 5-year construction period. Therefore, cumulative impacts on navigation traffic in the river during construction of the reasonably foreseeable future actions combined with construction of the MBSD Project action alternatives would not appreciably differ from those impacts of the MBSD Project action alternatives alone: temporary, minor, adverse impacts on the safety and efficiency of shallow-draft vessels transiting past the cofferdam and protection cells in the Mississippi River.

The construction and operation of reasonably foreseeable projects are not expected to result in more than negligible increases in marine traffic on the Mississippi River during construction or operations. Therefore, the foreseeable projects would not contribute appreciably to cumulative impacts on navigation safety and efficiency of shallow-draft vessels transiting past the intake structure during diversion operations.

The Mid-Breton Sediment Diversion Project could increase erosion upstream of the Mid-Breton diversion structure and increase deposition downstream. The driving force for these changes are projected to be the reduced flow and consequently slower water velocity downstream of diversions from the rerouting of the water through the diversion. Upstream of diversions, erosion is expected to increase due to the increased water surface slope induced when the diversion is open (flowing greater than the 5,000 cfs base flow). These impacts are expected to represent minor to moderate, permanent, increases in dredging in Southwest Pass. Additional analysis of the Mid-Breton Sediment Diversion Project will be conducted in a forthcoming EIS for that project.

Mitigation:

In the Barataria Basin, impacts on navigation from project operation are projected to be primarily limited to changes in bed elevation and increased sedimentation that is anticipated to occur in the Barataria Bay Waterway federal navigation channel and other frequently used privately-owned canals, such as Wilkinson Canal which leads to the Myrtle Grove Subdivision.

CPRA proposes pre-operations and post-construction bathymetric and light detection and ranging (LiDAR) surveys as part of their MAM plan (Section 3.7.1.1.6 and 3.7.1.1.7 of the Final EIS) for the operation of the MBSD Project in regard to data collection, monitoring, and implementation of adaptive management decisions. The monitoring is expected to assess the Project's effect on bathymetry, consider required or authorized elevations, and operations and maintenance of the navigation channel.

To the extent the Barataria Waterway aggrades to a degree that inhibits navigation as a result of Project operations, CPRA proposes to take one or more of the following actions to mitigate the identified Project impact:

- adjust operations of the Project,
- conduct maintenance dredging of the Waterway to provide sufficient depths for the safe transit of watercraft or to maintain authorized depths for navigation, or

- implement outfall management measures to limit the loss of sediments to the waterway.

To the extent that Project operations lead to sedimentation within Wilkinson Canal¹⁷, CPRA proposes to take one or more of the following actions to mitigate the identified Project impact:

- adjust operations of the Project, or
- with approval from the underlying landowner, conduct maintenance dredging of the canal to provide sufficient depths for the safe transit of watercraft or to maintain authorized depths for navigation.

CPRA's mitigation plan does not say what the operations adjustment would be and provides no indication of what the waterway condition of the Barataria Waterway or Wilkinson Canal would need to be for them to conduct maintenance dredging. Figure 4.13-2 in Section 4.13 Socioeconomics of the Final EIS does illustrate an alternative boat access to Myrtle Grove and Woodpark communities, via an existing canal from Lake Laurier. This alternative route allows vessel access to the Myrtle Grove Community, though the Lake Laurier to Myrtle Grove route is longer and it is unclear if this route is suitable for all vessels currently accessing the community.

In order to achieve the purpose of the project, CPRA does not intend to dredge any of the other privately-owned canals, waterways, or water bottoms in the Barataria Basin that may be impacted by the Project. Aside from Wilkinson Canal, CPRA maintains that the majority of private canals where sedimentation is projected occur in inactive abandoned oil and gas facilities and wells that have been plugged and abandoned.

During project construction within the Mississippi River, CPRA has proposed the following measures to address concerns about navigation impacts:

- CPRA will coordinate the location of Mississippi River Aids to Navigation (ATONS) associated with the MBSD structure with the USCG. The ATONs will

¹⁷ Foot note detail from CPRA's mitigation plan:

Wilkinson Canal is a privately owned canal, and CPRA has recognized that the canal is used by the public as well. Given its current use and activity, CPRA recognizes its importance to local users, but CPRA cannot presume future use patterns or private intentions. Given the uncertainty of where and when impacts could occur with sedimentation and the nature of private property rights, CPRA must adopt an Adaptive Management approach regarding decisions to maintain navigability of the Canal; thus, improving and maintaining an alternate access route is proposed as a mitigation option depending on the time and location of impacts.

be visually inspected each day and the operability recorded in the Daily Report and would be maintained for the duration of the Project.

- Whenever flow through the structure is started or stopped, on-site personnel shall notify the USCG via a Navigation Bulletin so that traffic is informed of the Project's operating condition.
- Before raising or lowering any gate at the entrance to the diversion channel, the operator should check the vicinity of the inflow, conveyance and outflow channels for boats, fishermen and swimmers and alert them to clear the area. Methods for these alerts may include horns, lights and/or audio messages.

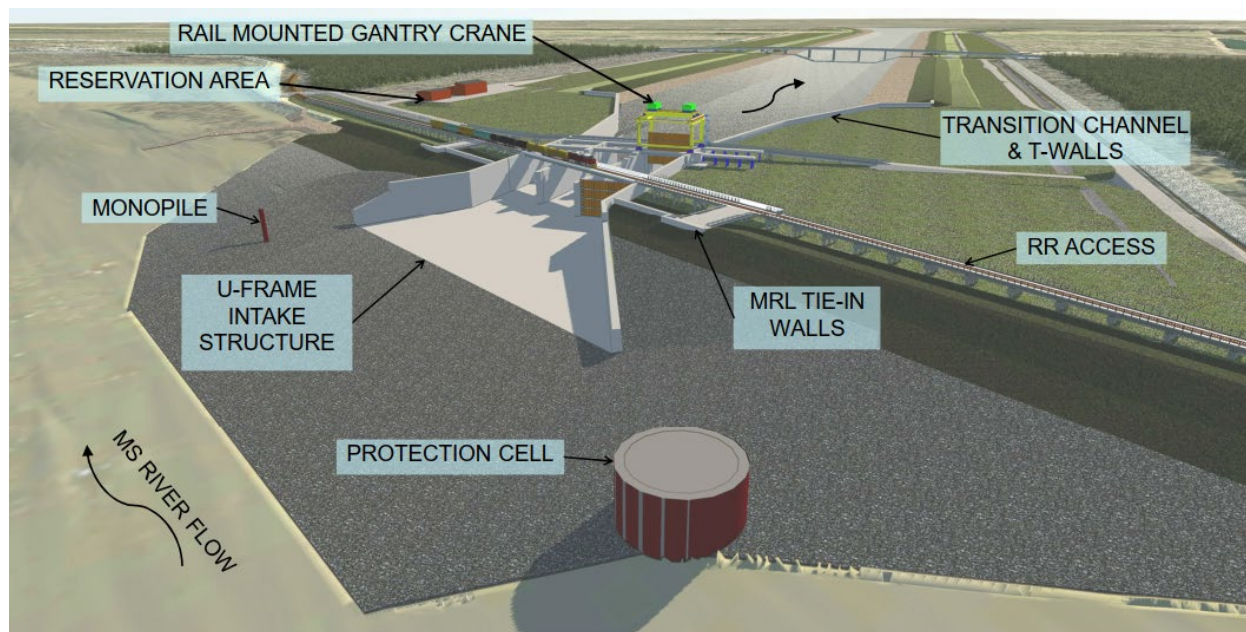
CEMVN has engaged the navigation industry for input on the MBSD Project's anticipated effects on navigation, including the potential for increased sedimentation in the Mississippi River, as part of the NEPA process. During the Draft EIS comment period, CEMVN received correspondence from the Big River Coalition (BRC) on behalf of the navigation industry expressing concerns over the negative impacts the MBSD Project would have on the Mississippi River ship channel (MRSC) and did not include any mitigation measures to address these impacts on the MRSC.

The BRC requested CPRA to maintain a sufficient picket boat during the construction and operation of the MBSD Project to protect maritime commerce, transiting vessels and the MBSD structure. The Coalition also noted that the Draft EIS states that the MBSD Project will lead to the loss of approximately 3,000 acres in the environmentally sensitive birdfoot delta. BRC requested compensatory mitigation in the form of the restoration of 3,000 acres of land in the birdfoot delta be provided due to the the birdfoot delta's importance to maritime commerce and restoration efforts.

CPRA maintains that picket boats will be in-place during construction of the project when deliveries are made at the project site. CPRA does not propose to have 24 hour, 7 day a week picket boat service to aid against loose barges or other vessels impacting the diversion intake/headworks. Cross-currents are expected to pose a challenge to shallow draft mariners when MBSD is operated at high flows; however, the navigation simulation did not indicate a risk to deep water vessel steering or shallow draft vessels losing control/barges breaking loose from project operation. Picket boat services are not required by CEMVN. The MBSD project design includes a protection cell adjacent to the intake structure to help prevent structure damage as shown in Figure 2.8-2 of the Final EIS and shown below.

On July 22, 2022 U.S. Coast Guard (USCG) expressed navigation concerns as a result of project construction and operation; however, later withdrew those concerns through

further coordination and explanation of existing information included in Section 4.21 Navigation and Appendix Q of the Final EIS. USCG's no objection letter was provided to CEMVN on August 16, 2022.



Proposed Project Design Features as Viewed from the Mississippi River

CEMVN Regulatory is aware of the accretion and shoaling risks in navigable waterways and the risk to both recreational boaters and commercial fishers. Without additional dredging, adverse impacts on recreational and commercial activities, including oil and gas industry transit and commercial fishing activities that utilize these channels, are expected to occur. In addition, property values for properties that rely on access to those channels could be adversely affected. Commercial and recreational vessels will need to practice caution in open water due to the expected deltaic splays and changes in water depths in the outfall areas from Project operation. CPRA will be required to have proper coordination, lighting, and notice to mariners through ongoing coordination with USCG. Navigation impacts from shoaling in the Mississippi River and Barataria Waterway are noted, but considered negligible because these waterways are maintained by USACE. Alterations to these federal projects must be considered under the Section 408 process.

7.1.12 Shoreline Erosion and Accretion:

As discussed in this document and Chapter 3 Affected Environment of the Final EIS, shorelines and wetlands have degraded due to a combination of saltwater intrusion, decreased freshwater supply, alterations to the natural hydrology of the area, and a lack

of sediment input. Landscape changes from the oil and gas industry and vessel navigation have resulted in extensive shoreline loss in the Barataria Basin and birdfoot delta.

During project construction, vessel traffic for the delivery of construction materials may exacerbate bankline erosion of the navigation channels, particularly along shorelines which may cause a negligible increase in sedimentation. During project operation, land loss trends in the Barataria Basin and birdfoot delta are expected to continue, but the effects of saltwater intrusion, decreased freshwater supply, and a lack of sediment input that have impacted the Barataria Basin is expected to be negated. If operated as proposed, accretion is the greatest benefit the project is expected to offer.

The sediments transported by operation of the proposed Project are expected to be deposited on marsh surfaces and in open water areas and are expected to increase rates of land accretion where the sediment is deposited, which is primarily expected to be in the Barataria Basin. Vegetation could establish on new land and new plant growth, in turn, could trap additional sediment and result in further land growth and increasing marsh elevation. The success of sediment diversions, such as the Project as operated as proposed, is dependent on the balance between sediment supply and associated land building when compared with subsidence and sea-level rise. Sediment input is necessary to slow the rate of wetland losses via submergence in the Mississippi River Delta; however, the modern Mississippi sediment load is not sufficient to sustain the full extent of existing deltaic plain wetland surface area due to dams, other flood control structures, and soil management practices upstream of the Project area. The transport of sediment to Project area wetlands could be expected to slow or stop wetland losses in some locations; however, the extent of wetland benefits are anticipated to be dependent upon the sediment load diverted to the Barataria Basin. Sediment from the proposed Project would therefore likely have the greatest impact on accretion at marsh edges in areas nearest to the immediate outfall area.

The greatest negative impacts on accretion is expected to occur in the birdfoot delta, which would receive less sediment due to the diversion of fresh water and sediment to the Barataria Basin. The reduction in sediment input could limit the capability of wetlands to balance land building against subsidence and sea-level rise, resulting in greater losses than under the No Action Alternative. However, as described above, sediments may be more effectively used to sustain wetlands when introduced into the Barataria Basin via the diversion.

At some locations in the outfall area, prolonged inundation due to fresh water transported by the proposed Project could increase flood stress on wetlands during the

50-year analysis period, resulting in adverse impacts on wetland vegetation. As described in Chapter 3 Section 3.6.3.2 in Wetland Resources and Waters of the U.S. of the Final EIS, increased flooding frequency and duration stresses marsh vegetation and can result in mortality. Potential inundation stress is projected to be greatest in the mid-basin nearest the diversion structure outfall, and may diminish with distance from the outfall. In areas of inundation-induced vegetation mortality, sediment deposition from the proposed diversion may not be sufficient to address the loss of biomass due to localized vegetation mortality. Sediment accretion rates are primarily dependent on soil organic matter accumulation, since organic matter in the Louisiana deltaic marshes produces 22 or more times the elevation of mineral matter accumulation. However, higher bed elevations created by sediment deposition over the 50-year analysis period of the diversion structure could counteract those losses and contribute to wetland establishment and spread over time across the broader Project area.

As described in Section 4.2.3.2.2 in Geology and Soils of the Final EIS, the Project is anticipated to introduce significant volumes of sediment into the Barataria Basin over the 50-year analysis period of the proposed Project (years 2020 to 2070). These additions are projected to increase sediment bed elevations in the outfall area and result in the net creation of about 13,400 acres of land by modeled year 2070 compared to the No Action Alternative.

Land accretion is expected to result in the establishment of vegetation on new land and new plant growth, in turn, could trap additional sediment and result in further land growth and increasing marsh elevation. The vegetation cover type established may depend on habitat conditions (including salinity). In general, freshwater vegetation and associated above and belowground biomass is projected to form in the outfall area under the action alternatives, where that biomass could be lost under the No Action Alternative. Assuming the project is operated as proposed, projected acreages of wetland creation and maintenance are influenced in part by the sea-level rise rate assumed in the Delft3D Basinwide Model. A lower sea-level rise rate is expected to lead to a higher projected rate of wetland creation and maintenance in the Barataria Basin and a lower rate of land loss in the birdfoot delta, and a higher sea-level rise rate could lead to a lower rate of projected wetland creation and maintenance in the Barataria Basin and higher rate of land loss in the birdfoot delta. A sensitivity run of the Delft3D Basinwide Model used an alternate sea-level rise rate of 2.6 feet (0.79 meter) by year 2100 to evaluate a lower sea-level rise scenario on wetlands. This sensitivity run projected that the extent of wetland area in the Project area would be 297,000 acres at the end of the analysis period under the Applicant's Preferred Alternative, about 3.75 times greater than the wetland area under the 4.9-foot (1.5-meter) sea-level rise

scenario presented in Table 4.6-3 of the Final EIS and shown below. Details regarding the magnitude of this difference is provided in Appendix E of the Final EIS.

Results of Vegetation Modeling and Projected Acreage of Wetland Acreage, by Decade and Wetland Type, for the Project Alternatives^a								
Alternative / Area	Wetland Cover Type	2020	2030	2040	2050	2060	2070	Total Acres of Wetland Loss^b
No Action Alternative								
Barataria Basin	Fresh/ Intermediate Marsh	234,000	228,000	209,000	177,000	122,000	61,100	173,000
	Brackish Marsh	70,600	69,700	50,800	25,400	10,700	5,340	65,300
	Saline Marsh	66,800	43,000	27,100	15,500	6,670	6,330	60,400
	Total	371,000	340,000	287,000	218,000	139,000	72,800	298,000
Birdfoot Delta	Fresh/ Intermediate Marsh	44,400	35,900	19,200	12,700	8,930	5,270	39,200
	Brackish Marsh	10,300	3,520	4,820	3,720	1,250	1,010	9,330
	Saline Marsh	4,150	1,920	1,510	945	291	121	4,030
	Total	58,900	41,300	25,500	17,400	10,500	6,410	52,500
Applicant's Preferred Alternative								
Barataria Basin	Fresh/ Intermediate Marsh	270,000	271,000	253,000	207,000	145,000	77,700	156,000
	Brackish Marsh	58,100	54,100	30,900	16,600	4,530	1,710	68,900
	Saline Marsh	42,900	21,300	15,100	10,400	7,040	6,050	60,700
	Total	371,000	346,000	299,000	234,000	157,000	85,500	286,000
Birdfoot Delta	Fresh/ Intermediate Marsh	44,000	34,200	19,800	12,600	8,270	1,810	42,600
	Brackish Marsh	10,500	3,810	3,170	3,820	1,270	1,510	8,840
	Saline Marsh	4,450	1,790	1,450	911	293	201	3,950
	Total	58,900	39,800	24,500	17,300	9,830	3,510	55,400
^a Modeled wetland acreages have been rounded to three significant digits. ^b As compared with the No Action Alternative in 2020.								

The impacts of the Applicant's Preferred Alternative on wetlands in the Project area could evolve over the 50-year analysis period. Immediately following initial diversion operations, localized erosion and loss of some tidal wetlands near the outfall transition feature could likely occur due primarily to scouring and inundation impacts and secondarily due to high-water velocities of the diverted water coming out of the proposed diversion channel. These impacts are expected to be negated by marsh

building in the outfall area by 2030. As described in Section 4.2.3.2 in Geology and Soils of the Final EIS, the influx of mineral sediment into existing highly organic marshes could change the soil composition of these existing marshes, likely resulting in sediment grain size changes, with higher sand content and increased bulk densities. Finer-grained silts and clays introduced into Barataria Basin could also play an important role in nourishing and sustaining existing wetlands further removed from the immediate outfall area even if they are less likely to contribute directly to land building. Added sediment could benefit marsh vegetation by increasing marsh elevation, or could inhibit seedling emergence, making them more prone to loss. However, these moderate, temporary to short-term, adverse wetland impacts could be negated when total wetland impacts are considered over the 50-year analysis period.

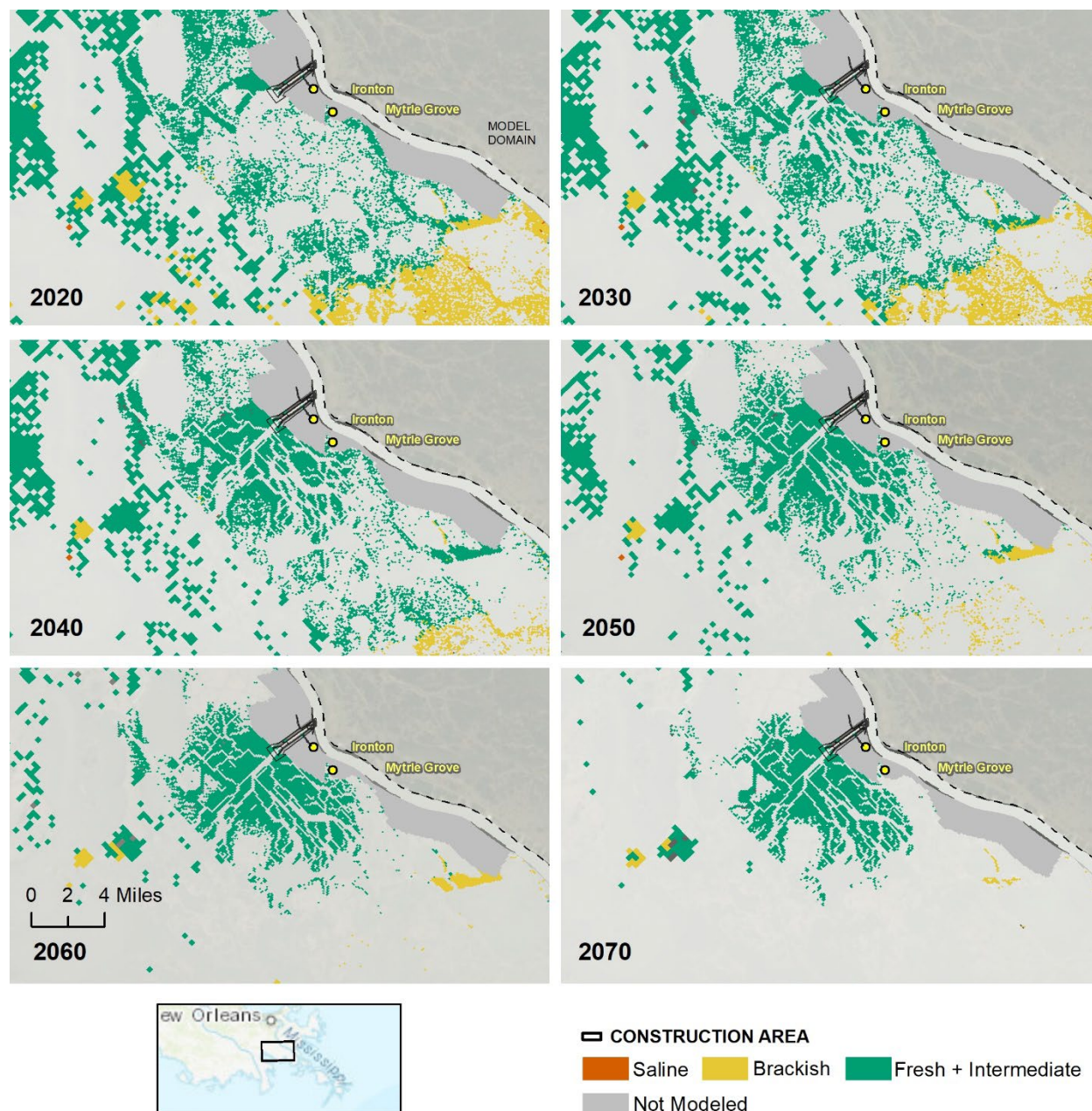
When compared with the No Action Alternative, after 10 years of diversion operations (2030), larger areas of freshwater and intermediate wetlands are projected to exist within the Project area under the Applicant's Preferred Alternative, while brackish and saline marsh areas are expected to decrease as compared to the No Action Alternative. Over the next two decades, an overall increase in wetland acreage relative to the No Action Alternative is anticipated to occur as the shallower open water areas in the delta formation area begin to fill in and become colonized by intermediate marsh species. The most significant impacts on sedimentation may occur within approximately 10 miles of the diversion structure outlet, with moderate and minor impacts extending farther, primarily southward. During this period, trends toward freshwater and intermediate wetlands are expected to continue.

The Applicant's Preferred Alternative would result in a projected 17.4 percent greater total wetland area in 2070 (about 85,500 acres) when compared with the No Action Alternative (about 72,800 acres). Over the Project lifecycle freshwater and intermediate marshes are expected to be lost throughout the Barataria Basin; south and east of Lake Salvador, the remaining wetlands could be limited almost completely to those wetlands in the delta formation area, and brackish wetlands limited to a few discrete locations. No saline wetlands are anticipated in the delta formation area, although saline wetlands could remain along the Gulf-facing barrier islands. By comparison, under the No Action Alternative, almost all freshwater and intermediate wetlands south and east of Lake Salvador are projected to be lost and wetlands within this area of the Barataria Basin limited to a few discrete areas of brackish and saline marsh.

Hurricanes could disrupt wetlands created and sustained by the Project over the 50-year analysis period. More frequent, strong (Category 3 and higher) hurricanes are expected to occur in the Project area as a result of climate change. Storm damage to wetlands could result in vegetation mortality due to inundation, saltwater intrusion from

storm surge, and erosion. If nutrient loading associated with the Project results in decreases in soil shear strength, as described above, marsh may be more susceptible to damage from storms. In particular, freshwater marsh is subject to potential damage from saltwater inundation from storm surge and has been documented to sustain greater damage from storms. Rapid recovery of freshwater marsh in the outfall area has been observed at other freshwater diversions following disturbance by Hurricane Katrina. Further, over the 50-year analysis period, the Applicant's Preferred Alternative is projected to increase the total area of fresh/intermediate, brackish, and saline marsh as compared with the No Action Alternative, thereby providing a larger wetland area to buffer the effects of storms on coastal land and to provide a larger area of marsh available for post-storm recovery.

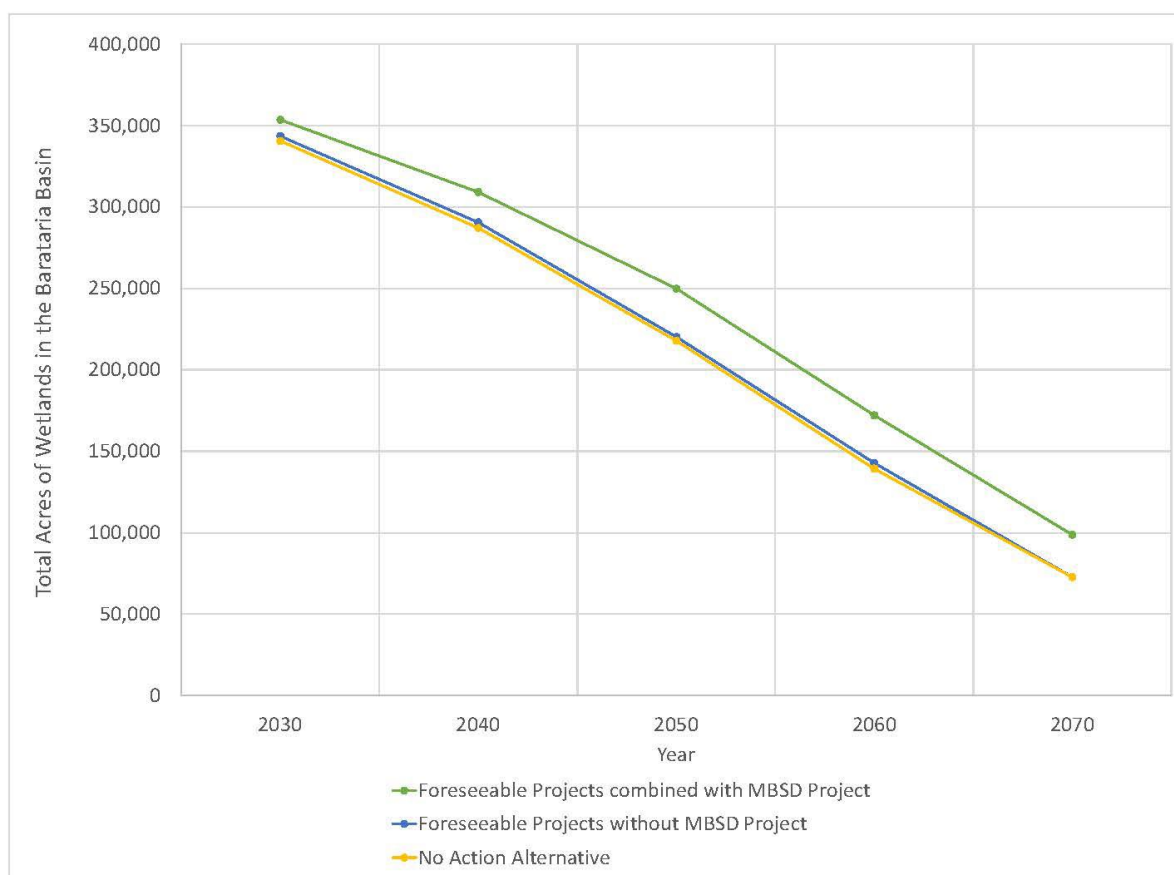
In the birdfoot delta, wetland losses are expected to be greater under the Applicant's Preferred Alternative as compared to the No Action Alternative. However, only 10.9 and 6.0 percent (6,410 and 3,510 acres) of the wetlands present in the birdfoot delta are projected to remain under the No Action Alternative and Applicant's Preferred Alternative respectively, in 2070, and almost all wetlands in the birdfoot delta are expected to be lost under either alternative scenario. Therefore, this impact would be moderate, permanent, and adverse.



Wetland Extent Near the Outfall Area for the Applicant's Preferred Alternative, by Decade.

Reasonably foreseeable projects included in the Delft3D Basinwide Model are restoration projects and as such are anticipated to have major, long-term beneficial impacts on wetlands in the areas where wetlands are sustained and created by each respective project. By 2070, the benefits of the reasonably foreseeable projects in the Barataria Basin are expected to be negligible to minor as compared with the No Action Alternative, due to projected wetland losses caused by saltwater intrusion and sea-level rise, as assessed in the Delft3D Basinwide Model. If all of the other projects are

completed, wetland loss in the Barataria Basin and birdfoot delta are projected to total 298,000 and 54,700 acres, respectively, by 2070. While the life of other proposed marsh creation projects is limited, they are expected to provide substantial benefits over the course of their life including fisheries production and storm surge risk reduction. Future coastal restoration projects are anticipated to continue those benefits, but could not be part of this evaluation. Reasonably foreseeable future restoration projects are expected to result in a permanent, negligible to minor, benefit to the extent of wetlands in the Barataria Basin (see Figure 4.25.6-1 of the Final EIS below).



Barataria Basin Wetlands Created and Sustained by Foreseeable Projects with and without the Proposed MBSD Project (based on Delft3D Basinwide Model under then 150,000 cfs + Terraces Alternative).

7.1.13 Recreation:

The varied landscape and waterways in the Project area support a wide range of activities for outdoor recreationalists and tourists (defined as in-state or out-of-state travelers for recreational purposes), including fishing, hunting, wildlife watching, and boating. Table 3.16-2 in the Final EIS and shown below provides descriptions of the recreation lands and facilities in the Project area, which includes a total of 14 public

recreation areas and 37 recreation sites that offer fishing access, boat ramps, or marinas.

Recreation Areas ^a in the Project Area					
Managing Agency	Site Name	Parish	Facilities/Activities Description	Annual Visitation	Size (acres ^a)
Federal					
U.S. Fish & Wildlife Service	Delta National Wildlife Refuge	Plaquemines	Boating, restricted fishing, hunting, wildlife watching	N/A	50,000
National Park Service	Jean Lafitte National Historical Park and Preserve-Barataria Preserve	Jefferson	Restricted fishing, restricted hunting, trails, wildlife watching	457,000 (409,000 in Barataria Unit)	23,000
State					
LDWF	Pass A Loutre Wildlife Management Area	Plaquemines	Restricted fishing, boat ramps, restricted hunting	N/A	115,000
	Salvador Wildlife Management Area	St. Charles	Restricted fishing, boat ramps, restricted hunting, trails, wildlife watching	N/A	32,000
	Timken Wildlife Management Area	St. Charles	Restricted fishing, boat ramps, restricted hunting, trails, wildlife watching	N/A	2,900
	Bayou des Allemands Natural and Scenic River	Lafourche and St. Charles	Protected area	N/A	2,600
	Elmer's Island Wildlife Refuge	Jefferson	Fishing access, wildlife watching	N/A	1,100
	Lake Boeuf Wildlife Management Area	Lafourche	Fishing access, boat ramps, hunting, trails, wildlife watching	N/A	800
Louisiana State Park and Recreation	Bayou Segnette State Park	Jefferson	Fishing access, 6 boat ramps, trails, wildlife watching	201,805 (2011)	580
	Grand Isle State Park	Jefferson	Fishing access, boat ramp, trails	105,737 (2011)	210
LDNR	E.A. Maier Family Donation	Jefferson	Unspecified	N/A	800
Private					
Private	Wisner Wildlife Management Area	Lafourche	Unspecified	N/A	17,000
Non-Governmental Organization (NGO)	Grand Isle Fee	Jefferson	Fishing access	N/A	2
NGO (The Nature Conservancy)	Lafitte Woods Preserve	Jefferson	Wildlife watching	N/A	7
Sources: USGS 2016, LDWF 2018e, NPS 2018, Office of Parks 2012.					
^a The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.					

Under the Applicant's Preferred Alternative, there would likely be temporary, minor, adverse direct impacts on recreational fishing, hunting, wildlife watching, and recreational boating activities near the construction area due to construction-related traffic and noise impacts.

Due to the mobilization of crews and equipment, construction activities under the Applicant's Preferred Alternative may cause traffic congestion during the 5-year construction period, which may contribute to delays in accessing recreation sites, particularly in southern Plaquemines Parish. Construction activities are not expected to result in road closures; however, southbound roadway capacity on LA 23 could be reduced at times. LA 23 is the only road to and from recreation sites south of the diversion structure and Project-induced traffic congestion on LA 23 is expected to be moderate and adverse. This would cause temporary, minor, adverse impacts on recreation users traveling this stretch of LA 23 to access recreation sites south of the proposed Project construction site.

Use of open water within the Mississippi River and the Barataria Basin associated with construction of the diversion complex and auxiliary features could include minor increases in water-based traffic. Construction equipment and materials could be barged in from vendors north and south of the proposed Project site, causing minor increases in marine traffic in the Lower Mississippi River, Harvey Canal, GIWW, Barataria Bay Waterway, and Bayou Dupont, causing minor reductions in access for recreational users when Project vessels are in transit through these waterbodies. These minor, adverse impacts are expected to be temporary, occurring over the 5-year construction period, and intermittent, based on the expected number and frequency of construction vessels, as described in Section 4.21 Navigation of the Final EIS. Additionally, temporary, minor, adverse impacts from construction noise and dust could occur on recreators transiting LA 23, the Mississippi River, and the Barataria Basin near the Project construction site during construction.

Relative to the No Action Alternative, the Applicant's Preferred Alternative is expected to decrease salinity throughout the basin, with the greatest impacts in the immediate outfall area and during the period of peak diversion flow, by bringing in fresh water from the Mississippi River. The Mississippi River is generally cooler than water in the basin and thus diversion flows could also decrease water temperatures, again primarily in the immediate outfall area during peak flows in the late winter and early spring (see Section 4.5 Surface Water and Sediment Quality, Section 4.5.5.2 Water Temperature in the Final EIS). Project operations impact by topic:

Site Accessibility:

The Applicant's Preferred Alternative is expected to cause long-term, minor to moderate, adverse direct and indirect impacts on site accessibility due to increased tidal flooding at recreation sites (or roads leading to those sites) and permanent, moderate, adverse direct and indirect impacts due to sedimentation in some of the Project-area navigation channels used to access recreation sites unless additional dredging is undertaken in federal and non-federal navigation channels.

An increase in tidal flooding relative to the No Action Alternative is anticipated near the immediate outfall area (within approximately 10 miles to the north and 20 miles to the south), causing major, long-term, adverse impacts at the Myrtle Grove Marina and minor to moderate, long-term, adverse impacts around Lafitte and Grand Bayou. Because some boating access sites would likely remain accessible, increases in tidal flooding are expected to result in minor to moderate impacts on recreation site accessibility in these areas. Inundation frequency is expected to increase in 2020 through 2050 in these areas relative to the No Action Alternative, but the difference in inundation frequency between the Applicant's Preferred Alternative and the No Action Alternative would decline and become minor to negligible from 2060 to 2070 as the influence of sea-level rise and subsidence on water levels increases.

Permanent, moderate, adverse impacts on boat-based recreation (for example, fishing, hunting, wildlife viewing, boating) may occur where sedimentation from proposed Project operations accumulates to the extent that water depths decrease and restrict access to deeper-draft vessels. The nearest major recreational access point to the proposed Project is the Myrtle Grove Marina. Due to its proximity to the Project outfall, access to the basin from this site may be impaired due to sedimentation if the Wilkinson Canal and Myrtle Grove area are not periodically dredged or otherwise maintained to allow recreational boat passage, though boaters may use alternative routes, which could mitigate this impact. Recreators currently using the Myrtle Grove Marina and the surrounding canals may be expected to take fewer trips to this area if accessibility and navigation impacts occur. Operation of the proposed Project could also cause permanent, moderate, adverse impacts on recreators transiting to or from the Jean Lafitte Launch or Jean Lafitte Harbor due to projected sedimentation in the Barataria Bay Waterway if maintenance dredging is not performed to maintain navigability of the channel. Recreational boaters who launch from these sites and use the Barataria Bay Waterway to access the southern portion of the basin would be expected to take fewer trips if maintenance dredging is not performed to maintain navigability of the waterway, though boaters may use alternative routes, which could mitigate this impact.

Recreational Boating Activities:

Recreational boating is expected to be impacted by the Applicant's Preferred Alternative due to expected site accessibility impacts. As compared to the No Action Alternative, the Applicant's Preferred Alternative is projected to have long-term, minor to moderate, adverse direct and indirect impacts on recreational boating due to increased tidal flooding and permanent, moderate, adverse direct and indirect impacts due to sedimentation.

The Applicant's Preferred Alternative is projected to result in an increased potential for the introduction and expansion of invasive plant species that prefer slower moving fresh waters in the Barataria Basin. Invasive plant species (water hyacinth and Eurasian watermilfoil, as well as other invasive aquatic plants) could clog canals and impede recreational boating activities, representing moderate (readily apparent and impacting many recreators locally), permanent, adverse impacts.

Recreational Fishing:

The Applicant's Preferred Alternative is expected to cause minor, permanent, adverse impacts on recreational fishing for spotted seatrout and moderate, permanent, beneficial impacts on recreational fishing for red drum. Spotted seatrout and red drum are the most targeted species by recreational anglers in the basin (targeted in 87 percent of angler trips between 2014 and 2018). While it is not possible to precisely predict future impacts in catch rates or abundance of species through 2070, there is sufficient information to characterize how populations of recreationally important species could respond to impacts in environmental conditions. Impacts on spotted seatrout and red drum under the Applicant's Preferred Alternative are summarized in Table 4.16-4 of the Final EIS and included below. Boat-based recreational fishing could also be impacted by the same site accessibility impacts described above for recreational boating activities, representing long-term to permanent, minor to moderate, adverse impacts on accessibility to recreational access points.

Expected Trends in the Barataria Basin Fish Abundance Under the Applicant's Preferred Alternative Compared to the No Action Alternative	
Aquatic Species	Trend Over 50 Modeled Years
Red Drum	Moderate, permanent, beneficial impact due to increased marsh (particularly in the Project outfall region), SAV biomass throughout the basin, and primary production. Benefits may result in a slight increase in species abundance over time. The beneficial primary productivity impacts are expected to begin at the onset of operations and last through the analysis period, whereas the benefits associated with new and sustained marsh and SAV biomass would be realized later in the analysis period.
Spotted Seatrout	Minor, permanent, adverse impact due to disruption of larval transport, juvenile growth, and adult spawning activities. Major impacts in species location or abundance would not be expected. Adverse impacts are expected to begin at the onset of operations and last through the analysis period.
Source: Section 4.10 Aquatic Resources of the Final EIS	

Project operations under the Applicant's Preferred Alternative are expected to have direct and indirect impacts on salinity conditions, larval transport, habitat availability, water flow, availability of prey for recreationally important species, and other environmental conditions in the basin relative to the No Action Alternative. These impacts could affect the key fish species analyzed in Section 4.10 Aquatic Resources if the Final EIS, some of which are targeted by recreational anglers in the basin including blue crab, red drum, spotted seatrout, Atlantic croaker, southern flounder, and largemouth bass.

Minor, permanent, adverse impacts on recreational fishing for spotted seatrout, the most targeted species by recreational anglers in the basin, are expected due to Project operations' minor disruption of larval transport, juvenile growth, and adult spawning activities. Moderate, permanent, beneficial impacts on recreational fishing for red drum are expected due to the Project operations' beneficial impact on increased marsh and primary production. This could increase catch rates for red drum, possibly improving the recreational experience for these anglers or attracting new recreational fishing trips. Some recreational fishers may need to modify their traditional fishing locations to target specific species that may modify habitat use (either temporarily or permanently) based on changing salinities. Also it is unclear what diversion operations may mean for the abundance and quality (size) of catch for recreational fishers.

Hunting and Wildlife Watching, Including Birding:

The Applicant's Preferred Alternative is expected to result in an increase in wetlands, which provide habitat for both birds and alligators. This would likely increase the number of tag allotments for recreational alligator hunting in brackish and freshwater wetlands. For waterfowl hunting, an increase in habitat may result in more birds and

potentially greater species diversity, which could increase the number of days that individual hunters spent hunting throughout the basin.

An increase in wetland habitat may result in increased opportunities for bird nesting and bird watching in some areas of the Barataria Basin due to project operations. However, the Applicant's Preferred Alternative is expected to accelerate wetland loss in the birdfoot delta. Overall, the benefit to birdwatching activities that may occur following Project implementation due to wetland creation is anticipated to be minor to moderate and permanent.

Cumulative impacts on recreation and tourism from construction of the reasonably foreseeable future actions combined with construction of the MBSD Project action alternatives are projected to be temporary, minor, and adverse. Limited impacts on recreational fishing activities are expected to occur during the 5-year analysis period for construction of MBSD Project action alternatives. Depending on the amount of overlap of projects with each other, the combination of the MBSD Project action alternatives and reasonably foreseeable future projects could result in temporary minor to moderate adverse impacts on recreational activities by delaying and disrupting activities in the AOI.

Cumulative impacts from operation of the MBSD Project action alternatives combined with operation of the reasonably foreseeable future project on recreation and tourism are expected to range from minor to moderate adverse to minor beneficial over the long-term. In the future, sea-level rise and subsidence is projected to increase the occurrence of tidal flooding at recreational access points outside of federal levee systems such as boat launches, marinas, wildlife and bird watching sites, and roads leading to these access points, making access to these sites increasingly more difficult throughout the Barataria Basin. Over time, gradual and continual increases in salinity and decreases in marsh habitat in the Project area are also anticipated to affect habitat suitability for recreationally targeted species in the Project area. The reasonably foreseeable projects would likely provide minor adverse and minor to moderate beneficial effects to recreation and tourism, particularly to hunting and wildlife watching, associated with the restoration and other improvements in wetlands in the Barataria Basin.

In totality, the impact to the public interest depends on interest with benefits to freshwater anglers and hunting/wildlife watching, but an overall negative impact due to impacts on saltwater anglers and most importantly site accessibility and boating. To address these impacts CPRA stated they will provide public access opportunities within the Barataria Basin and Mississippi River Basin. CPRA maintains they will attempt to

address these impacts through the provision of public shoreline access and watercraft launching around the project area to assist recreational and subsistence fishing. Per CPRA's mitigation plan, no later than 24 months prior to the anticipated commencement of operations of the Project, CPRA proposes to convene a community working group to identify preferred locations for these new access points. CPRA is expected to invite community representatives to participate in this working group, and is expected to provide special outreach to individuals and communities that rely on fishing in the Barataria Basin for subsistence aimed at ensuring their participation. Based on the input CPRA receives from this community working group, their mitigation plan says CPRA proposes to identify and develop one or more additional public shoreline access points for fishing and/or boat launching. Due to the uncertainty and lack of overall details with this measure, CEMVN does not consider this a mitigative measure and does not know the likelihood of this measure being carried out.

7.1.14 Water Supply and Conservation:

Increased tidal flooding (discussed in factor 8 Flood Hazards) due to the Applicant's Preferred Alternative may result in an acceleration of damage to infrastructure such as roads, water supply, and wastewater systems as inundation effects are felt sooner than under the No Action Alternative.

7.1.15 Water Quality:

Ground Water Quality:

Groundwater of the coastal lowland aquifer system becomes increasingly saline as it moves seaward due to the dissolution of aquifer minerals and sea water mixing. Groundwater movement is slow near the coast and not sufficient to flush salt water from the aquifer. The LDNR's Office of Conservation has the authority to regulate groundwater usage by designating an Area of Ground Water Concern, defined as areas where the sustainability of an aquifer is not being maintained due to either movement of a saltwater front, water level decline, or subsidence. Louisiana has three designated Areas of Ground Water Concern, all of which are in north Louisiana within the Sparta aquifer outside of the Project area.

Surface water sources account for the majority of water withdrawals in the Project area, and groundwater withdrawal is minimal by comparison. Most groundwater withdrawn in the Project area is associated with industry along the Mississippi River corridor. Potential impacts on groundwater quality are considered negligible with the only identified threat being an inadvertent spill of hazardous materials that leaches into shallow groundwater aquifers during construction of the proposed project.

Surface Water Quality:

Section 303(d) of the CWA requires states to identify waterbodies that are impaired or in danger of becoming impaired due to exceedances of federally approved water quality standards. The State of Louisiana and the USEPA have established surface water quality standards to provide a metric to assess ambient water quality conditions (Louisiana Administrative Code [LAC] 33:IX.1101). The LDEQ divides waterbodies into subsegments for water quality assessment purposes. Eight designated uses were established for surface waters in Louisiana: agriculture (irrigation and livestock watering), primary contact recreation (swimming), secondary contact recreation (boating), fish and wildlife propagation, limited aquatic life and wildlife, drinking water supply, outstanding natural resource, and oyster propagation.

If a waterbody subsegment does not meet water quality criteria appropriate for its designated use, then it is designated as “impaired” with respect to those constituents for which criteria are not met. The development of a Total Maximum Daily Load (TMDL) is most often the next step in the process. A TMDL is a determination of the maximum amount of a given pollutant that a waterbody can receive and not exceed the water quality standards for its designated use.

The Mississippi River includes three subsegments in the Project area for which designated uses have been established (see Figure 3.5-1 in the Final EIS). Two of these (070401 and 070601), are listed by LDEQ as impaired for supporting their designated uses of fish and wildlife propagation and oyster propagation. The identified impairments in these waters include fecal coliform bacteria and dissolved oxygen (DO). The source of fecal coliform impairments is listed as marina/boating sanitary on-vessel discharges and unknown sources. The suspected source of impairment for DO is upstream sources. Subsegment 070301, where the proposed Project diversion intake structure would be located is fully supporting its designated uses. Designated uses for this subsegment include swimming, boating, fishing, and drinking water supply.

A total of 19 waterbody impairment combinations in 13 subsegments within the Barataria Basin are listed on the state’s 2020 Clean Water Act Section 303(d) list as not supporting designated uses for primary contact recreation (swimming), fish and wildlife propagation, oyster propagation, and/or outstanding natural resource. The primary parameter of concern for the primary contact designation use is bacterial contamination (fecal coliform or Enterococci). The suspected bacterial sources for the Barataria Basin are waterfowl, on-site sewage treatment systems, and/or package sewage treatment plants.

LDEQ lists the suspected causes of the fish and wildlife propagation, oyster propagation and outstanding natural resource use impairments as fecal coliform or Enterococci, DO impacts from sewage treatment and other permitted discharges, nitrogen and phosphorus from landfills and golf courses, chloride and sulfate from forced drainage pumping, and turbidity from infrastructure runoff, water diversions, and natural sources. These impairments appear mostly in the upper portion of the basin, including areas north of Lake Salvador. In response to impaired water designations, LDEQ has received USEPA approval for eight TMDLs for subsegments within the Barataria Basin.

Several ambient water quality parameters were analyzed at water quality stations throughout the Lower Mississippi River and Barataria Basin during the NEPA process as shown in Table 3.5-2 of the Final EIS and shown below. These stations were chosen for the analysis because they allow comparison of projected Project impacts at varying distances from the proposed diversion structure and within various portions of the Project area. Section 3.5.2 of the Final EIS explains each parameter, how the parameter is measured, and what the parameter means to water quality in the Mississippi River/Barataria Basin systems. Section 4.5.5 of the Final EIS provides the impact intensities for water quality. The parameters analyzed are: salinity, water temperature, nitrogen, phosphorus, dissolved oxygen, TSS, sulfate, fecal coliform, and atrazine.

Ambient Water Quality Data Used to Describe Project Area			
Station ID	Station Description	Date Range	Data Evaluated
Mississippi River			
07374525 (USGS)	Mississippi River at Belle Chasse, Louisiana	1977 to 2017	Specific Conductance, Temperature, Flow, TN, TP, Dissolved Oxygen, TSS, Turbidity, Atrazine, Chloride, Sulfate, Fecal Coliform
0322 (LDEQ)	Mississippi River west of Pointe a la Hache, Louisiana	1970 to 1998	Specific Conductance, TN, TP, Dissolved Oxygen, TSS, Turbidity, Chloride, Sulfate, Fecal Coliform
Barataria Basin – CRMS			
3985	Barataria	2008 to 2018	Temperature, Specific Conductance, Salinity
287	Barataria	2008 to 2018	Temperature, Specific Conductance, Salinity
4218	Barataria	2008 to 2018	Temperature, Specific Conductance, Salinity
220	Barataria	2008 to 2018	Temperature, Specific Conductance, Salinity
276	Barataria	2008 to 2018	Temperature, Specific Conductance, Salinity
6303	Barataria	2008 to 2018	Temperature, Specific Conductance, Salinity
4690	Barataria	2006 to 2018	Temperature, Specific Conductance, Salinity
224	Barataria	2006 to 2018	Temperature, Specific Conductance, Salinity
258	Barataria	2007 to 2018	Temperature, Specific Conductance, Salinity
176	Barataria	2006 to 2018	Temperature, Specific Conductance, Salinity
272	Barataria	2007 to 2018	Temperature, Specific Conductance, Salinity
164	Barataria	2006 to 2017	Temperature, Specific Conductance, Salinity

Ambient Water Quality Data Used to Describe Project Area			
Station ID	Station Description	Date Range	Data Evaluated
178	Barataria	2007 to 2017	Temperature, Specific Conductance, Salinity
172	Barataria	2007 to 2018	Temperature, Specific Conductance, Salinity
163	Barataria	2007 to 2018	Temperature, Specific Conductance, Salinity
162	Barataria	2007 to 2018	Temperature, Specific Conductance, Salinity
Barataria Basin – LDEQ			
0897	Little Lake south of Bayou Perot, Louisiana	2000 to 2016	TN, TP, Dissolved Oxygen, TSS, Turbidity, Chloride, Sulfate, Fecal Coliform
0907	Barataria Waterway south-southeast of Lafitte, Louisiana	2000 to 2017	TN, TP, Dissolved Oxygen, TSS, Turbidity, Chloride, Sulfate, Fecal Coliform
0909	Bayou Dulac west of Bay Sanbois, Louisiana	2000 to 2017	Total Nitrogen, TP, Dissolved Oxygen, TSS, Turbidity, Chloride, Sulfate, Fecal Coliform
3000	Barataria Bay in Lake Grande Ecaille, northwest of Grand Ecaille, Louisiana	2005	TN, TP, Dissolved Oxygen, TSS, Turbidity, Chloride, Sulfate, Fecal Coliform
4345	Pipeline canal at end of Rattlesnake Bayou, 0.25 mile SW Freeport Sulphur Canal	2012 to 2017	TN, TP, Dissolved Oxygen, TSS, Turbidity, Chloride, Sulfate, Fecal Coliform
Sources: USGS 2018a, CPRA 2018a, LDEQ 2018b			

Impacts on water quality during Project construction are expected to range from temporary, minor (detectable, localized) to moderate (observable over a large area; readily detectable in local areas), adverse impacts from the resuspension of fine sediments into the water column from in-water activities or runoff of sediment from the Project construction footprint, resulting in increased turbidity and suspended sediment. Construction impacts could be avoided and minimized by the implementation of Best Management Practices (BMPs) that would be documented in a Project SWPPP and a SPCC Plan. Construction activities associated with the use of heavy equipment could create the potential for inadvertent releases of contaminants (fuel, oil, and other construction materials) to surface water in both the Mississippi River and the Barataria Basin. Contaminant loads may ultimately settle in river or basin sediments. The impact intensity of inadvertent releases of contaminants could depend upon the nature of the release. Accidental spills during routine construction activities such as fueling construction vehicles would likely be temporary, minor, and adverse. These types of spills would be controlled and mitigated with the implementation of a Project SPCC Plan.

Cumulative impacts on surface water quality from construction of the reasonably foreseeable projects planned along the Mississippi River within 1 mile of the MBSD

construction footprint (Gulf Coast Methanol Complex, Loading Dock on Mississippi River, NOLA Oil Terminal, and Tallgrass PLT) and construction of the MBSD Project action alternatives are projected to be temporary, minor, and adverse. The impacts on water quality in the river (for example, increased turbidity and TSS) could be exacerbated in the vicinity of these projects. Each reasonably foreseeable project is proposed to require construction activities along approximately 5,000 to 7,000 feet of river frontage, as compared to the Project's construction footprint of approximately 1,500 feet of river frontage. The volume and velocity of water flowing down the Mississippi River could aid in rapid mixing of suspended sediments so that any cumulative impacts would likely be minor and localized to the Project area. Turbidity and suspended sediment loads are normally high in the Mississippi River, even with the high flushing rates, such that turbidity and sediment contributions from the five actions occurring simultaneously, including the MBSD Project, are projected to have a minor, temporary, adverse cumulative effect on water quality.

Impacts on water quality during Project operation are summarized as follows:

Salinity:

Salinity is discussed in Section 4.5.5.1.2 of the Final EIS and is addressed in sections 6.3 and 6.8 of this document. The Applicant's Preferred Alternative is anticipated to cause permanent, minor (detectable over a small area) to moderate (observable over a large area, readily detectable in local areas) reductions in salinity in the Barataria Basin and permanent, minor increases in salinity in the birdfoot delta during Project operations.

The overall cumulative impacts on salinity from operation of the reasonably foreseeable future projects combined with operation of the MBSD Project action alternatives are expected to be moderate, permanent reductions throughout the basin primarily due to the MBSD Project action alternatives

Water Temperature:

Average monthly temperatures in the Mississippi River at Belle Chasse are seasonally variable. Between 1977 through 2017, temperatures ranged from 44°F (6.6°C) in January to 86°F (30°C) in August. While average monthly temperatures in the Barataria Basin also vary seasonally, the range of variability is smaller in the basin than in the river. Between 2006 and 2018, average monthly basin temperatures ranged from 55°F (13°C) in January to 86°F (30°C) in August. Section 3.5 Surface Water and Sediment Quality of the Final EIS provides existing and historic water temperature trends in the

Project area. The Delft3D Basinwide Model modeled average monthly temperatures for the Project alternatives, including the No Action Alternative, over the 50-year analysis period at the six representative stations across the Barataria Basin. Under the No Action Alternative, as compared with existing and historical temperatures project the same seasonal pattern in the basin, with minimum temperatures of about 50°F (10°C) in January and maximum temperatures of about 86°F (30°C) in August, which are projected to remain the trend throughout the 50-year analysis period. The model projects that over time, average minimum water temperatures may show a minor increase on the order of 2 to 4°F (1 to 2°C) in 50 years at all six stations with the exception of the northern/mid-basin station (CRMS 3985).

Temperature trends modeled for the Applicant's Preferred Alternative are expected to generally follow the same seasonal trends as the No Action Alternative, with minimum temperatures occurring in January and maximum temperatures occurring in August. However, the Applicant's Preferred Alternative is projected to cause intermittent, permanent, minor decreases in water temperatures compared to the No Action Alternative throughout the basin during Project operations.

The Applicant's Preferred Alternative is projected to cause a minor decrease in temperature on the order of less than 2 to 5°F (less than 1 to 3°C) during the winter and spring months, which would generally correspond to the diversion flowing greater than the 5,000 cfs base flow, at all stations except at the birdfoot delta station (CRMS 0163). Temperatures are projected to return to No Action Alternative conditions within 1 month of when diversion flows would be reduced to the 5,000 cfs base flow. At the birdfoot delta station (CRMS 0163), temperature differences with respect to the No Action Alternative are projected to be negligible until 2070, when minor increases of less than 0.18 to 0.9°F (less than 0.1 to 0.5°C) are projected in the winter months.

The modeled data project that average temperatures at the six representative stations are not expected to exceed LDEQ's temperature criteria of a maximum of 90°F (32°C) for fresh water and 95°F (35°C) for salt water during the 50-year analysis period. The projected impacts on temperature of the Applicant's Preferred Alternative are not beneficial or adverse to water quality itself, but they may have adverse or beneficial impacts on aquatic resources.

The cumulative impacts on temperature from operation of the reasonably foreseeable projects combined with operation of the MBSD Project action alternatives are projected to be negligible to minor and permanent at all six representative stations. A decadal comparison of modeled average monthly temperature for the reasonably foreseeable

projects with and without the MBSD Project action alternatives is included in Appendix L of the Final EIS.

Nitrogen¹⁸:

Current seasonal averages of monthly Total Nitrogen (TN) concentrations ranged from 3.0 mg/L (October) to 4.9 mg/L (July/September) in the Mississippi River at Belle Chasse between 1977 and 2017. An analysis of the LDEQ data in the Barataria Basin indicated that TN average monthly concentrations are lower throughout the basin than in the river, ranging from 0.74 mg/L (July) to 1.4 mg/L (January/February) between 2000 and 2017 (the years for which data were available), and exhibit a different seasonal variation than seen in the river. Low DO linked to elevated nutrient loading, including nitrogen (nitrate/nitrite) is a cause of some water quality impairments in the upper portion of the basin, including areas north of Lake Salvador. TN is comprised of organic and inorganic forms of nitrogen; however, there were insufficient data to evaluate existing basin-wide organic and inorganic nitrogen conditions independently.

The Applicant's Preferred Alternative is projected to cause permanent, minor to moderate impacts on average nitrogen concentrations in the Barataria Basin during Project operations. A shift in TN seasonal trends that would correspond to when the diversion would flow greater than the 5,000 cfs base flow is projected with maximum average TN concentrations expected to occur in the winter/spring months. TN concentrations are projected to be generally minor to moderately elevated over the No Action Alternative.

The birdfoot delta station (CRMS 0163) does not exhibit a seasonal TN trend during project operations. The other five stations project a seasonal trend similar to the No Action Alternative, elevated TN concentrations are predicted to persist for an increasingly longer period into the spring as compared to the No Action Alternative over the lifetime of the proposed Project at these stations. The shift in seasonality of TN is more pronounced at the station nearest the diversion (CRMS 0276) and the central station (CRMS 0224) than at the southwestern station, at Barataria Pass near Grande Isle (B. Pass at GI), western station (Little L. Cutoff), or the northern/mid-basin station (CRMS 3985). At the five stations exhibiting seasonal TN trends, minimum average nitrogen concentrations are projected to occur in the late summer/fall months when the diversion is projected to be at 5,000 cfs base flow, and maximum average

¹⁸ Commonly associated with fertilizers.

<https://www.usgs.gov/news/homing-sources-and-yields-nitrogen-and-phosphorus-throughout-mississippiatchafalaya-river>

concentrations could occur in the winter/spring months when the diversion is projected to operate above base flow.

Although impacts on nitrogen concentrations could vary throughout the basin, overall minor to moderate, permanent impacts, including minor to moderately elevated concentrations and a shift in seasonal trend, are projected under the Applicant's Preferred Alternative. These impacts on water quality may have adverse or beneficial impacts on other aquatic resources.

Cumulative impacts on average nitrogen concentrations in the basin from operation of the reasonably foreseeable future projects combined with operation of the MBSD Project action alternatives would likely be permanent and minor to moderate. It is inconclusive as to whether nutrient inputs associated with the Applicant's Preferred Alternative could produce aquatic growth to the extent that it creates a public nuisance or interferes with designated water uses. When the MBSD Project action alternatives are combined with reasonably foreseeable projects, Delft3D Basinwide Model output projects that TN would increase at the northern/mid-basin station (CRMS 3985) as compared to the MBSD Project action alternatives alone. Additional cumulative impacts on TN are not projected at the other five representative stations. The elevated TN at the northern/mid-basin station (CRMS 3985) indicates that the combination of reasonably foreseeable projects and the MBSD Project action alternatives could result in elevated TN in the upper basin. Because the TN concentrations projected for the other five representative stations are not elevated as compared to the MBSD Project action alternatives alone, the system appears to return to projected MBSD action alternative levels projected at the northern-most station.

Phosphorus¹⁹:

Current seasonal averages of monthly Total Phosphorus (TP) concentrations ranged from 0.27 mg/L (May) to 0.35 mg/L (July/December) in the Mississippi River at Belle Chasse between 1977 and 2017. An analysis of the LDEQ data in the basin indicated that TP average monthly concentrations are generally lower than in the river, ranging from 0.07 mg/L (April/May) to 0.53 mg/L (March) between 2000 and 2017.

Phosphorus concentrations projected for the Applicant's Preferred Alternative follow seasonal trends, but the trends differ from the No Action Alternative at all stations except the birdfoot delta station (CRMS 0163). As compared to the No Action

¹⁹ Commonly associated with fertilizers.

<https://www.usgs.gov/news/homing-sources-and-yields-nitrogen-and-phosphorus-throughout-mississippiatchafalaya-river>

Alternative, over the 50-year analysis period, the duration of elevated concentrations at the other five stations is projected to extend further into the summer months, and the onset of lower/minimum concentrations becomes delayed by as much as 5 months by 2040. By 2060, the seasonal variability of both TP and phosphate (PO₄) are projected to be reversed from the variability projected for the No Action Alternative. The projected impact may be related to the extended length of time that the diversion is projected to operate above base flow in the last two modeled decades. The Mississippi River water could carry a more consistent load of sediment and TP into the basin during months when TP concentrations are historically lower in the basin.

Although impacts on phosphorus vary throughout the basin, overall minor to moderate, permanent impacts, a shift in seasonal phosphorus trends that does not necessarily correspond to periods of when the diversion would flow greater than the 5,000 cfs base flow, and minor to moderately elevated phosphorus concentrations as compared to the No Action Alternative, are projected under the Applicant's Preferred Alternative. The exception is the birdfoot delta station (CRMS 0163), which is projected to exhibit phosphorus concentrations similar to No Action Alternative levels throughout the 50-year analysis period. These impacts are not beneficial or adverse to water quality itself; however, the seasonal shift in available nutrients (including phosphorus) may have adverse or beneficial impacts on other resources.

In general, the cumulative impacts of the MBSD Project action alternatives plus reasonably foreseeable projects on TP concentrations could be elevated over projected No Action concentrations at stations located closer to the immediate outfall area (station nearest the diversion [CRMS 0276] and the central station [CRMS 0224]). The model projects that cumulative impacts from reasonably foreseeable projects plus the MBSD Project action alternatives on TP could result in moderate increases in overall TP concentrations with respect to the No Action Alternative at all stations except the southwestern station, at Barataria Pass near Grand Isle (B. Pass at GI) and the birdfoot delta station (CRMS 0163), indicating that reasonably foreseeable projects plus the MBSD Project action alternatives in the basin could contribute to phosphorus loading.

Dissolved oxygen (DO):

Current seasonal averages of monthly DO concentrations ranged from 5.9 mg/L (July) to 12 mg/L (January) in the Mississippi River at Belle Chasse between 1977 and 2017. Individual sample concentrations in the river fall below the water quality standard of 5.0 mg/L in the summer months of July, August, and September. An analysis of the LDEQ data in the Barataria Basin showed that DO average monthly concentrations ranged from 6.1 mg/L (August) to 10 mg/L (January) between 2000 and 2017. While the basin

is not impaired for DO, individual concentrations fell below 5.0 mg/L in samples collected from 2000 to 2017 in May, June, and August.

The Applicant's Preferred Alternative is expected to cause permanent, minor to moderate impacts on average DO concentrations at five of the six modeled stations during Project operations. Moderate differences in DO trends and concentrations are projected for the Applicant's Preferred Alternative as compared to the No Action Alternative at the stations near the immediate outfall area (the station nearest the diversion [CRMS 0276], and the central station [CRMS 0224]) from the No Action Alternative. The differences become increasingly minor with distance from the immediate outfall area. Negligible to minor differences (in the last two modeled decades) are projected at the birdfoot delta station (CRMS 0163). Average monthly DO concentrations are not projected to decrease below 5 mg/L at any of the six stations during the Project analysis period. The majority of the Barataria Basin is shallow and not typically prone to stratification.

Although impacts on DO could vary throughout the basin, overall minor to moderate, permanent impacts are projected under the Applicant's Preferred Alternative. These impacts, including a shift in seasonal trend near the immediate outfall area, are not beneficial or adverse to water quality itself; however, they may have adverse or beneficial impacts on other resources.

Overall cumulative impacts on DO from operation of the MBSD Project action alternatives combined with operation of the reasonably foreseeable projects are projected to be minor to moderate and permanent. Actions that may increase DO concentrations include water column mixing and/or algae blooms. Reasonably foreseeable projects planned in the vicinity of the central station (CRMS 0224) include the Barataria Basin Ridge and Marsh Creation – Spanish Pass Increment. Projects planned in the vicinity of the southwestern station, at Barataria Pass near Grand Isle (B. Pass at GI) include the West Grand Terre Beach Nourishment and Stabilization project. Overall cumulative impacts on DO resulting from the reasonably foreseeable projects combined with the MBSD Project action alternatives are expected to be minor to moderate and permanent. Cumulative impacts on DO from the other action alternatives are expected to be similar to the modeled action alternative.

Total Suspended Solids:

Current seasonal averages of monthly TSS concentrations ranged from 41 mg/L (September) to 199 mg/L (March) in the Mississippi River at Belle Chasse between 1977 and 2017. An analysis of LDEQ data in the Barataria Basin showed that TSS

average monthly concentrations ranged from 19 mg/L (August) to 63 mg/L (January) between 2000 and 2017. Louisiana has not adopted water quality standards for TSS.

The Applicant's Preferred Alternative is projected to cause a permanent, minor to moderate increase in average TSS concentrations in the Barataria Basin during Project operations. A shift in seasonal trends is projected at the northern/mid-basin station (CRMS 3985). Maximum TSS concentrations in the basin are projected to occur in February through April, when the diversion is projected to be flowing greater than the 5,000 cfs base flow and TSS concentrations are highest in the river.

At five of the six representative stations, projected TSS concentrations generally follow the same seasonal trends as the No Action Alternative. An exception is the northern/mid-basin station (CRMS 3985), where the seasonal trend under the Applicant's Preferred Alternative is projected to shift from the November through March maximums projected under the No Action Alternative to seasonal trends that are consistent with the Mississippi River with January through March maximums. This projected shift in seasonal trends at the northern/mid-basin station (CRMS 3985) is related to the Project's projected decrease in salinity in the Barataria Basin, and the projected salinity decreases' subsequent impact on operations of Davis Pond.

Overall minor to moderate, permanent impacts on TSS are projected from operation of the Applicant's Preferred Alternative. These impacts are not beneficial or adverse to water quality itself; however, the overall average increase in TSS projected under the Applicant's Preferred Alternative may result in adverse impacts on turbidity in some areas of the basin.

Cumulative impacts on TSS from operation of the reasonably foreseeable future projects combined with operation of the MBSD Project action alternatives would likely be minor to moderate increases at all six representative stations over the 50-year analysis period as compared to the No Action Alternative. The increases are projected to be more pronounced at the stations nearest to the immediate outfall area.

Sulfate:

Current seasonal averages of monthly sulfate concentrations ranged from 37 mg/L (April) to 136 mg/L (July) in the Mississippi River at Belle Chasse between 1977 and 2017. An analysis of LDEQ data in the Barataria Basin showed that sulfate average monthly concentrations are noticeably higher than in the river, ranging from 388 mg/L (July) to 1,042 mg/L (November) between 2000 and 2017. The Louisiana water quality criteria for sulfate are variable: in the Mississippi River at Belle Chasse and West Pointe

A La Hache, the criterion is 120 mg/L; in the Barataria Basin the criteria range from 50 to 150 mg/L but are not applicable in estuarine subsegments.

The Applicant's Preferred Alternative is projected to cause permanent, minor to moderate decreases in average sulfate concentrations in the Barataria Basin during Project operations. Sulfate seasonal trends modeled for the Applicant's Preferred Alternative at all six representative stations are projected to be similar to seasonal trends noted for the northern and southern basin under the No Action Alternative, with minimum concentrations occurring in the spring/summer and maximums in the fall/winter. The overall decrease in projected sulfate concentrations under the Applicant's Preferred Alternative could be beneficial with respect to attainment of water quality standards in the portions of the Barataria Basin where the standards apply.

The cumulative impact of the MBSD Project action alternatives of generally lowering sulfate concentrations could improve water quality conditions with respect to sulfate. This impact may be considered minor to moderate, permanent, and beneficial.

Fecal Coliform:

Louisiana has adopted water quality standards for fecal coliform and, more recently, Enterococci. Current seasonal averages of monthly fecal coliform concentrations in the Mississippi River at Belle Chasse from 1977 through 2017 ranged from 230 MPN/100 ml (April) to 2100 MPN/100 ml (October). The water quality in this subsegment of the river meets the LDEQ criteria for fecal coliform and fully supports its designated uses. One subsegment in the Mississippi River birdfoot delta (070401), and one subsegment in the Mississippi River Basin Coastal Bays and Gulf Waters (070601) are impaired by fecal coliform for the oyster propagation use. LDEQ lists the suspected bacterial sources as marina/boating sanitary on-vessel discharges and unknown sources (LDEQ 2020). A TMDL addressing fecal coliform has been approved for subsegment 070401. Implementation of the TMDL may result in improved water quality in this subsegment under the No Action Alternative. Average monthly fecal coliform concentrations in the Barataria Basin ranged from 3.5 MPN/100 ml (February) to 164 MPN/100 ml (December) between 2000 and 2017. Several subsegments within the Barataria Basin are listed as impaired by the LDEQ for not supporting designated uses, including subsegment 020904 where the Project outfall would be located. The oyster propagation use is listed as impaired by fecal coliform in subsegment 020904. No other subsegments within the Barataria Basin that are designated for oyster propagation are impaired for that use; however, subsegment 021102 in the Barataria Basin Coastal Bays and Gulf Waters is also impaired for the oyster propagation use. Twenty waterbody impairment combinations in 10 subsegments within the basin are impaired

for designated uses of primary and secondary contact recreation (swimming and fishing) and outstanding natural resources. Bacterial contamination (fecal coliform or Enterococci) is the predominant parameter of concern for impairment for primary contact recreation. LDEQ lists the suspected bacterial sources for the Barataria Basin as waterfowl, wildlife other than waterfowl, natural sources, on-site sewage treatment systems, and/or permitted discharges from sewage treatment plants. Agricultural runoff may also contribute to bacterial loads. TMDLs to address oxygen demand have been approved for 6 of the 11 impaired subsegments. Due to the lack of controls on bacteria loading entering the Barataria Basin, fecal coliform trends are expected to continue under the No Action Alternative.

Although the Mississippi River is not impaired for fecal coliform at the proposed diversion location, fecal coliform standards are more stringent in the Barataria Basin in the 10 basin subsegments designated for oyster propagation as compared to Mississippi River standards. Average monthly fecal coliform concentrations in the river (230 MPN/100 ml to 2,100 MPN/100 ml) are higher than the criteria set for oyster propagation use in the basin (14 MPN/100 ml to 43 MPN/100 ml). The introduction of Mississippi River water containing elevated fecal coliform concentrations into oyster propagation areas could cause permanent, major, direct, adverse impacts on water quality by occasionally elevating fecal coliform concentrations in oyster propagation areas during Project operations. Elevated fecal coliforms may cause an oyster propagation use impairment should they be able to survive in a fresher environment from project operation.

These adverse impacts may be ameliorated to some extent. Fecal coliform concentrations in the Mississippi River at Belle Chasse from 1977 through 2017 indicate decreasing concentrations with increasing river flow; higher river flows correlate with lower fecal coliform concentrations. Therefore, the direct impact of fecal coliform in the Barataria Basin during Project operations may be reduced because the diversion would discharge its maximum volume only during times when fecal coliforms would be lowest in the river. Additionally, mixing with Barataria Basin water could further reduce the impact of fecal coliform.

Cumulative impacts on fecal coliform from operation of the reasonably foreseeable future projects combined with operation of the MBSD Project action alternatives would likely be permanent, major, and adverse.

Atrazine²⁰: Current seasonal averages of monthly atrazine concentrations ranged from 0.06 µg/L (February) to 0.72 µg/L (May) between 2007 and 2017. Based on atrazine studies conducted in the basin in 2003 and 2014, atrazine concentrations in the Barataria Basin ranged from 0.01 µg/L to 0.84 µg/L. While the USEPA has not adopted a surface water standard for atrazine, the primary drinking water standard is 3 µg/L. Atrazine concentrations in both the Mississippi River and the Barataria Basin are below the primary drinking water standard. The introduction of Mississippi River water into the Barataria Basin during Project operations is expected to have negligible impacts on atrazine concentrations in the basin. River (0.06 µg/L to 0.72 µg/L) and basin (0.01 µg/L to 0.84 µg/L) concentrations of atrazine are comparable and are well below the USEPA's primary drinking water standard of 3 µg/L.

7.1.16 Energy Needs:

The Shell Delta Crude Nairn-Norco 20-inch crude oil pipeline transits the proposed Project conveyance structure outfall area footprint. CPRA proposes in-place lowering of an approximately 5,000-foot-long section of the pipeline below the proposed Project conveyance channel via horizontal directional drill (HDD) relocation to an elevation of approximately -120 feet. This is expected to result in temporary, minor, adverse impacts on the transmission of petroleum products via this pipeline. No known active oil and gas wells are in the construction footprint, so no impacts on oil and gas production in the region are expected during the construction phase beyond those related to disruption of transmission via pipeline discussed above.

7.1.17 Safety:

Public health and safety impacts from the proposed Project could be related to the project-induced changes in flood risk discussed earlier in this Public Interest Review regarding "Flood hazards."

The alteration of the MR&T and NOV-NFL Levee system during construction of the proposed Project would include measures to maintain their respective current levels of hurricane and river flood risk reduction for the populated areas within these levee systems throughout and after construction, and would therefore have no direct or indirect impacts on public health and safety.

Operation of the proposed Project is projected to cause minor to major, adverse, long-term direct and indirect impacts on public health and safety in the Barataria Basin

²⁰ Commonly associated with herbicides.

https://www.researchgate.net/publication/8651314_Herbicide_Concentrations_in_the_Mississippi_River_Basin_-_The_Importance_of_Chloroacetanilide_Herbicide_Degradates

communities not protected by federal levees, specifically within areas approximately 10 miles to the north of the immediate outfall area and 20 miles to the south of the immediate outfall area, as communities in these areas could experience an increased percentage of annual days of inundation due to tidal flooding when the diversion is operating above base flow. Impacts on public health and safety in Project area communities within federal levee systems would be negligible.

The proposed Project is projected to create bed elevation and topography changes that could reduce storm surge and wave elevations within the northeastern portion of the Project area inland of the immediate outfall area, which could reduce the risk of storm surge and wave-induced inundation in areas within the West Bank and Vicinity (WBV) system and northern reaches within the NOV-NFL Levee system and produce a permanent, negligible to minor, beneficial impact on public health and safety. Conversely, the proposed Project is expected to create bathymetry and topography changes that could increase storm surge within the Project area gulfward of the immediate outfall area, which could increase the risk of storm surge and wave-induced inundation for southern reaches of the NOV-NFL/NOV Levee system. The populated areas located behind the NOV-NFL/NOV system are currently at a higher risk of storm surge and wave-induced inundation than those behind the WBV system due to the lower risk reduction level of the NOV-NFL/NOV levee system, and those communities in closer proximity to the Gulf of Mexico. Permanent, adverse impacts on public health and safety in these areas would be minor, as the increase in storm related water levels as compared to the No Action Alternative are negligible to minor. The intensity of this beneficial or adverse impact (depending on location) could range from negligible to minor depending on a given storm's characteristics, storm track and the level of risk reduction provided by infrastructure such as levees and floodwalls for a given populated area.

The reduced inland extent of storm surge and reduction of wave heights is expected to represent permanent, minor to moderate, beneficial impacts on public health and safety associated with storm hazards in communities outside of federal levee systems north of the immediate outfall area (Lafitte²¹ and Des Allemands), while the increased storm surge elevation gulfward of the diversion would represent permanent, minor to moderate, adverse impacts on public health and safety risks associated with storm hazards in communities outside of federal levee systems south of the immediate outfall area.

²¹ it is anticipated that Lafitte will experience increased tidal flooding, but not increased storm surge from the Project.

7.1.18 Food and Fiber Production:

The project is not expected to impact food and fiber production. The total food and fiber system includes all economic activities linked to agricultural production, such as machinery repair, fertilizer production, food processing and manufacturing, transportation, wholesale and retail distribution of products, and eating establishments.

7.1.19 Mineral Needs:

This project is not anticipated to impact mineral needs.

7.1.20 Consideration of Property Ownership:

The applicant's signature on its DA permit application is an affirmation that the applicant possesses or will possess the requisite property interest to undertake the activity proposed in the application. A DA permit does not convey any property rights or any exclusive privileges and a DA permit does not authorize any injury to property or invasion of rights or any infringement of Federal, state or local laws or regulations.

7.1.21 The Needs and Welfare of the People:

In describing the impacts of the Project, Section 4.15 “Environmental Justice” of the Final EIS recognizes that disproportionately high and adverse impacts on low-income and minority populations could occur in communities where reductions in abundance of oysters, brown shrimp, and certain finfish species are anticipated, to the extent that affected populations engage in or are heavily reliant on commercial and subsistence fishing. Section 4.13.5.6 “Community Cohesion” of the Final EIS acknowledges that the proposed Project would be expected to accelerate adverse impacts on some small communities. In this section, the Final EIS specifically recognizes that the proposed Project is expected to adversely impact those fishing activities for shrimp and oysters, which may in turn result in adverse impacts on community cohesion.

A public comment provided during the Final EIS provided some additional context for the evaluation of impacts on certain communities, especially those in which there are low-income and minority populations that engage in commercial fishing, which is summarized below.

Many small-scale fishers have strong, long-term social connections with specific privately held water-bottom oyster leases. The commenter states that fishing provides a living for a large swath of coastal community populations, and that this economic mode is particularly concentrated among low-income and minority communities. If this form of

economic production is lost, it will seriously harm a key segment of these communities, undermining the ability of those involved in the fishing industry to provide support to others in the community while needing further support themselves. As fishers slip further into poverty and/or leave the area, this will have wide-ranging consequences for both the overall health and resilience of coastal communities. Many residents feel that they may be forced to leave their homes and that their communities may cease to exist altogether by virtue of the impacts of this project.

Research indicates that for a number of communities in the Project area, specifically those in lower Plaquemines Parish, social relationships and networks of exchange are profoundly shaped by small-scale commercial fishing. These communities are “characterized by a very high degree of social cohesiveness and a pervasive generosity manifested through frequent informal exchanges of goods and services.” Economic pressure on small-scale shrimp fishers, in the form of increasing operational costs, declining seafood prices, and the regional effects of natural disasters, has led to their increasing reliance on the reciprocal exchange of seafood for specialized labor and services provided by others within the community. This system of community support depends on the economic opportunities and commodities provided by small-scale commercial fishing. As such, small-scale commercial fishing produces social value within these communities that is not reflected in the cash value of shrimp or oyster landings. Thus, “informal exchanges of seafood ... play a profoundly important—likely irreplaceable—role in building and maintaining the social systems involved in inherent resilience” for these communities. Consequently, “[t]hreats to fishing activities are, in this sense, essential threats to the social fabric of the region.”²²

Public Comments on the Draft and Final EIS:

The public was invited to comment on the MBSD Draft EIS and participate in virtual public meetings held on April 6, 7, and 8, 2021. The initial 60-day public review and comment period starting with the Notice of Availability for the Draft EIS published in the Federal Register on March 5, 2021 and originally was to end on May 4, 2021. However, based on requests by the public during the public review period, the 60-day public comment period was extended by an additional 30 days (for a total of 90 days) to June 3, 2021. All comments submitted electronically, orally, or in writing on or before June 3,

²² McCall, G. S. and Greaves, R. D., Creating a Diversion, Why the MidBarataria Sediment Diversion is Unpopular Among Coastal Communities in Southeast Louisiana, *Marine Technology Society Journal*, Vol. 56, No. 3, May/June 2022.

2021 were considered. Comment received and responses are located in Appendix B2 of the Final EIS.

Over the 90-day public comment period, the CEMVN and LA TIG received approximately 40,699 comment submissions on the Draft EIS and the LA TIG's Restoration Plan (Both documents were published for public review at the same time and public comments on both documents were submitted to common collection points). Only 1,396 (3.4 percent) of the comment submissions were from commenters that gave Louisiana addresses. The remaining comments were from people who gave addresses in other U.S. states, and four were from other countries. Forty-three comments were received in either Vietnamese, Spanish, or Khmer and were translated into English. Of the 40,699 comment submissions, 39,903 (98 percent) included identical (form) letters signed by different individuals. Approximately 796 (2 percent) of comment submissions were unique letters from individuals or organizations/agencies. Individual commenters identified an affiliation in 44 of the comment submissions. These affiliations included businesses, churches and religious groups, civic groups, government agencies, NGOs, and university or professional societies.

In general, the form letters were in support of the project. The unique letters from individuals or organizations were more split in opposition or support of the project.

Summary of Final EIS Comments:

Preparing the Draft EIS and the Final EIS, and responding to the approximately 40,699 comment submissions on the Draft EIS was accomplished in-part due to unprecedented coordination from cooperating agencies, including the LA TIG, and the applicant, CPRA.

The NOA for the Final EIS was published in the Federal Register on September 23, 2022, beginning a 30-day public review ending on October 24, 2022.

CEMVN also posted a Special Public Notice announcing the public review period on its Project website. This Special Public Notice was also emailed or mailed to all individuals, agencies, and organizations on the distribution list. The Special Public Notice noted that the Final EIS and its appendices were made available on CEMVN's Project website and listed locations where printed copies and/or an electronic version of the Final EIS and appendices could be viewed. Printed copies of the Final EIS were provided for public review at the same public libraries that the Draft EIS was made available (Belle Chasse, Buras, Harvey, Lafitte, New Orleans, Paradis, and Port Sulphur, Louisiana) with the exception of one library. Since the publication of the Draft EIS, the public library in Cut Off, Louisiana closed; therefore, hard copies were instead

made available at the nearby public library branch in Larose, Louisiana. In addition, printed copies of the Executive Summary for both the Final EIS, summarizing the details of the documents into a concise, easy to read, document, were made available in English, Spanish, and Vietnamese at these locations and several additional public libraries within southern Louisiana.

Over the 30-day public comment period, CEMVN received 150 comment submissions, 23 (15 percent) included identical (form) letters signed by different individuals, and 127 (85 percent) of comment submissions were unique letters from individuals or organizations/agencies. Most (139 or 92 percent) of the comment submissions were from commenters that gave Louisiana addresses, and the remaining comments were from people who gave addresses in other U.S. states. Individual commenters identified an affiliation in 55 (about 40 percent) of the comment submissions. These affiliations included businesses, civic groups, government agencies, NGOs, and university or professional societies.

Public comments received during the Final EIS review period have been provided to the decision maker for consideration.

Other Resource Agency Decisions:

The Final EIS also will be utilized by the LA TIG to make a decision about whether to fund (over \$2 billion) the MBSD project to address damages caused by the BP oil spill in the Barataria Basin. A decision to fund the project would mean that NOAA, USEPA, USFWS, DOI, USDA, and Natural Resources Conservation Service (NRCS) support MBSD project construction and operation.

Conclusions:

CEMVN has determined that the Applicant's Preferred Alternative satisfies the purpose and need and is the LEDPA. The direct habitat impacts associated with project construction are believed to be offset by the concurrent construction of the marsh creation cells near the outfall transition feature. Overall, CEMVN anticipates that the potential benefits of the project (including but not limited to: land building, creation of new wetland habitat, increased bed elevations, sediment transport, abundance of SAV, enhanced EFH) slightly outweigh the anticipated potential negative impacts (such as, increased water levels and tidal flooding in communities within 10 miles to the north and 20 miles to the south of the diversion outfall, increased storm surge impacts, particularly on communities not protected by levees, greatly reduced abundance of brown shrimp and eastern oyster and the cultural and economic losses that could cause, altered larval

transport and recruitment patterns of some aquatic species, and functional extinction of three of the four subpopulations of BBES bottlenose dolphins and severe reduction of the fourth subpopulation of BBES dolphin stock, an overall 97 percent reduction compared to No Action).

The overall trends in the Barataria Basin are expected to continue. Sea level rise and subsidence are expected to continue the overall declines in coastal land loss. As documented in the Final EIS and this document, the Delft3D Basinwide Model projects the Applicant's Preferred Alternative to produce the following:

- 6,260 acres of more land in the Barataria Basin after decade 1 (2030); or a 2 percent difference in land area compared to the No Action Alternative;
- 12,800 acres of more land in the Barataria Basin after decade 2 (2040); or a 5 percent difference in land area compared to the No Action Alternative;
- 17,300 acres of more land in the Barataria Basin after decade 3 (2050); or a 9 percent difference in land area compared to the No Action Alternative;
- 16,400 acres of more land in the Barataria Basin after decade 4 (2060); or a 14 percent difference in land area compared to the No Action Alternative; and
- 13,400 acres of more land in the Barataria Basin after decade 5 (2070); or a 26 percent difference in land area compared to the No Action Alternative.

For the Project to maximize its land building potential, it must be operated as proposed. Restrictions to operations are expected to reduce the overall land-building and accretion benefits; however, a modified operations plan in the future may be employed to reduce negative impact(s) to another documented resource. CEMVN did not consider alternative operations plans as part of this review because alternative operations plans were not proposed. Changes in diversion operations from the plan evaluated in the Final EIS would likely result in changes to impacts predicted in the Final EIS.

For several negative impacts, the Final EIS describes impacts being similar at the end of the project's 50-year life under the Applicant's Preferred Alternative when compared to the No Action Alternative. The main difference is that negative impacts associated with project operation are expected to be experienced more rapidly. After the project is in operation, the water quality and water level changes from operations are expected to be experienced immediately. In many cases, impacts to Barataria Basin resources would be higher near the diversion outfall, where land building/sedimentation, salinity, and water level impacts would be greatest, and would decrease with distance from the

outfall. Upon initiation of project operations, some existing marsh may scour/erode away and existing waterways silt in within the outfall transition feature. Maintenance dredging for optimal project operation is likely to require a permit in the future. Also as discussed in 4.5.5.1 Salinity of the Final EIS and this document, the Barataria Basin is expected to go through a transition from a more brackish and saline environment to a fresher and more intermediate environment. The Barataria Basin may be more vulnerable to tropical disturbances during this time period. The typical large-scale coastal wetland disturbance caused by hurricanes could be exacerbated due to erosion and salt water being pushed inland by storm surge.

Since the negative impacts are expected to be experienced before the benefits, there may be requests to halt or reduce operations. Starting and stopping diversion operation was not evaluated. However, the Final EIS discloses the following:

- Section 4.10.4.2.2 of the Final EIS:

A study of five Texas estuaries was conducted to determine how salinity variability affected diversity in the benthic community. The study included results from quarterly sampling of benthic infauna conducted over multiple years and compared the benthic community between four stations in each estuary, two of which (Stations A and B) were closest to the freshwater inflow and two of which (Stations C and D) were closest to the Gulf of Mexico. Overall, the study demonstrated that pulsed freshwater inflow is a form of disturbance for benthic organisms that results in decreased benthic diversity. Operation of the proposed Project is projected to decrease salinity variability at stations closest to the diversion structure (changing to year-round fresh conditions), but increase at mid-basin stations (causing periods of fresh conditions followed by a return to higher salinities upon diversion closure). As previously noted, relatively permanent changes in salinity would likely result in a shift in the benthic community over time, whereas stations with highly variable salinity may result in frequent disturbance and modification of the benthic community present at those locations, possibly resulting in localized decreases in diversity similar to that identified by Van Diggelen and Montagna (2016). For short-lived species, diversity may increase, with a freshwater community establishing during higher outflows and a more brackish community establishing during low outflow periods. This community structure could be representative of the natural communities, which typically exist in dynamic estuarine systems where river flow and flooding are not constrained by a levee system.

- Section 4.10.4.1.2 of the Final EIS:

Overall, the proposed Project would likely initially result in a temporary, adverse, major, indirect impact on SAV in the basin from a relatively quick change in salinity (see Table 4.10-3 of the Final EIS), which may result in die-offs of species intolerant of the new salinity regime early in the Project life. However, major, permanent, indirect beneficial impacts are anticipated for the overall coverage and biomass of SAV in the basin once salinity regimes stabilize and new freshwater or intermediate communities become established; these longer-term increases are anticipated to offset the initial adverse impacts.

This information suggests that overall Project performance and benefits to the Barataria Basin would be reduced with project operation stoppages. Furthermore, the Final EIS determines a basinwide benefit from nutrient input from project operations. Should the basinwide food web adjust to account for increased nutrients, a stoppage of that input would hinder that adjustment in ways that were not evaluated.

While sediment diversions are a novel coastal restoration technique, the analysis conducted using best science and modeling available to CEMVN indicate that the significant project benefits slightly outweigh the significant project detriments, provided that the Project is operated as proposed. Restrictions to operations are expected to reduce the overall benefits; however, a modified operations plan in the future may be employed to reduce negative impact(s) to another documented resource.

7.2 Public and private need

The relative extent of the public and private need for the proposed structure or work:

Coastal Restoration in Louisiana is a public and private need. While sediment diversions are a novel coastal restoration technique, the analysis conducted using best science available to CEMVN and modeling indicate that the significant project benefits slightly outweigh project detriments if operated as proposed.

Resource use unresolved conflicts

There are no known outstanding conflicts that are not addressed in either this document or the Final EIS.

7.3 Beneficial and/or detrimental effects on the public and private use

The extent and permanence of the beneficial and/or detrimental effects that the proposed work is likely to have on the public and private use to which the area is suited is described below:

Detrimental effects are expected to be more than minimal and permanent.

CEMVN anticipates the “more than minimal and permanent” detriments of the project to be:

- increased water levels;
- increased tidal flooding in communities outside the federal risk reduction system;
- increased storm surge in communities outside the federal levee systems south of the immediate outfall area;
- reduced abundance of brown shrimp and eastern oyster and related impacts to those fisheries and fishermen and their communities;
- altered larval transport and recruitment patterns;
- introduction or spread of invasive species in Barataria Bay;
- severe reduction (estimated 97 percent) of the BBES dolphin stock;
- increased risk of take for three species of sea turtles (Kemp’s ridley, green, and loggerhead) and pallid sturgeon; and
- disproportionately high and adverse impacts on some low-income and minority populations.

Beneficial effects are expected to be more than minimal and permanent.

CEMVN anticipates the “more than minimal and permanent” benefits of the project to be:

- land building;
- creation of new wetland habitat;
- increased bed elevations;
- sediment transport;
- abundance of SAV;
- enhanced EFH;

- decreased storm surge in communities outside of federal levee systems north of the immediate outfall area;
- increased nutrient input into the foodweb; and
- increased abundance of Gulf menhaden, red drum and freshwater fish (for example, largemouth bass).

Climate Change

Temporary, direct minor to moderate, adverse impacts on air quality would occur during construction of the Project from the use of combustion-powered equipment, worker transits, and material deliveries that would emit criteria air pollutants, hazardous air pollutants, and greenhouse gases (GHG); GHGs have been shown to contribute to climate change. The Corps has no authority to regulate emissions that result from the combustion of fossil fuels. These are subject to federal regulations under the Clean Air Act and/or the Corporate Average Fuel Economy (CAFE) Program.

However, the Project would result in permanent, indirect, minor, beneficial impacts on carbon sequestration and atmospheric GHG concentrations due to wetland creation and restoration within the Barataria Basin. These benefits would occur over the life of the Project and would continue past the 50-year analysis period where established wetlands would persist and continue to sequester carbon and protect other wetlands from erosion and soil carbon loss. Carbon sequestration in the newly created wetlands could offset some releases of GHGs due to the Project, thereby reducing some of the impacts associated with GHGs and climate change.

Consideration of cumulative impacts

Cumulative impacts are the result of the combined effects of multiple activities that occur in a particular waterbody that persist over time. Cumulative impacts can accrue to a waterbody in a number of ways. Cumulative impacts occur when there are repetitive permitted activities at a specific waterbody over time, and the resources in that waterbody are not able to fully recover between each occurrence of a permitted activity. Cumulative impacts can also occur as a result of multiple permitted activities occurring in a waterbody over time. Cumulative impacts can also be evaluated at watershed scale, by considering multiple permitted activities occurring in that watershed over time. This section of the decision document may include a discussion of activities permitted through Department of the Army authorizations that have occurred in the waterbody or watershed over time, and how the proposed activity discussed in this decision document will contribute to cumulative effects to that waterbody or watershed and

whether that contribution to cumulative impacts, as evaluated against the current environmental baseline, would be determined to be “not contrary to the public interest.”

8.0 MITIGATION

(33 CFR 320.4(r), 33 CFR Part 332, 40 CFR 230.70-77, 40 CFR 1508.1(s))

8.1 Avoidance and minimization

Avoidance and Minimization: When evaluating a proposal including regulated activities in waters of the United States, consideration must be given to avoiding and minimizing effects to those waters. Avoidance and minimization are described in Section 1 above.

Avoidance and minimization measures are discussed in Section 1.3.1 of this document. Additionally, the inclusion of special conditions in the final authorization as described in Section 10 of this document will be utilized to further minimize adverse project impacts.

8.2 Compensatory mitigation requirement

Is compensatory mitigation required to offset environmental losses resulting from proposed unavoidable impacts to waters of the United States? No

9.0 COMPLIANCE WITH OTHER LAWS, POLICIES AND REQUIREMENTS

9.1 Section 7(a)(2) of the Endangered Species Act (ESA)

Refer to Section 2.2 for description of the Corps’ action area for Section 7 of the ESA.

9.1.1 Lead federal agency for Section 7 of the ESA

Has another federal agency been identified as the lead agency for complying with Section 7 of the ESA with the Corps designated as a cooperating agency and has that consultation been completed? No

9.1.2 Listed/proposed species and/or designated/proposed critical habitat

Are there listed or proposed species and/or designated critical habitat or proposed critical habitat that may be present or in the vicinity of the Corps’ action area? Yes

Effect determination(s), including no effect, for all known species/habitat, and basis for determination(s):

Federally listed species identified as occurring within the Project area are West Indian manatee, five species of sea turtles (green, hawksbill, Kemp’s ridley, leatherback, and loggerhead), giant manta ray, pallid sturgeon, piping plover, red knot, and black rail.

9.1.2.1 West Indian Manatee

Given the unlikely occurrence of the West Indian manatee in the construction area, and CPRA's use of USFWS-recommended BMPs, proposed Project construction *is not likely to adversely affect* this species. During operation of the proposed Project, overall water level increases in the Barataria Basin may result in an expanded area being accessible to manatees. Average salinity concentrations are projected to be consistently lower than the salinity concentrations under the No Action Alternative; Given that manatees require regular access to fresh water, the maintenance of freshwater areas over time may benefit transiting manatees as they travel across the Gulf Coast. Although maintenance of freshwater pockets within the Barataria Basin, and the land accretion allowing maintenance/establishment of SAV, would benefit manatees transiting through the Barataria Basin and along the Gulf Coast, the beneficial impacts would likely be insignificant considering the rarity of individuals within the Barataria Basin. Overall, operation of the proposed Project is *not likely to adversely affect* the West Indian manatee.

9.1.2.2 Sea Turtles

Green and Kemp's ridley sea turtles are considered more likely to occur in the inshore waters of the Project area (inside of the barrier islands) whereas the loggerhead sea turtle is likely present only in low abundance, and the hawksbill and leatherback sea turtles are considered unlikely to occur.

During construction, project vessels associated with construction would transit the Barataria Basin using existing transit paths to minimize the potential for vessel strikes of sea turtles, CPRA has indicated that it would adhere to USFWS and NMFS-recommended BMPs during construction and operation of the proposed Project, which would include NMFS' *Vessel Strike Avoidance Measures and Reporting for Mariners* (NMFS 2008). Further, CPRA would implement NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions* to minimize the potential for entanglement, vessel strike, and dredging impacts and NMFS' *Measures for Reducing Entrapment Risk to Protected Species*, to minimize the potential for sea turtles to become trapped behind or within naturally or artificially enclosed areas.

CPRA has indicated that it would conduct dredging in the basin using floating tracked excavators and shallow draft cutter suction dredges. CPRA would not use hopper dredges, a dredge type that is known to impact sea turtles during use. Although dredging actions could potentially result in injury to sea turtles, it is unlikely that they would occur in the dredging footprint, or the marsh creation cells, and CPRA's implementation of agency-recommended BMPs would further minimize the potential for

impact. Acoustic thresholds for sea turtle injury and behavioral effects are relatively high and the noise-producing activities in the Barataria Basin would only exceed the behavioral noise threshold during dredging near the diversion structure, and only for a distance of about 15 feet, which is not likely to result in impacts on sea turtles.

Given that sea turtles would be unlikely to occur in the construction footprint, and in consideration of the impacts and BMPs discussed above in the unlikely event that they were present, construction of the proposed Project is *not likely to adversely affect* sea turtles in the marine environment and impacts are likely to be negligible. In addition, there would be *no effect, and therefore no impact*, on nesting beaches or critical habitat, given the distance of these habitats from the construction area.

The proposed Project is projected to reach, or approach, 0 ppt at some places in the basin during periods when the diversion is operating at greater than the 5,000 cfs base flow, indicating that certain brackish or saline habitats would essentially be fresh during periods of each year. Although low salinity associated within freshwater input is not of particular concern for sea turtles themselves, it may indirectly affect them by altering habitat and prey.

The decrease in salinity in the Barataria Basin may result in increased biomass of SAV over time when compared to the No Action Alternative, but would also result in a shift over time to include more fresh and intermediate SAV species. However, salinity regimes conducive to the growth of more saline SAV species would continue to occur along the barrier islands and birdfoot delta, providing potential forage opportunities for the green, hawksbill, and loggerhead sea turtles.

Prey species (or life stages thereof) occurring in the estuary could be affected by the inflow of fresh water and sediments from the diversion complex. Crabs are a main prey species of loggerhead and Kemp's ridley sea turtles. Operation of the proposed Project is anticipated to have negligible to minor beneficial impacts on the local blue crab population (compared to the No Action Alternative), such that no adverse effects on loggerhead and Kemp's ridley sea turtles from changes in blue crab availability is anticipated. Changes in local shrimp populations (including a decrease in the brown shrimp population and a negligible to minor increase in the white shrimp population) may result in changes to the shrimp fishery in the Project area. If these changes result in shrimp fishers focusing on locations lower in the basin or in nearshore/offshore waters (where more sea turtles would be present), it may increase the potential for interactions between fishers and sea turtles, which is a primary threat to sea turtles. Increased interactions could increase the rate of injury and mortality to sea turtles present in the Project area.

The proposed Project could allow for a higher chance of cold-stunning, and an introduced chance of death if a sea turtle were present mid-basin during January or February. However, if sea turtles are present in the basin during winter months, they would be most likely to occur in the lower basin near the barrier islands, where cold-stunning would be less likely to occur. Although Kemp's ridley sea turtles venture further inshore, those northern movements are generally restricted to the spring, when warmer waters are present. Therefore, sea turtles are unlikely to be present in the mid-basin during January or February when temperatures are at their coldest.

Increases in contaminants in sea turtle prey, and in the basin in general, from the diversion of water and sediment from the Mississippi River into the Barataria Basin could potentially increase the incidence of fibropapillomatosis expression (tumor growth) in individual sea turtles. Increased contaminants may lead to additional health or other deleterious effects on sea turtles, the certainty and magnitude of which is unknown at this time.

Operation of the proposed Project may result in an increase in phytoplankton blooms within the proposed Project area, which could result in additional food resources for sea turtle prey. Conversely, increases in phytoplankton could result in HABs or dissolved oxygen that could decrease available food resources for sea turtle prey. Sea turtles themselves are susceptible to brevetoxins associated with blooms of *Karenia brevis*, a dinoflagellate responsible for "Florida Red Tide." *K. brevis* is present throughout the Gulf of Mexico; however, blooms are typically associated with temperatures between 71 and 82°F (22 and 28°C) in higher-salinity waters along the Gulf shelf. As the proposed Project is projected to result in decreased salinity and temperatures, it is unlikely to result in blooms of *K. brevis*.

Given that the hawksbill and leatherback, sea turtles would likely be limited to areas near to, or outside of, the barrier islands, and that limited effects on habitat and prey resources are expected in these portions of the Project area, the proposed Project *is not likely to adversely affect* these two species and negligible to minor adverse impacts are likely. However, the Kemp's ridley sea turtle is more likely to occur at locations in the mid-basin where impacts on salinity and temperature would be more prominent and has been identified as having core use habitat in the Barataria Basin, which may make it more susceptible to changes in available habitat. Similarly, green and loggerhead sea turtles have the potential to occur in the lower basin with possible distribution into the mid-basin, although to a lesser extent than Kemp's ridley sea turtles. Due to the possible shift in commercial shrimp fishing efforts (that is, more shrimp fishing efforts in the lower basin), increased negative interactions between turtles and fishing gear may occur, potentially resulting in the injury or death of sea turtles. Therefore, operation of

the proposed Project *is likely to adversely affect* the Kemp's ridley, green, and loggerhead sea turtle and minor to moderate adverse impacts are possible.

As the loggerhead sea turtle is the only documented sea turtle to nest in the Barataria Basin, the proposed Project is anticipated to have *no effect* and thus no impact, on the hawksbill, green, Kemp's ridley, or leatherback sea turtles on nesting beaches. Given the recent restoration efforts on multiple barrier islands and headlands, there is potential for greater nesting of loggerhead sea turtles in the future; however, the seaward facing beaches are not likely to be impacted by the Project and therefore, Project operation *is not likely to adversely affect* loggerhead sea turtles on nesting beaches.

Loggerhead critical habitat has been designated based, in part, on the presence of convergence zones, surface-water downwelling areas, and other factors, that allow for the concentration of *Sargassum*, water temperatures suitable for optimal growth of *Sargassum*, and inhabitation of loggerhead sea turtles. The operating diversion would create a general north-to-south flow as fresh water moves towards the Gulf of Mexico; however, impacts on salinity patterns outside of the barrier islands are not projected to change substantially between the Applicant's Preferred Alternative and the No Action Alternative, which indicates that changes in currents at those locations are also not significant. Therefore, *no effect* and thus no impact on loggerhead sea turtle critical habitat is anticipated.

9.1.2.3 Pallid Sturgeon

Construction activities in the Mississippi River, such as dredging, vessel operations, pile driving, and pier construction, have the potential to disturb or injure pallid sturgeon present within the action area. The loudest underwater sound that sturgeon may encounter would be generated by impact pile-driving activities, which have the potential to injure fish present within 3,281 feet of these activities and would occur 8 to 12 hours per day for 1 to 2 months. Behavioral responses may occur within about 2.9 miles of pile driving, and may include avoidance of the area, a startle response, or delayed foraging. Although other construction activities, such as vessel operations, dredging, or vibratory pile driving would also result in increased noise, the produced noise levels are not anticipated to result in behavioral shifts of sturgeon.

The cofferdam and a river trestle dock would be built into the Mississippi River during construction of the intake system, which would temporarily remove about 3 acres of aquatic habitat from potential use; any individuals entrapped within the cofferdams would be isolated and potentially lost. Although construction would result in temporary, minor, and adverse impacts on habitat immediately adjacent to the gated control

structure and temporary dock, these impacts are anticipated to be insignificant to sturgeon. Further, although take could occur if a sturgeon were entrapped within the cofferdam, the small area of construction and the likely limited occurrence of the species in the Project area indicates that this potential effect is extremely unlikely to occur. However, based on the potential for injury during impact pile driving, construction of the proposed Project *may affect, and is likely to adversely affect* the pallid sturgeon and minor, adverse impacts are likely.

Operational impacts on the pallid sturgeon would generally be associated with potential entrainment through the gated control structure. Entrainment could lead to individual mortality or transfer into the Barataria Basin. Either of these impact pathways would result in the effective removal of entrained individuals from the viable population. Pallid sturgeon density is thought to be extremely low in the Lower Mississippi River Delta and habitat suitability is thought to decrease south of New Orleans towards the delta. Overall displacement and entrainment rates would be dependent upon the swimming capabilities, water velocity, and life stage habitat requirements for fish. However, the altered current pattern would allow adult sturgeon present in the area to passively or actively enter the gated control structure during migration, or in search of refuge or food, representing a moderate adverse impact on the pallid sturgeon.

The Applicant's Preferred Alternative could entrain between 7 and 58 pallid sturgeon (age 1 or above) during each operational year, which would result in the direct loss of between 350 and 2,403 pallid sturgeon over the analysis period. This loss of sturgeon from the population would leave fewer individuals available to reproduce which would result in reduced population growth ranging from 0.07 to 0.43 percent per year. In consideration of the potential take of sturgeon from the proposed Project over the 50-year analysis period, the proposed Project *may affect and is likely to adversely affect* the pallid sturgeon and moderate adverse impacts on the species are therefore likely.

9.1.2.4 Piping Plover and Red Knot

Piping plover and red knot occurrence in the Project area is generally restricted to the barrier islands, where the coastal beaches provide foraging for invertebrates, although mud and intertidal flats may also be used throughout the basin to a lesser degree, especially for the piping plover. The proposed diversion complex is about 20 miles north/northeast of these beaches (which include designated piping plover and proposed red knot critical habitat) and therefore would have no effect on them. Although mud and intertidal flats closer to the diversion complex may be used for foraging during migrations, they would be used in a limited capacity and the birds would be able to relocate during any active construction if the activities overlapped. Therefore,

construction of the proposed Project is not likely to adversely affect (would have negligible impacts on) the piping plover and red knot.

Although changes in salinity could result in alteration of the infaunal prey species present along the coastal beaches, the benthic community would likely return quickly after disturbance given the dynamic nature of the Barataria Basin and the natural potential for salinity shifts over the course of the year. Changes in salinity are likely to cause no more than negligible to minor adverse impacts on the two bird species or their prey and operation of the proposed Project may affect but *is not likely to adversely affect* the piping plover or red knot.

Given that the loss of the critical habitat unit in the birdfoot delta, and the minimization of critical habitat areas along the barrier islands, would occur through projected sea-level rise unrelated to the proposed Project, operation of the proposed Project would have *no effect* and thus no impact on critical habitat for the piping plover because operation of the proposed Project is not likely to change the coastal processes that would continue to influence barrier island morphology. Proposed critical habitat for the red knot (which includes additional barrier islands but excludes the birdfoot delta when compared to piping plover critical habitat) would be similarly affected by sea-level rise.

9.1.2.5 Eastern Black Rail

Foraging birds would likely leave the area during active construction, but noise, artificial lighting, and human disturbance adjacent to nesting activity could cause nest avoidance or abandonment. However, given the expectation of low densities in the general Project area, construction activities are *not likely to adversely affect* black rails and impacts on the species are considered negligible.

Changes to marsh habitat vegetation and infaunal communities would change the composition of available prey resources for the black rail, but would also preserve and increase the area of available marsh habitat in the mid-basin over time. Long-term effects to black rail, which do not show preference between marsh types, are anticipated to be positive, with black rail benefiting from areas of marsh habitat creation and preservation. Because the density of black rail in the Project area is anticipated to be low and impacts are generally short-term or beneficial, operation of the proposed Project *is not likely to adversely affect* the black rail and impacts are likely to be negligible.

9.1.2.6 Giant Manta Ray

Giant manta rays are expected to occur around the barrier islands and river outlets, and possibly a short way up into the Barataria Basin. They are not expected to occur in the shallow marsh habitats where Project construction activities would occur, and therefore are not expected to be affected by construction-related effects such as noise, turbidity, and vessel traffic. Because of the potential presence in the basin, but the unlikely presence of giant manta ray within or near the construction area, construction of the Project would have a negligible impact on the giant manta ray and is *not likely to adversely affect* the species.

Operational effects (changes in salinity, temperature, and turbidity/nutrients) are expected to be very minor in the outer edges of the Project area where giant manta rays are expected to occur. Therefore, Project operations would have a negligible effect on the species and thus the Project is *not likely to adversely affect* the giant manta ray.

9.1.3 Section 7 ESA consultation

Consultation with either the National Marine Fisheries Service and/or the United States Fish and Wildlife Service was initiated and completed as required, for any determinations other than “no effect” (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

USACE initiated formal consultation with and provided the BA to NMFS on February 24, 2021 and initiated formal consultation with and provided the BA to USFWS on July 2, 2021. The Services provided their respective Biological Opinions, including Incidental Take Statements, Reasonable and Prudent Measures and Conservation Recommendations as applicable on December 13, 2021, concluding ESA consultation requirements.

9.2 Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Essential Fish Habitat (EFH)

9.2.1 Lead federal agency for EFH provisions of the Magnuson-Stevens Act

Has another federal agency been identified as the lead agency for complying with the EFH provisions of the Magnuson-Stevens Act with the Corps designated as a cooperating agency and has that consultation been completed? No

9.2.2 Magnuson-Stevens Act

Did the proposed project require review under the Magnuson-Stevens Act? Yes.

9.2.3 EFH species or complexes

Were EFH species or complexes considered? Yes

Effect determination and basis for that determination:

Managed species in and around the Project area are included under the following Fishery Management Plans, each of which includes one or more species:

- Shrimp Fishery of the Gulf of Mexico, U.S. Waters;
- Red Drum Fishery of the Gulf of Mexico;
- Reef Fish of the Gulf of Mexico;
- Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic;
and
- Atlantic HMS.

The areas of EFH in the construction area are emergent marsh, SAV, and water column, with a larger component of soft bottom habitat used by managed species. Activities with the potential to impact EFH for these managed groups during construction include direct dredging/excavation, placement of riprap and dredged sediments, and permanent removal, of approximately 925 acres of habitat, of which most would be benthic (soft bottom) habitat with interspersed SAV and emergent marsh. Dredging would result in indirect, temporary impacts on EFH and managed species through increased turbidity and sedimentation, which would likely displace mobile species and possibly bury benthic infaunal or epifaunal organisms that are prey for many managed species. Overall, construction of the Project would result in direct and indirect impacts on EFH and the species and life stages of managed species that use EFH through the alteration of habitat and the mortality or displacement of individuals.

Impacts from the proposed Project are anticipated to result in increases in the overall coverage and biomass of SAV and emergent marsh, although the increases are often related to conversion from higher to lower-salinity communities. Conversely, soft bottom would decrease (compared to the No Action Alternative) as marsh is established or maintained, and areas of sand/shell may decrease, converting to soft bottom due to burial from sedimentation. Oyster reefs that experience reduced oyster productivity could likewise be impacted by increased sedimentation. Although changes in the amount of water column habitat would be negligible, changes in salinity, temperature,

and nutrient levels would occur, and certain areas would be affected by changes in water flow, turbidity, and DO. Overall, the total amount of EFH in the Barataria Basin would not be lost, but may be converted from one type to another, and often from more ubiquitous habitats (for example, soft bottom, unvegetated water column) to those that may provide more value to managed species and their prey (for example, SAV and marsh).

9.2.4 National Marine Fisheries Service consultation

USACE initiated EFH consultation with NMFS concurrently with its request for formal ESA consultation on February 24, 2021. NOAA responded with EFH conservation recommendations on April 6, 2021. USACE provided an interim response on April 30, 2021 and USACE will provide its final response to NMFS prior to the issuance of any permit. USACE agrees with NMFS conservation recommendations and will incorporate them as special conditions if a permit is issued.

9.3 Section 106 of the NHPA

Refer to Section 2.3 for permit area determination.

9.3.1 Lead federal agency for Section 106 of the NHPA

Has another federal agency been identified as the lead federal agency for complying with Section 106 of the NHPA with the Corps designated as a cooperating agency and has that consultation been completed? Nolf yes, identify that agency, and whether the undertaking they consulted on included the Corps' undertaking(s). Briefly summarize actions taken by the lead federal agency.

9.3.2 Historic properties

Known historic properties present? Yes

As part of the NHPA Section 106 consultation process, CEMVN determined that archaeological site 16PL296, within the proposed Project construction footprint in the Construction Impacts APE, is not eligible for the NRHP; SHPO concurred with this determination. CPRA undertook Phase II NRHP-eligibility testing at the portion of 16PL107 within the construction footprint of the proposed Project within the Construction Impacts APE. The testing found 26 brickwork architectural features, three refuse pits, two prepared pavements, and eight rubble features of indeterminate origin/function. The brickwork architectural features outline buildings that may have been residences for the St. Rosalie Sugar Plantation labor force after the Civil War. Thousands of historic artifacts dating from the late 19th to early 20th century were

recovered and analyzed. The analysis of all data suggests that the residents of the post-Civil War St. Rosalie community were African-Americans living in tenant housing. Based on the review of the results of this investigation, CEMVN determined, and SHPO concurred, that the portion of 16PL107 within the proposed Project's construction footprint is eligible for the NRHP under Criteria A and D.

Multiple previously recorded prehistoric shell midden sites were confirmed present within the Operational Impacts APE. In addition, two new archaeological sites within the Operational Impacts APE were identified. CEMVN determined four previously recorded archaeological sites retain integrity and are eligible for listing in the NRHP. In addition, CEMVN considered one previously-identified site to have undetermined NRHP eligibility, and therefore, treated it as NRHP eligible.

Examples of potential direct impacts on cultural resources during operation would include sediment deposition (burial) and erosion resulting from changes in flow velocity, increased tidal flooding, and storm surge. Given the large size and submerged nature of much of the Operational Impacts APE, as well as the multiple other processes affecting these submerged areas (for example, subsidence, erosion, and channel dredging), CEMVN determined that it is currently not possible to fully separate the impacts on cultural resources caused by subsidence, erosion, and other processes unrelated to the Project from those that could be caused by the Project, particularly over the 50-year analysis period of the MBSD Project. Therefore, the intensity and duration of potential Project-induced impacts on sites identified in the basin are uncertain.

Effect determination and basis for that determination:

The PA prepared by CEMVN states a treatment plan will be developed by the Applicant, signatories to the PA, and consulting parties in order to mitigate impacts on the portion of 16PL107 within the construction footprint of the proposed Project. The PA also includes an unanticipated discovery plan that outlines a process for the Applicant to follow if additional cultural resources or historic properties are discovered during construction activities.

Consultation with the appropriate agencies, tribes and/or other parties for effect determinations:

Consultation was initiated and completed with the appropriate agencies, tribes and/or other parties for any determinations other than "no potential to cause effects." (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

USACE initiated Section 106 consultation with SHPO, Tribal Nations, and Advisory Council on Historic Preservation (ACHP) on October 14, 2016. Due to the size and nature of the proposed undertaking USACE determined that the Project's effects on historic properties cannot be fully determined. Therefore, as permitted by the Section 106 process, USACE elected to fulfill its obligations through a P A. The PA was prepared by CEMVN in coordination with CPRA and the Consulting parties and signed by all interested parties on or before October 20, 2022. The PA states a treatment plan will be developed by the Applicant, signatories to the PA, and consulting parties in order to mitigate impacts on the portion of 16PL107 within the construction footprint of the proposed Project. The PA also includes an unanticipated discovery plan that outlines a process for the Applicant to follow if additional cultural resources or historic properties are discovered during construction activities. The Final EIS includes an unsigned final draft of the PA in Appendix K.

9.4 Tribal Trust Responsibilities

9.4.1 Tribal government-to-government consultation

Was government-to-government consultation conducted with federally-recognized tribe(s)? Yes

Provide a description of any consultation (s) conducted including results and how concerns were addressed.

Disclosed above.

9.4.2 Other Tribal consultation

Other Tribal consultation including any discussion of Tribal Treaty rights? N/A

9.5 Section 401 of the Clean Water Act – Water Quality Certification (WQC)

9.5.1 Section 401 WQC requirement

Is a Section 401 WQC required, and if so, has the certification been issued or waived?

An individual WQC is required and has been granted.

The LDEQ has verified that the discharge of proposed fill material will not violate state water quality standards as provided in the Water Quality Certification (WQC 220329-01 dated June 7, 2022). On July 13, 2022, pursuant to section 401(a)(2) of the CWA EPA decided not to make a "may affect" finding concerning the Water Quality Certification issued by LDEQ.

9.5.2 401(a)(2) Process

If the certifying authority granted an individual WQC, did the United States Environmental Protection Agency make a determination that the discharge ‘may affect’ water quality in a neighboring jurisdiction? No, USEPA decided not to make a “may affect’ finding on July 13, 2022.

9.6 Coastal Zone Management Act (CZMA)

9.6.1 CZMA consistency concurrence

A CUP from the LDNR is required. Issuance of a CUP ensures the activity is consistent with and is performed in accordance with Louisiana’s Coastal Use Guidelines. LDNR is reviewing this project for a CUP under number P20131098 and conducted a public meeting on November 3, 2022. LDNR received no comments at the meeting and has not issued a CUP at the time of finalization of this document. CEMVN will not proffer any DA Section 10/404 permit unless/until a CUP is received.

9.7 Wild and Scenic Rivers Act

9.7.1 National Wild and Scenic River System

Is the project located in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system? No

9.8 Effects on Corps Civil Works Projects (33 USC 408)

9.8.1 Permission requirements under Section 14 of the Rivers and Harbors Act (33 USC 408)

Does the applicant also require permission under Section 14 of the Rivers and Harbors Act (33 USC 408) because the activity, in whole or in part, would alter, occupy, or use a Corps Civil Works project?

Yes. The Mississippi Valley Division Commander will make the Section 408 decision. CEMVN will not proffer any DA Section 10/404 permit unless/until the Section 408 permission is granted.

9.9 Corps Wetland Policy (33 CFR 320.4(b))

9.9.1 Wetland Impacts

Does the project propose to impact wetlands? Yes

9.9.2 Wetland impact public interest review

Based on the public interest review herein, the beneficial effects of the project outweigh the detrimental impacts of the project.

9.10 Compliance Statement

The Corps has determined that it has fulfilled its responsibilities under the following laws, regulations, policies, and guidance:

Table 13 – Compliance with Federal Laws and Responsibilities		
Laws, Regulations, Policies, and Guidance	Yes	N/A
Section 7(a) (2) of the ESA	X	
EFH provisions of the Magnuson-Stevens Act	X	
Section 106 of the NHPA	X	
Tribal Trust	X	
Section 401 of the Clean Water Act	X	
CZMA	X	
Wild and Scenic Rivers Act	X	
Section 408 - 33 USC 408	X	
Corps Wetland Policy (33 CFR 320.4(b))	X	
Other:		X

10.0 SPECIAL CONDITIONS

10.1 Special condition(s) requirement(s)

Are special conditions required to ensure minimal effects, ensure the authorized activity is not contrary to the public interest and/or ensure compliance of the activity with any of the laws above? Yes

- 1) The time limit for completing the work authorized ends on December 31, 2032. If you find that you need more time to complete the authorized activity, submit your

request for a time extension to this office for consideration at least one month before the above date is reached.

- 2) You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
- 3) If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the Nation Register of Historic Places.
- 4) If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
- 5) If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
- 6) You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.
- 7) The permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.
- 8) The permittee must install and maintain, at its expense, any safety lights, signs and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on its authorized facilities. Any inquiries concerning a U.S. Coast Guard Private Aids to Navigation marking determination may be directed to the Eighth Coast Guard District (dpw), Hale Boggs Federal Building, 500 Poydras St., Suite 1230, New Orleans, Louisiana 70130, at (504) 671-2330 or via email to: D8oanPATON@uscg.mil. For general information related to Private Aids to

Navigation, you may visit the Eighth CG District web site at:

<http://www.atlanticarea.uscg.mil/district-8/district-divisions/waterways/PATON>

- 9) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- 10) If the authorized project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.) in the waterway, the permittee is advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification with a copy of this permit approval and drawings can be emailed to: D8MarineInfo@uscg.mil, or mailed to the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Suite 1230, New Orleans, Louisiana 70130. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2118.
- 11) The U.S. Army Corps of Engineers, New Orleans District (CEMVN) may suspend, modify, or revoke this permit if it is in the public interest to do so.
- 12) The permittee agrees that details associated with the project component that will re-establish/nourish marsh (labeled as "Dredged Material Placement Area" in the permitted drawings and referred to here as the "marsh creation component") are still conceptual at the time of permit issuance and that all details regarding construction, schedule, success criteria and deadlines, monitoring and reporting and maintenance for the marsh creation component must be finalized prior to initiation of construction. Specifications to ensure sufficient and appropriate data is obtained and provided in monitoring reports must be developed. Design, planning, and monitoring requirements regarding target construction marsh elevation (TCME), target settled marsh elevation (TSME), timing/phasing for single versus multiple lifts, cell size and location, transect layout, number and location of survey plots, timing of the monitoring events, vegetative goals, success and performance milestones, etc., must be coordinated and approved

by CEMVN prior to initiation of structure construction. The permittee will submit the required details of the marsh creation component plan at least forty-five (45) days prior to any planned initiation of construction for CEMVN review and approval. In addition to the foregoing information, the marsh creation component plan will contain:

- a. Detailed written specifications and work descriptions including, but not limited to, construction methods, timing, schedule and sequence; methods for establishing the desired marsh; plans to control invasive plant species; the proposed grading plan, including elevations and slopes of the substrate; soil management and erosion control measures.
- b. Performance standards. Ecologically-based standards that will be used to determine whether the project marsh component is achieving its objectives.
- c. Maintenance plan. A description and schedule of maintenance requirements to ensure the continued viability of the marsh once initial construction is completed.
- d. A description of parameters to be monitored in order to determine if the marsh creation component is on track to meet performance standards and if adaptive management is needed.

13) The marsh creation component plan must be approved by CEMVN prior to initiation of construction. Failure to obtain approval from CEMVN prior to initiation of construction will result in assessment of compensatory mitigation, in which case the permittee will provide compensatory mitigation to account for direct, secondary and temporal adverse impacts to jurisdictional wetlands from project construction in the form of mitigation bank credits. If determined to be required, CEMVN will inform the permittee of the appropriate number and type of credits and from which banks the permittee may purchase credits. If purchase of bank credits is required for failure to obtain CEMVN approval for the final marsh creation component plan, that credit purchase will be completed and proof of satisfaction of compensatory mitigation requirements will be provided to CEMVN prior to initiation of construction.

14) The permittee will fully offset unavoidable direct, secondary, and temporal adverse impacts to jurisdictional wetlands associated with project construction. To accomplish this, the permittee will construct the marsh creation component of

the project and will ensure that it achieves all success milestones (temporal, spatial and functional) and will maintain the marsh creation/nourishment components as set forth below.

- a. Construction of both activity components (diversion structure components and marsh creation components) must occur concurrently.
- b. In the event that the permittee fails to complete the marsh creation component of the project as authorized and agreed upon through the coordination effort discussed in special condition number 12 above and/or if the marsh creation component does not meet its success criteria as outlined in special condition number 15 and/or the permittee fails to monitor or submit reports in accordance with the requirements developed pursuant to special condition number 12 above or if the marsh creation cells are not maintained for the duration identified, the permittee must provide compensatory mitigation to account for any remaining direct, secondary and temporal adverse impacts to jurisdictional wetlands from project construction in the form of compensatory mitigation banking credits. CEMVN will inform the permittee of the appropriate number and type of credits and from which banks the permittee may purchase credits.
- c. Failure to complete the marsh creation component as agreed through the coordination effort discussed in special condition number 12 above or otherwise provide compensatory mitigation to account for direct, secondary and temporal adverse impacts to jurisdictional wetlands from project construction in the form of compensatory mitigation bank credits will be grounds for permit suspension and/or revocation, and restoration of the permit site.

15) The following criteria will be used to determine success of the creation component of the project:

- a. Spatial completeness, regarding re-establishment of 375 acres emergent marsh and nourishment of 92 acres of existing emergent marsh as identified on drawings 60 through 64 of 140.
- b. All permanent transects, elevation survey plots, and vegetative plots have been established as agreed upon through the coordination effort discussed in special condition number 12 above.

- c. All monitoring reports contain the type and level of information, and have been provided in accordance with the reporting schedule as agreed upon through the coordination effort discussed in special condition number 12 above.
- d. For the following specific monitoring events/intervals:
 - i. As-built construction survey must be submitted within 60 days after dredged material placement is completed.
 - 1. The average of the measurements from the post-construction elevation survey in the As-Built Report is at or above the TCME and a minimum of 80% of the site is within 6 inches of the TCME.
 - ii. Initial Monitoring must be completed 12 to 14 months after completion of dredge material placement.
 - 1. The average of the elevation survey measurements taken from the site are at or above the projected TSME and a minimum of 80% of the site is within 6 inches of the TSME.
 - iii. Interim Monitoring must be completed 3 years after completion of dredge material placement or prior to initial operation of the diversion structure, whichever is first.
 - 1. All containment dikes have been breached or degraded and all control structures removed, and any additional work determined necessary has been completed such that hydrologic exchange between the restored and/or enhanced marsh and adjacent water bodies is unimpeded.
 - 2. The average of the elevation survey measurements taken from the site are at or above the TSME and a minimum of 80% of the site is within 6 inches of the target settled marsh elevation.
 - iv. Long-Term Monitoring must be completed 5, 10, 15 and 20 years after completion of dredge material placement.
 - 1. The average of the elevation survey measurements taken from the site are at or above the TSME and a minimum of

80% of the site is within 6 inches of the target settled marsh elevation.

2. Wetland vegetative coverage is 100% on the target settled marsh elevation. The species composition and diversity at this time are consistent with the intended community.
 3. Observed use of restored and/or enhanced marsh by wildlife species typically found in natural marsh habitats of similar salinity regime.
 4. Tidal fluctuations are comparable to those in adjacent tidal areas.
- e. If additional dredged material needs to be deposited to meet elevation requirements, then the permittee shall base all required monitoring and reporting time-frames on that new dredge placement completion date.
 - f. If, prior to any sampling event, the permittee is aware that the success criteria would not be met, the permittee may submit an adaptive management plan requesting a delay in that monitoring event, documenting why the success criteria would not be met, providing details on any adaptive management that may be needed, and proposing a new schedule for conducting monitoring events.
 - g. The marsh re-establishment/nourishment component of the project) must be maintained to its fullest extent, both spatially and functionally, for a period of not less than 20 years from submission and approval of the required As-Built Report documenting completion of the project.
- 16)The permittee is reminded of its agreement to comply with all 14 (fourteen) of U.S. Fish and Wildlife Service's (FWS) recommendations in the Final "Fish and Wildlife Coordination Act Report For the Mid-Barataria Sediment Diversion Project" dated May 25, 2022.
- 17)The permittee is reminded of its agreement to comply with all 2 (two) of NOAA Fisheries, National Marine Fisheries Service's (NMFS) Essential Fish Habitat Conservation Recommendations.
- a. The MAM Plan should clearly identify variables and conditions to be monitored and describe the monitoring protocols. The MAM Plan should

also identify specific management alternatives including, but not limited to alternate flow rate, frequency, timing and duration, and an effective decision making regime to modify project management if monitoring and subsequent analyses indicate diversion operations are not providing the desired outputs, or are causing unexpected or unwanted effects to resources of concern.

- b. The CPRA and LA TIG should continue investment in ecosystem models (e.g., EwE and CASM) and individual species models (e.g., HSI) development and refinement for their use in comparing alternatives in the MAM Plan. Recommended ecosystem model improvements to support MAM, include but are not limited to:

- i. Continued calibration
- ii. True validation with independent data
- iii. Sensitivity analyses with biotic and abiotic parameters
- iv. Refined uncertainty analyses
- v. Structural sensitivity analysis
- vi. Translation of salinity or other environmental parameters to changes in growth, mortality, reproduction, movement/distribution, production, prey availability, etc. to get at population-, or food web-level effects

18)Mechanized land clearing, filling, or vehicle tracking of jurisdictional wetland areas outside the project area for access, staging, and/or implementation of the authorized work is not allowed.

19)The permittee shall employ siltation controls around all construction sites that require earthwork (clearing, grading, dredging and/or deposition of fill material) such that eroded material is prevented from entering adjacent wetlands and/or waterways.

20)Many local governing bodies have instituted laws and/or ordinances in order to regulate dredge and/or fill activities in floodplains to assure maintenance of floodwater storage capacity and avoid disruption of drainage patterns that may affect surrounding properties. The authorized project involves dredging and/or placement of fill, therefore, the permittee must contact the local municipal and/or

parish governing body regarding potential impacts on floodplains and compliance of your proposed activities with local floodplain ordinances, regulations, or permits.

- 21) If rutting or disturbance to ground surface occurs in jurisdictional areas during construction, steps shall be taken to return pre-project elevations and contours immediately following that occurrence. This includes hauling in appropriate material and stabilizing damaged areas if necessary. If any hydrologic connections are created from equipment moving across shorelines or banklines, these areas must be immediately stabilized and restored to pre-project conditions by hauling in appropriate fill material, if necessary. As-built drawings of any such repair/restoration must be provided to this office no later than 90-days following completion of such work. If it is later determined that permanent impacts on wetland areas have occurred within the project footprint from such repair/restoration efforts, compensatory mitigation or on-site restoration may be required by this office.
- 22) If the authorized project requires any additional work that requires a Department of Army Section 10/404 permit and that is not expressly permitted herein, the permittee must apply for an amendment to this authorization.
- 23) The permittee must comply with all stipulations in the enclosed Programmatic Agreement for National Historic Preservation Act compliance.
- 24) The permittee shall, in coordination with USACE, contact FWS and Louisiana Department of Wildlife and Fisheries (LDWF) for additional consultation if: 1) the scope or location of the authorized project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat, 3) the action is modified in a manner that causes effects to listed species or designated critical habitat, or 4) a new species is listed or critical habitat designated. Additional consultation as a result of any of the above conditions or for changes not covered in this consultation should occur before changes are made or finalized.
- 25) The permittee must adhere to the following Reasonable and Prudent Measures (RPM) and their associated Terms and Conditions (TC) and Monitoring and Reporting Requirements (MRR) as laid forth in FWS Biological Opinion dated December 13, 2021:

- a. FWS RPM 1: Gate operation that would significantly increase or decrease the velocity through the structure should be implemented over several hours to allow fish sufficient time to migrate back to the river or swim away from the structure.
 - i. FWS TC 1: The FWS's Louisiana Ecological Services Office (337-291-3126) should be notified of any proposed changes to the proposed action described in the biological opinion, so that re-initiation of consultation under Section 7 of the ESA can proceed as quickly and efficiently as possible
- b. FWS RPM 2: The permittee will develop a plan to be implemented for the proposed MBSD that identifies potential avoidance and minimization measures for pallid sturgeon. Live sturgeon captured in the structure, or the cofferdam area should be tagged and returned to the river.
 - i. FWS TC 2: Develop a plan to be implemented for the proposed MBSD that identifies potential avoidance and minimization measures for pallid sturgeon. Live sturgeon captured in the structure or the cofferdam area should be tagged and returned to the river.
- c. FWS RPM 3: Dredging (cutterhead/suction) in the Mississippi River will be conducted using dredge operational parameters coordinated with FWS.
 - i. FWS TC 3: Should dredging (cutterhead/suction dredge) activities be necessary in the Mississippi River, the following operational parameters would be included as conditions of the permit and in the design of the project:
 - 1. The cutterhead must remain completely buried in the bottom material during dredging operation. If pumping water through the cutterhead is necessary to dislodge material or to clean the pumps or cutterhead, etc., the pumping rate will be reduced to the lowest rate possible until the cutterhead is at mid-depth, where the pumping rate can then be increased.

2. During dredging, the pumping rates will be reduced to the slowest speed possible while the cutterhead is descending to the channel bottom.
 - d. FWS RPM 4: Ensure that the terms and conditions are accomplished and completed as detailed in FWS's incidental take statement (ITS) including the completion of reporting requirements.
 - i. FWS TC 4: Upon locating a dead, injured, or sick individual of an endangered or threatened species, the permittee must notify the Louisiana Ecological Services Office at Lafayette, Louisiana at (337) 291-3100 and the CEMVN within 48 hours. Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury.
 - ii. FWS TC 5: A report describing the actions taken to implement the terms and conditions of this ITS shall be submitted to the Project Leader, U.S. Fish and Wildlife Service, 200 Dulles Drive, Lafayette, LA 70506, within 60 days of the completion of project construction. This report shall include the dates of work, assessment, and actions taken to address impacts on the pallid sturgeon, if they occurred.
 - e. FWS MRR1: Monitoring of the diversion structure for the entrainment of pallid sturgeon should be conducted, once the diversion is in operation. Reporting of monitoring results will be conducted yearly.
 - f. FWS MRR2: A monitoring report will be submitted to FWS after maximum flow conditions have occurred. This report should include any data sheets, maps, and the findings of the pallid sturgeon monitoring efforts.
- 26) The permittee must adhere to the following RPMs and their associated TCs as laid forth in NMFS Biological Opinion dated December 13, 2021:
- a. NMFS RPM 1: Monitoring Brown Shrimp Fishing Effort in the Action Area: Monitor the annual trip ticket data for area 211 and reports to NMFS (as described below) the 3-year running average of brown shrimp fishing trips on an annual basis.

- i. NMFS TC 1: The permittee must monitor the annual trip ticket data collected by LDWF for area 211 and provides an annual report to NMFS PRD, sent to the following address (takereport.nmfs@noaa.gov). The federal action agencies may specify if they would also like to receive these reports from the project proponent. The reports shall reference the Consultation Identification Number for this consultation (SERO-2021-00433), and shall provide the raw trip ticket data, as well as the 3-year running average of brown shrimp fishing trips. The first report shall be provided within 1 year of the commencement of MBSD operations, using the previous 3 years' data to calculate the 3-year running average.
- b. NMFS RPM 2: Monitoring Salinity Conditions in the Lower Barataria Basin: Develop (in coordination with NMFS), fund and implement a salinity monitoring program in Barataria Bay and reports the data output from that monitoring plan to NMFS on an annual basis (as described below).
 - i. NMFS TC 2: The permittee must develop in coordination with NMFS (SERO and SEFSC), fund, and implement a monitoring program and analytical design that will allow NMFS to determine if seasonal salinity conditions under actual project operations are within the expected range projected by the model relied upon and analyzed in this Opinion. The final monitoring design must establish measurable triggers that will indicate when salinity conditions have exceeded the levels anticipated and analyzed in the NMFS Biological Opinion dated December 13, 2021, and would thus trigger the requirement to reinstate consultation on the proposed project. The monitoring plan must be fully developed and approved by NMFS PRD prior to the commencement of MBSD operations. Once the monitoring plan design has been developed and approved, it must be integrated into the existing Monitoring and Adaptive Management Plan for the Proposed Project. The monitoring plan shall be implemented prior to, or immediately following commencement of MBSD operations. An annual report of the data and analytical output from this monitoring shall be sent to NMFS at the following address (takereport.nmfs@noaa.gov). The first report shall

be submitted to NMFS within 1 year of the commencement of monitoring. The federal action agencies may specify if they would also like to receive these reports from the project proponent. The reports shall reference the Consultation Identification Number for this consultation (SERO-2021-00433).

- c. NMFS RPM 3: Monitor Sea Turtle Habitat Use and Abundance in the Action Area: Develop (in coordination with NMFS SEFSC), fund and implement a monitoring plan targeting sea turtle distribution, health and habitat use within the Barataria Basin.
 - i. NMFS TC 3: The permittee must develop in coordination with NMFS SEFSC, fund, and implement a monitoring plan designed to study sea turtle distribution and habitat use to increase the body of knowledge and understanding of distribution, relative abundance, and seasonal and spatial sea turtle habitat use in the action area before project operations and to monitor how project operations affect distribution, relative abundance, and seasonal and spatial sea turtle habitat use of the action area. This sea turtle monitoring plan must include 3 years of field work prior to implementation of MBSD operations, 3 years of field work immediately following implementation of MBSD operations, and 1 year of data analysis. The field work must include trawl vessel surveys, satellite tagging, health assessment, and data analysis. This study would include deploying up to 240 satellite tags (target of 40 per year), some or all equipped with specialized salinity sensors, and conducting transect surveys to better understand sea turtle abundance and distribution. Turtle monitoring and tagging field work is be conducted in selected areas of the lower Barataria Basin, from the area below the proposed outfall, down to and including the passes and inlets around the barrier islands and the Gulf-side shallow water habitat adjacent to the barrier islands at the southern end of Barataria Bay. The monitoring plan must receive final approval by NMFS PRD, and shall include the following components:
 - 1. Field Work: Conduct 6 years of field work (three years prior to implementation of MBSD operations and 3 years after operations start) employing the following methods:

- a. Transect surveys – Direct capture of sea turtles using otter trawl and skimmer trawl vessels using standardized seasonal 30-minute transects during spring, summer, and autumn of each year to obtain a statistically appropriate sample size in the action area. Turtles will be captured using skimmer trawls in shallow areas (less than 10 feet), focusing on salt marsh habitat where we expect to find smaller juvenile sea turtles, and larger otter trawl vessels using paired otter trawls in depths greater than 10 feet. Appropriate scientific research and collection permits will be required for these activities.
 - b. Health assessments – turtles captured in trawl surveys will be measured, weighed, tagged with flipper and passive integrated transponder (PIT) tags, tissue sampled (for genetic analysis and stable isotopes), and blood sampled (for blood chemistry analyses). Environmental data (salinity, water temperature, etc.) will be collected in conjunction with sea turtle capture efforts. Turtles will be released at or near the capture site.
 - c. Satellite Tagging – up to 240 turtles (target of 40 per year, with selection based on appropriate size and condition), captured in the trawl surveys will be satellite tagged to monitor location, dive behavior, salinity, and temperature. Salinity sensor-equipped satellite tags will be used on a portion of these turtles to better understand habitat use patterns relative to salinity regimes and if shifts in salinity affect behavior.
 - d. Annual and seasonal estimates of relative abundance will be generated from the trawl data at the conclusion of each year's sampling.
2. Analysis and Modeling: Conduct 1 year of data analysis, including the following:

- a. Estimate habitat use by overlaying our satellite tracking data on available GIS benthic habitat layers, as well as salinity information collected by the satellite tags. Additionally, data from any current in-water environmental monitoring stations could be used to provide additional supplemental environmental data. In addition, we plan to coordinate with other research groups, such as benthic researchers studying lower trophic level organisms to provide abundance and species composition data for key prey organisms to further understand habitat use and sea turtle distribution.
 - b. Complete development of a predictive model for sea turtle species habitat use and distribution in relation to physical and biological habitat characteristics and salinity level parameters. The model can be used to assess the overlap of sea turtle distribution with known and emerging threats to prioritize the type and location of restoration activities and to evaluate their effectiveness.
3. Adaptive Management of Monitoring Activities: Due to the scarcity of information on sea turtle activity and use of the study area, there is uncertainty regarding the expected results and efficacy of the monitoring of sea turtle habitat use and abundance in the action area required herein (number of turtles that may be captured, number that may be suitable for tagging, etc.). There are also many extrinsic factors that may impact monitoring efficacy and results, such as hurricanes and annual hydrologic conditions affecting the Basin. Due to the uncertainties, it may be necessary to adjust monitoring targets and methodologies (gear, locations, effort, etc.) during the study period to ensure the monitoring efforts are optimized to effectively discern the effects of the project on sea turtles. An adaptive management team consisting of up to three state (CPRA) and three federal (NMFS SEFSC, NMFS PRD, and NOAA RC) representatives (along with

any technical experts invited by these entities) will meet at least once a year to review progress and results of the monitoring activities. The USACE may also participate on this team if they wish. This team may make recommendations on any necessary changes to the monitoring and tagging activities, locations, timing, or level of effort, based on current information and monitoring/tagging results to date. Any proposed changes to the sea turtle monitoring activities must be approved by NMFS PRD before implementation of those changes.

4. Project Outputs/Deliverables: Data collected will be used to analyze habitat use in relation to physical and biological habitat characteristics and salinity level parameters.

Outputs include:

- a. satellite tagging datasets;
- b. transect survey data;
- c. health assessment data;
- d. modeling outputs; and
- e. technical report synthesizing data.

27)The Permittee must comply with the “Standard Manatee Conditions for In-Water Activities.”

- a. All work, equipment, and vessel operation should cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- b. If a manatee(s) is sighted in or near the project area, all vessels associated with the project should operate at “no wake/idle” speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels should follow routes of deep water whenever possible.

- c. If used, siltation or turbidity barriers should be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- d. Temporary signs concerning manatees should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½ " X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT." A second temporary sign measuring 8½ " X 11" should be posted at a location prominently visible to all personnel engaged in water-related activities and should read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION."
- e. Collisions with, injury to, or sightings of manatees should be immediately reported to the Service's Louisiana Ecological Services Office (337-291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225-765-2821). Please provide the nature of the call (that is, report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

11.0 FINDINGS AND DETERMINATIONS

11.1 Section 176(c) of the Clean Air Act General Conformity Rule Review:

The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed *de minimis* levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

11.2 Presidential Executive Orders (EO)

11.2.1 EO 11988, Floodplain Management

Effects to the floodplain and minimization were considered above.

11.2.2 EO 12898, Environmental Justice

Based upon available information, the Corps has determined that portions of the proposed project within our federal control and responsibility would have a disproportionately high and adverse human health or environmental effect on minority populations, low income populations, and/or disadvantaged communities historically marginalized or overburdened by pollution that may be present in the vicinity of the project.

Construction:

- As discussed in Section 4.15.3 of the Final EIS, the construction of the MBSD Project could have minor to moderate, temporary, adverse impacts on low-income and minority populations within 0.5-mile of the construction footprint. Construction impacts on minority and low-income populations could be disproportionately high and adverse on minority and/or low-income residents, in particular the community of Ironton, Louisiana.

Operation:

- As discussed in Section 4.15.4 of the Final EIS, the operation of the MBSD Project could lead to:
 - Minor to major, long-term, adverse impacts on low-income and minority populations near (within approximately 10 miles north and 20 miles south) the immediate outfall area and outside levee protection from increases in tidal flooding and storm hazards as compared to the No Action Alternative. In addition, negligible to minor increase in risk of levee overtopping in communities gulfward of the immediate outfall area may occur which may contribute to effects in communities inside levees, with the greatest increases in communities within the NOV-NFL Levee system depending on the extent to which overtopping causes flooding.
 - May have disproportionately high and adverse, long-term impacts on some low-income and minority populations in communities located near the immediate outfall area (within approximately 10 miles north and 20

miles south) and outside of federal levee protection including populations within Myrtle Grove, Woodpark, Suzie Bayou, Hermitage, Grand Bayou, and Happy Jack due to increased tidal flooding and storm hazards, to the extent that such populations are uniquely vulnerable to tidal flooding and storm hazard impacts. In addition, the increased risk of levee overtopping during certain 1 percent storm events gulfward of the immediate outfall area could result in disproportionately high and adverse impacts on low-income and minority populations in Ironton to the extent that overtopping leads to flooding in that community. To a lesser extent, tidal flooding could increase in the Lafitte area, which includes multiple communities with varying levels of existing non-federal flood protection. The impacts would be most pronounced in operational years before 2030, after which time, impacts would be more minor as compared to the No Action Alternative.

- For low-income or minority populations located in areas inside the federal levee system, or farther than 20 miles from the immediate outfall area, impacts from increased tidal flooding and storm surge caused by operation of the Project are expected to be negligible. Impacts on low-income and minority populations in these areas would not be disproportionate. For low-income or minority populations located in areas north of the diversion, some beneficial impacts related to additional protection from storm hazards due to reduced storm surge and wave heights as a result of land building may occur relative to the No Action Alternative.
- Negligible to major, permanent, adverse impacts on commercial fisheries and subsistence fisheries, depending on species, as compared to the No Action Alternative.
- Disproportionately high and adverse impacts on low-income and minority populations engaged in commercial and subsistence fishing and dependent on adversely impacted fisheries in the Barataria Basin could occur; disproportionate impacts may vary according to levels of engagement and dependence. To the extent that low-income and minority populations rely on fish species that are expected to benefit from the Project (including catfish, carp, and largemouth bass) for subsistence fishing, these changes may beneficially impact these populations.

Mitigative measures for communities with Environmental Justice concerns:

- CPRA engaged in additional outreach to populations potentially impacted by the Project to seek their input on mitigation and stewardship measures. A summary of that outreach is included in Chapter 7 of the Final EIS.
- Due to the proximity and impacts to the Ironton community, CPRA's mitigation plan states that a community liaison will be identified prior to the start of construction. The community liaison will receive and respond to concerns from Ironton community members regarding Project construction impacts.
- During construction CPRA proposed to maintain safe and accessible conditions at all road crossings and access points and minimize the use of tracked equipment on roadways.
- Dust management: CPRA proposes to implement water or chemical dust suppressants to control dust released during land clearing and grading and on dirt roads and material stockpiles to minimize the release of dust.

Operational Impacts:

- CPRA proposes the following in its mitigation plan:

“Subsistence and recreational fishing. To address identified potential for disproportionately high and adverse impacts to subsistence oyster and brown shrimp fishing, CPRA will provide public access opportunities within the Barataria Basin and Mississippi River Basin. This is intended to address effects on proximity of resources for both consumptive and non-consumptive use. These effects will be primarily addressed through the provision of public shoreline access and watercraft launching around the project area to assist recreational and subsistence fishing. No later than 24 months prior to the anticipated commencement of operations of the Project, CPRA will convene a community working group to identify preferred locations for these new access points. CPRA will invite community representatives to participate in this working group, and will provide special outreach to individuals and communities that rely on fishing in the Basin for subsistence aimed at ensuring their participation. Based on the input received from this community working group, CPRA will identify and develop one or more additional public shoreline access points for fishing and/or boat launching.”

“Commercial fishing impacts. CPRA recognizes that certain individuals and communities with environmental justice concerns, including low income and minority populations, may experience unique vulnerabilities that may include difficulty switching to other industries due to economic challenges, age, educational or training background, and cultural or language barriers. These populations may also be less likely or able to relocate to other geographic areas for alternative employment opportunities due to economic or cultural reasons. Species substitution may require traveling long distances or investing in expensive new equipment, which adds costs that may be challenging for low-income and minority fishers.”

- In the mitigation plan, CPRA proposes to implement an outreach plan targeting fishers from identified communities with environmental justice concerns to ensure they learn about and are able to access these programs.
- To address changes in water levels, CPRA’s mitigation plan states they will engage with an outreach coordinator to:
 - develop and implement targeted outreach;
 - inform impacted community members of available programs and resources;
 - work with individuals to assist them in pursuing benefits and completing the necessary materials;
 - follow-up with individuals who are selected for benefits to ensure that they receive the benefits of the programs;
 - monitor and report the number of community members who utilize the programs; and
 - the amount and percentage of program resources utilized annually.
- CPRA intends to follow the Uniform Relocation Act when engaging with any property owner or tenant who requests to relocate due to concerns about the impacts of Project operations on water levels prior to Project operations.

- Per the mitigation plan, CPRA proposes to create floating gardens, community connecting sidewalks, and Grand Bayou backfilling for the Grand Bayou community.
- Uncertainty remains as to the effectiveness of these measures to mitigate anticipated impacts and whether sufficient funds have been identified to accomplish stated mitigation goals.

11.2.3 EO 13112, Invasive Species, as amended by EO 13751

The evaluation provided above included invasive species concerns in the analysis of impacts at the project site.

11.2.4 EO 13212 and EO 13302, Energy Supply and Availability

The proposal is not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

11.3 NEPA Determination

As outlined in section 1.4.2 of this document, the Project was determined to have potentially significant impacts resulting in the preparation of the EIS. The Final EIS was published on September 23, 2022.

11.4 Compliance with the Section 404(b)(1) Guidelines

The proposed discharge complies with the Guidelines, with the inclusion of the appropriate and practicable special conditions to minimize pollution or adverse effects to the affected ecosystem.

11.5 Public interest determination

Having reviewed and considered the above evaluation and the evaluation of probable impacts contained in the Final EIS, I find that the proposed project is not contrary to the public interest provided that LDNR issues a CUP and the MVD Commander grants the Section 408 permission. Any permit will contain appropriate conditions to ensure minimal effects, to ensure the authorized activity is not contrary to the public interest and to ensure compliance with relevant authorities identified in Section 9 of this document.

11.6 DA permit determination

Having considered the discussion, analyses and impact determinations of the Final EIS and based on the evaluation and conclusions contained above, I find that a DA Section 10/404 permit for the Project may be issued.



11/8/2022

Brad P. LaBorde, Eastern Evaluation Branch Chief, Regulatory Division
Preparer



8 Nov 22

Martin S. Mayer, Chief, Regulatory Division
Reviewer

CULLEN A. JONES, P.E., PMP, Colonel, U.S. Army, District Commander
Approving Official

**MID-BARATARIA SEDIMENT DIVERSION
FINAL EIS
PUBLIC COMMENTS**

November 2022

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OCT 21 2022

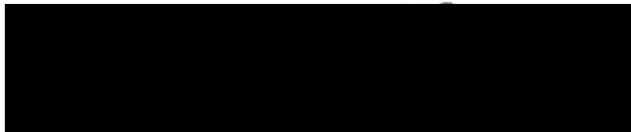
October 16, 2022

I am writing to express my concern and opposition about the Mid-Barataria sediment diversion project. Everyone agrees that actions should be taken to do what we can to protect and improve Louisiana's coastline. Dredging has shown to build back land in specified areas in a much shorter time. This diversion project will devastate ALL FISHERIES and experts predict that a POSSIBLE 20 square miles of marsh land could develop over 50 years. This is not a chance I am willing to take while destroying families livings and cultures.

DREDGE DON'T DIVERT

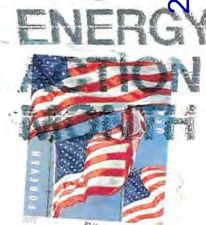
Mr. W. C. ...
[Redacted]
[Redacted]
[Redacted]

CHARLIE



NEW ORLEANS LA 700

20 OCT 2022 PM 3 L



U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
ATTN: REGULATORY DIVISION, MVN-2012-2806-E00
7400 LEAKE AVENUE
NEW ORLEANS, LA, 70118

70118-355100



Rec'd MB
OCT 21 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO


7400 Leake Avenue

New Orleans, 70118

regards to the Mid-Barataria sediment Diversion.

I strongly object to the Mid- Barataria Sediment Diversion and ask the U.S. corps of Engineers to reject the permit.

DEPEND on the Barataria Estuary and its resources to make a living. The proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely, _____

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

I regards to the Mid-Barataria sediment Diversion.

I strongly object to the Mid- Barataria Sediment Diversion and ask the U.S. corps of Engineers to reject the permit.

I DEPEND on the Barataria Estuary and its resources to make a living as a

Secretary - Oyster Shop The
proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely M. Plummer

Terry's Ousters

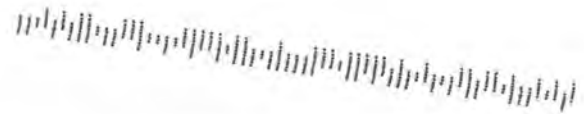


NEW ORLEANS LA 700
20 OCT 2022 PM 2 L



U.S. Army Corps of Engineers
New Orleans district
Attn: Regulatory Division
MVN-2012-2806-E00
7400 Lake Ave.
New Orleans, LA 70118

70118-365100





October 24, 2022

Mr. Brad LaBorde
Regulatory Project Manager
New Orleans District - CEMVN-ODR-E
U.S. Army Corps of Engineers
7400 Leake Ave
New Orleans, Louisiana 70118

Re: Mid-Barataria Sediment Diversion Project, Plaquemines Parish, Louisiana – Final Environmental Impact Statement

Dear Mr. LaBorde:

The U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Army Corps of Engineers (USACE) Final Environmental Impact Statement (EIS) for the Mid-Barataria Sediment Diversion Project, Plaquemines Parish, Louisiana (CEQ Number 20220137). The Final EIS was reviewed pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500 – 1508), and EPA's NEPA review authority under Section 309 of the Clean Air Act.

The Coastal Protection and Restoration Authority Board of Louisiana, through the Coastal Protection and Restoration Authority (CPRA), submitted a Joint Permit Application to the Department of the Army under the provisions of Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and a permission request under Section 408 of the Rivers and Harbors Act of 1899 to the USACE, New Orleans District, for CPRA's proposed Mid-Barataria Sediment Diversion (MBSD). The Proposed Action consists of the placement of a sediment diversion through a portion of the federal Mississippi River and Tributaries Project mainline levee on the right descending bank of the Mississippi River at approximately River Mile 60.7 and through the future New Orleans to Venice (NOV) Hurricane Protection Levee, extending into the Mid-Barataria Basin in Plaquemines Parish, Louisiana.

EPA served as a Cooperating Agency and reviewed and provided technical comments on the EIS during its development. The proposed project would re-establish historic delta processes by allowing for the controlled release of water, sediment, and nutrients from the Mississippi River into the Barataria Basin estuary, supporting ecosystem-scale restoration of the estuary. The Final EIS evaluates the potential impacts of the proposed project and a range of reasonable alternatives, including the No Action Alternative, on the natural and human environment. Over 50 years, the sediment carried by the diversion is projected to restore over 13,000 acres of wetland habitat which is 20 square miles, or the size of Breton National Wildlife Refuge. These restored wetlands would contribute to protecting communities and infrastructure, reducing impacts from storms, supporting healthier gulf fisheries, and benefiting many species important to the region's economy and environment.

Throughout the NEPA process, EPA worked with the USACE, CPRA, and the other Cooperating Agencies on the key issues of environmental justice and impact mitigation. The Final EIS acknowledges

that operation of the proposed project could lead to long-term, minor to major, adverse impacts on communities not protected by federal levees from acceleration of increases in tidal flooding and storm hazards and major permanent, adverse impacts on commercial fisheries and subsistence fisheries. These impacts could be disproportionately high and adverse on some low-income and minority populations in the project area as compared to the No Action Alternative. The Final EIS also evaluates project construction and operational impacts on the community of Ironton. The Final EIS indicates the construction of the proposed project could have minor to moderate, temporary, adverse impacts on low-income and minority populations within 0.5-mile of the construction footprint. Construction impacts on low-income and minority populations, including the population of Ironton, could be disproportionately high and adverse depending on the unique vulnerabilities of those populations. As discussed below, an updated Mitigation and Stewardship Plan contains measures to address these potential impacts.

EPA appreciates the close collaboration with the USACE and other Cooperating Agencies and strongly supports CPRA's updated mitigation and stewardship measures in the Mitigation and Stewardship Plan attached to the Final EIS (Appendix R1) to address identified environmental justice issues. The updated Mitigation and Stewardship Plan includes measures to address disproportionately high and adverse impacts related to tidal flooding, storm hazards, and commercial and subsistence fisheries identified in the Final EIS. CPRA has expanded and refined the Mitigation and Stewardship Plan to include specific, unique measures for each community and fishery aligned with feedback from affected stakeholders. To address potential construction-related impacts to the community of Ironton, the Mitigation and Stewardship Plan identifies best management practices that would be implemented during construction to minimize dust and traffic impacts and development of a communications plan, including identifying a community liaison to address concerns from Ironton residents during project construction.

The updated mitigation and stewardship measures are also designed to consider unique vulnerabilities and help ensure an equitable distribution of benefits to community members impacted by the proposed project. For example, the Mitigation and Stewardship Plan includes enhanced measures, such as outreach coordinators, to help ensure that identified communities with environmental justice concerns affected by the project are informed about and have an equal opportunity to access the benefits of the mitigation and stewardship programs. In addition, a portion of funding for several of the fisheries mitigation and stewardship measures would be reserved for fishers who are part of an identified community with environmental justice concerns that may be impacted by the project.

The Mitigation and Stewardship Plan was updated as a result of numerous outreach efforts conducted by CPRA with communities, industries, fishers, and local, state, and federal leadership, as described in Section 7.6.2 of the Final EIS. This feedback was used to help refine the mitigation and stewardship measures and ensure that the measures would be feasible for implementation and aligned with community needs. EPA commends CPRA for their extensive outreach and engagement efforts and incorporation of this feedback in the updated Mitigation and Stewardship Plan.

Thank you for the opportunity to review this Final EIS. EPA looks forward to the receipt of the Record of Decision. If you have any questions, please contact Michael Jansky, the project review lead, at [REDACTED]
[REDACTED]

Sincerely,

Olivia Balandran
Acting Director
Office of Communities, Tribes, and
Environmental Assessment

cc: Louisiana Trustee Implementation Group Representatives

Letter ID: 244073

Bamford, Stephen Dale

Myself, My Relatives and Friends Near Gulf Coast / Myself
Seattle, WA 98118

I am writing out of concern for my many friends and relatives along the Gulf Coast who may not have time to respond to planned actions by the Corps. It is my hope your actions will take into consideration the many life forms in the region that will be affected by actions by the Corps' there.

As you know, our seas and oceans know no boundaries and their well-being is dependent upon our stewardship. Having visited the area a number of times while living in Florida for many years and having visited New Orleans and being familiar with the devastation rendered by the BP Horizon disaster, Hurricane Katrina, agricultural run-off from the Mississippi River's basin, knowing of an ever-increasing dead-zone swirling around in the Gulf of Mexico <https://oceantoday.noaa.gov/deadzonegulf-2021/welcome.html#:~:text=The%202021%20Gulf%20of%20Mexico,over%20the%20past%20five%20years>. I have to say any action that removes safeguards that threaten the interests of fishing ventures, plants and animals will further exacerbate problems we cannot afford to put forward for future generations of children to rectify.

As shown in the link I referred to in this transmittal, the National Oceanic and Atmospheric Administration has conducted considerable research and provided results of those findings. It is necessary for folks in government and charged with the responsibility for the defense of the nation to take action to protect our interests. Let your actions not be guided by a classic failure of the left hand not knowing what the right hand is doing. I urge you to set a good example of what government can do by acting responsibly in this matter.

Thank you for your service, time and consideration.



JOHN BEL EDWARDS
GOVERNOR

State of Louisiana
DEPARTMENT OF WILDLIFE AND FISHERIES

JACK MONToucET
SECRETARY

October 24, 2022

United States Army Corps of Engineers
New Orleans District
Attn: Regulatory Division, RGE (MVN-2012-2806-EOO)
7400 Leake Avenue
New Orleans, LA 70118

RE: *Mid-Barataria Sediment Diversion (MBSD) Final Environmental Impact Statement (FEIS)*

To Whom It May Concern:

The Louisiana Department of Wildlife and Fisheries (LDWF) appreciated the opportunity to be included in the collaborative writing process as part of the Louisiana Trustee Implementation Group (LA TIG) during the Environmental Impact Statement (EIS) preparation to ensure appropriate species of concern were considered and no important recreational or commercial species were omitted from impact determinations. We concur with the recommendations made by the U.S. Fish and Wildlife Service in the Fish and Wildlife Coordination Act Report (FEIS - Appendix T and summarized in Chapter 5) and look forward to remaining a collaborative partner as this EIS is finalized. Importantly, we remain committed to participating fully in the continued development of the associated Mitigation Plan and Monitoring and Adaptive Management Plans.

The Barataria Basin is one of Louisiana's most valuable estuaries in terms of commercial seafood harvest, recreational and charter fishing opportunities, and biological productivity. This productivity stems from the diversity of habitat types present in the basin including saline, intermediate, brackish and freshwater marshes. Historically, brown shrimp, white shrimp, oyster, blue crab, spotted sea trout, redfish, and dozens of other species are harvested by the millions of pounds within this basin each year contributing hundreds of millions of dollars to Louisiana's economy. To continue to flourish, these estuarine organisms depend on having habitat suitable to their needs available during their early life stages.

As outlined in the FEIS, existing oyster production will be substantially impacted by the proposed Mid-Barataria Sediment Diversion (MBSD), primarily through changes to the salinity regime in the receiving estuary, which is acknowledged in the FEIS. The Barataria Basin contributes almost 25% of Louisiana's total oyster production, on average. Approximately one third of Louisiana's private oyster leases are located in this basin. The Hackberry Bay Public Oyster Seed Reservation and Little Lake/Barataria Bay Public Oyster Seed Grounds are all located within the basin and provide seed and market oysters for the industry when conditions are favorable. While tolerant of a wide range of salinities, oysters require several years of favorable salinity conditions in order for reef areas to develop and populations to become self-sustaining. While there are positive effects of flood pulses, massive freshets, especially when water temperatures are high, can cause elevated levels of oyster mortality. Aside from changes to the salinity regime, the operation of the MBSD could also affect reefs through

sedimentation and burial. Nutrient rich waters may also contribute to harmful algal blooms, excessive fouling of reef areas, and low oxygen events, which could impact oysters and other fisheries. If the project is allowed to proceed, mitigation measures proposed for oyster resources, and the industry, must move forward as soon as possible.

Approximately 40% of the state's brown shrimp landings are from the Barataria Basin, and the FEIS correctly indicates major adverse impacts on brown shrimp populations from this project. Therefore, the development of a robust, strategic operational plan may allow for limited brown shrimp harvest opportunities, with minimal impacts to land building or project maintenance. If the project is allowed to proceed, we continue to encourage full evaluation of ways to operate the project that still allows for commercial seafood production within the basin, along with enactment of initial mitigation measures proposed in FEIS - Appendix R.

Outfall management techniques should also be fully evaluated to help redirect diverted waters away from oyster production areas, or other sensitive areas, where feasible. These techniques could be utilized as part of a comprehensive adaptive management plan that may reduce impacts to seafood species.

The possibility for invasive aquatic species to be introduced, and/or expand, are concerns that are acknowledged in the FEIS. The Mitigation Plan should include sufficient resources to address invasive aquatic plants in the area of influence. Monitoring of pre-operational conditions can help assess post-operation effects and aid in adaptive management of operation in the future.

LDWF strongly recommends that the applicant involve the local coastal and fishing communities in any mitigation planning required, provided the Project receives all necessary approvals.

If you have any questions about our comments or concerns, please feel free to contact our staff lead on this matter for Office of Fisheries, Brady Carter at [REDACTED]

Sincerely,



Patrick D. Banks
Assistant Secretary
LDWF Office of Fisheries

Letter ID: 244084

Barbier, Sandra
LaPlace, LA 70068

I support the Mid-Barataria Sediment Diversion Project. It seems to be the only feasible solution to preventing erosion and rebuilding marsh in the Barataria Basin. I urge managers to minimize dolphin deaths as much as possible, including sacrificing efficiency of the project if necessary to minimize dolphin deaths. Thank you.

Letter ID: 244109

National Wildlife Federation / Conservation

Bell, Chad

PRAIRIEVILLE, LA 70769

I've lived in Louisiana for 31 years now and have had the pleasure of hunting and fishing in the marshes of Louisiana in my time here in this outdoors paradise. If we don't do something to rebuild the lost marsh and grasslands through sportsmen funded projects and diversion from the Mississippi River, we won't have any marsh left to take our kids, grandkids and friends to enjoy the amazing outdoor opportunities we have to enjoy. They are disappearing daily and we need to start reversing the erosion and desecration of our barrier islands and immediate coastal mainland or we'll be fishing for specks and reds on Bourbon Street!

Letter ID: 244176

Besson, Albert

Oyster Farmer

Saint Martinville, LA 70582

I don't think this project has been well thought out the damage it will do is not worth the money and other issues it will create for our local fishermen and way of life in South Louisiana

Letter ID: 244115

Blue, Ellen
River Ridge, LA 70123

It is startling to realize that 1977 was 45 years ago. Yet subtraction doesn't lie.

One reason (among many reasons) why I'd prefer not to believe this particular arithmetic is that 1977 is when I first learned that Woody Gagliano was proposing a sediment diversion from the Mississippi River into the Atchafalaya system. Coastal erosion and loss of wetlands were already known to be problems. So was the disruption to the natural process of land building caused by the human-constructed barrier keeping the Mississippi from moving back into its Atchafalaya channel.

The fact that four-and-a-half decades have passed since 1977 without stopping the sediment loss and that so much land has been needlessly lost is tragic. With a diversion project, the silt from the twenty-three states drained by the Mississippi would not be lost. It would be restored to its natural function - rebuilding the coast of Louisiana.

Land loss affects all of us, but my family's life was particularly impacted last year by the loss of the barrier islands that help to protect New Orleans from hurricanes. My husband's health makes evacuating extremely difficult. Because Hurricane Ida was expected to be a low-level storm but then increased in power dramatically just before landfall (due to hot temperatures in the Gulf waters), we were not able to evacuate in time and suffered for days in high heat with no power before my children could help us leave. Our home also underwent many thousands of dollars in damage which was not covered by our insurance.

Isak Denison wrote: "We take so much more than their land from the people whose land we take." Though Louisiana's land is not being taken in the way she meant, it is nonetheless being taken. Safety, peace of mind, culture, livelihoods, desired futures - each of them is being taken from many of our citizens.

It is true that some unwanted change will result from the project, but it is certain that much more unwanted change will occur if we do not implement it. Indeed, for me, the most relevant question at this moment is this: What will happen if you do not divert the sediment? What negative impacts on our culture, our economy, our environment, and our safety will result?

Please try to stop the loss of land still occurring each day 45 years since I first heard about a solution. I hope that the work to restore nature's own processes of land-building can begin soon.

Letter ID: 244131

Boardman, Paula
FOLSOM, LA 70437

This seems to be a pork barre project at the expense of the health of Barataria Bay--a living, breathing part of the life and economy of Louisiana. A \$2 billion plus project that even experts don't think will accomplish much. The consequences to the biological health of the bay will be devastating: it will kill at least three pods of dolphins that call the bay home. and destroy an estimated 40% of the oyster fisheries and a large shrimp population in Louisiana. It is time to recognize that enabling a system that exists only to make political cronies wealthy is not the proper motivation for your decision. You will be destroying the balance of the ecosystem that is required to maintain healthy life for humans to flourish and prosper. Hasn't it become obvious that you can't simply destroy life and nature without paying a massive price down the road? Short-term profit at these costs is the vilest sort of corruption.

In addition to the destruction to the bay itself, the "fresh" water that will be dumped into the bay is Mississippi River water, a toxic soup of chemicals that has created a Dead Zone of over 6,300 square miles in the Gulf at the mouth of the river. Nothing is likely to be able to survive in the Barataria Bay once this hypoxic water hits the fragile marshes and animal life of the bay.

Please stand up for that for which you were given authority. The ultimate wellbeing and health of the delicate balance of nature functioning side by side with human endeavor must be part of your calculation in making this decision. I beg you to stop the destruction that is harming us ALL.

Letter ID: 244071

Bond, George
New Orleans, LA 70115

I totally support this effort. We have lost so much land due to the oil industry and weather occurrences. I regret the loss to the fishing industry but the needs of the land rebuilding over take those problems. There have been mitigating options that will help. The land rebuilding is essential and as I have planted grasses and trees to help stabilize the land I know that option will be there for this regenerated land. This is a good use of my taxes.



October 24, 2022

U.S. Army Corps of Engineers
Colonel Cullen Jones, Commander and District Engineer
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

Re: Final Environmental Impact Statement for the Proposed Mid-Barataria Sediment Diversion Project, Plaquemines Parish, Louisiana

I am writing on behalf of CRCL, the first statewide nonprofit organization dedicated to confronting coastal land loss in Louisiana. CRCL is the most widely recognized and effective coastal advocacy entity in the state. We represent a unique mix of businesses, local governments, industries, scientific communities, national and local conservation groups, hunters, anglers and a broad spectrum of concerned residents. Our mission is to unite people in action to achieve a thriving, sustainable Louisiana coast for all.

We write to you in strong support of the identified Preferred Alternative: Variable Flow up to 75,000 cfs Sediment Diversion. CRCL has been advocating for the Mississippi River to be reconnected to our dying wetlands for nearly 35 years, so this is a huge moment for our organization and for the future of coastal Louisiana. We take great pride in our role in helping our state get to this stage. As it was in 1988, our goal is to see the project advance as quickly as possible. That is why we urge the completion of the Record of Decision as soon as possible.

Furthermore, we are extremely pleased to see an increase in mitigation dollars in the FEIS. The Final Mitigation and Stewardship Plan proposed by CPRA includes \$378 million for strategies across communities, fisheries and marine mammals. We recognize that the MBSD will have impacts to the region, and this increase in direct funding will be critical to those affected.

Although we have concerns about the conclusions reached regarding the extent of damage to some marine species laid out in the FEIS, we understand that the ecological benefits far outweigh the potential negative impacts to those species.

Construction of the Mid-Barataria Sediment Diversion is critical for Louisiana's future. Without this and other projects reconnecting the river to the wetlands and recreating the natural process of delta building, the long-term sustainability of Louisiana is in peril. That is why we urge the Army Corps of Engineers to move this project forward with the chosen Preferred Alternative and execute the Record of Decision without delay.

Sincerely,


New Orleans, LA 70119
CRCL.org

Tyler M. Bosworth

A handwritten signature in black ink, appearing to read "Tyler Bosworth", with a stylized, flowing script.

Advocacy Director

Coalition to Restore Coastal Louisiana

Letter ID: 244177

Brininstool, Ginger
Baton Rouge, LA 70808

Given the extent of the environmental impact from the proposed mid-Barataria sediment diversion project, it would be unethical for this proposed project to proceed. The building of possibly 20 square miles of land over 50 years at a cost of \$2 billion through diversion of freshwater and it's sediment into a saltwater bay is not worth the damage that will occur to wildlife (dolphins, oysters, shrimp) and the people who enjoy or depend on that wildlife for their livelihoods. Please reconsider other alternatives for building and maintaining land such as dredging rather than diversion.

Letter ID: 244136

Buras, Sherald & Jane
Myrtle Grove, LA 70083

We searched 3 years for a location to purchase or build a second home on the water to enjoy during our retirement years. Our primary goal was to fish and entertain family and friends. We looked at the Mississippi Gulf Coast and several locations in Louisiana. We purchased a 22' boat at the beginning of this search and fish primarily in Barataria Bay using the Myrtle Grove Marina. In March 2020, unaware of the Diversion, we purchased 2 lots in the Myrtle Grove Marina Phase I Subdivision because of the close proximity to our main home, the well-maintained subdivision, the newly renovated Marina, and the superb fishing in Barataria Bay. We worked with an architect and contractor during COVID for plans to build a 3-bedroom 3-bath home with a double boat lift. We proceeded cautiously due to the rise in construction cost. In December 2020, we received an insurance quote from an agent who warned us of the diversion. Needless to say, we stopped the project and waited for the issuance of the Draft EIS. We were devastated to read the Draft EIS (1) that it would be 1.5 miles north of Myrtle Grove (2) that tidal flooding would increase in Myrtle Grove (3) that silt in the Wilkerson Canal would make it impossible to leave our Myrtle Grove home with our boat to fish in Barataria Bay (4) that the flow of fresh water would totally change the fishing in Barataria Bay as well as kill dolphins and no telling what else considering the content of the Mississippi River waters and (5) that the mitigation plans are vague and gave us no confidence that the community needs will be addressed. Since the Draft EIS, we have participated in community meetings, responded to surveys, and read pro and con articles. The Final EIS has given us no confidence in the project and we continue to believe it will destroy communities and marine life. The Final EIS is full of too many unknowns and risks. As taxpayers, spending \$2 billion to save 21 square miles that will take 50 years to see results appears to be a misuse of funds. If the sediment has not built land at the southern tip of the river then how will \$2 billion create land in Barataria Bay. And do the taxpayers really know how much is being spent for mitigation? And the effects on the seafood industry? Just because its a one-of-a-kind project does it mean that its the right thing to do. The CPRA is carefully promoting this project as positive and is not advertising the negatives. In addition, most of the CPRA staff will more than likely not be around to see the success or failure of the project unlike those living in the communities. The mitigation plans will change the layout of the Myrtle Grove community creating each street in a bowl with higher bulkheads and boat lifts. We would have never purchased land in Myrtle Grove if we knew this would happen.

Letter ID: 244079

Little Tchefuncte River Association / River watchdogs

Campbell, David
Folsom, LA 70437

I submit this statement as President and on behalf of the Little Tchefuncte River Association, formed in 1989. In 2002, we were named by the Louisiana Wildlife Federation the "conservation organization of the year."

We organized in order to be watch dogs of the river, along with the protection of its native flora and fauna, from the upper reaches to Louisiana Highway 190 at Goodbee.

Personally, I have resided on a 65 ft high bluff of the Tchefuncte north of Goodbee for 50 years, with a tent in the woods for the first six years, which has organically evolved into a cabin rental, small retreat center, Little River Bluffs Nature Preserve (littleriverbluffs.com).

We have tried to keep pace and informed with plans for the proposed Mid-Barrataria project, and are completely in support of it. We know firsthand how our North Shore rivers, estuaries, lakes, and the Gulf of Mexico are all intertwined.

We are also well aware of what is in store for us and our Parish and others in the future.

Please consider this our complete support for this proposed project.

Respectfully submitted,

David L Campbell
President, Little Tchefuncte River Association



GULF COAST RESOURCE COALITION

SERVING TEXAS, LOUISIANA, MISSISSIPPI, ALABAMA & FLORIDA

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, Louisiana 70118

Dear U.S. Army Corps of Engineers:

Gulf Coast Resource Coalition (the Coalition), in consultation with its official local government partners of Cameron County Government, Texas, Hancock County Government, Mississippi, and the City of Bay St. Louis Government, Mississippi, as well as its official partner organizations of Texas Shrimp Association, Louisiana Shrimp Association, Mississippi Commercial Fisheries United and others, has reviewed the U.S. Army Corps of Engineers, New Orleans District's (CEMVN) final Environmental Impact Statement (EIS) for the proposed Mid-Barataria Sediment Diversion (MBSD) project in Plaquemines Parish, Louisiana. We hereby submit these official comments on the final EIS for the Administrative Record, feeling they are warranted given the immediate, permanent, and major adverse impacts to the Barataria Basin outlined in the EIS.

A. WOEFUL INADEQUACY OF THE THIRD PARTY CONTRACTOR'S (TPC) PREPARATION OF

1. **TPC chose the use of qualitative versus quantitative identification of impacts of the MBSD.** While a generally acceptable practice for EIS preparation, given the complexity and unprecedented nature of the MBSD project, this methodology masks extreme adverse impacts of the project, especially economic impacts. Even the most basic cost/benefit analysis of MBSD using quantitative identification of impacts and any wetlands restorative benefits negates any public benefit of the project.
2. **Direct, Indirect and Cumulative Impacts.** As required under NEPA and other applicable executive and policy orders ensuring reinstatement of the full intent of NEPA, the EIS fails miserably in approaching any semblance of compliance with the requirement. In addition, the Memorandum of Understanding (MOU) initiated for the TPC included Scope of Work (SOW) Section 7.10 which required identification and ***"...a detailed quantitative analysis..."*** of cumulative impacts. Examples include the following:
 - a. **Commercial Fisheries impacts**
While the EIS notes "major, permanent, adverse" impacts to brown shrimp and oysters, it deliberately adds language to help foster a sense of

mitigation to those impacts. As an example and a noted change from draft EIS:

“While availability of shrimp from the basin would decrease, shrimp from Louisiana would continue to be available to restaurants, potentially at higher prices...etc”

Not only is this additional language since the draft EIS obviously meant to lessen a reader’s perception of the magnitude of the adverse impacts, the rest of the analysis fails considerably to address not only indirect but cumulative impacts as well.

Under NEPA regulations, any future or reasonably foreseeable action *must* be taken into consideration when evaluating impacts. One needs only to look to the applicant’s other Corps of Engineer’s permit application for the Mid-Breton Sediment Diversion project to “reasonably foresee” a cumulative affect on the industries which will extremely heighten the impacts and any economic analysis of cost/benefit.

In addition, the cumulative impacts of MBSD go even further and are not addressed. As noted in our organization’s draft EIS comments and reinforced by official government resolution from Cameron County Government, Texas, the EIS in no way addresses the significant concerns of economic impact to other jurisdictions of the Gulf Coast. For example in the shrimping industry, longstanding and prevailing science from NOAA recognizes the westward migration of shrimp from Barataria Basin which becomes a significant portion of Texas’ shrimping economic gains. On last analysis in our partnership with Texas Shrimp Association and forwarded to Texas State Government, a cumulative loss of approximately \$150 million annually is possible once decimation of shrimp takes hold in Barataria Basin. As the EIS itself points out, this would commence at the “...onset of operations.”

In addition, an evaluation of Mississippi economic losses and Alabama’s seafood processing and distribution economic losses, must be undertaken to get a true picture of any cost/benefit analysis for the MBSD.

b. Marine Mammal Protection Act waiver

Section 20201 of Public Law 115-123 granted MBSD and two other diversion projects in Louisiana a waiver to the Marine Mammal Protection Act (16 USC 1361 et seq, as amended). However, this waiver, as worded, was granted pursuant to section 101(a)(3)(A) which solely directed a waiver to the “takings” portion of the Act.

While operation of the MBSD is now authorized to eliminate approximately 97% of the bottlenose dolphin population in Barataria Basin (Thomas et al. 2022), **our organization and our partners fully assert that the granted “takings” waiver in no way negates a proper environmental review of indirect and cumulative impacts of eliminating the top species in the basin.** Coupled with the other species destruction cited in the EIS itself, these indirect and cumulative impacts will inarguably have food chain implications – possibly Gulf-wide given that Barataria is one of the largest producing estuaries in the *world*, not just the Gulf region.

In addition, the elimination of nearly the entirety of the dolphin population will make monitoring of the estuary’s health from polluted “forever chemicals,” etc, extremely difficult. Dolphins are long noted to be ecosystem sentinels and biological repositories of dangerous elevations of harmful substances (Wells et al. 2004) which will surely intrude into the basin once operation of MBSD commences.

B. OBJECTIVITY OF THE TPC

Our organization wishes to voice our concerns officially for the Administrative Record over the possible non-objectivity of the TPC. While certainly many public officials go on to private sector engagements, in this extremely controversial and unprecedented experiment being considered for permit, concerns must be raised in relation to this particular TPC.

The MOU for the TPC was initiated in 2017 reflecting no organizational conflict of interest (OCI) in the required Appendix C. The current President of the TPC, Johnny Bradberry, joined the TPC in January, 2019. During the interim period between the MOU and his ascendance to President of the TPC, Mr. Bradberry served as Chairman of the Louisiana Coastal Protection and Restoration Authority (CPRA) – the applicant.

During his tenure as Chairman of the applicant agency in 2018, Mr. Bradberry was a stout advocate of the MBSD project, even taking the unprecedented step of publicly advising a Louisiana Parish President, acting under Plaquemines Parish Ordinance, that funding for other much-needed coastal projects would be withheld by the CPRA if his Parish’s opposition to MBSD procedures then underway didn’t cease. Mr. Bradberry even went further and had the CPRA Board pass an official resolution memorializing the threatened funding removal.

While objectivity in the EIS process for MBSD can certainly be maintained even with the above related facts, our organization would be remiss in not raising these concerns in our official comments for the record.

C. MITIGATION FOR ADVERSE IMPACTS

Even with the inadequate analysis of harmful impacts outlined in the presented final EIS, there is no reasonable argument that the currently proposed mitigation measures by the applicant would suffice. Monetarily for commercial fisheries impacts, the amount is nothing less than laughable, especially given the fact that the applicant agency itself bemoaned the Mississippi River's affects in 2019 as they helped Louisiana push for a \$258 Million Federally-declared Fisheries Disaster for the 123 day Bonnet Carre Spillway opening event which occurred in a basin that is nowhere near as productive as the Barataria basin. Most troubling is some of the proposals by the applicant for mitigation in commercial fisheries – they constitute nothing less than slight-of-hand sound bites to citizens unfamiliar with technical aspects of the industries in an effort to garner continued public support for MBSD. Louisiana's own fisheries-related Task Forces and Seafood Marketing and Promotion Board have long advised the CPRA that the Shrimp and Oyster industries will not be able to return from the devastating blow of MBSD's operations.

As for mitigation and monitoring of dolphins required under the MMPA waiver granted for MBSD, the proposed measures are nonsensical – a count of carcasses does nothing to mitigate affects, and any rehabilitation of the few dolphins that remain will not be fruitful given the destruction of the habitat to which they can't return.

D. PURPOSE AND NEED

The stated purpose of MBSD begins with the crucial words “***...to restore for injuries caused by the DWH oil spill...***”. The rest of the purpose statement becomes irrelevant on that basis, especially with the stated need of MBSD further reinforcing the project's necessity to “***...help restore habitat and ecosystem services injured...as a result of the DWH oil spill.***” The science contained in the EIS clearly outlines damages to resources, wetlands and dolphins that are *exactly* consistent with damages caused by the Deep Water Horizon (DWH) oil spill. Given this fact, MBSD in no way meets its stated purpose and need. This fact also raises questions of proper funding for project delivery and mitigation given the provisions of the Oil Pollution Act of 1990 and associated federal court settlements for the DWH spill.

E. ENVIRONMENTAL JUSTICE

The EIS makes clear the permanent economic hardship on underserved populations and low income communities in direct violation of Executive Order 12898. This further strengthens the case as well that mitigation measures outlined by the applicant are woefully inadequate.

F. PROJECT ALTERNATIVE EVALUATIONS

40 CFR 1502.14 clearly states that agencies *shall* evaluate *reasonable alternatives*. It is our organization's assertion that the evaluation of alternatives failed NEPA directives. The entire reasoning behind alternatives review has the underlying basic principles of NEPA – 1) least harm to the environment, and; 2) best public interest. With “diversions”

as a singular focus for “purpose,” all other reasonable alternatives to sustain and/or create wetlands were immediately discounted. “Diversions” should not and can not be the singularly-focused purpose with all that is at stake for the environment and public interest as outlined in the final EIS science itself.

Our organization adamantly asserts that other alternatives such as dredging must be evaluated, especially giving the fact that the COE itself through the BUDMAT program has produced far more wetlands in far less time with far less monetary and environmental cost. It is our assertion that no argument can be given to discount proven alternatives given the principles environmental and public best interest.

Our organization appreciates the opportunity to have reviewed the final EIS and hopes that the CEMVN consider these comments carefully before making a final decision regarding the MBSD project permit.

Sincerely,
George Cavignac
CEO
Gulf Coast Resource Coalition

References

Thomas, L., T.A. Marques, C. Booth, R. Takeshita, and L.H. Schwacke. 2022. Model predicts catastrophic decline of common bottlenose dolphin (*Tursiops truncatus*) population under proposed land restoration project in Barataria Bay, Louisiana, USA. *Marine Mammal Science* 2022:1-11

Well, R.S., H.L. Rhinehart, L.J. Hansen, J.C. Sweeney, F.I. Townsend, R. Stone, D.R. Casper, M.D. Scott, A.A. Hohn, and T.K. Rowles. 2004. Bottlenose dolphins as marine ecosystem sentinels: Developing a health monitoring system. *EcoHealth* 2004:1, 246-254

OCT 26 2022

October 16, 2022

I am writing to express my concern and opposition about the Mid-Barataria sediment diversion project. Everyone agrees that actions should be taken to do what we can to protect and improve Louisiana's coastline. Dredging has shown to build back land in specified areas in a much shorter time. This diversion project will devastate ALL FISHERIES and experts predict that a POSSIBLE 20 square miles of marsh land could develop over 50 years. This is not a chance I am willing to take while destroying families livings and cultures.

DREDGE DON'T DIVERT

A handwritten signature in cursive script, appearing to read "James Squire".

OCT 26 2022

October 16, 2022

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DREDGE DON'T DIVERT

Nedjyho Lepout

OCT 26 2022

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DREDGE DON'T DIVERT

Nick Bezmohamed

OCT 26 2022

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DREDGE DON'T DIVERT

Ruby Michelle Navarre

OCT 26 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

regards to the Mid-Barataria sediment Diversion.

I strongly object to the Mid- Barataria Sediment Diversion and ask the U.S. corps of Engineers to reject the permit.

DEPEND on the Barataria Estuary and its resources to make a living. The proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely

A handwritten signature in black ink, appearing to read "Mark B. Shelly", written over a horizontal line.

OCT 26 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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I DEPEND on the Barataria Estuary and its resources to make a living as a

Oyster Dealer + OWNER

The

proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely

Monty B. Shelly

OCT 26 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, 70118

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I DEPEND on the Barataria Estuary and its resources to make a living as a

Oyster Processor

The
proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely

A handwritten signature in black ink, consisting of a stylized, cursive 'L' shape followed by a horizontal line.

OCT 26 2022

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7400 Leake Avenue

New Orleans, 70118

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Sincerely

A handwritten signature in black ink, appearing to be a stylized 'R' followed by a horizontal line and a small flourish.

OCT 26 2022

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Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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I DEPEND on the Barataria Estuary and its resources to make a living as a

Oyster Fisherman

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Sincerely



OCT 26 2022

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Sincerely

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OCT 26 2022

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Attn: Regulatory Division, MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, 70118

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I DEPEND on the Barataria Estuary and its resources to make a living as a

Employee Oyster Processing Plant The
proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely,

A handwritten signature in black ink, appearing to read "James Collier", written over a horizontal line.

OCT 26 2022

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7400 Leake Avenue

New Orleans, 70118

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Sincerely

A handwritten signature in black ink, appearing to be "J. L. M.", written over a horizontal line.

OCT 26 2022

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Attn: Regulatory Division, MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, 70118

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Oyster Processor - employee

The proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely,

A handwritten signature in black ink, appearing to be "J. Long", written over a horizontal line.

Letter ID: 244097

Cooksey, William
Parsons, TN 38363

As a sportsman from Tennessee, I won't presume to talk about the coastal land loss crisis in Louisiana because you are well aware of the problem. I also won't talk about the solutions in the Coastal Master plan, such as the Mid-Barataria Sediment Diversion, because they've been studied for decades, and science supports this project.

I would like to briefly explain what your coastal marsh means to this nonresident hunter and angler. South Louisiana is iconic to those of us who love to fish and hunt waterfowl. It's a place all dream of experiencing. I've been blessed to spend many days fishing for redfish and speckled trout, and I've cherished every Louisiana marsh sunrise I've seen from a duck blind. The thought of future generations not having those opportunities is appalling, but my concern doesn't end there. Louisiana is of critical importance to wintering waterfowl for both the Central and Mississippi Flyways, and that wintering habitat is suffering from many different stressors, but primary amongst them is coastal land loss.

You see, not only is Louisiana important to me as a destination, it's also important to the ducks and geese so many of us pursue up and down the flyways. This is a national crisis we all share.

Thanks for your time.

Letter ID: 244082

Cooper, Acy III
LA 70091

The mid barataria sediment diversion should be cancelled. Dredgeing builds real land and is less harmful to the ecosystem. This diversion WILL kill our seafood industry along with our communities. Mid barataria sediment diversion is the worst possible solution. Too many negative impacts to justify your plans



LOUISIANA SHRIMP ASSOCIATION

Grand Isle La. 70358

WRITTEN COMMENTS REGARDING CEMVN-ODR-E, MVN-2012-2806-EOO

October 16, 2022

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

The Louisiana Shrimp Association (LSA) is a nonprofit organization formed by commercial shrimpers throughout the State of Louisiana. Membership consists of commercial shrimp fisherman, wholesale and retail seafood dealers, statewide merchants, and individuals concerned about issues related to domestic seafood and shrimp production, as well as the preservation of the culture and heritage of the traditional Louisiana shrimper.

As President of Louisiana Shrimp Association (LSA) I am submitting comments on behalf of the members of Louisiana Shrimp Association.

LSA's members OPPOSE the Mid-Barataria Sediment Diversion (MBSD).

We do agree that it is a necessity to preserve our communities through coastal restoration, but we do not believe the way to do this is with a large-scale diversion such as the MBSD. The CPRA does not list dredging as an alternative method for this project as suggested by many concerned citizens throughout the state. The CPRA has totally ignored this suggestion because as they stated something like "it just won't work". As fishermen of the Louisiana Coast we have witnessed what dredging and piping sediment can create along our coast in land building. We are highly in favor of dredging and building this project area with sediment. We are in favor of coastal restoration 100%. We are NOT in favor of the MBSD.

After viewing the "EIS", the CPRA has proved our argument.

The MBSD will infiltrate our estuaries with polluted freshwater /hypoxia, this same polluted water that has formed the hypoxic zone/dead zone in the Gulf of Mexico. This polluted river water continuously flowing into our estuaries will have a devastating effect to marine life throughout coastal Louisiana. The direct effect of hypoxia includes fish kills, which depletes

valuable fisheries and disrupt ecosystems. This is a proven fact but despite it being proven, the CPRA and other agencies involved demand that this MBSD project will be created.

The truth is that the proposed project will consist of highly polluted hypoxic water that will continuously flow into our estuaries killing our marine life.

The state of Louisiana was declared a fishery disaster in 2019 of \$258 million due to the opening of the Bonnet Carre Spillway being opened for 123 days and this will be the same polluted hypoxic water.

The shrimp industry in Louisiana alone accounts for 15,000 jobs and an annual impact of \$1.3 billion. The MBSD EIS presents a summary of the *“average annual shrimp fishing activity in the Project area by area fished between 2014 and 2018. As shown, the total average activity for shrimp caught in the Project area was approximately 30.6million pounds, with a value of \$41.5 million. During 2014 to 2018, shrimp activity in the Project area accounted for 32 percent of total Louisiana shrimp landings by weight and 30 percent of total value from shrimp landings in Louisiana.”*

The Barataria Basin is not only vital for shrimp, but it is also habitat for:

- *Finfish-the top three saltwater finfish species (excluding menhaden) landed commercially in the Project area include black drum, red mullet and sheepshead: a value of \$1.8 million between 2014 and 2018 in the project area. There are many other species of finfish in this basin that depend greatly on these estuaries.*
- *Oysters - “a value of \$32,680,076 between 2014 and 2018 in the project area”*
- *Crabs – “a value of \$12.1 million between 2014 and 2018 in the project area”*
- *Dolphins- A Protected Species: A new National Marine Fisheries Service study indicates the low salinity levels caused by the proposed **Mid-Barataria Sediment Diversion could result in a 34% loss of dolphins in Barataria bay. A waiver was requested for the Marine Mammal Protection Act: <https://www.mmc.gov/wp-content/uploads/18-03-12-Oliver-Gulf-Restoration-Waiver.pdf>***

This Basin as it is today is vital for our economy, vital to our communities and vital to the fishermen that depend on it greatly to survive. The average age of a commercial fisherman today is 50 plus years old. As it stands today, the environment and climate dictates where we make our livings. When the river is high, we now must travel to the east or to the west which is Barataria Basin and Breton Sound. Without these options, we will not be able to work. Most inshore fishing vessels are not large enough or equipped to go any further.

The Barataria Basin alone is one of the most productive estuaries in the world. This EIS describes the future affects due to the MBSD as “severe, permanent adverse impacts on the natural environment”.

This proposed “man-made disaster”; the Mid-Barataria Sediment Diversion is unacceptable. We strongly oppose any project that will disrupt our livelihood, our culture and our way of life.

Sincerely,

Acy J Cooper Jr

Acy J. Cooper Jr.
President
Louisiana Shrimp Association



LOUISIANA SHRIMP ASSOCIATION

Grand Isle La. 70358

WRITTEN COMMENTS REGARDING CEMVN-ODR-E, MVN-2012-2806-EOO

October 16, 2022

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

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Sincerely,

Acy J Cooper Jr

Acy J. Cooper Jr.
President
Louisiana Shrimp Association



LOUISIANA SHRIMP ASSOCIATION

Acy J. Cooper, Jr., President

October 20, 2022

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

**Re: Request for Extension of Comment Period – Permit Application Number:
MVN-2012-2806-EOO (Section 10/404) 2013**

Dear:

Louisiana's seafood industry employs many residents engaged in commercial fishing, harvesting, processing and distribution, thousands of whom are engaged as shrimpers in the waters of the Gulf of Mexico. I am writing today to encourage the U.S. Army Corps of Engineers to extend its public comment period by 60 or more days to allow more time for review of the proposed permit notice.

All parties acknowledge that the Mid Barataria Sediment Diversion project will have numerous long-term impacts on the waters and environment of coastal Louisiana and on anyone who earns their livelihoods in and along the shores of the Gulf.

Understandably, the permit notice is highly detailed and complex. It deserves and in fact demands, the highest level of public scrutiny possible, and such scrutiny can only be obtained through a more extensive review and comment period.

Your consideration of such a request is greatly appreciated. Louisiana's shrimping families look forward to a positive response to this request.

Sincerely,

A handwritten signature in black ink, which appears to read "Acy J. Cooper Jr." The signature is written in a cursive, flowing style.

Acy Cooper
President
Louisiana Shrimp Association

Letter ID: 244127

Woodland Plantation, LLC / Country Inn

Creppel, Foster
port sulphur, LA 70083

Distributary - a distributary channel is a stream that branches off and flows away from a mainstream channel. Distributaries are a common feature of river deltas.

Diversion - the fact of something being sent somewhere different from where it was originally intended to go. Something that takes your attention away from something else.

Turning something aside from its course.

I'm not sure why we labeled this project the Mid Barataria Diversion, but the Bayou of Plaquemines or Mid Barataria Bayou would have been better and less alarming names.

I know, water under the bridge but we have to educate to win approval.

My parents were living in Crown Point La when I was born in 1958. I grew up hunting and fishing out of Crown Point and Lafitte, along bayou de families, formerly little bayou Barataria and bayou Barataria. I don't remember ever seeing a dolphin in Lafitte, but we caught green trout, sac a lait, crawfish, blue crab and shot duck and snipe. We had to take a boat to Manilla Village or St. Mary's Point to catch trout.

Our coast is now on life support.

However, with freshwater, mineral and organic sediment, plant life and decay, cypress forests, oak ridges, clam shell reefs and last but not least, oysters, banks of them on the outside we may yet save this estuary that we all love. For the life of me I don't know why we haven't brought the oyster growers in to help us in our restoration attempts. Buy their leases back and pay them to build oyster reefs as sanctuaries, not for consumption but protection for our coast. Living reefs that once protected us from storm surges and filtered our water are one of the most important structures of our coast.

People are afraid of change, but things are changing all around us on this vanishing Delta. When my parents and I bought Woodland almost 26 years ago there was a dynamic, thriving community south of Port Sulphur. Nairn, Empire, Buras and Venice were bustling communities, now they are ghost towns. Many of the prominent families have left and most of the small family-owned businesses have now closed and or moved.

Without this project I'm not optimistic that the peninsula known as Plaquemines Parish will survive. I support the Mid Barataria Sediment Diversion and the power of the river to build and sustain land. Rivers and their distributaries have been building land since the dinosaurs roamed the earth and they will be building land when we are gone.

Letter ID: 244103

Coalition to Restore Coastal Louisiana

Cryar, Fernell

Mandeville, LA 70471

I am strongly in favor of the Mid-Barataria Sediment Diversion Project. Louisiana cannot continue to lose land. This land loss has been going on since the 1930's and is just getting worse. Land loss effects so much, lack of hurricane protection, breeding areas for seafood, salt water intrusion. All of this makes life difficult for people living near the coast and for those who make a living harvesting seafood. We are already behind in slowing this land loss. We must start now and continue to make land.

Letter ID: 244075

Delahoussaye, Gary
New Orleans, LA 70124

My name is Gary Delahoussaye. I AM IN TOTAL SUPPORT OF MOVING FORWARD WITH THE PROJECT. I have been an outdoorsman all of my life. Myself and some friends have a camp down in Venice LA. I have personally witnessed the incredible erosion along the wetlands from Buras south over the past 40+ years. I strongly believe that we have to take every possible option to slow down the salt water intrusion -- everywhere south of New Orleans.

I know this project will cause certain segments of our population heartache and economic challenges but I also believe that if we do nothing we will NOT have any marsh left in 50 years. Please proceed at your earliest possible time.

Very sincerely,

Gary J. Delahoussaye

Letter ID: 244122

Dijkhuizen, Jon
New Orleans, LA 70179

Dear Colonel Jones,

I love Louisiana. I moved to New Orleans from the Netherlands almost 28 years ago and cannot imagine living anywhere else. I watched New Orleans flood during Katrina and although we rebuilt overtime, we will never get back everything that was lost. I understand firsthand the consequences of inaction when it comes to coastal restoration.

I grew up in a country where water management is second nature. To keep what you love and to keep living in places like Southern Louisiana and Holland, bold action, ingenuity and working with nature is a necessity. I believe that decades of science is telling us that the Mid-Barataria Sediment Diversion is not only the right thing to do for protecting our coastal communities but also the only way that we can once again have a functional and productive delta.

I built my business, life and home here and want it to stay here not only for myself but for future generations.

I support the applicant's preferred alternative and fully support the Mid-Barataria Sediment Diversion project. This project will create a healthy, resilient habitat for wildlife and people that are otherwise facing ecosystem collapse and becoming increasingly vulnerable to climate impacts like sea level rise and intense hurricanes.

Thank you,
Jon Dijkhuizen, New Orleans, LA

Letter ID: 244139

SouthWings Inc. / Conservation Nonprofit

Dowling, Meredith
Asheville, NC 28801

As a former Louisiana resident and the founding director of SouthWings' Gulf Coast Conservation Flight Program, I have seen firsthand how coastal land loss is devastating communities and ecosystems, especially those south of New Orleans along the Mississippi River. From our volunteer pilots' small planes, I have seen with my own eyes the "tattered cloth" appearance of wetlands that are collapsing because, among the many contributing factors, they are cut off from their natural flow of sediment from the Mississippi River's waters and are also scarred with lengthy canals dredged by oil and gas companies that have so often failed to follow the terms of their permits, which typically require backfilling these canals to reduce the hydrological damage to these critically important wetlands.

In the years to come, everyone in coastal Louisiana stands to lose significantly more due to relative sea level rise and the stronger storms that our changing climate brings with it. We must confront these serious threats with bold, innovative solutions. There is no viable "do nothing" option; Louisiana's coast is changing no matter what. If we do nothing, we will face even more devastating land loss and fisheries collapse across our coast. With this in mind, it is essential that the process make whole those residents who will be negatively impacted by these projects and ensure that those for whom this inevitable coastal change is accelerated are supported in transitioning their livelihoods in a just and sustainable manner.

The Mid-Barataria Sediment Diversion, studied for 40 years, is a cornerstone of Louisiana's Coastal Master Plan. This sediment diversion project will use the power of the Mississippi River and its rich sediment to build and sustain land, working in synergy with other projects to protect our coast, its people, wildlife, and economies in a way that nothing else can.

Meredith Dowling, MSES, MPA
Executive Director
SouthWings Inc.

Letter ID: 244086

Drury, Jeff
Belle Chasse, LA 70037-1931

I'm a lifelong shrimper I vehemently oppose this diversion because it will cripple the commercial fishing industry because of the effects of all the fresh water dumped into our estuary system. Another reason for being against this diversion is I have worked around the delta area of the river shrimping and we are suffering terrible erosion with natural diversions ie (Tiger Pass) I believe dredging is the more effective way to protect our coast. Thanks

Letter ID: 244130

The Center for Planning Excellence / non-profit, non-governmental

Dubinin, Jeannette

BATON ROUGE, LA 70802

We commend the CPRA and USACE for investing significant funding for community-level mitigation, as the coastal crisis and climate change continue to have an impact on our working coast and beyond. The communities in the Barataria Basin are already experiencing the impacts of land loss, sea level rise, and increased storm risks. These risks will only increase in the future. And while the Mid-Barataria Sediment Diversion will have many positive impacts for the region, it will also exacerbate flooding in certain communities. We appreciate the CPRA for working with the affected communities to identify mitigation strategies to meet their needs and for supporting those strategies with the funding to implement them.

Letter ID: 244161

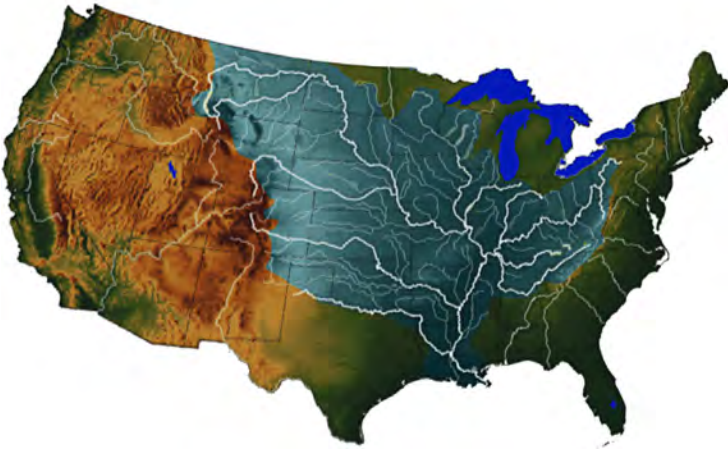
Big River Coalition / Maritime Trade Association

Duffy, Sean

Kenner, LA 70065

The thirty day comment period was too short and of course again the document is created to be confusing. The USACE must remember to focus on the negative impacts this project will have a maritime commerce on its #1 Navigation Mission. Protect commerce and require sufficient Compensatory Mitigation to address additional dredging costs attributable to the proposed diversion. Remember the the disaster created in the Pilottown Anchorage by the first Sediment Diversion, the West Bay Sediment Diversion.

BIG RIVER COALITION



Sean M. Duffy, Sr.
Executive Director
[REDACTED]
Kenner, LA 70065

Direct Line: [REDACTED]
[REDACTED]

October 24, 2022

Department of the Army
U.S. Army Corps of Engineers
New Orleans District
Attn: Regulatory Division RGE (MVN-2012-2806-EOO)
7400 Leake Avenue
New Orleans, LA 70118

COMMENTS ON MID-BARATARIA SEDIMENT DIVERSION
Final Environmental Impact Statement
MVN 2012-2806-EOO (Section 10/404)
2013-0634 (Section 408)

U.S. Army Corps of Engineers (New Orleans District),

Please accept these comments on behalf of the Big River Coalition to continue and document concerns about the lack of compensatory mitigation to maintain the Mississippi River Ship Channel from the negative impacts of the proposed Mid-Barataria Sediment Diversion. The impact of this project will be detrimental to maritime commerce on the nation's busiest and most-prolific navigation channel for decades to come. The Big River Coalition requests that the U.S. Army Corps of Engineers (USACE) secure financial mitigation equivalent to the negative impact on the USACE's #1 navigation project as federally authorized Mississippi River Ship Channel. The increased cost of dredging from Mile 60.7 Above Head of Passes (AHP) to the end of Southwest Pass Mile 20 Below Head of Passes over the next 50 years was not listed in either the Draft or Final Environmental Impact Study.

The Big River Coalition (BRC) was created in Fiscal Year 2011 in response to the announcement by the Commander of the United States Army Corps of Engineers' (USACE) Mississippi Valley Division that channel maintenance on the Mississippi River Ship Channel, Gulf to Baton Rouge (Louisiana) would be limited by the dedicated funding (Operations and Maintenance [O&M] budget). Prior to this position change the Mississippi River Ship Channel received preferential treatment and often received additional funding from other USACE projects. After the 1989 grounding of the M/V MARSHAL KONYEV (Pilottown) that virtually closed the Ship Channel to all traffic, the USACE's Headquarters announced in a position statement that it would maintain the nation's most critical navigation channel. The BRC originally focused on obtaining additional funding to supplement the shortfall in the Corps' O&M budget, to strive to establish a legislative firewall around the Harbor Maintenance Trust Fund and to represent members of the Mississippi River navigation industry in matters related to coastal restoration. As our membership grew and continued to make effective progress on these initiatives, members supported the Coalition's commitment to actively advocate for the deepening of the Mississippi River Ship Channel Gulf to Baton Rouge to 50 feet.

The last six months have been perhaps more challenging than any time in our navigation history where commerce on the Mississippi River Ship Channel is being negatively impacted by more projects and conditions at one ⁵⁹me than

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ever before. The list of projects and closures to the Ship Channel from Baton Rouge to the Gulf of Mexico have included projects to install fiber optic cables, removal pipelines from below the Ship Channel, provide bank stability with the USACE installing revetment mats, the construction of the salt water sill – due to historic low water conditions (Please note later mention that the chosen models for predictive impacts fail to produce the salt water wedge – that in itself speaks volumes for the concern from the navigation industry), channel maintenance dredging, dredging in the Hopper Dredge Disposal Area and each project involved challenges for navigation often requiring complete channel closures or at least channel transit restrictions. In the midst of these operations the Final Environmental Impact Statement for the Mid-Barataria Sediment Diversion was filed with a 30-day comment period, the comment period was too short to allow a complete review of the Final EIS Designed to “assess the potential environmental impacts associated with the proposed Project.” While also noting that the previous comment periods were extended on multiple occasions. The salt water sill construction project alone indicates the real dangers in diverting flow from the mainline Mississippi River thalweg and the potential negative impacts of low flow on America’s River, including the balance of fresh water from the River versus the impacts of sea level rise and salt water. Many of the concerns related to maintaining freshwater in the Mississippi River are similar to principles pioneered by James Buchanan Eads to keep the flow in the river to promote the river’s mechanisms to self-scour and are also noted in the famous report done by Rafael G. Kazman and David Johnson of Louisiana State University that discussed the impacts of the Mississippi River were to change course. This report and the potential for disaster were related to an avulsion (hydrologic mechanism often catastrophic of a river changing course) almost forming in the area of the Old River Control Structure that occurred during the 1973 flood on the Mississippi River. The report focused on numerous problems and the economic and environmental disaster and went on to make recommendations for the City of New Orleans and Baton Rouge to seek alternate drinking water sources. Please remember the Mississippi River is below sea level to approximately Vidalia, Louisiana (western bank) and Natchez, Mississippi (eastern bank), if the river were to change course the former Mississippi River would be filled with salt water from the Gulf of Mexico to the avulsion. In their report Kazman and Johnson made numerous recommendations about major cities below the Old River structures to seek and prepare for alternate freshwater sources.

The Mississippi River is rapidly changing and during this historic low water period, it is evident that few are paying proper attention to these serious changes, but hopefully the following will shed some light on concerns from the navigation industry that the citizens depending on the Mississippi River should be more made aware of. The purpose of the salt water sill that has just been constructed near Belle Chasse (LA) at Mile 63.8 AHP is indeed one to prevent the salt water wedge from reaching the freshwater intakes for the City of New Orleans. Due to the low water conditions across the Mississippi River and Tributaries the navigation industry is being impacted by too little water, statistically from a project requirement the USACE builds a salt water sill about every ten years, the last time was in 2012 a year after the Bonnet Carré was operated during the severe Flood of 2011.

The navigation industry has been actively engaged with the U.S. Army Corps of Engineers fighting an extended low water challenge to protect the freshwater supply for the city of New Orleans. There have been project related channel closures from Baton Rouge to the Gulf of Mexico besides the construction of the saltwater sill, including indicators that should be of a critical concern to those who depend on maritime commerce within the Mississippi River Basin and the state of Louisiana. This is not my father’s Mississippi River, there are dynamic changes ongoing that are being missed, indicators that the most critical water source, the most important navigation channel is dynamically changing. Long held standards and indicators are no longer in the predictable pattern, over the last few years the USACE has had to dredge higher and higher up in the birds’-foot delta, maintenance dredging on the Ship Channel above Venice (Mile 11 Above Head of Passes) is a new phenomenon and then this year dredging was required in the Ship Channel in an area at Mile 22 AHP known as Neptune Pass – an outlet that on May 24, 2022 was diverting 118,000 cubic feet per second (cfs) and a few miles below it at Fort St. Phillip another 100,000 cfs was being lost. The navigation industry and much of a nation’s economics depend on the Mississippi River as an economic superhighway and the base level to maintain commerce appears to be an unknown?

On the day of the following flow measurements at Belle Chasse (LA) below about 20 miles downriver from New Orleans was 776,000 cfs.

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Mississippi River Discharge Cubic Feet Per Second on May 24, 2022:

Belle Chasse:	776,000	cfs total Mississippi River flow
Bohemia SCS:	- 25,000	cfs lost at the failed Bohemia Salinity Control Structure (Mardi Gras Pass)
Ground H2O:	- 25,000	cfs lost to groundwater
Ostrica Lock:	- 13, 400	cfs lost to usage at Ostrica Lock
Neptune Pass:	- 118,000	cfs lost at break/avulsion – requires action by USACE to limit
Fort St. Phillip:	- 100,000	cfs lost at another series of breaks
Baptiste Collette:	- 47,000	cfs lost out of shallow-draft channel
Sediment Diversion:	- 31,000	cfs lost out of West Bay Sediment Diversion
Cubits Gap:	- 56,000	cfs lost flow historic induced avulsion
Pass A' Loutre	- 61,378	cfs lost flow to the east at the Head of Passes
Southwest Pass	286,222	cfs

In this scenario with a flow at Belle Chasse of more than 450,000 cfs the Mid-Barataria Sediment Diversion would have also been operated and diverted at least another 25,000 cfs. Although it is hard to tell what the flow levels would be based on the description as reproduced in the Final EIS for the Proposed Mid -Barataria Sediment Diversion:

“When the Mississippi River flows exceed 450,000 cfs and the gates are opened fully, the diversion flow would increase to approximately 25,000 cfs, and, thereafter, flows would increase proportionally as the river flow increases. This ramp would continue up to a maximum diversion capacity flow of 75,000 cfs when the Mississippi River reaches a flow of 1 million cfs.”

An approximation would be that the Diversion if constructed would be diverting more than 50,000 cfs reducing the flow at the Head of Passes or entrance to Southwest Pass to 236,000 cfs. In doing my best to read over the hundreds of pages in all the Mid-Barataria Sediment Diversion, I see nothing that mentions the Coastal Protection and Restoration Authority has studied what flow must be maintained in the Ship Channel to maintain both commerce and to repel salt water. Clearly the loss of stream power along the Mississippi River is troubling and already impacting the navigation industry and the USACE’s ability and cost to maintain the nation’s most prolific navigation channel. There are other concerns to be noted in the above representing a serious loss of stream power in the mainline (thalweg) of the Mississippi River below New Orleans, recently the Big River Coalition was included in a gathering of Experts to discuss the future of the Mississippi River Delta by the National Academy of Sciences and there are major concerns being addressed about the impacts of sea level rise on the Mississippi River. In fact, if you refer back to the list above please note the areas listed in bold are either avulsions or manmade breaks, for the record the Bohemia Salinity Control Structure is the name of the failed USACE Salinity Control Structure that failed during the flood of 2011 and many people prefer to call Mardi Gras Pass.

The increase in avulsions over the last decade could indeed be related to the impact of sea level rise and this country depends on the economics of the Mississippi River and there are no indications that any state or federal agency has taken a modern day comprehensive and technological sound look at the scenarios referenced above. The Big River Coalition must express its concern that no one seems to be looking at the big picture, the big picture here refers to what flow of the river must be maintained to provide drinking water to major river cities in Louisiana, what flow must be maintained to promote maritime commerce and protect the most important river in our country. More than 60 percent of the nation’s agricultural exports are shipped downriver from the 350,000 million acres of high-yield agricultural lands in our nation’s interior.

The Mississippi River and Tributaries connect more miles of navigable waterways than the rest of the world combined and is the only major navigable river connected to a large agricultural zone, yes, we feed the world out of the Mississippi River. The information above was shared with the Mississippi River Commission earlier this year and as a navigation industry representative I must admit to being concerned that no one seems to be able to answer the obvious question. What flow must be maintained for commerce to have enough water to flow unimpeded?

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The U.S. Coast Guard (USCG) recently engaged along with the USACE on a proposed adjustment for a permit modification for a dock at the upper limit of the Ship Channel at Baton Rouge and because of the concerns highlighted by the shallow-draft industry agreed to perform a National Safety Risk Assessment. The Mid-Barataria Sediment Diversion because of the location will have a much greater impact on navigational safety of both shallow- and deep-draft vessels transits, dire warnings and grave concerns expressed by the navigation industry have to this point have not been taken seriously by either the CPRA or USACE. Although a National Safety Risk Assessment is indeed warranted, the Coalition is aware that the USACE was contacted by several dozen members of Congress who expressed their concerns which led to the agreement that the USGC would conduct a Safety Risk Assessment at the CEMUS Dock.

There is no doubt that both during the construction and operation of the proposed diversion that the impact and induced shoaling of the MBSD will have a much greater impact on the navigation industry, it is important here to remember the economic impacts of maritime commerce. The CPRA acknowledges the diversion project will result in the loss of 3,000 acres in the environmentally sensitive birds'-foot delta that could completely erase Southwest Pass and the critical protection offered by the beneficial use of dredged material that protects commerce in this exposed area of our state. As the National Academy of Science indicates the cost of maintaining the nation's river will be challenged due to the impacts of sea level rise. The design of Southwest Pass is hydrologically sound and is still based on the design of James Buchanan Eads who based his future on the ability to control the flow of the river to be self-maintaining, direct flow serves to scour out the channel. The problems associated with the loss of flow are real and are evident in the operations of the lower Ship Channel (Venice to the Gulf of Mexico). Please remember that since 2009 the USACE with the cooperation from the navigation industry, pilots, dredge contractors, Louisiana Department of Wildlife and Fisheries and U.S. Fish and Wildlife Service have restored more than 14,000 acres in the birds-foot delta. The BRC continues to request that the if this Diversion project is approved that the USACE requires the CPRA to provide sufficient Compensatory Mitigation to maintain the balance of the known negative impacts this project will have on the national economy.

The following quotes are reproduced and shared due to their relevance from research by Frances Eleanor Dunn and Stephen Darby and an article titled: *River deltas are 'drowning' threatening hundreds of millions of people*:

"But many of the world's deltas are now facing an existential crisis. Sea levels are rising as a result of climate change, while deltas are themselves sinking, and together this means the relative sea level is rising extra fast."

And

"In these circumstances, only the continued deposition of sediment on deltas can keep them from 'drowning.'"

This proposed diversion project remains counter intuitive when across the world leaders in water management are concerned about the negative impact that sea level rise is currently having and will continue to cause in the future on major river deltas around the world. The diversion of flow from the river is known to increase shoaling and to further allow the salt water from the Gulf of Mexico to enter as if being sucked in by a giant natural straw vacuum, the same conduit for freshwater will reverse and pull in salt water from the Gulf of Mexico with catastrophic impacts if the main low flow of the Mississippi River is not kept within the banks and if avulsions are not properly managed or closed.

The Final EIS does briefly discuss sea level rise in Chapter 4 but seems to overlook its own information, the sea level rise impacts on the diversion channel seem to be missing in spite of stating:

"Notice that the decadal sea-level rise rates and values increase per decade, indicating accelerated sea-level rise rates over the analysis period."

The Big River Coalition has reviewed the data and remains concerned that no single agency is comprehensively monitoring the changes in the river system and accurately or properly answering questions. This year we have seen dredging required in Southwest Pass with a reading on the Carrollton Gage of 3.46 feet and falling, requiring two large

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hopper dredges to dredge during low river stages to maintain Congressionally authorized channel dimensions. However, the long-held standing metric was that dredging in the area of Southwest Pass was needed when the reading on the Carrollton Gage was 10 feet and expected to continue to rise. The reduced flow in the thalweg of the Ship Channel is a dire concern of the Big River Coalition and should be to all who depend on the Mississippi River for their livelihood and drinking water.

Look no further than the saltwater wedge and recall the findings of a historic river report done after the Mississippi River almost changed course down the Atchafalaya River during the flood of 1973. The previously referenced Kazman Johnson report warned about the impact of a major avulsion on the cities of New Orleans and Baton Rouge – where the former Mississippi River would be an inland breach of the Gulf of Mexico as the flow that keeps the salt water wedge downriver is lost. The negative impact of sea level rise on the flow of the Mississippi River Ship Channel must remain a national and USACE priority.

The Big River Coalition is concerned by the negative impacts this project would have on the Mississippi River Ship Channel and that the Coastal Protection and Restoration Authority does not include any Compensatory Mitigation to address the self-reported negative impacts. The Coalition reviewed this Draft Environmental Impact Statement in detail but was unable to find any Compensatory Mitigation measures offered to counter the negative impacts the diversion would have on the Mississippi River Ship Channel. The Mississippi River Ship Channel is an economic superhighway and the proposed diversion would have negative impacts on the main line navigation channel responsible for the movement of 500 million tons of cargo on an annual basis.

The Coalition's immediate responses to this lengthy document are limited to the negative impacts on the Ship Channel and requests for the establishment of sufficient Compensatory Mitigation funding to maintain the status quo of the Ship Channel and requests both that the USACE and USCG perform a full National Safety Risk Assessment (NSRA). If the impact of one dock is worthy of such proper and detailed analysis then our government agencies should focus more comprehensively on a project that is known to have a huge and negative impact on the navigation if constructed, these impacts will hinder commerce along the nation's most important artery of trade. Therefore, a full NSRA is indeed both warranted and represents prudent action since the concerns of the navigation industry have failed to be addressed.

COMPENSATORY MITIGATION FOR THE IMPACTS TO NAVIGATION

- 1) The requirement to maintain a sufficient Picket Boat during the construction and operation of the diversion structure to protect maritime commerce, transiting vessels and the diversion structure(s) must be included. This requirement meets with protocols for the U.S. Army Corps of Engineers during the operation of the Bonnet Carré and Morganza Spillways. The picket boat requirement adds a layer of protection to assist with passing vessel traffic, in case a transiting vessel loses steerage or power. The Coalition believes that picket boat contract should be a conditional requirement for a towboat vessel to stand picket outside the diversion structure to fend off loose barges or vessels. The standard picket boat requirements for operation at Bonnet Carré Spillway include a twin-screw vessel with a minimum propulsion of 2,000 horsepower to a maximum of 5,000 horsepower with a licensed pilot and crew onboard for 24-hour operations. The requirement for the picket boat during the waterside construction and during the operation of the proposed structure for the lifetime of the project should be a regulatory requirement to protect and promote navigational safety.

“In the Mississippi River, operational impacts under the Applicant's Preferred Alternative on the existing flow of the Mississippi River would be permanent, moderate, and adverse due to the creation of cross-stream (perpendicular to the existing general downstream flow) velocity component near the proposed diversion site.”

The request for the Picket Boat would seem to match with some of the challenges for shallow-draft tows that were experienced and recorded during the vessel modeling.

“This indicates that upbound loaded slow-moving tows were vulnerable to the effects of the project intake flow.”

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- 2) The Draft Environmental Impact Statement indicates that if constructed the Mid-Barataria Sediment Diversion will lead to the loss of approximately 3,000 acres in the environmentally sensitive birds'-foot delta.

As reproduced from the Executive Summary:

“By contrast in the birdfoot delta, operation of the MBSD Project is estimated to induce approximately 3,000 acres of land loss by 2070 (a 45 percent reduction as compared to the No Action Alternative), representing permanent, moderate, adverse impacts. These impacts in the birdfoot delta may be partially abated by improving the capture of sediment that is lost to the Gulf through other targeted restoration projects.”

The Compensatory Mitigation request is for the restoration of 3,000 acres of land in the birds-foot delta, to ensure no additional land loss is attributable to the Mid-Barataria Sediment Diversion. The CPRA and state of Louisiana should actively be engaged with the navigation industry in order to work cooperatively with the USACE to protect the economic superhighway that flows through the Mississippi River Ship Channel. The bird's-foot delta is critical to maritime commerce and protecting or restoration efforts along the Mississippi River delta and Southwest Pass provides tremendous environmental benefits.

Through the beneficial use of dredged material over the last twelve years the navigation industry has worked closely with the USACE and dredge contractors to restore over 13,000 acres of land below Venice (Louisiana). In 2021 the USACE estimates it beneficially used over 30 million cubic yards of material and restored more than 2,330 acres at a significant elevation above the waterline.

- 3) The Coalition could not find any specific mention of channel maintenance dredging in the area of the proposed diversion, although it is widely agreed that diversions do incur localized shoaling. The Coalition request that the applicant detail how it will dredge and fund dredging on the Mississippi River Ship Channel in the vicinity of the Mid-Barataria Sediment Diversion.
- 4) The Big River Coalition also requests that the USACE and USCG accept the importance of the Mississippi River and perform a National Safety Risk Assessment since very little effort has been undertaken by the CPRA to provide proper vessel modeling during both the construction and operation of the proposed diversion. The BRC has repeatedly pointed out problems with the listed vessel modeling and remains gravely concerned that the negative impact on the Ship Channel will far outweigh the very limited positive impacts of the MBSD.

The information reproduced below from the Executive Summary (Page ES-8) of the Final EIS and offers alignment with the requested funding to maintain the Ship Channel in the proximity of the diversion:

“In the Mississippi River, the Project would have permanent, moderate, and adverse impacts, with general trends of increased erosion immediately upstream of the diversion and increased deposition immediately downstream of the diversion. The driving force for these impacts would be the reduced flow and consequently slower water velocity downstream of the diversion from the rerouting of river water through the diversion.”

The navigation industry requests that historic channel depths are maintained in the immediate area of the project and that compensatory mitigation with sufficient funding to maintain channel depths for the life of the project in the immediate area of the Mid-Barataria Sediment Diversion are secured. This request and legitimate concerns are more significant because the USACE does not have to dredge in the area of the Mid-Barataria Sediment Diversion and any shoaling or channel degradation in this area must be mitigated for over the life of the project.

The following comments are reproduced from noted sections and detail concerns relevant to navigation and limitations of the vessel modeling:

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EXECUTIVE SUMMARY FINAL EIS

Concerns documented in Table 2.9-1 Comparative Summary of Potential MBSD Impacts Under Each Alternative (as compared to the No Action Alternative unless Otherwise Stated) from Page 2-84:

“Cargo tonnages and marine vessels transiting the Lower Mississippi River, GIWW and Barataria Bay Waterway, and Bayou Lafourche would continue to show little or no growth.”

And

“Existing dredging trends would continue”

So, these comments are listed under the so-called No Action Alternative but fail to mention that the Mississippi River Ship Channel and Gulf Intracoastal Waterway are the number 1 and number 3 highest tonnage channels in the country. It also seems to overlook numerous facilities either already under construction or planned for future construction, while also not taking into account the increase in cruise and river cruise vessels.

In the same table the following is listed under the Column titled 75,000 cfs Alternative (Applicant’s Preferred) heading:

“Minor, permanent, adverse impacts on maintenance dredging between the proposed intake structure (RM 60.7 AHP) and Venice (RM 13 AHP) in the Mississippi River due to changes in typical shoaling patterns and locations and minor increases in dredging quantities in new point bar growth intrudes into the navigation channel.”

“Moderate, permanent, adverse impacts on maintenance dredging in the Mississippi River from Venice to the Gulf, including Head of Passes and in Southwest Pass, and in other passes carrying flow to the Gulf (for example South Pass, Tiger Pass).”

Mere acceptance of the above strongly supports the navigation industry request for sufficient Compensatory Mitigation to address the shoaling that would be induced by the Mid-Barataria Sediment Diversion project. Although we might dispute the moderate level of impact we agree with the adverse and negative impacts based on historical data.

Concerns documented from Navigation impacts 4.21.2 Overview of Modeling Impact Analysis:

Concerns documented on Page 4-767:

“The models have limitations that allow for a primary qualitative interpretation of their results. Limitations include, for example:

None of the three models reproduced the well-known saline wedge in Southwest Pass; therefore, none of their predictions of navigation channel sedimentation are considered reliable in that channel segment. Their results in Southwest Pass are considered only as part of the overall result and may underestimate actual deposition;

The Delft3D Basinwide and AdH models were not validated by comparison to observed sediment deposition rates in navigation channels; therefore, their predictions of navigation channel sedimentation are considered primarily qualitative. Further, the Delft3D Basinwide and AdH model applications did not compute dredging events during the model simulations; thus, model channels continued to accumulate sediment as if dredging were not performed. Those dredging predictions may be somewhat low as a result;”

One of the main reasons for the concerns of the navigation industry or due to the lack of Compensatory Mitigation for the CPRA to maintain the status quo of channel depths to counter the well-known impact of induced shoaling due to the response of the loss of stream power in the navigation channel. Not to mention the fact that right now, the eyes of the world are on the impact of the salt water sill that this model cannot reproduce.

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The Big River Coalition is concerned by these facts and the lack of ability for the chosen models to account for the phenomenon ongoing in the channel, we also realize that all models are only successfully predictive based on their inputs and the limits of the model explain a lot about the continued and rush period to comment on hundreds of pages of the Final EIS within a 30 days of notice when other comment periods were extended even when the original time frame was more than 60 days (extended to 90 days). Choosing to not validate the models with real time sedimentation rates is again another grave concern for the both accuracy of the chosen models and their known limitations, so major decisions made models that are not calibrated and are also unable to reproduce real world occurrences is extremely concerning.

Concerns documented from Page 4-983:

As reproduced from 4.25.21.4.1 Past, Present, and Reasonably Foreseeable Future Projects and Trends:

“The ongoing impacts on navigation from past or present projects and trends are captured in the analysis in Section 4.21 Navigation. The additional impacts of the reasonably foreseeable projects identified in the operations AOT are presented here.

The construction and operation of the Tallgrass PLT, Loading Dock on Mississippi River, and Mid-Breton Sediment Diversion would not require more than negligible increases in marine traffic on the Mississippi River during construction or operations. Therefore, the foreseeable projects would not contribute appreciably to cumulative impacts on navigation safety and efficiency of shallow-draft vessels transiting past the intake structure during diversion operations.

The Mid-Breton Sediment Diversion Project would increase erosion upstream of the Mid-Breton diversion structure and increase deposition downstream. The driving force for these changes would be reduced flow and consequently slower water velocity downstream of diversions from the rerouting of the water through the diversion. Upstream of diversions, erosion is expected to increase due to the increased water surface slope induced when the diversion is open (flowing greater than the 5,000 cfs base flow). These impacts would represent minor to moderate, permanent increases in dredging in Southwest Pass. Additional analysis of the impacts of the Mid-Breton Sediment Diversion Project will be included in the forthcoming EIS for that project.”

There are positions stated within this quote that are presented as factual but no supporting details are offered. It appears if that the CPRA is representing navigation impacts without doing a proper study or including actual navigation experts. Another reason for the requested NSARA. There are numerous flaws previously pointed out in the very limited vessel modeling although that vessel modeling did highlight problems for shallow-draft traffic which will be more impacted in the vicinity of the Mid-Barataria Sediment Diversion than deep-draft at least by the currents and cross currents, which could be negated by a Picket Boat as detailed below. However, this quote does point out documented concerns expressed by the navigation industry and the request for Compensatory Mitigation for the detrimental and increased shoaling as noted (accepted) above in Southwest Pass. We agree that the project would have a negative impact on the navigation channel above and below the chosen site.

As reproduced from 4.25.21.4.3 Overall Cumulative Impacts:

Concerns documented from Page 4-983:

“Reasonably foreseeable projects would not appreciably contribute impacts on marine traffic in the Mississippi River During Project operations. Therefore, cumulative impacts on navigation safety and efficiency in the river during operations would not appreciably differ from those impacts of the MBSD Project action alternatives alone: intermittent but permanent, moderate, and adverse impacts on the safety and efficiency of shallow-draft vessels transiting past the intake structure during operations.”

There is a lot of conjecture in this paragraph with no factual backing and the assumptions are too broad and unsubstantiated to be accepted.

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Concerns documented on Page 4-984:

“The combined cumulative impacts from operation of the MBSD Project action alternatives and operation of the foreseeable projects on dredging in the Mississippi River from Venice to the Gulf would be moderate to major, adverse, and permanent.”

The paragraph goes on to indicate again the negative impacts of increased shoaling in Southwest Pass and further down plays the costs of the negative impacts without presenting factual or verifiable information sources. The Big River Coalition challenges these points and again must insist that sufficient Compensatory Mitigation be included to reduce the known negative impact this project would have on the navigation industry.

“The EIS addresses the potential impacts from constructions and operation of the proposed MBSD Project on the environment and those resources identified during the public scoping period.”

However, the Big River Coalition is unable to locate any mitigation related to the negative impacts noted in the Draft EIS and listed below. Although again based on a limited 30-day review period we accept that we may have missed that, but request that the USACE and CPRA respond to any adjustments made to the requests for Compensatory Mitigation as previously filed and reproduced and to the request to have the U.S. Army Corps of Engineers and U.S. Coast Guard perform a National Safety Risk Assessment to fill the void by inadequate and questionable vessel modeling and to protect maritime commerce.

Concerns documented from Section 4.27 MITIGATION SUMMARY Page 4-1010:

“The avoidance, minimization, and compensatory mitigation for MBSD Project impacts described in this section are based on the understanding of anticipated impacts described in Sections 4.1 through 4.24, and summarized in Chapter 2, of this EIS.”...

However, no mention of compensatory mitigation for the admitted negative impact on the Mississippi River Ship Channel could be located in any of these sections by the undersigned after multiple searches and reading of noted sections. The Compensatory Mitigation for the navigation again seems to be completely left out, if this was missed in another please correct this information and provided details and funding amounts set aside by the CPRA as requested to maintain the nation’s highest tonnage channel. Please accept these comments as done within a very limited time frame, there are several other challenges that could not be noted but navigation depends on the status quo for the operations of the Mississippi River Ship Channel and increased maintenance costs should be assigned to the project that will hamper, hinder and jeopardize navigational safety. The above meets the definition of Compensatory Mitigation and must be attached to the project directly especially with real concerns about the lack of proper vessel modeling and no representation or demand to address the negative projects the Mid-Barataria Sediment Diversion would have.

The Big River Coalition is further concerned about this project based on the real experience with the state of Louisiana’s West Bay Sediment Diversion which is the first such Sediment Diversion and has limited positive impacts and created havoc on the Mississippi River Ship Channel. The West Bay Sediment Diversion is located at Mile 4.7 Above Head of Passes on the right descending bank (western side). The maritime industry voiced their concerns prior to the creation of that diversion, knowing that it would increase shoaling in the Mississippi River Ship Channel below the diversion and increase river currents above the diversion site. The main concern was specific to shoaling within the Pilottown Anchorage (Mile 6.7 Above Head of Passes [AHP] to Mile 1.5 AHP) as the U.S. Army Corps of Engineers (USACE) does not have the authority to dredge outside of the Ship Channel. Because of this the maritime industry only agreed to the West Bay Diversion’s construction because of the approved conditions included in the document titled:

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“COST SHARING AGREEMENT BETWEEN THE DEPARTMENT OF THE ARMY AND THE STATE OF LOUISIANA, FOR CONSTRUCTION, OPERATION, MAINTENANCE, REPAIR, REPLACEMENT, REHABILITATION AND MONITORING OF THE WEST BAY SEDIMENT DIVERSION PROJECT (MR-03) PLAQUEMINES PARISH, LOUISIANA.”

The Cost Sharing Agreement (CSA) was executed on August 29, 2002 by the Department of Natural Resources, State of Louisiana and the USACE. The following is reproduced from Page #3 of the CSA:

...“Included as a Project feature is the maintenance of the outermost (eastern) 250-foot wide strip of the Pilottown Anchorage area and the entire width of the adjoining access area between the strip of Pilottown Anchorage and the Mississippi River navigation channel. Advanced maintenance of the Pilottown Anchorage area shall be undertaken to account for the anticipated shoaling induced by the Project (Emphasis supplied). Below the conveyance channel, the anchorage and access areas shall be maintained at the depth existing at the time the Phase One interim conveyance channel is constructed. Above the cut, three 45-foot deep by 1,500 feet long anchorage berths shall be constructed and/or maintained...”

In 2009 the Coastal Wetlands Planning, Protection and Restoration Act passed a motion that removed this commitment from the operational structure of the CSA. The navigation industry is concerned about the impact the proposed Mid-Barataria Sediment Diversion would have on the Ship Channel, especially based on a maximum discharge of 75,000 cubic feet per second which is 25,000 cubic feet per second higher than the maximum proposed rate for the West Bay Diversion. There is no doubt this diversion would incur deposition in the Ship Channel and unlike the West Bay Diversion it is not in an area the USACE performs channel maintenance dredging. Therefore, any shoaling in the channel and within the Wills Point Anchorage should be removed by the applicant, the Coastal Protection and Restoration Authority. The Coalition requests that the USACE lead an effort to properly model the impact of the hydrology changes and shoaling in the vicinity of the proposed diversion structure before approving the Permit Application. According to recent surveys of the Pilottown Anchorage done by the USACE and the Coastal Protection Restoration Authority there are over 60 million cubic yards of material within the Pilottown Anchorage.

The Coalition strives to maximize the economic efficiencies that promote increased maritime commerce and international trade. The Lower Mississippi River Deep-Draft Ports Complex (Baton Rouge, South Louisiana, New Orleans, St. Bernard, and Plaquemines) is an economic superhighway of international trade and the nation’s busiest port system. The cargoes moved through these five ports account for nearly 70 percent of the Nation’s grain exports and more than 20 percent of the Nation’s coal and petroleum cargoes. The economic impact of the Lower Mississippi River Deep-Draft Ports Complex is nationally significant.

The Big River Coalition is committed to ensuring the future of navigation on the Mississippi River Ship Channel (MRSC) as one of the nation’s fundamental natural resources and true economic powerhouse. **The Mississippi River has an estimated \$ 735.7 billion annual impact on the nation’s economy and is responsible for approximately 2.4 million jobs (585,000 jobs on the Lower River – Cairo, IL to the Gulf of Mexico and 1.86 million plus jobs on the Upper River-Lake Itasca, MN to Cairo, IL and including the IL River).**

Sincerely,



Sean M. Duffy, Sr.
Executive Director

Letter ID: 244107

DuVernay III, Al
New Orleans, LA 70124

Disappearing Wetlands
Hope Perseveres

Our natural resources in Louisiana are abundant but not limitless. The Mississippi River, a formidable sediment delivery machine second to none, has over eons doggedly crafted most of the land within her basin and down to the Gulf. The Barataria Basin, all the land and wetlands on the West Bank of the river from Luling to Grand Isle, has been depleted over decades at an alarming rate. We built levees which turned off the land building mechanism of the river. The channels we dug through the wetlands accelerated saltwater intrusion and erosion. All this was done for safety, security, and convenience, but the cost was the obliteration of a healthy deltaic ecosystem. The Mid-Barataria Sediment Diversion project will rejuvenate the basin by introducing fresh water and sediment into the system. The Environmental Impact Statement for this project is available on the US Army Corps of Engineers' website. Please read and understand it.

When I was a kid hunting and fishing the Buras area in the 60s, I was not keenly aware of the effects of these processes. I reveled whenever a new canal was dug. "Great, a shortcut to the duck pond." Back then the marsh was still vibrant, with well-defined bayous, ponds and bays. Today you're hard pressed to find even a blade of marsh grass between the boat launch and the Gulf. See maps.

In later years, my work as a sedimentary geologist/paleontologist taught me the mechanics of wetland building and destruction. I learned and witnessed first-hand that the wetlands were dying from sediment starvation, land loss, and saltwater encroachment. We can, we must, restore this dynamic resource by building new land with the many tools at our disposal like dredging, river diversion, native plantings, dune building, living reef construction, etc. Dredging and pumping is a valid and necessary tool for rebuilding a beach or replenishing a localized area but is not sustainable and is inappropriate for rebuilding a basin wide wetlands ecosystem. River diversion projects replicate the river's natural land building processes, introducing fresh water and sediment to nourish the marshes and bays within its area. It's a version of the same processes that we terminated with levees and once operational, it continuously executes its objective.

As a coastal restoration volunteer, I've planted trees and marsh grass, built dune fences and helped build living reefs. I'm most impressed however by the performance of the river diversions, both natural and man-made. Since 1972, I have observed the relentless destruction of the upper Barataria Basin at my camp, located south of the current Davis Pond diversion. Over the years, this near pristine freshwater environment mutated to one of more saltwater influence and less marshland. The ecologic and environmental transfiguration was stark. Even the bugs changed for the worse. When the Davis Pond freshwater diversion started operating in the early 2000's, I was hopeful yet not optimistic that I

would live to see any significant positive impact. Less than two decades later the environment has been restored to what I remember 50+ years ago. Fishing has never been better. I recently toured the Davis Pond area, where I walked on flotant marsh and hard ground willow tree forest that just a few years ago was open water. It's working beyond my wildest dreams.

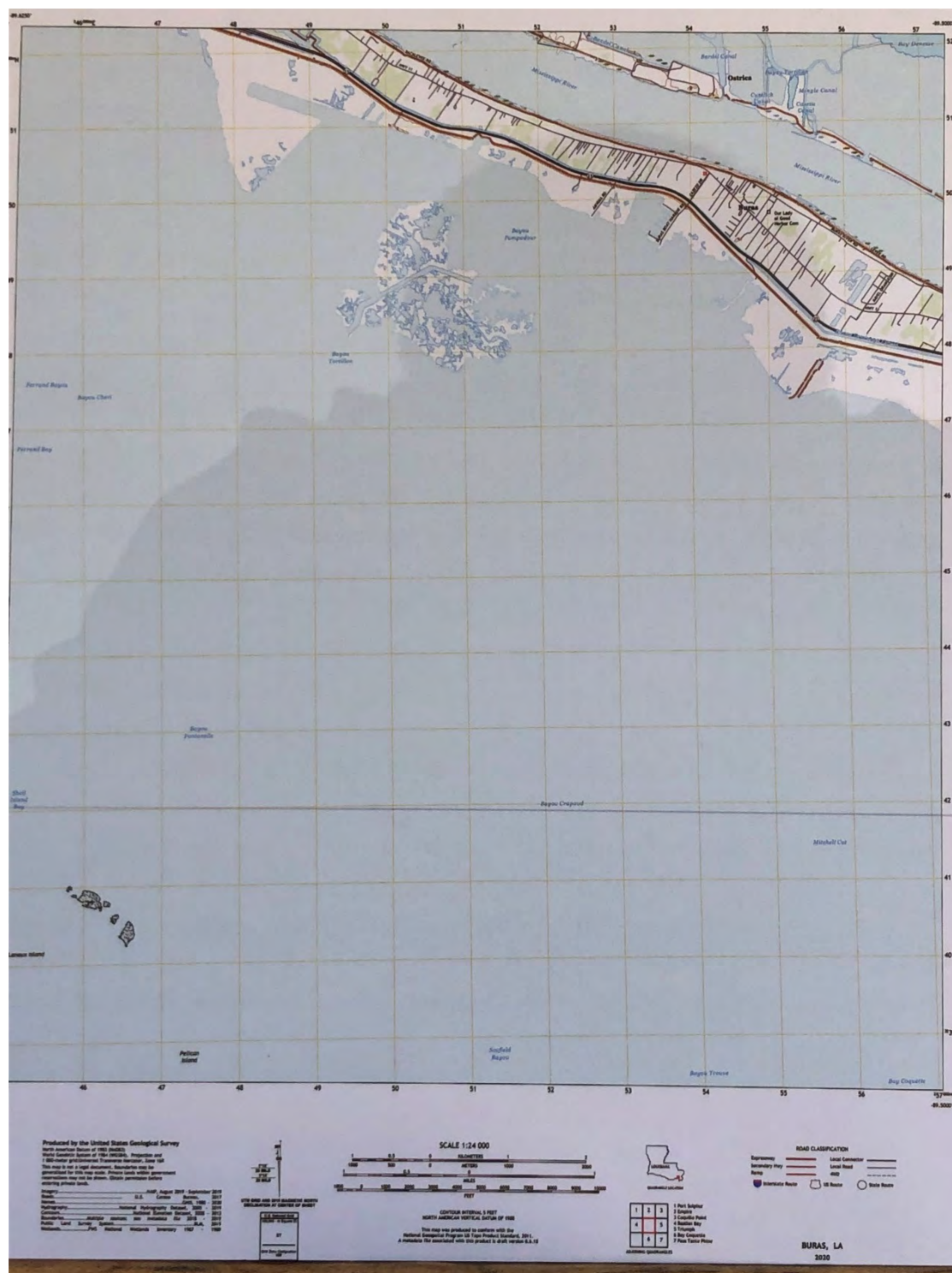
The proposed Mid-Barataria project is planned for a lower part of the basin. Like Davis, it will replenish and rejuvenate existing wetlands and build new ones. The negative impacts will be significant because many species that followed the saltwater encroachment and marsh destruction will surely be displaced and/or killed - oysters, shrimp, dolphin, and trout amongst them. The commercial and recreational folk (like myself) who target these species will likewise be displaced. We must remind ourselves that over time, we have followed our target species as their preferred habitat moved into these degraded areas. We shall continue to do so as restoration succeeds.

The Barataria basin is vast and vital as a storm buffer; for human and wildlife habitat; and to our culture and economy; but, through our actions and neglect, it has steadily disappeared. Both the demise and successful restorations of wetlands are demonstrable and abundant as are the challenges. I have lived through many of these changes and faced their difficulties yet my hope endures. Restoration will require great effort, determination and sacrifice but we must make the hard choices for our progeny, for our legacy. Or not and lose it completely.

Al DuVernay III
Paleontologist
CRCL Volunteer

(Content could not be extracted from document.)
Buras2020.jpg

Attachment to Letter ID 244107



Letter ID: 244159

Eppley, Dina
Port Sulphur, LA 70083

I urge you to please reconsider this diversion project.

TOO RISKY VS. THE ALTERNATIVE SOLUTION

As stated in a recent Nola.com article, it's just too risky. It would be negligent to move forward without addressing the risks outlined in this article. You don't even have confidence in how all that fresh water may impact the existing land. It's possible the fresh water will kill what's keeping that land together even before there's an opportunity to build land. It's also possible the water levels will rise higher than you're predicting. I realize you have studies, but studies are just that - academic and hypothetical. How can you feel good risking so much on the basis of some studies when there's another, superior solution.

https://advocateneworleans-la.newsmemory.com/?publink=0c59e8051_1348683

SUPERIOR SOLUTION EXISTS - DREDGE, DREDGE, DREDGE

Dredging is proven, immediate, less expensive, much less risky and much less harmful to the environment. It seems like a no-brainer, yet no one wants to address this with residents. I've been to several meetings and asked the question, but there wasn't a real response. All of our land will be gone if we don't implement a more immediate plan of action. Fifty years is too long and is a huge risk given all of the unknowns and mixed results in the past. Please dredge. We know that works. Do it now!

VERY NEGATIVE IMPACT TO MARINE LIFE

It's horrible that you're willing to kill off a whole population of dolphins and also harm other marine animals. Where else can you get away with this? You're ruining the livelihood of many hard-working fishermen who provide the seafood to make New Orleans so special.

PROPOSED "MAKE WHOLE" SOLUTION NOT FAIR

You're subjecting many to unnecessary financial burdens. I have a home in Myrtle Grove. I still owe more on my loan than I expect you to offer me in a buy-out. You've said you're going to do buy-outs based on current FMV. Well, current FMV is severely depressed because of all of the uncertainty caused by this diversion plan over the last several years. It's not fair that you get to make us whole using values that were already harmed by the mere existence of the plan itself. Also, many people willingly spent more money building homes in Myrtle Grove than they would ever get out in resale. They did this with the expectation that the property would be there for many years to come. Many, including myself, would've made different decisions had they known about this diversion. The diversion will cause a real financial loss.

WILL RUIN A UNIQUE WAY OF LIFE

Please, please, please dredge instead. You can start that now. Companies already know how to do it and we can start realizing immediate benefits. Your plan will take far too long and ruin lives (human and animal) as well as a very special and unique way of life in Plaquemines that will never come back. These are good, hard-working people with a lifestyle centered around the brackish and saltwater in the area.

ASK THE IMPACTED PEOPLE WHAT THEY WANT INSTEAD OF FORCING ON THEM

This is being funded with BP money. In that case, why don't you ask the people of the parish hurt the most by the BP oil spill (Plaquemines) what they want instead of forcing this on us. We don't want the diversion. It will further harm the people already hurt the most. I love Plaquemines Parish and south Louisiana. Please don't ruin it.

Letter ID: 244145

Falgout, Ted
Larose, LA 70373

My name is Ted Falgout, and I have been a resident of the Barataria Basin for my entire life (71 years). Today I write in support of the Mid Barataria Sediment Diversion project currently under consideration by the U.S. Army Corps of Engineers. I personally cannot think of another project that is more appropriate, deserving and urgently needed for the Barataria Basin and State of Louisiana as a whole.

I know the Barataria Basin better than most-- I served as Chairman of the Lafourche Parish Coastal Zone Management Committee for over 35 years and have been involved in the evolution of the Louisiana Coastal Resources Program since its beginning, serving as Lafourche Parish's first Sea Grant agent. Furthermore, as a current resident and landowner of approximately 1500 acres immediately north of the Intracoastal in east Larose, I have watched the wetlands south of me gradually disappear and increase vulnerabilities to our communities because of the reluctance of government to make the hard decisions such as implementing major diversions. It was a matter of time, given the progression of coastal land loss northward, that a major hurricane would have serious and far-reaching impacts to everything in its path. Well, Ida was that storm! Thousands of residents have been severely impacted. Personally, my home, belongings and entire property were flooded, and impacts to the wetlands in the northern Barataria Basin have been mind boggling. If we would have implemented this major sediment diversion in the 70's instead of just putting "band aids" on the problem, I am sure the impacts of Ida would have been far less reaching and the reduction in cost of damage impacts that this diversion would have most likely rendered, would have more than offset the cost of the project! Just one storm! I say this because, if we do not act now, other coastal communities like Marrero, Westwego, Gretna and even New Orleans is next, and the entire economic collapse of Southeast Louisiana is one catastrophic storm away. Just compare how the Atchafalaya Basin fared far better in Hurricane Andrew compared to how Ida impacted in the Barataria Basin because of the Wax Lake and Atchafalaya's connection to the river -- that alone should have fast forwarded this project and saved our state and nation million, if not billions of dollars in damage.

Additionally, I know very well the alternatives that were considered for Mid Barataria-as the Director of Port Fourchon for 31 years until my retirement in 2009, I have been involved in beneficially using tens of millions of cubic yards of dredge material to help sustain the Port. This is an important tool in our restoration efforts, but its impact is dwarfed in comparison to the capabilities and sustainability that can be generated from long term sediment and freshwater distribution generated from major diversions. In my opinion, to give our best shot at addressing the environmental and ecological crisis that exists, major sediment diversions have to be the foundation in which all other restoration efforts are centered around.

Certainly, a project of this magnitude will have considerable impacts to basin operations as we know them today, and I believe the final environmental statement adequately identifies and proposes to

adequately mitigate impacts. As a fisheries biologist by education and someone who has spent much of his life enjoying the bounty of the Barataria Basin, it is my firm belief that the benefits of the proposed project are exponential compared to any perceived negative impacts.

Major diversions from the Mississippi River have long been the lynch pin recommendation of scientist from all over the world when evaluating restoration options for coastal Louisiana. As a former North Lafourche Levee District Board Member, I know we cannot get by on levees alone in Lafourche Parish. Hurricane protection, combined with major sediment diversions and a suite of other restoration measures, greatly improve our chances to sustain this Paradise.

The Time For Action Is Now- Build the Mid Barataria Sediment Diversion!

Sincerely,
Ted Falgout



Larose, LA

Letter ID: 244173

Gasperecz, Greg
New Orleans, LA 70124

Thank you for the opportunity to submit comments on the proposed permit for the Mid Barataria sediment diversion project. I am a lifelong resident of south Louisiana. As an environmental engineer, I am particularly interested in the efforts to protect and restore coastal Louisiana. I submit these comments which reflect my educational, professional, and recreational experience and understanding of our coastal environment.

I strongly support the proposed permit for the following reasons.

1. I believe that conditions in the Barataria watershed have deteriorated to the point that the entire area below US Hwy 90 will become severely or completely eroded in our lifetime through the combined action of saltwater intrusion, storm surges, navigation needs, and rising sea level - all of which cause or contribute to loss of valuable wetlands. There is broad agreement that wetlands offer a valuable degree of protection from storm surge which significantly contributes to economic losses from hurricanes and tropical storms. The need to protect existing wetlands and to create new wetlands to replace the approximately 2,000 square miles of wetlands loss in Louisiana is widely accepted by residents of south Louisiana.

2. The project will be a major step toward re-establishing a natural balance between saltwater, brackish water, and freshwater wetlands. The natural hydraulic and dissolved solids regime that will result from this project will create a more stable and biologically diverse environment. Evidence of this assertion is readily observable in two areas of the east bank of the Mississippi River at the Mardi Gras Pass and the Neptune Pass. In each area, new freshwater and brackish water marshes are being created in previously eroded areas. These areas are now supporting more diverse terrestrial and aquatic plants which in turn provide habitat for animal populations such as ducks, geese, shore birds, mammals, reptiles, and freshwater fish species.

(As a personal note, as a boy in the 1960s I was taken to the area behind Myrtle Grove to go crawfishing. These same areas are now open brackish water. Based on the changes I have observed on the east bank of the River, I have reason to hope that these areas will once again support significant freshwater recreational and commercial fishing opportunities.)

3. I understand that this project will impact current fisheries in areas that have become brackish or saltwater bays or other water bodies. This will be particularly significant for oyster fisheries and other sessile species. The changed environment will displace shellfish and finfish populations further south, nearer the Gulf of Mexico. This will particularly affect commercial fishing. As such, the permit should require that LCRA establish a plan to introduce the diverted water in amounts and over time periods that minimize the initial impacts on these species. These plans should be based on the best available

scientific data and should be shared with commercial and recreational fishers to allow them to plan their activities accordingly.

4. In the longer term, the wetlands created by this project will be important as a base on which to continue to build land to offset sea level rise. The US Army Corps of Engineers, along with seven other federal agencies, issued the 2022 Sea Level Rise Technical Report on February 15 of this year. The report predicts that sea level will rise 14 - 18 inches by 2052. I emphasize the word "predicts" because this means it is likely and expected, not just possible. As such, the land created by this project will be the base for future marsh creation that must be undertaken to prevent the entire collapse of wetlands in South Louisiana. In short, we must take steps now that will allow and support the more challenging marsh creation projects of the future if we are to continue to live in coastal Louisiana.

Thank you for considering these comments.

Letter ID: 244104

Gegenheimer, Randy
Marrero, LA 70072

I oppose the diversion for multiple reasons.

1. The Corp released the Diversion Final EIS back in September and only allowing a 30 day commenting period. The Draft EIS had a 90 day commenting period. It's not reasonable timeframe to read a 12,000 - 13,000 page document and submit comments.

2. Reading through Appendix B I'm not confident the Corp had responded to my comments submitted to the Draft EIS. I could not find my comments or responses. Speaking with others they have the same concern on finding the comments or response.

3. Executive Summary 4.18.2 Storm Hazard

The MBSD project is projected decrease in storm surge elevation 1.0 feet at the Westbank levee near New Orleans and will increase storm surge up to 1.7 feet at Myrtle Grove. Lot of money spent to decrease 1 foot

Letter ID: 244105

Gegenheimer, Randy
Marrero, LA 70072

I oppose the Mid Bartaria Diversion for the following reason.

After the BP Oil Spill the Gulf States settled with BP. Louisiana settled a specific dollar amount and agreed how the type of project the dollars were to be spent on. The diversion project will violate some of the agreements with BP. Here are a few items that will not meet the agreement.

1) Restore oyster reef habitat. 2) Create, restore and enhance barrier and coastal islands and headlands. 3) Protect and conserve marine, coastal, estuaries and riparian habitats. 4) Enhance sea turtle hatching and productivity. 5) Increase marine mammal survival through better understanding of cause of illness and death as well as early detection and intervention for anthropogenic and natural threats.

Letter ID: 244106

Gegenheimer, Randy
Marrero, LA 70072

I oppose the Mid Bartaria Diversion for the following reason.

After the BP Oil Spill the Gulf States settled with BP. Louisiana settled a specific dollar amount and agreed how the type of project the dollars were to be spent on. The diversion project will violate some of the agreements with BP. Here are a few items that will not meet the agreement.

1) Restore oyster reef habitat. 2) Create, restore and enhance barrier and coastal islands and headlands. 3) Protect and conserve marine, coastal, estuaries and riparian habitats. 4) Enhance sea turtle hatching and productivity. 5) Increase marine mammal survival through better understanding of cause of illness and death as well as early detection and intervention for anthropogenic and natural threats.

Letter ID: 244116

Gegenheimer, Randy
Marrero, LA 70072

Back in 2018 congress passed a budget bill and gave a waiver to the Marine Mammal Act for three project in south Louisiana, with the Mid Bartaria Diversion Project as one of the three. Go back and ask all or a sample of congressmen if they were provided information as to hundreds of dolphins would die as the result of the diversion would they have voted to give the wavier. The project may have a waiver for the Marine Mammal but they are several other acts that do not have wavier's. Here are a few of other acts, National Environmental Policy Act, Endangered Species Act, Fish and Wildlife Coordination Act, Maguson - Stevens Fisheries Conservation and Management Act, and National Historic Preservation Act. The Corp should ensure that all act meet the requirements of each including Marine Mammal Act wavier or no wavier

Letter ID: 244124

Gegenheimer, Randy
Marrero, LA 70072

I oppose the diversion and find the their is conflicting information throughout the FEIS. Appendix R Avoidance and Minimization Measures. CPRA has committed to implement best management and practice to minimize the impact associated with construction and operation of the project. ES 4.9 Marine Mammal these impact would result in decrease survival rates BBES dolphins with studies projecting functional extinction in Bartaria Basin. ES 4.13 Commercial Fisheries will have moderate to major adverse, permanent direct and indirect impact on the shrimp fisheries. The eastern oyster fisheries in the project is expected to experience major, permanent adverse impact. ES 4.14 Recreational and Tourism. The project will have long term minor to moderate adverse impacts on site accessibility to recreational fishing docks due to tidal flooding. There will be moderate, permanent, adverse impacts on recreational boating due to increase in the introduction and expansion of invasive plant species in the Basin

Letter ID: 244125

Gegenheimer, Randy
Marrero, LA 70072

I oppose the diversion due to the projection dolphins in Bartaria Basin will be functional extinction as per ES 4.9. Chapter 3.11.1 all dolphins are protected under the Marine Mammal Protection Act. A wavier does not give the right to kill off the dolphin. Bartaria Bay Estuaries is stock with estimated 2,017 is considered strategic stock. 3.14.3.3 Oyster landing from 2014 to 2018 average 4.7 million pounds in the project area 36% of the totaled Louisiana landing. ES 4.14 consumers in Louisiana would experience higher prices for locally caught seafood.

CPRA has completed multiple project building barrier island in Jefferson, Lafouche, Terrebonne Parishes. In CPRA news letters Chip Kline expressed the importance of barrier island as a defense for storm surge. Where are the projects for building barrier islands in Bartaria Bay

Letter ID: 244126

Gegenheimer, Randy
Marrero, LA 70072

I'm a concerned property owner in Myrtle Grove. Reading the FEIS and down to Appendix R Mitigation and Monitoring I read about several mitigation plans with fisheries and affected areas. What is the total estimated mitigation cost for the diversion project. As property owner I received mitigation plans for all affected areas and this will cost hundreds of millions of dollars and then throw in the mitigation dollars for the fisheries we are talking hundreds of millions or possible a billion dollars. The mitigation cost could more than the construction cost of the diversion. Mitigation dollars could build a lot of barrier islands and marsh. The public has the right to know the break down of this project.

Letter ID: 244112

Glover, Polly
Prairieville, LA 70769

USACE

These comments are in support of the need for expedited build out of the Mid Barataria Sediment Diversion. As a conservation minded citizen advocate who has watched the basin become open water due to loss of sediment from the river I cannot say enough about the need for the return of sediment to build the land. If time permitted I would type more formal comments with regards to the EIS however Neptune Pass had comments due this week as well.

With regards to Plaquemines Parish and the basin. Land loss is now so wide spread that we must act to build the diversion to give some chance of sustainability to the surrounding communities. The risk of not opening the diversion with regard to land building far out weigh the risks to the fisheries and the dolphins in my non science opinion. The most important concern should be the need to protect the citizens from the risks associated with land loss. Centuries of land loss due to the levees only exacerbated the loss and its time to restore the marsh with its life giving sediment. Fisheries will rebound and move back to the saltwater line years back. The impacts to oysters will be mitigated and I am confident that without land to operate from Louisiana will loose more that just fisheries.

Again thank you for opportunity to provide these brief but clear comments in support of the project going forward as planned.

Respectfully submitted
Polly Glover



October 24, 2022

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Bruce Keller
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Robert L. Thomas
Executive Director

Statement from PABI regarding the Environmental Impact Study on the Proposed Mid-Barataria Sediment Diversion

When it comes to the negative impacts to Plaquemines Parish business and industry – such as the declining fisheries and increased flooding caused by the immediate deterioration of the wetlands currently protecting the Parish – the EIS fails to outline how the citizens and businesses in Plaquemines Parish will be made whole.

The operation of diversions of the proposed scale will drastically alter our fisheries industry and those whose livelihoods depend on it, adversely impact our remaining natural flood protection, and provide little land building in the near term, which is essential to augmenting our current hurricane protection system.

The EIS continues to assert that “even without the diversion this is going to “eventually” happen because of sea level rise, erosion, stronger hurricanes, etc...” as if that somehow makes it more palatable for our business community. This project will make that “eventuality” a certainty, and this man-made project will be drastically increasing those impacts in our lifetime. Therefore, the Plaquemines Association of Business and Industry formally requests that the US Army Corps of Engineers require the State to present the specifics of how the State intends to make our residents and businesses whole as well as the funding set aside to fully address these impacts. Generalities are not acceptable.

Plaquemines Parish Citizens' Financial Impact:

- Diversions will change the productivity of the commercial and recreational fisheries, causing loss of jobs, undue hardship, and increased costs to people who have historically made their living from fishing in the Parish.
- Changes in fisheries will require changes to business operations – new/larger vessels, increased fuel costs, collapsed market, etc. – which will likelihood lead to close of businesses and loss of jobs.

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- Plaquemines Parish towns, such as Port Sulphur and Venice, that heavily rely on commercial and recreational fishing will be devastated
- Those whose jobs and livelihoods are impacted will require education and job training to transition to another trade of sustainable employment and the plan provided appears to be grossly inadequate.
- As a result, sufficient funding must be set aside in advance to develop plans and programs that will mitigate/compensate impacted individuals and communities.

Without knowing who may qualify, exactly what type of mitigation is offered, when, where, and how it will be performed, with funding identified, secured, and set aside, we cannot support the EIS in its current form. And just as with commercial fishing, we request that the EIS be revised to identify and mitigate for the impacts to the local government. The increased burden to the local government will certainly impact an already fragile tax base that has trouble performing its duties. This additional impact will make it more difficult to attract new businesses which will further the Parish's misfortune.

Plaquemines Parish Government's Financial Impact:

- Loss of tax revenue from the above and its displaced residents and business will adversely impact Parish budgets and its ability to provide needed services.
- The Parish will bear the responsibility of constructing and/or maintaining new infrastructure that otherwise would not be needed, such as a new water treatment facility potentially required for portions of the community south of the mid-Barataria diversion.
- The Parish will be responsible for increased costs of enhancing and maintaining flood protection systems that will be impacted by increased water levels basin side – for example, the maintenance of the back levees from La Reussitte to Myrtle Grove will be cost prohibitive due to the increased water levels of the basin.
- The Parish will be partially responsible for increased workforce development, job training, education, social, and other support services to assist those impacted.

With dredging, land will in fact be built. With diversions, you are gambling with hypotheticals and contested science in a time when we cannot afford betting on a long shot. And this gambling involves the livelihoods of the people of Plaquemines Parish. The EIS failed to include a dredging option to finally compare the cost and effectiveness of a viable option. Our local businesses and industry have consistently questioned the need for sediment diversions rather than directly dredging material from the Mississippi River on an annual basis. While CPRA officials have stated that "we cannot dredge ourselves from this crisis" it should have been studied to scientifically

prove this to the citizens. In 2020, CPRA Chairman Chip Kline stated that “We will actually build more land in coastal Louisiana over the next four years than we will lose” which seems to imply that dredging alone could work to maintain the delta that we have; unfortunately, we do not have a scientific comparison that formally rejects a dredge only plan.

The EIS also failed to account for costs associated with siltation of canals and the problems associated from increased sedimentation. Since 2012, Plaquemines Parish has heard from numerous fishermen, hunters, recreational boaters, residents, etc. about impedances to access in canals due to the increased shoaling from the Mardi Gras Pass breach. The same effects will occur once the MBSD is operational, and the EIS should account for these costs to the citizens and the Parish.

PABI provides private sector leadership and works for the business community in Plaquemines Parish. We do not believe that this project will be a net-benefit to the economy of the Parish. We want to know what the State is doing to offset the guaranteed losses to the Parish’s economy for this experimental restoration project.

Very truly yours,

Betsy Pavlovich, 2022 PABI Chair

Letter ID: 244087

Guccione, Melinda
Port Sulphur, LA 70083

As a permanent resident of Myrtle Grove, I have been appalled at the very thought of this entire diversion project. The idea that I should give up my lifestyle for a plan so destructive to homes, mammals, commercial fishing, recreational fishing, etc., is unacceptable!! 50 years to build such a small area of land that I won't see in my lifetime is not very impressive considering all that we have to sacrifice.

It is my understanding that this diversion project goes against the agreement between BP and Louisiana as to what would be done with the settlement awarded. I am sure there are many other safe ways to rebuild the wetlands that are not harmful to our environment or our way of life.

I AM OPPOSED TO THIS FOLLY IN EVERY WAY!!!!

Sincerely and with a heavy heart,

Melinda McMellon Guccione

Letter ID: 244123

Guccione, Ronald

PORT SULPHUR, LA 70083

My wife and I are fulltime residents in Myrtle Grove Estates. I'm opposed to the diversion. I would much rather see sand pumped out into Barataria Bay or barriers be built in the bay. The cost to build the diversion along with the negative impact to the environment plus the effect on residents, commercial fishing industries doesn't seem to be worth the project.



U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-ODR-E; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October 24, 2022

To Whom It May Concern,

The board and staff of Coastal Communities Consulting, Inc. (CCC), a 501(c)3 organization headquartered in Gretna, believe that the Mid-Barataria Sediment Diversion (MBSD) project can and should exemplify community leadership in restoration decision-making. The next decade is a significant opportunity for Louisiana to establish itself at the vanguard of community-level environmental adaptation planning and restoration mitigation. CCC feels strongly that our state government, elected officials, the Coastal Protection and Restoration Authority and other state agencies, and local jurisdictions must pivot to centering community expertise as they carry out the MBSD. This will open the door to creating a truly equitable restoration landscape; one where communities impacted by the MBSD and future coastal restoration projects are proactively engaged and consulted as restoration projects are planned, designed, and implemented. CCC is well positioned to be a valued partner to the State of Louisiana in charting a renewed path forward. We are pleased to submit these comments to the U.S. Army Corps of Engineers, New Orleans District, as part of the *Restoration Plan and Environmental Impact Statement: Mid-Barataria Sediment Diversion* public comment period.

About Coastal Communities Consulting and its Clients

CCC supports the economic and environmental stability of coast-dependent small businesses in Southeast Louisiana. For over a decade, we have provided technical assistance, economic development, environmental education, and continued disaster assistance to over 2,000 residents (fisherfolk, their families, and other coast-dependent businesses and individuals) of Orleans, St. Bernard, Plaquemines, Jefferson, Lafourche, and Terrebonne parishes. Our clients are members of Southeast Asian American, Central American, Black, Cajun, and Croatian communities whose homes and families and businesses overwhelmingly are located in low-income areas. Southeast Louisiana's fisheries-dependent residents have endured more overlapping disasters in one generation than anyone can reasonably expect of a community. They have suffered the levee breaches of Hurricane Katrina, the Deepwater Horizon oil spill's ongoing impacts on fish stock, the historic flood events of 2019, COVID-19, Hurricane Ida, and most recently, soaring diesel costs and plunging dockside prices. Many of these same fishers have also survived forced refugee flight from Southeast Asia.

CCC understands the MBSD is designed to build land, and thus, increase the environmental and economic resilience of Southeast Louisiana to be sustainable through future disasters. As a non-profit dedicated to the futures of the region's commercial fisheries, however, we also

understand that while restoration projects like the MBSD are discursively designed to protect fisherfolk and the ecosystems they depend on, in practice, the planning of these projects often leave out the region's most vulnerable coast-dependent residents. We commend the efforts made by CPRA and other agencies to include fishers, at the behest of organizations like CCC, in meetings and discussions and planning processes. However, we would challenge all government agencies involved with MBSD to do more in order to overcome decades of rift and distrust between commercial fishers and policymakers.

We cannot emphasize enough that in spite of these tensions, commercial fishermen and coastal residents are not against restoration projects. CCC's clients have fought to defend their ecosystems, from resisting the land-wasting effects of exploratory oil drilling to working with agencies and academics to make their fishing techniques more environmentally sound. At the same time, they have cried out for coastal restoration for decades. The tension between fishers and coastal projects has always arisen not because of the projects' intended goals, but given the processes used to develop and implement coastal restoration projects.

CCC's clients aren't environmental justice communities; they are communities experiencing environmental *injustice*. Environmental justice demands that all communities who are vulnerable to racial, ethnic, economic, and ecological violence—or, environmental injustice—are not just considered, but “meaningfully involved” in “the development, implementation, and enforcement of environmental laws, regulations, and policies”¹. This is the purpose of NEPA, the EIS, and ultimately, of the CPRA, whose mandate is to “establish a safe and sustainable coast that will protect our communities, the nation's critical energy infrastructure and our bountiful natural resources for generations to come”². For years, fishers have watched CPRA and other agencies debate the merits of allowing the Mississippi River to inundate the fish, crab, shrimp, and oyster ecosystems they rely on. For seafood-dependent communities, it is clear that the diversion will make them more economically vulnerable in favor of building marsh land—a trade-off that ensures their families will be more susceptible to poverty, environmental instability, and resettlement. Not surprisingly, fisherfolk are scared.

The Coastal Master Plan and MBSD are huge undertakings with a myriad of needs and best outcomes to consider. We get it! But this means little to a shrimper who is worried about what a devastated brown shrimp population will mean for his daughter's finishing college or her ailing mother who has accrued acute healthcare costs. Fishing is not just our clients' livelihoods—it's their lives. In light of this, and coupled with rapidly moving disasters and environmental shifts, we believe that doing business as usual is no longer an option.

Therefore, we recommend an aggressive program of mitigation (specifically avoidance and minimization), adaptation support, and MBSD-adjacent coastal support.

To carry out effective socioeconomic and place-based planning, we recommend that CPRA build coalitional partnerships across state agencies and parish governments. This includes partnering with community leaders to educate all agency partners about the current state of each fishery, what is being taken into consideration when designing mitigation measures, and the ways the mitigation measures forwarded in the EIS will be implemented. It also means consistently

¹ US EPA, “Environmental Justice.”

² CPRA, “About CPRA.”

sharing this information with impacted communities and community-based organizations, and collaborating with them to ensure that their needs are met in light of dynamic impacts to their lives and livelihoods.

In the decade since our board and commercial fishing clients made us aware of the proposed sediment diversions in Barataria Bay and Breton Sound, CCC has listened to and followed Southeast Louisiana's coast-dependent communities' expertise. Through our daily work and engagement with fisher families and business owners, it was not difficult to locate where we could begin to proactively address the potential impacts of MBSD's design and implementation on fishing-dependent communities. While commercial fishers don't like change, CCC has helped several families begin to adapt their businesses and lives ahead of MBSD's likely impacts to the industry. Our adaptation strategies include much of the EIS and Restoration Plan's mitigation and stewardship measures. As the MBSD moves forward, CCC looks forward to working with and educating CPRA and others about effective adaptation. Together, we can effectively develop an equitable and just adaptation and mitigation program for not just MBSD, but ongoing restoration throughout the coast. In this collaborative effort, our organization's ultimate goal is to establish a comprehensive Community Master Plan that will be implemented alongside CPRA's Coastal Master Plan.

CCC's Recommendations

Below, we have identified three primary areas of support that are necessary to help fisheries and other coast-dependent communities equitably adapt to the impacts of the MBSD. Under each area, we offer specific programming and/or approaches that will allow for their effective implementation. We have identified these equitable mitigation measures in concert with the over 200 fishing-dependent residents in MBSD's impact zone who submitted their own public comments during the DEIS and draft Restoration Plan public comment period as well as fishers who have shared their expertise with us outside of the public comment process. This comment is also shaped by the knowledge that a myriad of collaborators with expertise in community support, environmental change, and strategic planning have shared with us.

I. MITIGATION PLAN

The mitigation measures proposed in the EIS and Restoration Plan are a good first step. However, to equitably mitigate the impacts of the MBSD, it is important for vulnerable communities to contribute to how CPRA identifies and mitigates the diversion's likely effects on their lives and livelihoods. This includes establishing dedicated and effective funding streams to support all communities, small businesses, and workers impacted by MBSD, from the moment the project breaks ground through years of regular operation. Importantly, if the MBSD has as little negative impact on commercial fisheries as possible, this funding is less likely to be exhausted or need to be refreshed regularly. Finally, while we believe that a dedicated mitigation fund is an imperative element of mitigation measures moving forward, we want to emphasize that CPRA should focus its efforts on avoidance and minimization rather than relying on primarily compensatory mitigation to address the effects of the MBSD on commercial fisheries.

- Establish and maintain an MBSD Fisheries Mitigation Fund — Mitigation programs currently identified in the EIS and LA-TIG Restoration Plan include retrofitting boats,

training in new fields, and training in marketing. Establishing funding for fishers to take advantage of these programs as it suits their needs is the most effective way of both spending much of the \$33 million currently identified for fisheries mitigation and supporting the industry through MBSD's impacts. Throughout the first five years of MBSD's operation, and with the option to extend its timeline, the Fisheries Mitigation Fund will pay out annually to fishery-dependent business owners and workers.

- o Recipients of the funding will be able to identify how best to use this funding, be it for skills training or boat upgrades, at their discretion.
 - o Annual payments should be based on losses, as evidenced in fishers' trip tickets—this information is collected by the Department of Wildlife and Fisheries.
- Adaptive management planning — The operations, management, and monitoring of MBSD will critically shape how decisions are made regarding adaptation. To ensure both state transparency and the incorporation of valuable coastal expertise, leaders from the fishing community must be contracted to participate in planning and executing the adaptive management of the MBSD.
 - Make broadband internet available coast-wide — COVID-19 has shown us that having access to internet is not a luxury; it is a utility. Louisiana must make broadband accessible and low-cost for all residents. Fisherfolk who have never been required to use technology before have begun to both in light of the pandemic and to access more technical business and social support. It can do so by partnering with federal agencies and NGOs who are already implementing more robust rural broadband access in anticipation of the proposed US Infrastructure Bill.
 - Create fisheries-specific grant and loan opportunities — This will help businesses and workers who will be impacted by MBSD adapt in anticipation of the diversion going live, as well as during its implementation.
 - Support workforce development — This includes implementing policies that require contracting entities to hire local residents and fishermen to work on building and managing the MBSD.
 - o Encourage and fund area colleges and universities to build out curriculums and train younger fishermen for new careers and job opportunities should they want to transition out of the industry. (CCC & Delgado have been running one such program for two years)
 - o Develop scholarships to help pay for tuition.
 - o Develop more opportunities for fishermen's wives to work and/or start small businesses to create an alternative income stream for their families.
 - o Develop certifications and incentivize youth to choose water-base careers.
 - Identify equitable, future-looking approaches to home and business buyouts — Coast-dependent communities will experience diversion-induced flooding and other impacts to both their homes and businesses. To this end, mitigation measures should include establishing an equitable approach to assessing just compensation and buyout programs for homes and other structures throughout Southeast Louisiana—this process should allow residents to buy equivalent or better businesses and homes elsewhere. This funding should

also ensure that every resident in the impact area can raise their homes without incurring personal cost.

- Identify for whom job buyouts might be necessary — In lower Plaquemines Parish, buyouts may be a bigger necessity than expected, especially for the families who rely on oyster work. We understand that CPRA has begun the process of relocating oyster leases. However, leaseholders represent a very small group of wealthy people that can more easily relocate their businesses and homes. Their workers, who make up the bulk of the fisheries' labor, cannot. For them, buyouts may be the only option. CPRA must consider job buyouts or other measures that justly compensate workers who rely on but have no economic control over their fishery.

II. **ONGOING BUSINESS ADAPTATION PLANNING & SUPPORT**³

While the EIS and Restoration Plan offer a series of mitigation measures to support fisheries, they do not comprehensively address the complex effects MBSD is likely to have on fishers and other vulnerable coast-dependent communities. As it is the first project of its kind, the true impacts of the MBSD will not be known until the structure begins operation. However, what we do know is that our fisheries and navigational waterways will absolutely be affected and likely altered forever. While our fishing communities may continue to advocate against the MBSD, most understand that, historically, a project that the government puts this much money and effort into will happen.

For more than two years, CCC has collaborated with clients to create adaptation planning that reflects fishers' expertise of the land and water they rely on. The fact that fisheries-dependent families have already begun piloting the adaptation measures included below is evidence that CPRA and other agencies should allay impacted communities' fears by proactively funding such strategies. Most importantly, they should look to fishers to identify their own specific adaptation needs. To do this, CPRA should immediately begin partnering with community-based organizations (CBOs), who have robust technical assistance and community service expertise, and who have been designing and implementing adaptation planning for several years. Federal and state agencies should partner with CBOs to carry out extant adaptation planning and programs. In this process, CBOs should be compensated for their adaptation work and the resulting adaptation plans should be funded by the state.

- Information Sharing and Education — In order to properly adapt and plan, CPRA and other agencies need to transparently collaborate with residents who will be impacted by the MBSD. This includes circulating consistent, up-to-date, and accessible information regarding the MBSD's progress-toward-implementation and its likely impacts to coast-dependent businesses and communities.
 - CPRA to develop a public relation/community outreach office within the agency.

³ It is important to recognize that Plaquemines Parish, where the MBSD will operate, is one of the state's most diverse communities. Resident and non-resident fishers who work out of Plaquemines parish are: Black and Indigenous generational fishers, Southeast Asian and Central American immigrant and refugee families, Croatian immigrants, and Cajuns and other white generational fishers. All of them have depended on the region's waterways and land for generations.

- o Include community-based organizations (CBOs) in every stakeholder group that CPRA has created within its decision-making structure, and in regard to the MBSD in particular. This will make CPRA's approach to decision-making more equitable by ensuring that communities, not just large stakeholders, are represented throughout the Coastal Master Plan process.
 - o Fund CBOs who have the respect and trust of their communities to do outreach and education regarding restoration. Conducting outreach and education includes designing community meetings, supporting community members in participating in decision-making processes, and elevating community expertise that has historically been overlooked. When engaging the communities CBOs work with, CPRA should follow CBOs' lead.
 - o Outreach materials, presentations, and meetings should be translated not only into several languages, but should be presented in plain English that is accessible to laypeople whose stakes in understanding the MBSD are highest.
- Collaborate with CBOs on mitigation implementation — Fund CBOs to consult on mitigation planning and implementation and establish open, regular, and equitable forms of communication with CBOs in these roles. This includes understanding that CBOs are leaders and collaborators in their communities, and should be treated as experts and decision-makers in this process. It also means clarifying and vetting CPRA processes with them, engaging CBOs in a timely and clear manner, and establishing shared goals and deadlines that CBOs have the power to make revisions to. Importantly, while CBOs' engagement in this work should be understood as an equitable collaboration, it should not be treated as an endorsement of any mitigation measures or approaches thereto.
 - Fund community-based organizations' community engagement and adaptation planning— CBOs like CCC devote the majority of their funding to make technical assistance (TA) accessible (linguistically, culturally, geographically, and financially) to the region's most vulnerable residents. While TA is essential to the MBSD rollout (see above), it has not historically been funded by agencies carrying out large-scale projects in vulnerable communities. As such, when they have reached out to communities to finalize extant plans, CPRA and others have not had the tools to elicit the information they are looking for. However, CBOs know how to provide the direct assistance residents need to help them participate in surveys, understand programs, requirements, and processes, and complete applications to be awarded benefits and grants. They also know how to design and carry out effective adaptation planning. To address this, CPRA and LA-TIG should use a percentage of their mitigation budget to ensure that CBOs can continue to carry out extant adaptation planning and mitigation efforts that align with the EIS. Additionally, this funding can and should address the gaps in community TA support throughout the MBSD impact area to ensure that all impacted residents have access to information and direct engagement.
 - Pilot fisheries technology and innovation — To make fishers more adaptable, it is important that they have access to technologies that enhance their productivity and reduce the cost of their operations. Funding should be allocated for R&D dedicated to collaborating with fishers to innovate and change the way their operations work. This includes how harvesting is carried out, either by means of shrimp pots, lighter boats, additional refrigeration, and more.

Additionally, salinity tanks for finishing oysters, mechanisms for moving baskets of oysters away from flooding, and a bevy of other potential innovations can mitigate losses for commercial fisheries, improve the quality of the harvest, and may bolster the industry as a whole.

- Invest in economic development — By investing in industry sectors such as tourism/ecotourism and further diversifying the regional economy, the state can help create jobs to support displaced fisherfolk and other coast-dependent workers. It will also enhance the cultural viability of the region, as fishers of varying backgrounds share their cultures and knowledge with tourists, who will in turn support communities maintaining their generational practices. Examples include cultural immersion fishing tours, recreational fishing and cooking classes, and tours designed to teach visitors about ecosystem change and restoration. This is a win for the job seeker and also for local parishes and the state as new revenues can be generated by new industries.

III. MBSD-ADJACENT COASTAL SUPPORT

- Establish governmental coalition-building and inter-agency education — To better develop and implement effective mitigation programs and adaptation support, CPRA should take the lead on educating and informing other inter-state agencies about the MBSD's design, as well as its implications for and impacts on coast-dependent communities. Involving more agencies with a variety of expertise in implementing MBSD will mobilize a variety of resources to help CPRA effectively implement and mitigate the diversion. What's more, this will make more resources available to help affected residents adapt and make use of more effective and equitable mitigation programs. Examples include partnering with LED to develop and offer fisheries-specific loan products, and ensuring that the Louisiana Department of Wildlife and Fisheries do not raise license fees up to 300%⁴. Further, collaborating with HUD to help residents with raising homes as well as establishing a first-time home buyers' program to assist with relocation.
- Address needed changes to fisheries permitting, licensing, and compliance — More than 80% of the state's much larger skimmer fleet will experience a reduction in their catch due to the fresh water driven by the MBSD. In light of this, the Louisiana DWF and NOAA must make major changes in how they administer and regulate federal fishing permits and licenses. As MBSD promises to shift where shrimp and other species are in the basin, adapting to this will require most fishers to go out further from shore and/or further east or west than they currently do. To ensure that fishers have the best chance of maintaining their industries over the life of the MBSD, restrictions that prevent them from working in federal waters must be lifted.
 - The federal shrimp permit has been under moratorium since 2006 and is up for review soon. NOAA should lift the moratorium and grant open access to the permit and/or the state should extend the state line further from shore.
 - The majority of our state's shrimp fleet are Asian American immigrants. While they are legal permanent residents, federal law prohibits anyone who is not a US citizen from

⁴ This is particularly pressing now, as COVID-19, economic flux, and the potential impacts of the MBSD are making commercial fisheries particularly vulnerable.

operating a vessel outside state waters. Obtaining citizenship can take a year or more, making this rule incredibly restrictive for residents who work seasonally. Lifting this restriction is critical for immigrant fishers' potential to maintain their fisheries as the MBSD begins operation.

- Address the impact of foreign imports on Louisiana's commercial shrimping industry — The federal shrimp permit moratorium mentioned above is maintained, in part, because of “economic losses, primarily because of high fuel costs and reduced shrimp prices caused by competition from imports”⁵. While there has been discussion at the federal level about reevaluating how to regulate foreign shrimp imports, little has been done to address the net effect of a high volume of foreign shrimp being available to U.S. consumers at a much lower price than wild caught Louisiana shrimp. In spite of having an abundance of skill and quality product, Louisiana's commercial shrimp industry is struggling to maintain economic solvency. Given the centrality of environmental justice to the MBSD and in light of the fact that imports overwhelmingly impact low-income, rural, and racialized small businesses, addressing the volume and price of foreign shrimp imports is a critical component of carrying out the diversion in a way that produces more environmental justice.
- Address the impact of rising fuel costs on Louisiana's commercial shrimping industry — While many federally permitted and smaller skimmer boats have begun adapting their businesses as they build back from Hurricane Ida and other disasters, many of the same fishers have increasingly found it economically prohibitive to go out on the water. At the peak of 2022's brown shrimp season, diesel cost \$5/gallon and shrimpers could only earn \$1.60/lb at the dock for 16/20 shrimp—add to this the cost of maintaining their vessels, paying deckhands, and of simply operating their boat (ice, food, equipment, etc.), and it becomes clear how devastating fuel costs can be. As cited in the prior recommendation, rising fuel costs have been central to how the National Marine Fisheries Service and Gulf of Mexico Fishery Management Council think about how commercial fisheries operate and should be regulated in the region. This newest spike in fuel costs has been devastating for the coast's most environmentally and economically vulnerable small fishing businesses—especially as it has intersected with the impact and afterlife of Hurricane Ida. Addressing the cost of fuel is critical to the ongoing project of maintaining and restoring the cultures, industries, and places of southeast Louisiana.
- Promote Louisiana seafood - While one-on-one marketing support is included in the EIS, it is imperative that the state effectively supports and promotes its fisheries. To this end:
 - Collaborate with LA restaurants, seafood distributors, farmers markets, and grocery stores to create a market for LA seafood.
 - Actively enforce House Bill No. 335/Act 372: Restaurant Notice of Foreign Seafood, which requires restaurants to disclose the origin of the seafood they serve.
 - Create a national network of LA seafood champions to promote LA seafood in major cities.

⁵ National Marine Fisheries Service and Gulf of Mexico Fishery Management Council, “Shrimp Permit Moratorium - Final Draft for Amendment 17A to the Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, U.S. Waters.”

- Carry out smaller coastal restoration projects
 - Work with impacted parishes to build safe haven sites, which will protect boats against the potential impacts of the MBSD or other sudden disasters.
 - Plaquemines Parish has lost fisheries business because many shrimp boats cannot easily or dependably get through canals or lock infrastructure. This forced shrimpers to take their catch elsewhere. To avoid this and other safety concerns, the state must dredge commercial fishing waterways going to and from docks and fishing grounds.
- Provide other kinds of governmental support
 - Create standards to control and/or cap the price of shrimp and other seafood paid to fishers at the docks.
 - Provide diesel subsidies for working boats.

To conclude, the construction, implementation, and operation of the first large-scale river sediment diversion must meaningfully include and honor the generational and place-based knowledge of coast-dependent residents.

As an organization that has devoted itself to the economic, cultural, and environmental health of Southeast Louisiana's fisheries, CCC believes that fisheries are a meaningful part of Louisiana's present and future. The above mitigation, adaptation, and MBSD-adjacent governmental support strategies emerge directly from our clients' own comments and the expertise they have shared with us for over a decade about the land and water they love. We want to make their lives more livable, and we look forward to working with CPRA, LA-TIG, and many other agencies to ensure this.

Please reach out to us with any questions regarding these comments. We look forward to hearing from you.

Sincerely,

Sandy Ha Nguyen



Executive Director
Coastal Communities Consulting, Inc. (CCC)

[Redacted contact information]

www.ccc-nola.org

[Redacted contact information]

OCT 26 2022



Louisiana Farm Bureau Federation, Inc.

Attention: USACE Regulatory Division, RGE (MVN-2012-2806-E00)

Subject: Proposed Mid-Barataria Sediment Diversion Final Environmental Impact Statement

The Louisiana Farm Bureau Federation Oyster farmer advisory committee opposes the actions of the USACE as it relates to the Environmental Impact Statement analyzing impacts of the proposed Mid-Barataria Sediment Diversion project. Oyster farmers view this ambitious coastal restoration endeavor as a direct threat to their livelihood and way of life for these coastal communities. This project would devastate historical oyster leases through the influx of excessive fresh water. The Corps' apparent lack of understanding of Louisiana's culture and heritage associated with our seafood industry is a concern. Oyster production in the proposed project area will be a thing of the past and this will be reflected in the state's tourism industry as well. Proponents of the project believe the benefits will far outweigh the impacts but are unable to know exactly how this diversion will work.

The state has indicated that it will work with oyster farmers and others impacted to help them stay in business. However, this has not materialized as this process moves forward. This project is a big piece of Louisiana's 50 year, \$50 billion coastal restoration program but does not adequately address how this fresh water diversion will eliminate the oyster industry and brown shrimp industry in this basin area. The Corps' analyses of the proposed project impact on oyster farmers and the local communities supported by this industry is inadequate. This fresh water diversion will push oyster production to the outskirts of the basin where hard bottoms required for oyster reefs do not exist.

The restoration plan proposes mitigation funds to assist communities impacted by the diversion. The plan suggests opening broodstock reefs to help seed depleted reefs and provide opportunities to grow oysters off bottom in cages. This is bureaucratic rhetoric that does not offer realistic measures to address this situation. LFBF suggests that the Corps truly make a concerted effort to actually work with our oyster farmers and their communities for a positive outcome. Sediment diversions and oysters should be able to co-exist.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Harper", is written over a white rectangular area.

Jim Harper

Letter ID: 244108

Hendrick, George
Madisonville, LA 70447

This project is ill advised and will do much more harm than good. I and everyone I know, are opposed to this project!

Rec'd MB

OCT 21 2022

19 October 2022

USACE

New Orleans District

Attn: CEMVN-RGE; MVN-2012-2806 EOO

7400 Leake Avenue

New Orleans, LA 70018

Response to so called Final EIS for the Mid-Barataria Sediment Diversion in Plaquemines Parish

Since 2002, I have attended scoping meetings etc. with the USACE regarding a freshwater diversion in Plaquemines Parish. I really did not think that the process could become even worse than the disinformation and political games were then, but it has. I discovered in a book Living with the Louisiana Shore by Joseph Kelley, Alice Kelley, Orrin Pilkey, Sr. and Albert Clark that cited proposal regarding the possibility regarding building a freshwater diversion in Plaquemines Parish over 40 years ago as this book was published in 1984, almost 40 years ago. So the State of Louisiana did nothing for all of these years until past the point of crisis (CPRA dynasty did not exist) and eleven men died in the BP Deepwater Horizon Oil Spill for a huge mega millions of dollars bonanza and this is the best Environmental Impact Statement the Corps can provide in regards to the same type of project from over 40 years ago? The state of Louisiana settled their lawsuit by fining BP for every dead dolphin, pelican etc. for payment? Who is Louisiana going to pay to the dead wildlife that this diversion is going to kill? Is this diversion project going to become the Greatest Environmental Future Disaster in the Corps' history surpassing the MRGO channel that the Corps dug to the Gulf of Mexico destroying the cypress swamp in St. Bernard Parish creating the "hurricane highway" that flooded the Greater New Orleans area during Hurricane Katrina thus having to build the Great Wall of St. Bernard to attempt to rectify the Corps' man made disaster? Pardon me for being skeptical having seen the total failure of the Mississippi River Gulf Outlet that would be an economic boom with jobs and shipping backed by all the greedy politicians without regard to the possible environmental disaster of broken promises that it became.

In this final EIS, the USACE consolidated the prior draft EIS individual comments depriving our meaning and intent to express our opinions. By editing in this manner, individual's personal statements were white washed as well as unidentifiable in clarity of what their true opinions were which benefits CPRA's position thus depriving

stakeholders of their voice. Louisiana Congressional politicians assisted CPRA in acquiring a WAIVER for subverting the Environmental Impact Statement process as well as NEPA, the Marine Mammals Protection Act, the Magnuson-Ferguson Fisheries Act that will push dolphins in the Barataria Basin to functional extinction that was passed in the Bi-partisan Congressional Budget Act of 2018 at the midnight hour during a holiday period securing the ability by a WAIVER without advertising for public input or comment or knowledge by environment organizations before the required permitting Environmental Impact studies investigation even began so that objections could be quashed. This subverts the ethical intent of past environmental protection laws for the Marine Mammal Protection Act while this Mid Barataria Diversion will bring the Barataria Bay dolphins to functional extinction, an endangered species, as they return to their birthing grounds or bays as well as turtles that are also endangered as shrimpers are required to use turtle exclusion devices. The Endangered Species Act as well as the spirit of NEPA has been violated and circumvented "by political manipulation by lobbying to get out in front of the process by an exclusion WAIVER."

Surely, no person apprised of thousands of dolphin deaths bringing a population to functional extinction, especially the State of Louisiana who was paid by BP oil company for every dead dolphin would approve this permit. As far as other threatened and endangered species mention in passing in ES 4.10 for which consultation under the ESA is complete, without any explanation, where is any discussion regarding the pollutants and invasive species in the Mississippi River waters affects to those species considered by the dumping to this known to be very polluted river water? Is this truly complete? How is that when the LUNCON facility the in Cocodrie, LA evaluate the Dead Zone in the Gulf of Mexico that increases every year? How large will the dead zone become in the Barataria Basin? Where is that investigatory data regarding the affects on the other species' habitation that are endangered?


Cindy Herrmann

[REDACTED]

[REDACTED]

US Senator Cassidy

[REDACTED]

Metairie, LA 70002

[REDACTED]

[REDACTED]

US Congressman Steve Scalise

[REDACTED]

Metairie, LA 70005

Rec'd MB
OCT 21 2022

October 19, 2022

USACE
New Orleans District
Attn: CEMVN; MVN-2012-2806 E00
7400 Leake Avenue
New Orleans, LA 70018

Final EIS Comments for Mid Barataria Diversion Comments- Ralph Herrmann

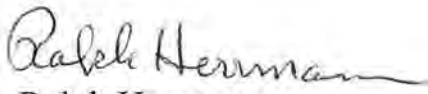
I have been involved and attended many meetings, round table groups, as well as written many letters offering my opinions and dissatisfaction with this project as the State of Louisiana as done nothing to protect our coastline. I have donated many man hours to building cradles for Christmas tree placement along many shorelines; have planted spartina on barrier islands with the late Sue Hawes of the Corps as well as planting hundreds of trees on ridges.

Clearly, the Deepwater Horizon settlement money has been hijacked as it was meant to restore and conserve coastal estuaries as the Barataria estuary has suffered the greatest damage and to increase marine mammal survival by building the their populations back as the State of Louisiana was compensated with BP/Deepwater Horizon MONEY specified for this purpose. Another purpose of the settlement legal documents was to restore fisheries such as speckle trout, redfish, shrimp and oyster reef restoration. Other flora and fauna included the restoration of near shore marsh habitat and marsh islands as well, not further destruction and loss, not to accelerate and to permanently alter and destroy the Barataria Basin as this project will accomplish which is why no restoration earlier as this location was CPRA'S only option considered for as long as this project was first mentioned over 40 years ago. And for what return – how many acres of land do we lose in the first 5 – 7 years of running having the affect of tremendous scour? And why are monies from the settlement being allocated to build a privately owned railroad bridge?

As the USACE's main function and responsibility is to maintain commerce in the Mississippi River by dredging, they are unable to maintain a deep

enough channel and sustain it as there are two naturally occurring river diversions on the east bank of the river causing the river to silt up. They are going to spend millions of taxpayer dollars to close or restrict these diversion's flow. The loss of flow in the river is allowing the salt water to move north and compromise Plaquemines Parish fresh water supply which is going to cost taxpayer's to pay \$6 million dollars to build a temporary sill to impede the flow of salt water. At the same time, the USACE is considering approving and signing off on the Mid Barataria freshwater river diversion project. It is a \$3 Billion project that will **exacerbate** (definition to make a problem or bad situation **worse**) by starving the river of flow water and increasing siltation thus requiring more dredging of the river. Why permit this diversion project when the taxpayer is paying to close 2 other natural "diversion" areas and requiring additional dredging of the river?

To those who advocate to restore the Mississippi River to its natural ways, why not release it starting up in Missouri and let the river flow as it did prior to 1927 when the USACE began the river control work that destroyed the not so great state of Louisiana along with haphazard oil exploration cutting through the march with straight line canals. When you try to control the river you rarely get it right and the damage is always greater than the problem.


Ralph Herrmann

[REDACTED]

[REDACTED]

US Senator Cassidy

[REDACTED]

Metairie, LA 70002

[REDACTED]

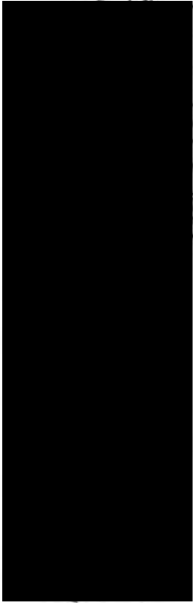
[REDACTED]

US Congressman Steve Scalise

[REDACTED]

Metairie, LA 70005

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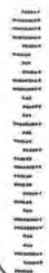
215 AOE - New Orleans District

ATTN: CEMVN, MVN-2012-2806 E00

7400 Leake Avenue

New Orleans, LA 70018

7018-365100



Enclosed 2 comments

OCT 26 2022

HAROLD M. HERRMANN JR.

October 21, 2022

U. S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-E00
7400 Leake Avenue
New Orleans, LA 70018

Re: Final EIS – Mid-Barataria Sediment Diversion
Negative Comments of Harold M. Herrmann, Jr.

First let me say I have a significant vested interest in the Myrtle Grove Subdivision, owning a new home having municipal address [REDACTED]. I am also familiar with the Caernarvon Diversion having hunted in that area on the same lease for nearly 40 years and am well familiar with that diversion's adverse effects on that area firsthand.

I OPPOSE THE MID-BARATARIA DEDIMENT DIVERSION PROJECT!

I have attended many meetings, round table groups, and written many letters offering my opinions and dissatisfaction with this project over the years. I witnessed many others speak against this project. It is pork barrel politics at its finest.

This project will have such an adverse impact on the salinity of the interior estuaries that it will eliminate, the smallest saltwater-based flora and fauna that larger species such as shrimp, trout, oysters, redfish, dolphins and so forth require to sustain themselves. Plant life will be adversely affected as water hyacinth and salvinia proliferate, clogging waterways leading to stagnation suffocating native marsh grasses, reducing their root density and leading to further instability of the marsh. The following sections of the EIS itself directly support these statements:

1. ES.4.13 Commercial Fisheries

"Due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) with in the Barataria basin."

2. ES.4.8 Aquatic Resources

"Overall, the proposed Project would likely have major, adverse impacts on the Barataria Basin population of eastern oysters (predominantly from salinity changes and sedimentation) and brown shrimp (predominantly from changes in salinity and precluded larval recruitment). Other species with projected adverse impacts include spotted sea

3. ES.4.9 Marine Mammals

"Impacts on BBES dolphins include immediate and permanent, major adverse impacts on survival largely due to prolonged exposure to low salinities throughout the BBES stock area. The proposed Project would also cause adverse impacts on health and reproduction from multiple stressors including low salinity exposure, wetland loss in the BBES stock area, lower temperatures, an increased risk of harmful algal blooms (HABs), and the residual effects of the DWH oil spill. These impacts would result in decreased survival rates of BBES dolphins, with some studies projecting the functional extinction of dolphins in portions of the BBES stock over time, with only a remnant population of BBES dolphins present near the barrier islands by the end of the 50-year assessment period."

4. Chapter 3.11.1 Marine Animals in the Northern Gulf of Mexico

"... all dolphin stocks are protected under the Marine Mammal Protection Act (MMPA), and several bottlenose dolphin stocks are listed as "strategic stocks." Strategic are those with declining populations..... To achieve this objective, the MMPA prohibits, among other things, the taking and importation of marine mammals and marine mammal products unless the taking or importation is authorized or exempt."

"Congress passed the Bipartisan Budget Act of 2018, Public Law 115 – 123 (BBA-18), which recognized the consistency of the proposed project, among other CPRA projects with the findings and policy declarations in section 2 (six) of the MMPA."

This shameless act (*Bipartisan Budget Act of 2018*), literally at the stroke before midnight ending the congressional session, was amended to authorize the issuance of a waiver (subsequently issued) of the MMPA moratorium as respects the proposed Project. Someone undoubtedly wanted access to this money very badly.

The result, if this project goes forward, will be a catastrophic event of epic proportions, permanently destroying the current environment, ruining livelihoods, ruining property and its value through inundation and deprivation of its highest and best use as well as the ruination of many commercial businesses, which are interdependent upon each other. The following sections of the EIS itself directly support these statements:

5. Chapter 3.14.3.3 Catch Statistics and Trends

"Table 3.14-4 provides a summary of activity for commercial oyster harvest in the Project area. As shown, oyster landings from 2014 to 2018 averaged 4.7 million pounds at a value of \$32.7 million in the Project area. Oyster activity in the project area accounted for 36% of total Louisiana oyster landings by weight and 42% of total value from oyster landings in Louisiana."

Clearly, Chapter 3.14.3.3 above demonstrates the callous disregard of economics to the greater metropolitan area and the State of Louisiana. This is beyond reckless and tragic in a state that struggles to bring in new business much less hold old business and seems intent on destroying the old business left.

The Deepwater Horizon settlement money was meant to restore and conserve coastal estuaries such as the Barataria estuary which has suffered the greatest damage and, to increase marine mammal survival by building back their populations as the State of Louisiana was compensated with BP/Deepwater Horizon money specific to this purpose. Not to do so is a breach of fiduciary duty to the people of Louisiana.

Another purpose of the BP/Deepwater Horizon legal settlement was to restore fisheries such as speckle trout, redfish, shrimp, oyster reefs as well as other flora and fauna. The settlement included the restoration of near shore marsh habitat and marsh islands. It was not meant to be used to further desecrate, destroy and cripple habitat struggling to recover from the oil spill and certainly not meant to permanently alter and destroy the Barataria Basin as this project will definitely do.

The cost of this project is staggering; \$2.2+ billion! What will we get in return? An estimated 27 square miles over 50 years?? 27 square miles equals 17,280 acres. That is a cost of \$127,315.00 per acre. A mindboggling number to be sure. What is the cost per acre versus the cost per acre of dedicated dredging?

The land loss due to scouring in the initial five to seven years of operation will have such a huge negative effect, overcoming this land loss deficit is highly improbable.

The EIS indicates that the operation of the MBS the Project will have a negligible effect on storm surge of perhaps only reducing it 1 foot. How can this plausibly have any meaningful benefit against a storm surge which typically averages 8 or more feet in height?? Again, it is a gross waste of money. The following section of the EIS itself directly support this statement:

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*"Operation of the MBS the Project would have a permanent, minor to moderate, beneficial impact on communities outside of federal levy systems north of the diversion (Lafitte and Des Allemands), and permanent to minor moderate adverse impacts on public health and safety risks associated with storm hazards in communities outside of federal levee systems south of the diversion (including Myrtle Grove and Grand Bayou). The MBSD Project is projected to cause **a maximum decrease in storm surge elevations of 1.0 foot** at the West Bank and vicinity levees near New Orleans.....At the same time, **operation of the MBSD Project is anticipated to cause increases in storm surge of up to 1.7 feet near Myrtle Grove"***

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October 21, 2022

Page 4

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To those who advocate to restore the Mississippi River to its natural ways, why not release it starting up in Missouri and let the river flow as it did prior to 1927 when the USACE began the river control work that destroyed the State of Louisiana along with haphazard oil exploration which cut through the marsh with straight line canals.

I close saying it is quite inconceivable to me that man can repair what he has destroyed by playing God with one of the most erosive forces on earth, the Mississippi River.

Sincerely yours,

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Harold M. Herrmann, Jr.

CC The Honorable John N. Kennedy
United States Senate

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United States House of Representatives

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October 21, 2022

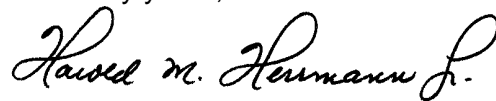
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Harold M. Herrmann, Jr.

CC The Honorable John N. Kennedy
United States Senate

The Honorable Stephen J. Scalise
United States House of Representatives

The Honorable John B. Edwards
Governor of Louisiana

The Honorable William H. Nungesser
Lieutenant Governor

Letter ID: 244083

Sport fishing association / Sportsman

hildebrand, wil
belle chasse, LA 70037

Please do not proceed with destroying our bountiful Fisheries here in Plaquemines Parish by diverting freshwater from the Mississippi River that will surely kill every bottlenose dolphin, oyster, Brown shrimp, and speckled trout in his wake.

DREDGE, DREDGE, DREDGE

This is the solution to rebuilding the Plaquemines Parish Marsh immediately with little or no impact to the commercial fishing industry, this recreational fishing industry or to land and camp owners in the impact area.

Have you guys figured out how much dredge material can be deposited to rebuild the Barataria estuary with \$2 BILLION?

Also have you guys figured out how much land we could have built in the last 10 years with the \$150 million dollars already spent that has not deposited a single bucket full of land in the Barataria estuary?

Start dredging tomorrow from the Mississippi River and also from the Gulf of Mexico which has an endless supply of material to rebuild the marshes in Plaquemines Parish in the Barataria basin which will start building land immediately!!!

Don't delay, start dredging NOW which will help save our Coast NOW!!!!!! Not 50 years from now!

Letter ID: 244092

Sport fishing association / Sportsman

hildebrand, wil
belle chasse, LA 70037

Dredge, dredge, dredge

Please do not proceed forward with the mid Barataria sediment diversion system!

Use the \$2 billion that it will cost to put that diversion system in place and spend the money on dredging materials from the Mississippi River and from the Gulf of Mexico to instantly create new land with Little or No impact to the environment or to the economy of Plaquemines Parish.

The diversion project will only be 25 ft deep. According to the published estimates, the best sediment is at the bottom of the river which can be up to 100 ft deep. The targeted sediment will not flow through the 25 ft deep channel, thereby not giving the desired effect on land building.

This project will not Work! What we do know that it will put many commercial fishermen out of Work. Along with ruining the ecology of the whole Barataria basin and killing all Every bottle nose dolphin in its wake.

Letter ID: 244077

Hill, James
Port Sulphur, LA 70083

I have fished the marshes of Plaquemines Parish for 50 years.

The oil pipeline canals and Freeport Sulphur Co operations have ruined the once pristine marsh "Land".
Combined with the Mississippi River levees.

It is now too late to reverse. This project funding is nothing more than "feel good monies" to create the illusion of being "proactive".

Rest In Peace , South Louisiana , you have been terminated by Corporate America, crooked politicians and pathetic State management / Corps oversight .

I hope to God, the Corps has the balls to Not Issue these permits.

Letter ID: 244146

Carmo LLC / Restaurant

Honn, Dana
New Orleans, LA 70130

I support the Mid-Barataria Sediment Diversion as one of the primary ways we can rebuild land which has been lost and degraded over decades of thoughtless coastal "development." It is time to return the ability of nature and the Mississippi River to restore our coastal lands and ecosystems, and provide at least the possibility of sustained wildlife and economies for future generations. The choice is simple, it involves whether we continue on a path which will ultimately result in the collapse of the delta, the loss of most-likely all of our delicate coastal ecosystems, along with the coastal communities which occupy them, or if we allow the river to do what it does best, create new land as it flows towards the Gulf of Mexico. Indeed, over several trips over the past few years where I've been able to compare the progress of land loss on the West side of the river to the building of land due to natural breaks/avulsions on the East side of the river; it is clear that allowing the river to deposit sediment, as is its natural tendency, is the way to go.

Having said that, this project will create big changes to our fisheries, having direct and immediate effects on the livelihoods of generations of fishers and other coastal businesses and industries. So, it is imperative that the number one priority as the project moves forward is to support the people living in affected communities in every way possible, be it direct compensation, assistance with adapting to changes, as well as developing new opportunities. In fact, if we can't do this in a significant and enduring way, any such project should not move forward.

From hurricanes to sea level rise to saltwater intrusion, there is no question that, if we do nothing, we remain on a decades old path to nowhere, no saltwater estuaries, ever diminishing fisheries, disappearing fishing communities (including indigenous fishers), and with them distinct cultures and ways of life. So let's move together together, with an eye towards listening to and understanding the plight of our coastal neighbors, as they are on the front lines and we all benefit their continued success.

Very Sincerely,
Dana Honn



Restoration Systems, LLC
[Redacted]
[Redacted]
[Redacted]

October 24, 2022

Via Comment Portal

<http://www.mvn.usace.army.mil/Missions/Regulatory/Permits/Mid-Barataria-Sediment-Diversion-EIS/>

***U.S. Army Corps of Engineers
New Orleans District
ATTENTION: Regulatory Division
RGE (MVN-2012-2806-EOO)***

**Re: Restoration Systems, LLC Comments on USACE Notice of Availability of the
Final Mid-Barataria Sediment Diversion Project Environmental Impact
Statement - Special Public Notice dated September 23, 2022
Permit Application Number: MVN-2012-2806-EOO(Section 10/404)**

Dear Sir/Madam:

I am writing on behalf of Restoration Systems, LLC, a leading environmental restoration and mitigation banking firm, and sponsor of the Jesuit Bend Mitigation Bank, to provide comments on the U.S. Army Corps of Engineers' (Corps) Final Mid-Barataria Sediment Diversion (MBSD) Project Environmental Impact Statement (FEIS) in response to the Special Public Notice dated September 23, 2022, with comments due before or on September 24, 2022.

We support the Coastal Protection & Restoration Authority of Louisiana's (CPRA) efforts to restore habitat and ecosystem services impacted by the Deepwater Horizon oil spill by implementing a large-scale sediment diversion project in the Barataria Basin. We are pleased to see that the CPRA is not relying on diversion marsh creation performance to replace the permanent loss of wetlands that would result from Project construction, should the Project be permitted. However, the CPRA proposes to offset the project's permanent impacts to 193.1 acres of jurisdictional wetlands and 307.2 acres of open water by using excess excavated material in several ways, including beneficial use areas adjacent to the Project outfall feature. The CPRA proposes to repurpose 2.0 mcy of excavated material to create at least 402 acres of marsh (up to 375 acres of emergent marsh and nourish 92 acres of existing marsh) during Project construction, as updated in the FEIS. We believe, based on experience in creating Jesuit Bend Mitigation Bank, just north of the Project site, such a marsh creation method of utilizing "leftover unused excavated upland and wetland soils" represents a high risk of achieving successful wetland creation / restoration and fails to consider and give priority to credits from mitigation banks, which are available within the Barataria Basin and would eliminate all risks for successful project mitigation. The Corps' FEIS for the proposed MBSD Project, dated

September 2022, states in Section 4.27.2 Compensatory Mitigation (p. 4-1023) regarding the Corps' permit decision to require compensatory mitigation the following:

“USACE’s determination in its permitting decision whether to require compensatory mitigation would be made in accordance with 33 CFR 320.4(r)), 33 CFR Part 332, and applicable USACE guidance, including the 1990 USEPA and USACE Memorandum of Agreement (MOA) Concerning the Determination of Mitigation. Any potential compensatory mitigation requirements will be discussed in the ROD.”

The Corps should require compensatory mitigation for these direct impacts to wetlands/waters and require the purchase of bank credits as mitigation for those impacts.

For the reasons discussed below, we respectfully request that the Corps consider the proposed MBSD Project's permanently impacted wetlands/waters and determine, in addition to the Project's high risk proposed beneficial use marsh creation component:

- (i) compensatory mitigation is required to offset the permanent, direct loss during construction of 193.1 acres of wetlands within the project's construction footprint; and
- (ii) this permanent, direct jurisdictional wetlands loss will be mitigated through the purchase of released in-kind and in-basin mitigation bank credits, which are available from Jesuit Bend Mitigation Bank.

Any other decision by the Corps threatens the integrity of the compensatory mitigation policy that is vital to Louisiana's coast and people.

RESTORATION SYSTEMS DETAILED COMMENTS

A. Restoration Systems Experience and Jesuit Bend Mitigation Bank

Restoration Systems has more than ninety (90) mitigation banks and turn-key restoration sites in nine states, including Louisiana. Jesuit Bend Mitigation Bank, owned and operated by Restoration Systems, has available in-kind, in-basin credits. Jesuit Bend is located within the Barataria Basin near the proposed MBSD construction footprint, and currently has 89.85 acres/33.24 Average Annual Habitat Units (“AAHUs”) of fresh-intermediate marsh credits available on the “RIBITS” Website. An additional 49.40 acres/18.28 AAHUs could be made available as early as 2023.

Jesuit Bend was constructed in 2015, where approximately 1.3 million cubic yards of sediment was dredged from the Mississippi River, transported over five (5) miles, and deposited throughout an approximate 240-acre open water area. Vegetative plantings were

also conducted along with the enhancement of an existing marsh and the protection of a high-quality cypress swamp. The site is protected by a perpetual conservation servitude and to date, all success criteria have been met. If Jesuit Bend is successful – and threshold regulatory decisions do not undermine demand for properly conducted mitigation – Restoration Systems plans to expand the mitigation bank and explore additional opportunities to restore habitat and ecosystem services in coastal Louisiana.

B. MBSD Project – Construction Impacts to Jurisdictional Wetlands and Compensatory Mitigation Requirement

During the construction of the MBSD Project, wetlands in the construction footprint will be dredged or filled resulting in permanent loss of wetland function and area. These wetlands will not be restored following construction and will no longer provide ecosystem functions, including flood control, water quality improvement, and wildlife habitat. As a result, 193.1 acres of jurisdictional wetlands within the MBSD construction footprint and the functions they provide will be permanently lost as a result of the MBSD.

The FEIS states that CPRA is proposing to “repurpose” ~ 2.0 mcy of the excess sediment excavated during construction of the MBSD Project for construction of a beneficial use marsh creation component, concurrent with Project construction. However, the FEIS further states that this dredged/excavated sediment would first be used for construction of the project components and only be used for beneficial reuse “if suitable” and “to the extent practicable”. While the CPRA estimates that it will have approximately 2.0 mcy of excess excavated material suitable for placement in the beneficial use sites:

1) the actual leftover amount is currently unknown, 2) the suitability of the repurposed sediments is unknown (no sediment analysis is included in the FEIS and to our understanding the CPRA has not performed, to date, core sampling and analysis of these sediments to determine their suitability for marsh creation), and, therefore, 3) the benefits cannot be calculated or considered as a mitigation offset.

While the CPRA’s beneficial use marsh creation component concurrent with Project construction proposing to create up to 375 acres of emergent marsh and nourish 92 acres of existing marsh as a “project feature” to offset the loss of 193.1 acres of jurisdictional wetlands, the FEIS states that the Corps has not determined whether or not it will require compensatory mitigation for the proposed project’s wetland loss and states in the FEIS, “Response to Restoration Systems Draft EIS Comments” the following:

“USACE’s determination in its permitting decision whether to require compensatory mitigation would be made in accordance with 33 CFR Section 320.4(r), 33 CFR Part 332, and applicable USACE guidance, including the 1990 USEPA & USACE MOA Concerning the Determination of Mitigation.”

(FEIS Appendix B2, Attachment 2 pg. 1556-1567)

In addition, the Corps further states regarding the use of mitigation bank credits, the following:

“If compensatory mitigation were required, options consistent with Part 332 would be

considered, including banks within the appropriate watershed with available credits. Any potential compensatory mitigation requirement would be discussed in the ROD.”
(FEIS Appendix B2, Attachment 2 pg. 1567)

The Project features’ proposed wetland loss offset involves additional impacts to waters of the U.S. The FEIS states in Chapter 4.6.4.1.2 Applicant’s Preferred Alternative. the following regarding additional impacts to waters of the U.S. from the Project’s beneficial marsh creation component:

“A total of 204.2 acres of wetlands would be dredged or filled within the Project construction footprint. In addition, 307.2 acres of open water (including waters of the U.S., other open water, and vegetated shallows containing SAV) would be within the Project construction footprint.”

We request that the Corps, at the minimum, require compensatory mitigation for the proposed 193.1 acres of jurisdictional wetland direct impacts as a result of Project construction, to include an analysis of the sediments to be used in CPRA’s beneficial marsh creation component and that the required components of a mitigation plan be followed. Due to the high risk and uncertainty of success, as a part of the mitigation plan, a long-term monitoring and maintenance plan and site protection should be included. In addition, we request that the Corps observe the hierarchy of mitigation and select mitigation bank credits to offset the direct impacts to wetlands resulting from construction, reducing the risk and the time-lag of mitigation offset for the Project’s direct wetland impacts, in accordance with the 2008 Final Rule (see below Section C.).

C. Relevant Corps Compensatory Mitigation Regulations.

1. 1990 EPA-Corps Memorandum of Agreement

In 1990, the Environmental Protection Agency (“EPA”) and the Corps entered into a Memorandum of Agreement to articulate the policy and procedures to be used in determining the type and level of mitigation necessary to demonstrate compliance with the Clean Water Act Section 404(b)(1) Guidelines (“the 1990 MOA”). The 1990 MOA restates the goal of achieving no overall net loss of values and functions to aquatic resources, and in particular wetlands, by striving to avoid adverse impacts and offset unavoidable impacts to existing aquatic resources. Appropriate and practicable mitigation is required. The 1990 MOA recognizes that the goal of no net loss may not be fully met “where the mitigation measures necessary to meet this goal are not feasible, not practicable, or would accomplish only inconsequential reductions in impacts.”

The 1990 MOA also reinforces the methods and sequence of evaluating Section 404 permit applications. The Corps will evaluate information about all aspects of a project, including potential compensatory mitigation, at the same time. The Corps will first make a determination that potential impacts have been avoided, to the maximum extent practicable, and remaining unavoidable impacts will be minimized and mitigated to the extent appropriate and practicable. The 1990 MOA recognizes that the Corps may

deviate from this sequence under certain limited circumstances, including where “EPA and the Corps agree that the proposed discharge can reasonably be expected to result in environmental gain or insignificant environmental losses.”

2. The 2008 Final Rule

On April 10, 2008, the Corps and the EPA published the *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule issued on April 10, 2008* (2008 Final Rule). The 2008 Final Rule was designed to create a uniform set of rules and create equal standards for all forms of compensatory mitigation. To reduce risk and uncertainty and help ensure that the required compensation is provided, the **2008 Final Rule established a preference hierarchy for mitigation replacing the on-site preference**. Under the 2008 Final Rule, the preferred option is mitigation bank credits. Mitigation banks are the first priority because they involve the least risk and provide the opportunity to perform aggregate mitigation for damage done to aquatic resources in a watershed. Mitigation banks are also preferred because they decrease enforcement and monitoring costs and typically provide mitigation before the wetland impacts occur. The preference hierarchy established by the 2008 Final Rule is intended to ensure that a mitigation option is selected with the highest probability of delivering successful, high-quality mitigation among the available options.

Pursuant to the 2008 Final Rule, when evaluating compensatory mitigation options, District Engineers consider what would be environmentally preferable, taking into account the likelihood of ecological success and sustainability, the location of the compensation site relative to the impact site and their relative significance within the watershed, and the costs of the compensatory mitigation project. District Engineers may only override the preference for mitigation banks in limited circumstances, and such decisions must be documented. The 2008 Final Rule allows District Engineers to override the preference hierarchy in situations where the reasons underlying the preference do not apply. For example, the preference may be overridden if an approved in-lieu fee program has released credits available or a permittee with a proven track record is proposing a compensatory mitigation project that will restore an outstanding resource based on rigorous scientific and technical analysis. In other words, District Engineers may override the preference for mitigation banks only if other compensatory mitigation options would involve less risk and uncertainty and provide greater ecological value to the watershed. We believe that these circumstances do not apply here.

DISCUSSION

For the reasons identified below, offsetting proposed wetland impacts by project design is not an option, especially for the MBSD, and the Corps should require CPRA to purchase available in-kind and in-basin mitigation bank credits to offset the permanent, direct impacts to jurisdictional wetlands within the project’s construction footprint.

A. Mid-Barataria Sediment Diversion – Construction Impacts to Jurisdictional Wetlands and CPRA’s Proposed Project Offset (Construction a Beneficial Use Marsh Creation Component)

During the construction of the MBSD, 193.1 acres of wetlands in the construction footprint will be dredged or filled resulting in permanent loss of wetland function and area. These wetlands will not be restored following construction and will no longer provide ecosystem functions, including flood control, water quality improvement, and wildlife habitat.

CPRA is proposing to use some (excess) of the soils from uplands and wetlands excavated / dredged during construction of the MBSD Project for beneficial use placement and upland reuse (e.g., filling existing borrow pits). However, this material would first be used for construction of the project components, with material unsuitable for this use to be used for marsh creation. The FEIS states:

“Most of the material excavated or dredged for the conveyance channel and outfall transition feature would be used for fill associated with construction of the diversion complex structures and conveyance channel levees. Material unsuitable for this use would be deposited in designated beneficial use placement areas for marsh creation or used to infill nearby borrow pits (see Figure 2.8-1 in Chapter 2). The grain size distribution of excavated or dredged material that would be deposited in the areas that would serve as beneficial use placement areas would differ to some extent from the grain size distributions of the sediments there presently.”

FEIS Section 4.2.3.1.2 Applicants Preferred Alternative pg. 4-17.

CPRA takes the position that the Project’s beneficial marsh creation component will offset the direct, permanent impacts to 193.1 acres of jurisdictional wetlands in the construction footprint utilizing Dredge Material Placement Areas (DMPA). It does not appear from reviewing the CPRA’s MBSD Permit Application or the Corps FEIS that soil suitability studies have been undertaken for the beneficial use marsh creation proposed to offset the wetland impacts. Soils were only identified and assessed using the Soil Survey Geographic database as provided by USDA. All the soil series in the project area are classified as hydric. The CPRA’s concept is to use material in the diversion channel. Beneficial use DMPAs consist of up to 467 acres northwest and southeast of the proposed diversion. Material excavated for construction will be used for construction components, if suitable. Any remaining excavated or dredged material would be used beneficially or disposed of in designated upland disposal areas. Beneficial use would create up to 375 acres of emergent marsh and the nourishment of 92 acres of existing marsh and terrace habitat, depending on the availability of left-over suitable sediments. The Corps FEIS p. 2-56 states that:

*“Approximately 465 acres of open water and eroding marsh would be restored to wetlands and/or shallow water aquatic habitat in three beneficial use placement areas in the immediate outfall area, **depending on the availability of suitable material generated from dredging operations during construction.**”*

B. Compensatory Mitigation Should be Required in Lieu of or in Addition to CPRA's Proposed Project Beneficial Use Marsh Creation Component to Offset Wetland Impacts

Compensatory mitigation is a critical tool in helping the state and federal governments to meet the longstanding national goal of “no net loss” of wetland acreage and function. The standards and requirements set forth in the Corps and EPA’s 2008 Final Rule are not discretionary – they are mandatory for federal permits:

“All compensatory mitigation projects must comply with the standards in this part, if they are to be used to provide compensatory mitigation for activities authorized by DA permits, regardless of whether they are sited on public or private lands and whether the sponsor is a governmental or private entity. 33 CFR§ 332.3(a)(3).”

- 1. The MBSD will result in a net loss of aquatic functions, and the timing and uncertainty of any environmental benefits as a result of the proposed discharge cannot justify deviating from the requirement that unavoidable impacts will be mitigated to the extent appropriate and practicable.**

As discussed above, it is known and undisputed that: (i) during construction of the MBSD, 193.1 acres of wetlands will be dredged and filled; (ii) this will result in a permanent loss of wetland function and area; (iii) these wetlands will not be restored following construction and will no longer provide ecosystem functions; and (iv) as a result, 193.1 acres of jurisdictional wetlands within the MBSD construction footprint and the functions they provide will be permanently lost as a result of the MBSD.

In an attempt to avoid compensatory mitigation requirements, CPRA proposes beneficial use marsh creation as a Project feature, to offset the Project’s wetland loss during construction. CPRA claims that there will be “no net loss” of wetlands because wetland losses during construction would be offset by gains in wetland acreage in the beneficial use areas and during operations of the MBSD. (FEIS, Chapter 4 – pg. 216) The uncertainty and timing of these environmental benefits cannot justify disregarding the longstanding and well-established state and federal requirement that unavoidable impacts be minimized and mitigated.

Notwithstanding a project may have net beneficial effects on jurisdictional wetlands, the permittee must still provide compensatory mitigation that complies with the state and federal requirements, including the 2008 Final Rule to offset permanent impacts to jurisdictional wetlands. The Corps acknowledges that Section 404 of the Clean Water Act requires compensatory mitigation:

“After consideration of all enforceable avoidance and minimization measures outlined in this section, Section 404 requires CPRA to offset any remaining unavoidable impacts on jurisdictional wetlands or special aquatic sites with compensatory mitigation.” FEIS, p. 4-1022.

There is nothing that justifies the State and the Corps deviating from this requirement. The permanent loss of 193.1 acres of jurisdictional wetlands and the

functions they provide is not an insignificant loss. It's a significant loss whether viewed in isolation or the context of the MBSD. Further, based on the uncertainty and timing of successful creation of wetlands with the beneficial use marsh creation Project component, these environmental benefits cannot be reasonably expected to offset the significant losses of jurisdictional wetlands and their functions within the construction footprint.

The MBSD involves a high degree of risk and uncertainty, including the proposed beneficial use of excess excavated sediments to create wetlands in DMPAs. This is not sufficient to override the requirement for compensatory mitigation. There will be a net loss of jurisdictional wetland values and functions, and these losses must be mitigated through the purchase of available in-kind and in-basin mitigation bank credits or other well-established mechanisms.

2. Mitigation of the permanent impacts to jurisdictional wetlands in the construction footprint of the MBSD is feasible, practicable, and appropriate and will result in consequential reduction in impacts through the use of Bank Credits rather than utilizing DMPAs.

The purchase of mitigation bank credits (or mitigation through some other well-established mechanism) is feasible, appropriate, and practicable. The purchase of in-kind and in-basin mitigation bank credits will offset the values and functions of the impacted jurisdictional wetlands. It should also be undisputed that the purchase of such credits is practicable. It is capable of being done after considering "cost, existing technology, and logistics in light of overall projects purposes." The costs of compensatory mitigation must be considered in the context of the known unavoidable impacts. The cost of in-kind and in-basin credits is *de minimis* relative to the MBSD costs and scale and scope of impacts. CPRA is proposing to construct an unprecedented large-scale diversion project (estimated construction costs exceeding \$2 billion), which will permanently destroy 193.1 acres of jurisdictional wetlands within the MBSD construction footprint.

3. It is inappropriate to compare the MBSD to "typical" marsh creation projects.

Although under certain circumstances the Corps has the limited discretion to not require compensatory mitigation when a proposed discharge is reasonably expected to result in environmental benefits, the anticipated benefits of the MBSD cannot justify the Corps exercising this discretion.

The MBSD is different than a typical marsh creation project where the Corps sometimes determines that compensatory mitigation is not required. First, unlike a typical marsh creation project, the impacts to jurisdictional wetlands in the construction footprint will not be a result of sediment discharge, but will be more permanent. These wetlands will be filled with concrete. Second, the areal extent of impacts (193.1 acres associated with the construction footprint) is much larger than a typical marsh creation project. Third, unlike a typical marsh creation project and as discussed above, the

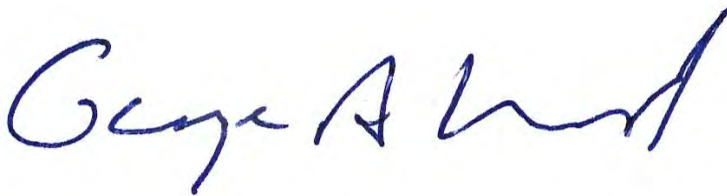
environmental benefits associated with the MBSD are highly uncertain. The MBSD is unprecedented and modeling a highly dynamic system over decades results in a high degree of uncertainty. Exercising its discretion to not require compensatory mitigation to offset the impacts to 193.1 acres of jurisdictional wetlands in the construction footprint would not be appropriate in this case and would set an alarming precedent.

The 2008 Final Rule provides three mechanisms to mitigate unavoidable impacts to jurisdictional wetlands, in order of preference: (1) mitigation bank credits; (2) in lieu fee program credits; and (3) permittee-responsible mitigation. The 2008 Final Rule establishes a hierarchy for these mitigation alternatives with mitigation bank credits the preferred option.

CONCLUSION

We look forward to working with the Corps and CPRA to ensure that the compensatory mitigation to mitigate the unavoidable, permanent impacts within the project's construction footprint is consistent with relevant laws, regulations, guidance, and policies. We respectfully request that the Corps evaluate CPRA's mitigation plan and determine: (i) compensatory mitigation is required to offset the permanent, direct impacts to jurisdictional wetlands within the project's construction footprint; and (ii) these permanent, direct impacts to jurisdictional wetlands will be mitigated through the purchase of released in-kind and in-basin mitigation bank credits, which are available from Jesuit Bend Mitigation Bank. Any other outcome would establish an alarming precedent that would have long-term and far-reaching impacts on Louisiana's coast and the mitigation banking industry that seeks to protect and restore it.

Kind regards,

A handwritten signature in blue ink, appearing to read "George A. Howard".

George Howard
CEO, Restoration Systems

Two lines of blacked-out text, likely redacting contact information such as a phone number and email address.



Restoration Systems, LLC
[Redacted]
[Redacted]
[Redacted]

October 24, 2022

Via Comment Portal

<http://www.mvn.usace.army.mil/Missions/Regulatory/Permits/Mid-Barataria-Sediment-Diversion-EIS/>

U.S. Army Corps of Engineers

New Orleans District

ATTENTION: Regulatory Division

RGE (MVN-2012-2806-EOO)

**Re: Restoration Systems, LLC Comments on USACE Notice of Availability of the
Final Mid-Barataria Sediment Diversion Project Environmental Impact
Statement - Special Public Notice dated September 23, 2022
Permit Application Number: MVN-2012-2806-EOO(Section 10/404)**

Dear Sir/Madam:

I am writing on behalf of Restoration Systems, LLC, a leading environmental restoration and mitigation banking firm, and sponsor of the Jesuit Bend Mitigation Bank, to provide comments on the U.S. Army Corps of Engineers' (Corps) Final Mid-Barataria Sediment Diversion (MBSD) Project Environmental Impact Statement (FEIS) in response to the Special Public Notice dated September 23, 2022, with comments due before or on September 24, 2022.

We support the Coastal Protection & Restoration Authority of Louisiana's (CPRA) efforts to restore habitat and ecosystem services impacted by the Deepwater Horizon oil spill by implementing a large-scale sediment diversion project in the Barataria Basin. We are pleased to see that the CPRA is not relying on diversion marsh creation performance to replace the permanent loss of wetlands that would result from Project construction, should the Project be permitted. However, the CPRA proposes to offset the project's permanent impacts to 193.1 acres of jurisdictional wetlands and 307.2 acres of open water by using excess excavated material in several ways, including beneficial use areas adjacent to the Project outfall feature. The CPRA proposes to repurpose 2.0 mcy of excavated material to create at least 402 acres of marsh (up to 375 acres of emergent marsh and nourish 92 acres of existing marsh) during Project construction, as updated in the FEIS. We believe, based on experience in creating Jesuit Bend Mitigation Bank, just north of the Project site, such a marsh creation method of utilizing "leftover unused excavated upland and wetland soils" represents a high risk of achieving successful wetland creation / restoration and fails to consider and give priority to credits from mitigation banks, which are available within the Barataria Basin and would eliminate all risks for successful project mitigation. The Corps' FEIS for the proposed MBSD Project, dated

September 2022, states in Section 4.27.2 Compensatory Mitigation (p. 4-1023) regarding the Corps' permit decision to require compensatory mitigation the following:

“USACE’s determination in its permitting decision whether to require compensatory mitigation would be made in accordance with 33 CFR 320.4(r)), 33 CFR Part 332, and applicable USACE guidance, including the 1990 USEPA and USACE Memorandum of Agreement (MOA) Concerning the Determination of Mitigation. Any potential compensatory mitigation requirements will be discussed in the ROD.”

The Corps should require compensatory mitigation for these direct impacts to wetlands/waters and require the purchase of bank credits as mitigation for those impacts.

For the reasons discussed below, we respectfully request that the Corps consider the proposed MBSD Project's permanently impacted wetlands/waters and determine, in addition to the Project's high risk proposed beneficial use marsh creation component:

- (i) compensatory mitigation is required to offset the permanent, direct loss during construction of 193.1 acres of wetlands within the project's construction footprint; and
- (ii) this permanent, direct jurisdictional wetlands loss will be mitigated through the purchase of released in-kind and in-basin mitigation bank credits, which are available from Jesuit Bend Mitigation Bank.

Any other decision by the Corps threatens the integrity of the compensatory mitigation policy that is vital to Louisiana's coast and people.

RESTORATION SYSTEMS DETAILED COMMENTS

A. Restoration Systems Experience and Jesuit Bend Mitigation Bank

Restoration Systems has more than ninety (90) mitigation banks and turn-key restoration sites in nine states, including Louisiana. Jesuit Bend Mitigation Bank, owned and operated by Restoration Systems, has available in-kind, in-basin credits. Jesuit Bend is located within the Barataria Basin near the proposed MBSD construction footprint, and currently has 89.85 acres/33.24 Average Annual Habitat Units (“AAHUs”) of fresh-intermediate marsh credits available on the “RIBITS” Website. An additional 49.40 acres/18.28 AAHUs could be made available as early as 2023.

Jesuit Bend was constructed in 2015, where approximately 1.3 million cubic yards of sediment was dredged from the Mississippi River, transported over five (5) miles, and deposited throughout an approximate 240-acre open water area. Vegetative plantings were

also conducted along with the enhancement of an existing marsh and the protection of a high-quality cypress swamp. The site is protected by a perpetual conservation servitude and to date, all success criteria have been met. If Jesuit Bend is successful – and threshold regulatory decisions do not undermine demand for properly conducted mitigation – Restoration Systems plans to expand the mitigation bank and explore additional opportunities to restore habitat and ecosystem services in coastal Louisiana.

B. MBSD Project – Construction Impacts to Jurisdictional Wetlands and Compensatory Mitigation Requirement

During the construction of the MBSD Project, wetlands in the construction footprint will be dredged or filled resulting in permanent loss of wetland function and area. These wetlands will not be restored following construction and will no longer provide ecosystem functions, including flood control, water quality improvement, and wildlife habitat. As a result, 193.1 acres of jurisdictional wetlands within the MBSD construction footprint and the functions they provide will be permanently lost as a result of the MBSD.

The FEIS states that CPRA is proposing to “repurpose” ~ 2.0 mcy of the excess sediment excavated during construction of the MBSD Project for construction of a beneficial use marsh creation component, concurrent with Project construction. However, the FEIS further states that this dredged/excavated sediment would first be used for construction of the project components and only be used for beneficial reuse “if suitable” and “to the extent practicable”. While the CPRA estimates that it will have approximately 2.0 mcy of excess excavated material suitable for placement in the beneficial use sites:

1) the actual leftover amount is currently unknown, 2) the suitability of the repurposed sediments is unknown (no sediment analysis is included in the FEIS and to our understanding the CPRA has not performed, to date, core sampling and analysis of these sediments to determine their suitability for marsh creation), and, therefore, 3) the benefits cannot be calculated or considered as a mitigation offset.

While the CPRA’s beneficial use marsh creation component concurrent with Project construction proposing to create up to 375 acres of emergent marsh and nourish 92 acres of existing marsh as a “project feature” to offset the loss of 193.1 acres of jurisdictional wetlands, the FEIS states that the Corps has not determined whether or not it will require compensatory mitigation for the proposed project’s wetland loss and states in the FEIS, “Response to Restoration Systems Draft EIS Comments” the following:

“USACE’s determination in its permitting decision whether to require compensatory mitigation would be made in accordance with 33 CFR Section 320.4(r), 33 CFR Part 332, and applicable USACE guidance, including the 1990 USEPA & USACE MOA Concerning the Determination of Mitigation.”

(FEIS Appendix B2, Attachment 2 pg. 1556-1567)

In addition, the Corps further states regarding the use of mitigation bank credits, the following:

“If compensatory mitigation were required, options consistent with Part 332 would be

considered, including banks within the appropriate watershed with available credits. Any potential compensatory mitigation requirement would be discussed in the ROD.”
(FEIS Appendix B2, Attachment 2 pg. 1567)

The Project features’ proposed wetland loss offset involves additional impacts to waters of the U.S. The FEIS states in Chapter 4.6.4.1.2 Applicant’s Preferred Alternative. the following regarding additional impacts to waters of the U.S. from the Project’s beneficial marsh creation component:

“A total of 204.2 acres of wetlands would be dredged or filled within the Project construction footprint. In addition, 307.2 acres of open water (including waters of the U.S., other open water, and vegetated shallows containing SAV) would be within the Project construction footprint.”

We request that the Corps, at the minimum, require compensatory mitigation for the proposed 193.1 acres of jurisdictional wetland direct impacts as a result of Project construction, to include an analysis of the sediments to be used in CPRA’s beneficial marsh creation component and that the required components of a mitigation plan be followed. Due to the high risk and uncertainty of success, as a part of the mitigation plan, a long-term monitoring and maintenance plan and site protection should be included. In addition, we request that the Corps observe the hierarchy of mitigation and select mitigation bank credits to offset the direct impacts to wetlands resulting from construction, reducing the risk and the time-lag of mitigation offset for the Project’s direct wetland impacts, in accordance with the 2008 Final Rule (see below Section C.).

C. Relevant Corps Compensatory Mitigation Regulations.

1. 1990 EPA-Corps Memorandum of Agreement

In 1990, the Environmental Protection Agency (“EPA”) and the Corps entered into a Memorandum of Agreement to articulate the policy and procedures to be used in determining the type and level of mitigation necessary to demonstrate compliance with the Clean Water Act Section 404(b)(1) Guidelines (“the 1990 MOA”). The 1990 MOA restates the goal of achieving no overall net loss of values and functions to aquatic resources, and in particular wetlands, by striving to avoid adverse impacts and offset unavoidable impacts to existing aquatic resources. Appropriate and practicable mitigation is required. The 1990 MOA recognizes that the goal of no net loss may not be fully met “where the mitigation measures necessary to meet this goal are not feasible, not practicable, or would accomplish only inconsequential reductions in impacts.”

The 1990 MOA also reinforces the methods and sequence of evaluating Section 404 permit applications. The Corps will evaluate information about all aspects of a project, including potential compensatory mitigation, at the same time. The Corps will first make a determination that potential impacts have been avoided, to the maximum extent practicable, and remaining unavoidable impacts will be minimized and mitigated to the extent appropriate and practicable. The 1990 MOA recognizes that the Corps may

deviate from this sequence under certain limited circumstances, including where “EPA and the Corps agree that the proposed discharge can reasonably be expected to result in environmental gain or insignificant environmental losses.”

2. The 2008 Final Rule

On April 10, 2008, the Corps and the EPA published the *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule issued on April 10, 2008* (2008 Final Rule). The 2008 Final Rule was designed to create a uniform set of rules and create equal standards for all forms of compensatory mitigation. To reduce risk and uncertainty and help ensure that the required compensation is provided, the **2008 Final Rule established a preference hierarchy for mitigation replacing the on-site preference**. Under the 2008 Final Rule, the preferred option is mitigation bank credits. Mitigation banks are the first priority because they involve the least risk and provide the opportunity to perform aggregate mitigation for damage done to aquatic resources in a watershed. Mitigation banks are also preferred because they decrease enforcement and monitoring costs and typically provide mitigation before the wetland impacts occur. The preference hierarchy established by the 2008 Final Rule is intended to ensure that a mitigation option is selected with the highest probability of delivering successful, high-quality mitigation among the available options.

Pursuant to the 2008 Final Rule, when evaluating compensatory mitigation options, District Engineers consider what would be environmentally preferable, taking into account the likelihood of ecological success and sustainability, the location of the compensation site relative to the impact site and their relative significance within the watershed, and the costs of the compensatory mitigation project. District Engineers may only override the preference for mitigation banks in limited circumstances, and such decisions must be documented. The 2008 Final Rule allows District Engineers to override the preference hierarchy in situations where the reasons underlying the preference do not apply. For example, the preference may be overridden if an approved in-lieu fee program has released credits available or a permittee with a proven track record is proposing a compensatory mitigation project that will restore an outstanding resource based on rigorous scientific and technical analysis. In other words, District Engineers may override the preference for mitigation banks only if other compensatory mitigation options would involve less risk and uncertainty and provide greater ecological value to the watershed. We believe that these circumstances do not apply here.

DISCUSSION

For the reasons identified below, offsetting proposed wetland impacts by project design is not an option, especially for the MBSD, and the Corps should require CPRA to purchase available in-kind and in-basin mitigation bank credits to offset the permanent, direct impacts to jurisdictional wetlands within the project’s construction footprint.

A. Mid-Barataria Sediment Diversion – Construction Impacts to Jurisdictional Wetlands and CPRA’s Proposed Project Offset (Construction a Beneficial Use Marsh Creation Component)

During the construction of the MBSD, 193.1 acres of wetlands in the construction footprint will be dredged or filled resulting in permanent loss of wetland function and area. These wetlands will not be restored following construction and will no longer provide ecosystem functions, including flood control, water quality improvement, and wildlife habitat.

CPRA is proposing to use some (excess) of the soils from uplands and wetlands excavated / dredged during construction of the MBSD Project for beneficial use placement and upland reuse (e.g., filling existing borrow pits). However, this material would first be used for construction of the project components, with material unsuitable for this use to be used for marsh creation. The FEIS states:

“Most of the material excavated or dredged for the conveyance channel and outfall transition feature would be used for fill associated with construction of the diversion complex structures and conveyance channel levees. Material unsuitable for this use would be deposited in designated beneficial use placement areas for marsh creation or used to infill nearby borrow pits (see Figure 2.8-1 in Chapter 2). The grain size distribution of excavated or dredged material that would be deposited in the areas that would serve as beneficial use placement areas would differ to some extent from the grain size distributions of the sediments there presently.”

FEIS Section 4.2.3.1.2 Applicants Preferred Alternative pg. 4-17.

CPRA takes the position that the Project’s beneficial marsh creation component will offset the direct, permanent impacts to 193.1 acres of jurisdictional wetlands in the construction footprint utilizing Dredge Material Placement Areas (DMPA). It does not appear from reviewing the CPRA’s MBSD Permit Application or the Corps FEIS that soil suitability studies have been undertaken for the beneficial use marsh creation proposed to offset the wetland impacts. Soils were only identified and assessed using the Soil Survey Geographic database as provided by USDA. All the soil series in the project area are classified as hydric. The CPRA’s concept is to use material in the diversion channel. Beneficial use DMPAs consist of up to 467 acres northwest and southeast of the proposed diversion. Material excavated for construction will be used for construction components, if suitable. Any remaining excavated or dredged material would be used beneficially or disposed of in designated upland disposal areas. Beneficial use would create up to 375 acres of emergent marsh and the nourishment of 92 acres of existing marsh and terrace habitat, depending on the availability of left-over suitable sediments. The Corps FEIS p. 2-56 states that:

*“Approximately 465 acres of open water and eroding marsh would be restored to wetlands and/or shallow water aquatic habitat in three beneficial use placement areas in the immediate outfall area, **depending on the availability of suitable material generated from dredging operations during construction.**”*

B. Compensatory Mitigation Should be Required in Lieu of or in Addition to CPRA's Proposed Project Beneficial Use Marsh Creation Component to Offset Wetland Impacts

Compensatory mitigation is a critical tool in helping the state and federal governments to meet the longstanding national goal of “no net loss” of wetland acreage and function. The standards and requirements set forth in the Corps and EPA’s 2008 Final Rule are not discretionary – they are mandatory for federal permits:

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- 1. The MBSD will result in a net loss of aquatic functions, and the timing and uncertainty of any environmental benefits as a result of the proposed discharge cannot justify deviating from the requirement that unavoidable impacts will be mitigated to the extent appropriate and practicable.**

As discussed above, it is known and undisputed that: (i) during construction of the MBSD, 193.1 acres of wetlands will be dredged and filled; (ii) this will result in a permanent loss of wetland function and area; (iii) these wetlands will not be restored following construction and will no longer provide ecosystem functions; and (iv) as a result, 193.1 acres of jurisdictional wetlands within the MBSD construction footprint and the functions they provide will be permanently lost as a result of the MBSD.

In an attempt to avoid compensatory mitigation requirements, CPRA proposes beneficial use marsh creation as a Project feature, to offset the Project’s wetland loss during construction. CPRA claims that there will be “no net loss” of wetlands because wetland losses during construction would be offset by gains in wetland acreage in the beneficial use areas and during operations of the MBSD. (FEIS, Chapter 4 – pg. 216) The uncertainty and timing of these environmental benefits cannot justify disregarding the longstanding and well-established state and federal requirement that unavoidable impacts be minimized and mitigated.

Notwithstanding a project may have net beneficial effects on jurisdictional wetlands, the permittee must still provide compensatory mitigation that complies with the state and federal requirements, including the 2008 Final Rule to offset permanent impacts to jurisdictional wetlands. The Corps acknowledges that Section 404 of the Clean Water Act requires compensatory mitigation:

“After consideration of all enforceable avoidance and minimization measures outlined in this section, Section 404 requires CPRA to offset any remaining unavoidable impacts on jurisdictional wetlands or special aquatic sites with compensatory mitigation.” FEIS, p. 4-1022.

There is nothing that justifies the State and the Corps deviating from this requirement. The permanent loss of 193.1 acres of jurisdictional wetlands and the

functions they provide is not an insignificant loss. It's a significant loss whether viewed in isolation or the context of the MBSD. Further, based on the uncertainty and timing of successful creation of wetlands with the beneficial use marsh creation Project component, these environmental benefits cannot be reasonably expected to offset the significant losses of jurisdictional wetlands and their functions within the construction footprint.

The MBSD involves a high degree of risk and uncertainty, including the proposed beneficial use of excess excavated sediments to create wetlands in DMPAs. This is not sufficient to override the requirement for compensatory mitigation. There will be a net loss of jurisdictional wetland values and functions, and these losses must be mitigated through the purchase of available in-kind and in-basin mitigation bank credits or other well-established mechanisms.

2. Mitigation of the permanent impacts to jurisdictional wetlands in the construction footprint of the MBSD is feasible, practicable, and appropriate and will result in consequential reduction in impacts through the use of Bank Credits rather than utilizing DMPAs.

The purchase of mitigation bank credits (or mitigation through some other well-established mechanism) is feasible, appropriate, and practicable. The purchase of in-kind and in-basin mitigation bank credits will offset the values and functions of the impacted jurisdictional wetlands. It should also be undisputed that the purchase of such credits is practicable. It is capable of being done after considering "cost, existing technology, and logistics in light of overall projects purposes." The costs of compensatory mitigation must be considered in the context of the known unavoidable impacts. The cost of in-kind and in-basin credits is *de minimis* relative to the MBSD costs and scale and scope of impacts. CPRA is proposing to construct an unprecedented large-scale diversion project (estimated construction costs exceeding \$2 billion), which will permanently destroy 193.1 acres of jurisdictional wetlands within the MBSD construction footprint.

3. It is inappropriate to compare the MBSD to "typical" marsh creation projects.

Although under certain circumstances the Corps has the limited discretion to not require compensatory mitigation when a proposed discharge is reasonably expected to result in environmental benefits, the anticipated benefits of the MBSD cannot justify the Corps exercising this discretion.

The MBSD is different than a typical marsh creation project where the Corps sometimes determines that compensatory mitigation is not required. First, unlike a typical marsh creation project, the impacts to jurisdictional wetlands in the construction footprint will not be a result of sediment discharge, but will be more permanent. These wetlands will be filled with concrete. Second, the areal extent of impacts (193.1 acres associated with the construction footprint) is much larger than a typical marsh creation project. Third, unlike a typical marsh creation project and as discussed above, the

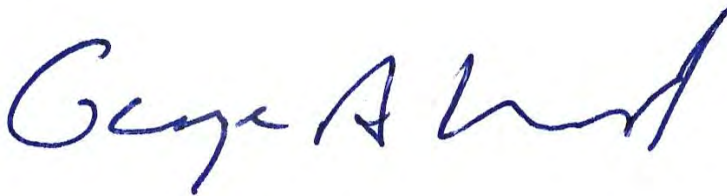
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CONCLUSION

We look forward to working with the Corps and CPRA to ensure that the compensatory mitigation to mitigate the unavoidable, permanent impacts within the project's construction footprint is consistent with relevant laws, regulations, guidance, and policies. We respectfully request that the Corps evaluate CPRA's mitigation plan and determine: (i) compensatory mitigation is required to offset the permanent, direct impacts to jurisdictional wetlands within the project's construction footprint; and (ii) these permanent, direct impacts to jurisdictional wetlands will be mitigated through the purchase of released in-kind and in-basin mitigation bank credits, which are available from Jesuit Bend Mitigation Bank. Any other outcome would establish an alarming precedent that would have long-term and far-reaching impacts on Louisiana's coast and the mitigation banking industry that seeks to protect and restore it.

Kind regards,

A handwritten signature in blue ink, appearing to read "George A. Howard".

George Howard
CEO, Restoration Systems

[Redacted]
[Redacted]

Letter ID: 244099

Hughes, Allen
Memphis, TN 38112

I'd like to voice my support, as a Tennessee Sportsman who loves to travel to fish in coastal Louisiana, for the Mid-Barataria Sediment Diversion Project. Coastal restorations projects are critical to wintering waterfowl and helping preserve an area I, and many of my friends, cherish. This project has my full support.

Thank you,
Allen Hughes
Memphis, TN

Letter ID: 244140

BBFCL llc 4954 Jean Lafitte Blvd Lafitte, La / bayou barataria fishing lodge and guides

Hummel, Tim

Bush, LA 70431

I am opposed to MBSD project as it will kill our fishing and lodge business,the city of Lafitte, the Dolphins, shrimp, oysters, and trout for an unproven theory to create 25 miles of mud somewhere, sometime, eventually, maybe. please see our attachment statement-

(Content could not be extracted from document.)

bbfcl-diverson letter.pdf

October 22, 2022

Dear Sir,

I am writing to voice my OPPOSITION to the Mid –Barataria sediment diversion project. You are going to destroy our communities, our way of life and employment, the seafood industry in south Louisiana, and recreational and commercial fishing in the Barataria basin so that you can create 25 square miles of mud somewhere, sometime, eventually.

I own BBFCL (Bayou Barataria Fish Club and Lodge) in Lafitte, La. I have invested a million dollars in our dock and lodging facilities. We have two fishing guide services, both over 25 years old, Dufour's Fishing Charters and Crescent City Fishing Charters are now headquartered out of our dock along with other part time guides. The guides stay very busy and have successful guide services.

The hurricanes the last two years were tough enough- but what you propose to do will possibly help in 25 years but kill everything right now. We need help now. The diversion may destroy more wetlands than it creates. And in Lafitte we just learned the value of the mud out of the marsh is zero. It is proven in Lafitte that a pipeline can be built to deliver slurry and mud from the river faster and cheaper than building a \$2 billion dollar disaster- another Mr. Go type project.

The fresh water, toxic waste, pesticides, herbicides, fertilizers, and invasive species will get into our marshes, bays, canals, and ponds and destroy all our vegetation. The dolphins will die along with the trout, shrimp, and oysters. The bass and redfish left will be living in muddy toxic water. Not good to fish and eat toxic Mississippi river water fish. Not to mention the irreparable harm done by introducing the river gar, carp, catfish, and other toxic river fish into waterways. Restaurants will have to change their menu or close.

Why am I against the diversion?

- 1-It will destroy more than 50 years of recreational and commercial fishing in our community
- 2- Better ways to protect us and cheaper
- 3-Benefits not that great
- 4- Will flood us in the spring
- 5- It will kill our fishing business and the fish- only thing left are toxic gar, catfish, carp, bass, and maybe some redfish – but redfish need salt water to reproduce
- 6- It will put us, the local commercial fishers, trawlers, fishing guides, and the city of Lafitte out of business

Sincerely,

BBFCL LLC

Mailing address-

Letter ID: 244141

BBFCL llc 4954 Jean Lafitte Blvd Lafitte, La / bayou barataria fishing lodge and guides

Hummel, Tim

Bush, LA 70431

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Sincerely,

BBFCL LLC

Mailing address-

Letter ID: 244085

Hunter, John

LA 70458,70040

No no no.absolute lunacy. A giant failure. You can stick a suction dredge pipe over the river levee and create 28 sq.miles of land in no more than 90 days. Why would you poison the estuary with nitrate laden fertilizer runoff and industrial pollution from over half of the United States?

Letter ID: 244168

Center for Sustainable Engagement and Development / Nonprofit

Johnson, Arthur

New Orleans, LA 70117

· CSED supports the applicant's preferred alternative. The Mid-Barataria Sediment Diversion will use the power of the Mississippi River to build and sustain land, working in synergy with other projects to protect our coast, its people, wildlife and economies in a way that nothing else can.

· The Mid-Barataria Sediment Diversion, studied for 40 years, is a cornerstone of Louisiana's coastal plan. That is because the delta is collapsing - the collapse is not only the loss of protective wetlands, but also the estuaries as saltwater continues to move further up into the delta.

· Land loss and hurricanes have already taken so much from us, and we stand to lose significantly more from relative sea level rise and stronger storms. We must confront these serious threats with bold, innovative solutions that protect our home and our way of life.

· Sediment diversions will require a transition for some coastal residents and communities, and it is essential that the process is done well. Many of our underserved communities are left out of the discussion as these transitions are being implemented. We must incorporate a holistic approach as we move on these transitions. However, Louisiana's coast is changing no matter what and if we do nothing, we will face even more devastating land loss and fisheries collapse across our coast.

· The Mid-Barataria project is not just about building land even though we'll see major land-building within 50 years even in the face of rising seas. This project will create a healthy, resilient habitat for wildlife and people that are otherwise facing ecosystem collapse and becoming increasingly vulnerable to climate impacts like sea level rise and intense hurricanes.

The Mid-Barataria Sediment Diversion is an innovative project and a cornerstone for the Mississippi River Delta's future - reconnecting the river to its wetlands to sustain our coast. This is a critical, final step before the long-awaited project moves into construction and CSED wants to go on record in supporting this important project.

Sincerely,

Arthur J. Johnson, CEO

Center for Sustainable Engagement and Development

OCT 26 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

regards to the Mid-Barataria sediment Diversion.

I strongly object to the Mid- Barataria Sediment Diversion and ask the U.S. corps of Engineers to reject the permit.

DEPEND on the Barataria Estuary and its resources to make a living. The proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely

Clyde Johnson

OCT 26 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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I DEPEND on the Barataria Estuary and its resources to make a living as a

Oyster Processing Plant Manager

The

proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely Clyde Johnson

Letter ID: 244183

Johnson, Michele
Slidell, LA 70461

I oppose the MBSD project. I read the EIS and the anticipated adverse effects on the wildlife, local people and economy are too great for a small possible benefit of storm protection for New Orleans. Reducing the Mississippi River's natural land -building in the bird foot delta could outweigh the benefit from the MBSD. I'd like to see the canals that the oil and gas industry made filled in and their old wells capped, for a start.

Jurisc, Ane

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October 24, 2022

Re: FINAL EIS COMMENTS – Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

Dear Sirs,

My name is Ane Jurisc, and I live in Plaquemines Parish. I am the child of an oyster fisherman and my parents have leases in Barataria Bay. My father has been in this industry for forty-five years, successfully providing for our family.

As a resident of coastal Louisiana who survives off of the state's commercial fisheries industry, I want to voice my strong opposition to permit application # MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid-Barataria Sediment Diversion project.

This project threatens our livelihoods, and our way of life. And for what, 20.9 square miles of land by 2070 (ES.4.1 Geology and Soils, ES-7)? Louisiana has had a thriving commercial fishing industry for more than 150 years. Our fisheries provide nearly 35,000 jobs for residents and produce and sell \$2.4 billion of seafood annually. Yet, the state wants to spend \$2 billion on a project that is going to build less land than we lose in a year.

The final EIS clearly states that due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) within the Barataria Basin (ES-18).

Our fisheries are irreplaceable.

I am not alone in my opposition to this risky and expensive project. Opponents include Plaquemines Parish Government, St. Bernard Parish Government, Town of Grand Isle, The Save Louisiana Coalition, Healthy Gulf, the Louisiana Seafood Promotion and Marketing Board, Louisiana Oyster Task Force, Louisiana Shrimp Task Force, Louisiana Crab Task Force, Louisiana Joint Fisheries, Louisiana Sea Grant, American Shrimp Processors Association, Southern Shrimp Alliance, Sierra Club Delta Chapter, Defenders of Wildlife, Marine Mammal Commission, Institute of Marine Mammal Studies, Louisiana Lieutenant Governor Billy Nungesser, Mississippi Lieutenant Governor Delbert Hoseman, Animal Welfare Institute, Center for Biological Diversity, The Humane Society of the United States, Creation Society International, Humane Society Legislative Fund, International Marine Mammal Project, Ocean Conservation Research, Oceanic Preservation Society, and New York Whale and Dolphin Action League.

Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,
Ane Jurisc



Belle Chasse, LA. 70037

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October 24, 2022

Re: FINAL EIS COMMENTS – Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

Dear Sirs,

My name is DeeAnna Jurisc, and I live in Plaquemines Parish. I am the spouse of an oyster fisherman and have leases in Barataria Bay. My husband has been in this industry for forty-five years, successfully providing for my family.

As a resident of coastal Louisiana who survives off of the state's commercial fisheries industry, I want to voice my strong opposition to permit application # MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid-Barataria Sediment Diversion project.

This project threatens our livelihoods, and our way of life. And for what, 20.9 square miles of land by 2070 (ES.4.1 Geology and Soils, ES-7)? Louisiana has had a thriving commercial fishing industry for more than 150 years. Our fisheries provide nearly 35,000 jobs for residents and produce and sell \$2.4 billion of seafood annually. Yet, the state wants to spend \$2 billion on a project that is going to build less land than we lose in a year.

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Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,
DeeAnna Jurisc



Belle Chasse, LA. 70037

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October 24, 2022

Re: FINAL EIS COMMENTS – Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

Dear Sirs,

My name is Jakov Jurisc, and I live in Plaquemines Parish. I am an oyster fisherman and have leases in Barataria Bay. I have been in this industry for forty-five years, successfully providing for my family.

As a resident of coastal Louisiana who makes my living in the state's commercial fisheries industry, I want to voice my strong opposition to permit application # MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid-Barataria Sediment Diversion project.

This project threatens our livelihoods, and our way of life. And for what, 20.9 square miles of land by 2070 (ES.4.1 Geology and Soils, ES-7)? Louisiana has had a thriving commercial fishing industry for more than 150 years. Our fisheries provide nearly 35,000 jobs for residents and produce and sell \$2.4 billion of seafood annually. Yet, the state wants to spend \$2 billion on a project that is going to build less land than we lose in a year.


The final EIS clearly states that due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) within the Barataria Basin (ES-18).

Our fisheries are irreplaceable.

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Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,
Jakov Jurisc


Belle Chasse, LA. 70037

Jurisc, Vinka

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October 24, 2022

Re: FINAL EIS COMMENTS – Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

Dear Sirs,

My name is Vinka Jurisc, and I live in Plaquemines Parish. I am the child of an oyster fisherman and my parents have leases in Barataria Bay. My father has been in this industry for forty-five years, successfully providing for our family.

As a resident of coastal Louisiana who survives off of the state's commercial fisheries industry, I want to voice my strong opposition to permit application # MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid-Barataria Sediment Diversion project.

This project threatens our livelihoods, and our way of life. And for what, 20.9 square miles of land by 2070 (ES.4.1 Geology and Soils, ES-7)? Louisiana has had a thriving commercial fishing industry for more than 150 years. Our fisheries provide nearly 35,000 jobs for residents and produce and sell \$2.4 billion of seafood annually. Yet, the state wants to spend \$2 billion on a project that is going to build less land than we lose in a year.

The final EIS clearly states that due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) within the Barataria Basin (ES-18).

Our fisheries are irreplaceable.

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Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,
Vinka Jurisc



Belle Chasse, LA. 70037

Louisiana Joint Fisheries Task Force

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October 24, 2022

Re: FINAL EIS COMMENTS – Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

Dear To Whom It May Concern:

Louisiana's Joint Task Force, as representatives of the state's commercial fisheries organizations such as oysters, shrimp, and crab, stands united against permit application # MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid Barataria Sediment Diversion project.

The Army Corps of Engineers final Environmental Impact Statement (EIS) clearly affirms:

- *Due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) within the Barataria Basin. (ES-18)*
- *Overall, the proposed Project would likely have major, adverse impacts on the Barataria Basin population of eastern oysters (predominantly from salinity changes and sedimentation) and brown shrimp (predominantly from changes in salinity and precluded larval recruitment). Other species with projected adverse impacts include spotted seatrout (minor) and southern flounder (negligible to minor). (ES.4.8 Aquatic Resources, ES-13)*

Louisiana's commercial fisheries provide approximately 35,000 jobs for Louisiana residents and produce and sell \$2.4 billion of seafood annually. Plaquemines Parish is home to the largest commercial fishing fleet in the lower 48 states and accounts for 70% of Louisiana's total commercial landings (shrimp, oyster, crab and finfish).

In April 2021, the Louisiana Department of Wildlife and Fisheries published an economic report for Barataria Bay titled *An Assessment of the Principal Commercial Fisheries in Barataria Bay and Its Environs*. According to the report, the average cumulative volume and real dockside value in these identified areas between 2000 and 2017 were 4.6 million pounds and \$4.5 million for blue crabs, 12.3 million pounds and \$14.5 million for brown shrimp, 12.6 million pounds and \$21.0 million for white shrimp, and 3.2 million pounds and \$16.6 million for oysters. This assessment is based entirely on the volume and real dockside value of the six specified seafood types harvested from three sections of Louisiana's waters. It does not include the value added from additional elements of the seafood marketing chain, such as processing or retailing, and does not consider changes in employment.

Based on what is outlined in the final EIS, it will take decades (if ever) for our fishery resources to recover from the negative impacts. Those who live and work in the potentially impacted area don't have decades to wait for the resource to recover from an economic and ecological boondoggle of unimaginable proportions.

Furthermore, this project does not make sense.

According to the United States Geological Survey (USGS), Louisiana's rate of land loss ranges from 10.8-32 square miles per year. The final Environmental Impact Statement (EIS) for the Mid Barataria Sediment Diversion states that the project is expected to create approximately 20.9 square miles by 2070 (ES.4.1 Geology and Soils, ES-7). Simply put, this project will not build even a fraction of the land that Louisiana is expected to lose in the duration of its operation.

CPRA wants to reengineer the "natural processes" by reconnecting the Mississippi River through controlled diversions, but the River is not the same river it was 300 years ago. It is one of the most polluted rivers in the world today.

Real-life experience has demonstrated the impact the River will have on the Barataria Basin. Just consider the \$256 million in economic and environmental damages caused by the multiple openings of the Bonnet Carré spillway in 2019. Algae blooms from the western shore of Lake Pontchartrain all the way to the Mississippi Sound caused catastrophic damage to our fisheries. In 2011, the breach at the failed Bohemia Spillway, also known as Mardi Gras Pass, decimated approximately 500,000 acres of oyster reefs in Breton Sound and Black Bay.

Moreover, CPRA did not consider a single alternative such as dredging that would limit the destruction to the estuary within. The only alternative considered in CPRA's permit application for the MBSD project was No Action; every other "alternative" was another variation of a large-scale river diversion.

Opponents include Plaquemines Parish Government, St. Bernard Parish Government, Town of Grand Isle, The Save Louisiana Coalition, Healthy Gulf, the Louisiana Seafood Promotion and Marketing Board, Louisiana Oyster Task Force, Louisiana Shrimp Task Force, Louisiana Crab Task Force, Louisiana Joint Fisheries, Louisiana Sea Grant, American Shrimp Processors Association, Southern Shrimp Alliance, Sierra Club Delta Chapter, Defenders of Wildlife, Marine Mammal Commission, Institute of Marine Mammal Studies, Louisiana Lieutenant Governor Billy Nungesser, Mississippi Lieutenant Governor Delbert Hoseman, Animal Welfare Institute, Center for Biological Diversity, The Humane Society of the United States, Creation Society International, Humane Society Legislative Fund, International Marine Mammal Project, Ocean Conservation Research, Oceanic Preservation Society, and New York Whale and Dolphin Action League.

We, and our colleagues, friends and neighbors support responsible, well-designed projects that will save our coast and reduce land loss. Those projects include sediment dredging which has routinely and effectively been used all over coastal Louisiana with impressive results and without wrecking coastal economies, the lives of coastal residents or decimating an entire community of marine mammals.

Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,

Mitch Jurisich
Louisiana Oyster Task Force

Acy Cooper
Louisiana Shrimp Task Force

Brittany Dufrene
Louisiana Crab Task Force



U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

Re: Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

Dear To Whom It May Concern:

On behalf of the Louisiana Oyster Task Force please see the following submittal of public comment regarding the aforementioned Permit Application for the proposed Mid Barataria Sediment Diversion Project (MBSD).

While the state's oyster industry, and in fact, the state's commercial fisheries as a whole, have repeatedly gone on record in opposition to granting a permit to allow for construction of the MBSD, we now take this opportunity to reiterate the numerous valid reasons why this project must be terminated and rescoped as something that will actually help counteract the very real problem of coastal erosion, and why this permit application must be decisively rejected.

As the Corps is well aware, our reasons for such strong opposition are well documented and based on our long and deep history and knowledge of Louisiana's commercial fisheries, as well as our experienced understanding of the harsh and overwhelmingly negative impacts this nearly \$2 billion and growing project will have on both the economy and ecology of southeast Louisiana. No science or rationale for moving forward with this project can possibly defend its cost or more importantly, the net land growth (27 square miles) over 50 years. Residents of Louisiana need action and progress now and cannot wait until near the end of this century to ascertain whether the project will actually work or not. Now is not the time for trial, especially with such a significant and harmful margin of error.

As representatives of the thousands of Louisiana citizens who make their livings by harvesting, processing and distributing shellfish, and stewards of these valuable but limited resources we remain unconvinced despite the millions of dollars spent by project proponents to convince us otherwise. Put another way: We know better. And we stand united in opposition to this ill-conceived and counterproductive project that will do little to rebuild our coast but much to destroy our fisheries, our fisheries economy and our way of life.

As the Corps is fully aware, Louisiana's commercial fisheries are not the only opponents of MBSD. Others include Parish Councils for Plaquemines and St. Bernard and the Town of Grande Isle, all of which know the demonstrated risks that come with such large-scale freshwater diversions. These Councilmembers

know that better options exist and that this project will create more misery than land. They know that this project is a job killer for many residents of southeast Louisiana and a dagger for local economies. That is why these three councils voted so strongly in opposition to this latest freshwater flood.

Notably, these Parish Councils are far from alone in their opposition to the project. Others who have gone on record in strong opposition to MBSD include The Save Louisiana Coalition, Healthy Gulf, the Louisiana Seafood Promotion and Marketing Board, Louisiana Shrimp Task Force, Louisiana Crab Task Force, Louisiana Joint Fisheries, Louisiana Sea Grant, American Shrimp Processors Association, Southern Shrimp Alliance, Sierra Club Delta Chapter, Defenders of Wildlife, Marine Mammal Commission, Institute of Marine Mammal Studies, Louisiana Lieutenant Governor Billy Nungesser, Mississippi Lieutenant Governor Delbert Hoseman, Animal Welfare Institute, Center for Biological Diversity, The Humane Society of the United States, Creation Society International, Humane Society Legislative Fund, International Marine Mammal Project, Ocean Conservation Research, Oceanic Preservation Society, and New York Whale and Dolphin Action League.

To be concise, we would respectfully ask the Corps to consider the following facts:

1. This project touts its ability to build a new river delta where one has never existed. That is not coastal "restoration". ES4.1 Geology and Soils, ES-8 notes that the project could create 6,260 acres of land in its first 10 years with a "maximum" of about 17,300 acres (27 square miles) by 2050.

The EIS also notes that there will continue to be "significant land loss" across the Barataria Basin and the birdfoot delta through 2070. This definitive statement is hardly a ringing endorsement for the project, and it should be given significant thought and discussion as the Corps issues a final decision.

2. The people who live and work in the impact area don't have decades to take a wait on the marine resources to recover from this economic and ecological tsunami of unimaginable proportions.
3. While the dispersion of sandy river sediment through diversions will deceptively impact the optics, making the basin look green and lush due to a disproportionate nutrient influx from freshwater, in reality, because of poor root growth and low soil strength, the addition will do nothing more than provide very low-quality storm protection.
4. The MBSD is estimated to kill off up to 97% of the shallow water bottlenose dolphin population residing in the Barataria Bay Estuary System, and after 10 years of operation, dolphins in the area are predicted to be "functionally extinct. Decimating one important marine species in the name of rebuilding the coast is counter productive at best and foolish at worst, especially as other less intrusive and more productive options are known to exist.

By notation from the EIS, the following comments are also submitted for your consideration.

5. **ES.4.1 Geology and Soils, ES-7** notes specifically that MBSD will undoubtedly have a deep and painful economic impact on seafood availability for our restaurants, and on tourists who come

to Louisiana in part to enjoy our bountiful seafood fresh from our coastal waters, on local residents who will pay far more to feed their families on our shrimp, crab, oysters and finfish than ever before, and on Louisiana's reputation as America's seafood market of choice. (ES.4.13: "adverse impacts on oyster and shrimp fisheries", "major, permanent, adverse impacts", "higher prices for locally caught seafood").

Too, **ES.4.8 Aquatic Resources** notes that the proposed project will have "major, adverse impacts" on the population of eastern oysters (from changes in salinity and sedimentation) and shrimp, with other negative impacts on spotted seatrout and southern flounder, further reinforcing concerns regarding the project among many in the state's restaurant and seafood processing and distribution industries. As stated in ES.4.3 Surface Water and sediment quality, elevated fecal coliform concentrations into shellfish producing areas are also expected – hardly a source of comfort for oyster farmers or consumers.

6. **ES.4.4 Wetlands Resources and Waters of the U.S.** states emphatically that the project will "cause minor to moderate, permanent, adverse impacts from the spear of invasive species in the Barataria Basin...the water transported from the Mississippi River into the Barataria Basin would provide a vector for the spread and establishment of invasive plants."

Clearly, as the Corps and others know, introducing foreign and invasive plants can and likely will have a serious negative impact on the ecology of the area and the delicate balance of plant and marine life in the Basin. This is not a chance we should taking.

7. **ES.4.8 Aquatic Resources** minor to major adverse impacts may occur on the recruitment of estuarine species, where high diversion flows overlap with peak larval transport periods for individual species.

Overall, the proposed Project would likely have major, adverse impacts on the Barataria Basin population of eastern oysters (predominantly from salinity changes and sedimentation) and brown shrimp (predominantly from changes in salinity and precluded larval recruitment). Other species with projected adverse impacts include spotted seatrout (minor) and southern flounder (negligible to minor).

8. **ES.4.9 Marine Mammals.** Impacts on BBES dolphins include immediate and permanent, major, adverse impacts on survival largely due to prolonged exposure to low salinities throughout the BBES stock area
9. **ES.4.10 Threatened and Endangered Species.** Federally listed species with the potential to be negatively impacted by the MBSD Project include the West Indian manatee, five species of sea turtles in their aquatic habitat (as well as the loggerhead sea turtle on nesting beaches), the pallid sturgeon, two shorebirds (piping plover and red knot), the black rail, and the giant manta ray. Other species of concern considered include the saltmarsh topminnow and bald eagle. These species were assessed in accordance with NEPA and the Endangered Species Act (ESA).

Negligible to moderate, permanent, indirect, and adverse impacts on the bald eagle are anticipated from potential contaminant uptake.

- 10. ES.4.11 Socioeconomics.** The proposed Project is expected to cause minor to moderate, permanent, adverse impacts on economy, population, housing and property values, tax revenues, public service, and community cohesion in communities near the immediate outfall area (within 10 miles north and 20 miles south) outside of flood protection due to increased tidal flooding and outmigration. Negligible to minor increases in the risk of levee overtopping gulfward of the immediate outfall area may occur following delta formation (after approximately 20 years of Project operations) and may contribute to impacts in communities inside levees, with the greatest increases in communities within the NOVNFL Levee system closest to the proposed Project.

Federally backed flood insurance is anticipated to remain available for all residents of National Flood Insurance Program participating communities under the Applicant's Preferred Alternative. However, considering the ongoing implementation of Risk Rating 2.0, it is difficult to predict how flood insurance rates may change in the future. If the Federal Emergency Management Agency were to revise the estimated flood risk of properties in the Project area, flood insurance rates could change relative to the No Action Alternative. In particular, in communities projected to experience increases in tidal flooding and/or storm hazards due to Project operations, some properties may experience increases in flood insurance rates relative to the No Action Alternative in the earlier years of the Project.

In the west bank New Orleans area north of the diversion, the Project would be expected to have minor, permanent, beneficial impacts on economy, population, housing and property values, public service and tax revenues as the land gained as a result of the Project would decrease the risks of storm hazards. Moderate to major, temporary, beneficial impacts from job creation and increased economic activity in the Project area are also anticipated.

- 11. ES.4.12 Environmental Justice.** The operation of the proposed Project could lead to long-term, minor to major, adverse impacts on communities not protected by federal levees from acceleration of increases in tidal flooding and, storm hazards, and major, permanent, adverse impacts on commercial fisheries, and subsistence fisheries. These impacts could be disproportionately high and adverse on some low-income and minority populations in the Project area as compared to the No Action Alternative.

Disproportionately high and adverse impacts could occur on low-income and minority populations within the communities of Myrtle Grove, Hermitage, Grand Bayou, and Happy Jack, to the extent that affected populations lack resources to avoid or otherwise respond to the impacts.

To a lesser extent, tidal flooding could increase in the Lafitte area, which includes multiple communities with varying levels of existing non-federal flood protection. In addition, disproportionately high and adverse impacts on low-income and minority populations could occur in some communities where reductions in abundance of oysters, brown shrimp, and certain finfish species are anticipated as a result of the Project.

- 12. ES.4.18.2 Storm Hazards.** Operation of the MBSD Project would have permanent, minor to moderate, beneficial impacts on communities outside of federal levee systems north of the diversion (Lafitte and Des Allemands), and permanent, minor to moderate, adverse impacts on

public health and safety risks associated with storm hazards in communities outside of federal levee systems south of the diversion (including Myrtle Grove and Grand Bayou).

13. ES.4.19 Navigation. The Project would also cause minor to moderate, permanent, adverse increases in dredging requirements in some portions of the Mississippi River navigation channel to typical shoaling patterns and locations.

14. ES.4.22 Cultural Resources. CEMVN has determined the proposed Project would have an adverse effect on one (1) historic property within the Construction Impacts Area of Potential Effect (APE). Within the Operations Impacts APE, CEMVN has determined the Project would have an adverse effect on four historic properties eligible for the National Register of Historic Places (NRHP) and one historic property of undetermined NRHP eligibility. Therefore, CEMVN developed a Programmatic Agreement (PA) for the MBSD Project in consultation with the Advisory Council on Historic Preservation (ACHP), the State Historic Preservation Office (SHPO), and Federally recognized Tribal Nations. The PA includes an alternative mitigation plan agreed to by the Applicant. If the permit is issued, compliance with the PA will be a condition of the permit.

As we and numerous other environmental, marine resource, economic, governmental, civic, social, and political organizations and leaders have repeatedly expressed before, responsible and well-designed options exist that will save our coast and reduce land loss in far less time than the proposed MBSD project *may*. Those alternative projects include sediment dredging which has routinely and effectively been used all over coastal Louisiana with impressive results and without wrecking coastal economies, the lives of coastal residents or decimating an entire community of marine mammals.

In summary, those who know best - those who live in, work in, manage and govern the communities that will be dramatically and irreparably impacted by this massive freshwater flood - urge you, the U.S. Army Corps of Engineers, to listen closely to our experienced voices, and, as we have repeatedly urged, step back from the abyss and deny this permit application in favor of pursuing other, more viable, functional, expedient and cost-effective strategies to save our coast and protect the lives and livelihood of those who live along it.

Respectfully submitted this 24th day of October 2022,



Mitch Jurisich, Chair
Louisiana Oyster Task Force

Letter ID: 244110

Kennair, Ronald
Belle chasse, LA 70037

I have been an oyster fisherman for the last 45 yrs my grandfather was a oyster fisherman from Ostrica
You don't have to look far to see what this diversion will do to the west side of plaquemines parish Black
bay and quarantine were one of the most productive seed ground probably in the world . I fished
oysters there in the 70s and 80s. Until oysters started dying from hole in the river levee. With the
amount of money they are going to spend on a diversion they sure could dredge and build a whole lot of
coastline in a couple of yrs. DREDGE. DON'T DIVERT



COMMITTEES:

Appropriations

Municipal, Parochial and Cultural Affairs

Natural Resources and Environment

Joint Legislative Committee on the Budget

TIMOTHY P. KERNER
State Representative ~ District 84

October 24, 2022

RE: Mid Barataria Sediment Diversion

To Whom It May Concern:

I, Timothy P. Kerner, Louisiana State Representative, would like to object to any development of the Mid-Barataria Sediment Diversion. I have held off on my objection while awaiting the mitigation plan. The plan does not include just compensation for the shrimp fishermen. The plan also recognizes the negative affects the project will have on the water table in the areas of Lafitte, Barataria and Crown Point but no levee protection funds were allocated.

CPRA has acknowledged the negative affects the project will have on the areas of Lafitte, Barataria and Crown Point time and time again; however, no mitigation funding was allocated to the area. To say that only two areas out of ten all connected by water will have a negative impact is absurd. Below are excerpts from the report regarding the Lafitte Area:

"The properties in the tidal floodplain are subject to high rates of land subsidence and sea level rise, which has resulted in an increased frequency and overall duration of tidal flooding. With the implementation of the Project, low-lying properties of the communities outside flood protection will be subject to an increased annual frequency and duration of nuisance flooding events as compared to the No Action Alternative. The impact area is projected to encompass the lower portion of Bayou Barataria to Happy Jack, which includes the communities of Myrtle Grove, Woodpark, Suzie Bayou, Deer Range, Lake Hermitage, Grand Bayou, and Happy Jack, and to a lesser extent communities in the vicinity of Lafitte (i.e., Lower Lafitte, Goose Bayou polders)"

"Also, CPRA is not proposing any tidal flooding mitigation in Lafitte as part of this Mitigation Plan. In the vicinity of Lafitte, there are two polders (Lower Lafitte and Goose Bayou) that are projected to experience an increase in water level with the Project (less than or equal to 0.5 ft). Impacts to properties in these areas are not projected to occur during the early years of the Project, but impacts are projected to occur in later years if no flood protection improvements were implemented. See Figures 18, 21 and 24 in Appendix P, Part P2 of the EIS. To prevent flood impacts due to the Project, CPRA is facilitating the funding and providing technical support to the Lafitte Independent Levee District to advance the construction (advertisement for construction bids are scheduled for late 2022) of tidal flood protection (elevation ~ 7.5 ft) for both polders. 10 These Projects would be completed prior to the operation of the Project."

For the reasons stated above please accept this as my formal objection to the proposed Mid Barataria Sediment Diversion.

Sincerely,

A handwritten signature in blue ink that reads "Timothy P. Kerner".

Timothy P. Kerner

Letter ID: 244165

Town of Jean Lafitte / Municipality

Kerner, Timothy
Lafitte, LA 70067

To Whom It May Concern,

I, Timothy Kerner Jr., Mayor of the Town of Jean Lafitte, would like to object to the Mid Barataria Sediment Diversion project. Even though CPRA has acknowledged the negative effect on the water levels in the communities of Lafitte, Barataria, and Crown Point, but there are no mitigation funds for levee protection for the people affected. To submit that there will be effects that these communities will have to deal with because of this project but then do nothing to help them, is incredibly unjust. The increase in flooding to our residents is why mitigation funds exist. This should be corrected. There is also not appropriate mitigation funding allotted to commercial fishermen. The negative effects that this project will cause to our fisheries may be the end to such a critical United States industry. With the appropriate mitigation funds the industry can survive.

Below are excerpts from the report regarding the Lafitte Area:

"The properties in the tidal floodplain are subject to high rates of land subsidence and sea level rise, which has resulted in an increased frequency and overall duration of tidal flooding. With the implementation of the Project, low-lying properties of the communities outside flood protection will be subject to an increased annual frequency and duration of nuisance flooding events as compared to the No Action Alternative. The impact area is projected to encompass the lower portion of Bayou Barataria to Happy Jack, which includes the communities of Myrtle Grove, Woodpark, Suzie Bayou, Deer Range, Lake Hermitage, Grand Bayou, and Happy Jack, and to a lesser extent communities in the vicinity of Lafitte (i.e., Lower Lafitte, Goose Bayou polders)"

"Also, CPRA is not proposing any tidal flooding mitigation in Lafitte as part of this Mitigation Plan. In the vicinity of Lafitte, there are two polders (Lower Lafitte and Goose Bayou) that are projected to experience an increase in water level with the Project (less than or equal to 0.5 ft). Impacts to properties in these areas are not projected to occur during the early years of the Project, but impacts are projected to occur in later years if no flood protection improvements were implemented. See Figures 18, 21 and 24 in Appendix P, Part P2 of the EIS. To prevent flood impacts due to the Project, CPRA is facilitating the funding and providing technical support to the Lafitte Independent Levee District to advance the construction (advertisement for construction bids are scheduled for late 2022) of tidal flood protection (elevation ~ 7.5 ft) for both polders. 10 These Projects would be completed prior to the operation of the Project."

For the reasons stated above please accept this as my formal objection to the proposed Mid Barataria Sediment Diversion.

Respectfully,
Timothy P. Kerner Jr.
Mayor

Town of Jean Lafitte

Letter ID: 244114

Kimble, Albertine
Carlisle, LA 70040

My name is Albertine M. Kimble I am a resident of the town of Carlisle in Plaquemines Parish east bank. I am in favor of the Mid - Barataria sediment diversion project. I still have concerns about the maintenance of this sediment diversion. I have in the past had faith that every freshwater diversion and freshwater siphon that was constructed in Plaquemines Parish would be maintained and operated correctly, that is NOT the case. I have trusted science based data in the past. I need to believe that the Mississippi River is the answer for sustaining Plaquemines Parish and it's fisheries, the people and the habitat that is left. I do believe that dredging is the fastest way to rebuild land no doubt, but you still need to water the plants to sustain them. I do know that not trying to utilize the Mississippi river is a mistake we can't make. Our time to make a decision is now.



L o u i s i a n a A u d u b o n C o u n c i l

New Orleans, Louisiana 70118-4010

Oct. 24, 2022

Martin Mayer, Chief
Attn.: Regulatory Division
US Army Corps of Engineers
7400 Leake Ave.
New Orleans, LA 70118

Re: MVN-2012-2806-EOO (Sec. 10/404); 213-0634 (Sec. 4080); Applicant: Coastal Protection and Restoration Authority of LA (CPRA).

Dear Mr. Mayer,

We have reviewed the Final EIS, prepared for the Mid-Barataria Sediment Diversion Project, Plaquemines Parish, LA and submitted by the applicant in support of the permit applications and NEPA compliance. We have the following comments for the record:

It is evident, when reading the FEIS that there are a lot of unknowns, when considering the impacts of a project of this scope. We are uncertain what will happen over the 50 yr life of the project and, with computer modeling, there are a lot of assumptions. There are engineering variables, impacts of sediment and water introduction, and adverse/positive impacts to fisheries and mammals living in the Basin.

CPRA has concluded that a large sediment diversion project should be built, because many small ones do not last and do not provide the needed sediment to build sustainable wetlands. Because of variables such as climate change, relative sea level rise and hurricanes, it becomes difficult to predict the future. This mandates a comprehensive monitoring and adaptive management plan.

Monitoring and Adaptive Management Plan (MAM)

We refer to the USF&WS (the Service) Position and Recommendations, provided by the letter of May 25, 2022 to Colonel Murphy and their report in FEIS Appendix "T". They state:

"The Service recommends development of a detailed **Monitoring and Adaptive Management Plan (MAM)** to inform operational decisions in order to minimize adverse impacts where possible. The MAM plan should be developed through coordination with the Service, NMFS, and other resource agencies."

It is important to monitor all physical parameters before and during the the life of the sediment diversion project. Because the MBSD project is unique and the design and modeling are going to be tested during the operation of the diversion, it is mandatory that a well-funded, comprehensive monitoring program be established for the life of the project. This has been emphasized by USF&WS. It is our experience, that monitoring is usually underfunded for

federal projects. In the case of this unique, untested project, it is essential that funding for the life of the project be secured before construction!

Contaminated Sediments:

“The Service and the CPRA should refer to the most recent U.S. Environmental Protection Agency (**EPA) Priority Pollutant list** in developing the list of contaminants to be analyzed.” . . .If high levels of contaminants are found, the Service and other resource agencies should be consulted.” (Appendix T). Because wetlands are involved, NOAA’s SQUIRT testing criteria should be used for identifying hazardous sediments.

1) Mercury manometers

The project is within a densely drilled oil and gas field (Figure 3.2.-2, Chpt. 3), therefore we ask that testing for mercury around abandoned and active gas wells be undertaken to see whether metal mercury has leaked or spilled out of mercury manometers (pressure gages). We have seen numerous mercury meters near well heads or at the junction of pipelines in the Monroe Gas Field. Over 900 mercury sites were cleaned up by a 2009 Federal Court order, including 2,200 pounds of recovered metal mercury. Figure 3.2.-2, shows the distribution of old gas wells, some dating before 1960. These are candidates for having mercury meters, which hold up to 8 pounds of metal mercury. The location and date of production is on file with the Dept. of Natural Resources and can be found on the SONRIS website.

We ask, as part of the monitoring for heavy metals (especially mercury) in the biota, that predatory fish (i.e. large-mouth bass and bowfin) be tested for methyl-mercury in their muscle tissues. LDEQ and LDH have health advisories for limiting the human consumption of these species, which occur in coastal streams. Across the state, abandoned wells in old oil and gas fields have been a source of mercury contamination of fish. EPA has found leaking mercury meters across Louisiana. Any metal mercury in wetlands can be converted to methyl-mercury, which contaminates fish tissue and is concentrated in the food chain. Monitoring and identifying mercury in sediments must be added to the monitoring program.

2) Alliance Refinery:

The Alliance Refinery is next to the diversion construction site. It is quite likely, over the lifetime of the refinery, that there has been dumping of refinery waste on and offsite and probably buried. During construction there will be the movement of spoil from the site to adjacent wetlands to fill canals etc. This activity could uncover toxic wastes. These sediments should be tested for PAH’s, since many constituents are very toxic and are included in EPA’s chemicals of concern.

USF&WS recommendations:

We have reviewed the USF&WS recommendations shown in Appendix T and a few are listed below, which we feel are important for the monitoring program. We concur with the Service’s rationale for conditional support for the project as stated:

“The USF&WS supports the MBSD project provided that the following fish and wildlife recommendations are carried out concurrently with project implementation.”

Some of USF&WS recommendations:

- Monitoring and Adaptive Management (MAM) Plan to ensure wetlands losses in Delta NWR and PAL WMA will be addressed.

- Impacts to Essential Fish Habitat should be discussed with the NMFS
- A basin-wide operations and monitoring data repository be developed.
- Pre- and post-sampling of fish and shellfish, from the outfall area and the Mississippi River be undertaken.
- That the CPRA, in coordination with the Service develop a list of contaminants to be analyzed
- Concentrations of EPA Priority Pollutants and Contaminants of Concern should be sampled in fish and shellfish from the outfall area and Mississippi River prior to and following operation to determine potential adverse effects to fish and wildlife.
- Operating the diversion in a manner that would prevent or minimize adverse impacts to wetlands due to prolonged inundation
- Development of a detailed MAM Plan to inform operational decisions in order to minimize adverse impacts where possible
- A report documenting the status of implementation, operation, maintenance and adaptive management measures should be prepared every three years by the managing agency and provided to the USACE, state and federal resource agencies.

A listing of the recommendations and responses by CPRA occur in Chpt. 5 and CPRA states that it concurs with USF&WS recommendations. With changes to the State Administrations over the life of the project, what assurances do we have that CPRA will continue to support the USF&WS recommendations?

There are two significant, adverse impacts related to salinity changes, 1) impacts to bottle-nosed dolphins and 2) impacts to the eastern oyster. These should have a well funded and focused monitoring program to lessen the impacts in the Basin. We did note that \$54 million has been allocated to the eastern oyster mitigation program (Appendix R1, table 2). Appendix R5 did lay out a Dolphin Intervention Plan but no funding.

Because of the MBSD size and scope, along with positive and negative environmental impacts to the Basin, all significant changes must be documented to provide critical data for the planning any future diversion projects. If funding is not allocated for comprehensive monitoring and data collecting, this project will be difficult for the public to support.



Barry Kohl, Ph.D.
Geologist
President of LAC

cc:
EPA, Dallas
USFWS
NMFS
LA DWF
CPRA
Sierra Club, LDEQ

Letter ID: 244090

Kuehne, Cindy
Port Sulphur, LA 70083

My husband and I are a residents in Myrtle Grove Marina and are against the diversion. You would think for \$2 billion this diversion project would create more than 28 square miles of marsh over the next 50 years. What will happen if we experience another Major Hurricane in Plaquemines? This project is out the box. I can't believe this is the only option to address the land loss crisis we are facing. I see no future in Myrtle Grove as this project will destroy our neighborhood. The demographics will definitely be affected. Our little peace of paradise will no longer exists.

Letter ID: 244100

Wisconsin Wildlife Federation / conservation nonprofit 501(c)3

LaBarbera, Mark
Hazel Green, WI 53811

Local sportsman and the public know the coastal land loss crisis in Louisiana better than we do, but we are compelled to go on record. We all know about the long-studied solutions in the Coastal Master plan, such as the Mid-Barataria Sediment Diversion, along with the science that supports this project. If anyone wonders why sporting conservationists in Wisconsin support the project, let us explain.

For those who travel from Wisconsin and elsewhere to enjoy South Louisiana fishing and hunting, we may see things with a fresh set of eyes. Sportsmen and women dream of such places. As I hunted the Mississippi River Pool 9 up here last weekend, I thought about how the migrating birds and flowing waters connect us all. Louisiana is so important to wintering waterfowl for both the Central and Mississippi Flyways. Coastal land loss threatens has to be addressed before it worsens the impacts there and throughout our flyways. What you do there has national and international implications. Please do the right thing.

Rec'd MB
OCT 21 2022

October 16, 2022

I am writing to express my concern and opposition about the Mid-Barataria sediment diversion project. Everyone agrees that actions should be taken to do what we can to protect and improve Louisiana's coastline. Dredging has shown to build back land in specified areas in a much shorter time. This diversion project will devastate ALL FISHERIES and experts predict that a POSSIBLE 20 square miles of marsh land could develop over 50 years. This is not a chance I am willing to take while destroying families livings and cultures.

DREDGE DON'T DIVERT

GERALD S. LANDS

[REDACTED]
[REDACTED]
BELLE CHASSE, La 70037

Sincerely Yours

11/ [Signature]

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[illegible]

Title: Reject CPRA Plan to Mitigate the Negative Impacts of Mid Barataria Sediment Diversion on the Oyster Industry

TO: USACE

This is my comment on the CPRA Mitigation Plan. The USACE should reject the Mitigation Plan and the Mid-Barataria Sediment Diversion project. The USACE should demand that CPRA provide an option in its permit request that builds the same amount of land (27 square miles) without doing harm to the Oyster Industry (dredge don't divert). The expected damage to the Oyster Industry, under the MBSD, is inconsistent with the CPRA mandate to protect and restore the coastal zone.

1. The mitigation plan is dependent on funding that is not presently available (not in the bank). Experience with previous mitigation plans indicates that promises may be delayed, reduced, or ignored. This renders the implementation of the plan doubtful.
2. The timeframe proposed for mitigation measures is uncertain and raises the real possibility that most qualified oyster producers in the Barataria Basin will have left the industry before the plan is implemented. See Page 34 of the Plan where CPRA discusses the time frame in terms of years after the MBSD is operational.
3. The Plan recognizes that salinity conditions for oyster culture may not exist in the Barataria Basin after the MBSD is operational. See Page 34 of the Plan where CPRA writes: "If no suitable conditions are found in lower Barataria Basin..." In this case, the Plan proposes to move the public seed ground to another basin. This is not mitigation of the Barataria Basin oyster industry but the expansion of the oyster industry in the other basin.
4. The proposal to create or enhance broodstock reefs is flawed because it is based on an indeterminate future, namely, the salinity regime in the Basin after the MBSD has operated for "a sufficient length of time." It, too, is subject to the availability of funds in the future. It is flawed also because it proposes to use Barataria fishers for placement of reefs and, thereby, appears to offer some funding (mitigation) to affected fishers. This will not be the case. When building new reefs, the LDWF typically uses contractors to place the reef materials. The funding would go to contractors not to typical fishers.
5. The Mitigation Plan (Plan) is impractical because it assumes that Oyster Producers and Marketers (Oyster Industry) can costlessly move to other locations outside the impact of the MBSD. This is impractical because there are no locations, outside the MBSD impact area, that are not already being used by other members of the Oyster Industry. For the Plan to be realistic, it should provide for assistance to both the individuals being moved and the individuals being affected by their arrival.
6. The proposal to enhance public and private oyster grounds adjacent to Barataria Basin is subject to the same critique noted above, namely, it assumes the Barataria Basin fishery will/can move to other areas. This assumption is incorrect because it assumes there are areas suitable for oyster production elsewhere that are not presently being used by oyster producers there. Where will the Barataria producers re-establish themselves? Will there be state oyster leases available to the newcomers? Who will assist them make this move. This proposal begs the question: Why are there areas elsewhere that

need enhancement? If the state were managing its oyster production resources for optimal production, there would be no areas in need of enhancement.

7. The proposal to assist affected state leaseholders to rehabilitate leases in the lower Barataria Basin is flawed because it is based on the assumptions that there will be areas appropriate for oyster production available for the newcomers. If only a small area in the lower basin is suitable, there will not be enough room to welcome producers from the affected area. The Barataria Basin currently has more than 250,000 acres of state oyster leases. See screen shot from the LDWF Oyster lease map, below, showing existing leases. The solid blue line encloses an area equal to 250,000 acres. The light blue lines enclose individual oyster leases. These leases currently occupy most of the area of the Basin. There will not be enough area unaffected by the MBSD to welcome the producers from the affected area.

8. The CPRA proposal relating to Alternative Oyster Culture (AOC) as the “best” way to mitigate (see Pages 35-36) is flawed on two accounts:

a. AOC has not yet been accepted by the Oyster Industry. AOC is an emerging sector of the oyster industry. AOC has been available to Louisiana citizens for over ten years. In that time less than 20 citizens have established AOC farms. CPRA recently funded an AOC promotional program which is being implemented by LSU Sea Grant. The program was funded at \$3 million. Recently, after its second round of program grants, Sea Grant announced that the \$3 million in funding is expected to create about 200 acres of AOC farms. At the current rate achieved by Sea Grant (about \$15,000 per acre), \$8 million would establish about 533 acres of AOC farms. Even if AOC farms produced 1,000 sacks of oysters per acre, the production total would be only 533,000 sacks. Average annual, state-wide production is about 2 million sacks of oysters.

b. CPRA has ignored the potential of the traditional Oyster Industry under a management regime where CPRA focused on combining storm protection (land building) with the expansion of the Oyster Industry. Basin salinity can be managed for optimal oyster production by proper placement of storm protection structures (marsh, islands, terraces, levees). The Barataria Basin currently has more than 250,000 acres of state oyster leases. With proper management of salinity and with traditional producer-managed operations, the Basin should be producing 200 sacks per acre or 50 million sacks in total. At 33 cents/oyster or \$100/sack, the landings value of 50 million sacks is 5 billion dollars. Clearly, the Barataria Basin is not being managed to its oyster production potential. The MBSD will prevent this potential from ever being reached.

Selected Negative Impacts of the MBSD Based on EIS Sept 2022

Based on the USACE Environmental Impact Study, the Governor, the Coastal Protection and Restoration Authority (CPRA), and the Louisiana Trustee Implementation Group (LaTIG) should scrap the MBSD.

The scientific and resource management basis for this negative evaluation is given in the Executive Summary. Here's the link to the full EIS:

<https://www.mvn.usace.army.mil/Missions/Regulatory/Permits/Mid-Barataria-Sediment-Diversion-EIS/>

Highlights taken from the Executive Summary:

1. MBSD will have a minor impact on storm protection. Page ES-22.

ES.4.18.2 Storm Hazards

Operation of the MBSD Project would have permanent, minor to moderate, beneficial impacts on communities outside of federal levee systems north of the diversion (Lafitte and Des Allemands), and permanent, minor to moderate, adverse impacts on public health and safety risks associated with storm hazards in communities outside of federal levee systems south of the diversion (including Myrtle Grove and Grand Bayou). The MBSD Project is projected to cause a maximum decrease in storm-surge elevations of 1.0 foot at the West Bank and Vicinity Levees near New Orleans during a 1 percent AEP (100-year) storm. At the same time, operation of the MBSD Project is anticipated to cause increases in storm surge of up to 1.7 feet near Myrtle Grove in 2070. The greatest impacts on surge elevation and wave heights are projected to occur within the vicinity of the MBSD Project immediate outfall area and would be reduced to negligible in areas farther from the outfall.

Final

ES-22

ES.4.18.1 Floodplains and Tidal Flooding

The MBSD Project would increase water levels during operation, which would have long-term, minor to major impacts (depending on location) on public health and safety by increasing the frequency of tidal flooding in the Barataria Basin communities located outside levee protection specifically within areas approximately 10 miles to the north and 20 miles to the south of the immediate outfall area. These communities could experience an increased percentage of days of inundation due to tidal flooding as compared to the No Action Alternative, with the greatest impacts, in general, in communities closest to the diversion outfall, and potential impacts decreasing with distance from the immediate outfall area. Impacts on public health and safety in Project-area communities within federal levee systems would be negligible, as still water levels are not expected to exceed authorized levee heights for federal levee systems within the Project area during periods when the diversion is operating above base flow.

2. MBSD will have a minor impact on land restoration. Page ES-11.

sediment and fresh water. While the Project would sustain and create wetlands in the Project area, substantial wetland loss across the region due to subsidence and sea-level rise would be ongoing, resulting in a net loss of wetland acreage over the 50-year analysis period. With Project operations, by year 2070, total wetland acres in the Barataria Basin would be 85,500 and wetland losses would be 17.4 percent less than the No Action Alternative, which is projected to have 72,800 acres in the Barataria Basin by 2070.

The Project is expected to cause moderate, permanent, adverse impacts on wetlands in the birdfoot delta where wetlands would be lost due to reduced sediment and freshwater inputs. By year 2070, total wetland acres in the birdfoot delta would be reduced to 3,510 acres with the proposed Project while the No Action Alternative is projected to have 6,410 acres in the birdfoot delta by 2070. Decreases in sedimentation in the birdfoot delta would result in decreased land building and an increased rate and extent of wetland loss over time, which would affect various species populations that utilize marsh habitat. Due to the loss of wetlands in the birdfoot delta, moderate adverse impacts on the Delta National Wildlife Refuge (NWR) and Pass A Loutre Wildlife Management Area (WMA) would also occur.

As projected by the Delft3D Basinwide Model, the proposed Project would reduce salinities in the basin, which would reduce the number of days the Davis Pond Freshwater Diversion operates over the 50-year analysis period. However, the acreage of freshwater wetlands benefited by the Davis Pond Freshwater Diversion (located in the northern portion of the Barataria Basin) is not projected to be affected.

3. MBSD will have a negative impact on the bed of the Mississippi River. Page ES-9.

In the Mississippi River, the Project would have permanent, moderate, and adverse impacts, with general trends of increased erosion immediately upstream of the diversion and increased deposition immediately downstream of the diversion. The driving force for these impacts would be the reduced flow and consequently slower water velocity downstream of the diversion from the rerouting of river water through the diversion.

4. MBSD will have a negative on Socioeconomics. Page ES-15.

ES.4.11 Socioeconomics

The proposed Project is expected to cause minor to moderate, permanent, adverse impacts on economy, population, housing and property values, tax revenues, public service, and community cohesion in communities near the immediate outfall area (within 10 miles north and 20 miles south) outside of flood protection due to increased tidal flooding and outmigration. Negligible to minor increases in the risk of levee overtopping gulfward of the immediate outfall area may occur following delta formation (after approximately 20 years of Project operations) and may contribute to impacts in communities inside levees, with the greatest increases in communities within the NOV-NFL Levee system closest to the proposed Project. Federally-backed flood insurance is anticipated to remain available for all residents of National Flood Insurance Program-participating communities under the Applicant's Preferred Alternative. Considering the ongoing implementation of Risk Rating 2.0, it is difficult to predict how flood insurance rates may change in the future. If the Federal Emergency Management Agency were to revise the estimated flood risk of properties in the Project area, flood insurance rates could change relative to the No Action Alternative. In particular, in communities projected to experience increases in tidal flooding and/or storm hazards due to Project operations, some properties may experience increases in flood insurance rates relative to the No Action Alternative in the earlier years of the Project. In the west bank New Orleans area north of the diversion, the Project would be expected to have minor, permanent, beneficial impacts on economy, population, housing and property values, public service and tax revenues as the land gained as a result of the Project would decrease the risks of storm hazards. Moderate to major, temporary, beneficial impacts from job creation and increased economic activity in the Project area are also anticipated.

5. MBSD will have a negative impact on Environmental Justice. Page ES-15

ES.4.12 Environmental Justice

The construction of the proposed Project could have minor to moderate, temporary, adverse impacts on low-income and minority populations within 0.5-mile of the construction footprint. Construction impacts on minority and low-income populations, including the population of Irton, could be disproportionately high and adverse depending on the unique vulnerabilities of those populations.

The operation of the proposed Project could lead to long-term, minor to major, adverse impacts on communities not protected by federal levees from acceleration of increases in tidal flooding and, storm hazards, and major, permanent, adverse impacts on commercial fisheries, and subsistence fisheries. These impacts could be disproportionately high and adverse on some low-income and minority populations in the Project area as compared to the No Action Alternative. These impacts would result from acceleration of changes in the frequency of tidal flooding and the severity of storm hazards relative to the No Action Alternative, particularly in the 2020s and 2030s.

6. MBSD will have a negative impact on commercial fisheries including the shrimp and oyster fisheries. Page ES-18.

ES.4.13 Commercial Fisheries

Construction of the Project would likely have temporary, minor, adverse impacts on commercial fishing activities. Southbound roadway capacity on LA 23, the main thoroughfare along the west bank of the Mississippi River, would be reduced at times, which could impact access for those engaged in commercial fishing activities.

The operation of the MBSD Project is expected to have both beneficial and adverse direct and indirect impacts on fish abundance in the Project area, which would have beneficial impacts on the commercial catch of some targeted species, and adverse impacts on the commercial catch of other targeted species. Due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) within the Barataria Basin.

Overall, moderate to major, adverse, permanent direct and indirect impacts are anticipated on shrimp fisheries in the Project area due to expected negligible to minor, permanent, beneficial impacts on white shrimp, and major, permanent, adverse impacts on brown shrimp abundance. While some substitution of targeted species may be possible, such substitution would require additional investment by individual fishers, which may or may not be financially feasible. Declines in shrimp abundance may also exacerbate trends in the aging workforce to leave the industry. Adverse impacts on brown shrimp abundance and subsequent adverse impacts on the overall shrimp fisheries would begin at the onset of operations and last permanently throughout the 50-year analysis period. Any benefits on shrimp abundance in the Project area associated with increased marsh habitat later in the analysis period would not substantially alter the stated impacts on the shrimping industry in the Project area. While availability of shrimp from the basin would decrease, shrimp from Louisiana would continue to be available to

Continued quotation:

stated impacts on the shrimping industry in the Project area. While availability of shrimp from the basin would decrease, shrimp from Louisiana would continue to be available to restaurants, potentially at higher prices. Restaurants willing to pay a premium for local seafood would likely do so, and additional importing would likely also occur. Under both the Applicant's Preferred Alternative and the No Action Alternative, consumers in Louisiana would experience higher prices for locally caught seafood, or would consume additional imported shrimp over time. However, impacts due to decreased local shrimp availability would occur decades sooner under the Applicant's Preferred Alternative than under the No Action Alternative.

Overall, the eastern oyster fishery in the Project area is expected to experience major, permanent, adverse impacts under the proposed Project, although it is possible that areas near the barrier islands could be used as seed grounds and growing areas for adults when salinities are too low throughout the rest of the Barataria Basin. This determination considers expected impacts on oyster abundance as well as the anticipated response from commercial fishers.

Negligible to minor, permanent beneficial impacts are expected on blue crab fisheries due to changes in species abundance. Communities reliant on employment and expenditures associated with this industry may also benefit, as expenditures

ES.4.14 Recreation and Tourism

The proposed Project would have long-term, minor to moderate, adverse impacts on site accessibility, recreational boating, and boat-based recreational fishing due to increased tidal flooding at access points in Lafitte, Myrtle Grove, and Grand Bayou and permanent, moderate, adverse impacts due to sedimentation in some of the Project-area navigation channels used to access recreation sites. In addition, there could be moderate, permanent, adverse impacts on recreational boating and boat-based recreational fishing due to increase in the introduction and expansion of invasive plant species in the basin, which would clog canals and impede boating.

Minor, permanent, adverse impacts would be expected on recreational fishing for spotted seatrout, as well as moderate, permanent, beneficial impacts on recreational fishing for red drum. Beneficial impacts would be expected on hunting and wildlife

Final

ES-19

8. MBSD will have a negative impact on Bottlenose Dolphins

ES.4.9 Marine Mammals

The only marine mammal stock likely to be impacted by the MBSD Project is the Barataria Bay Estuarine System (BBES) stock of bottlenose dolphins. Impacts on BBES dolphins include immediate and permanent, major, adverse impacts on survival largely due to prolonged exposure to low salinities throughout the BBES stock area. The proposed Project would also cause adverse impacts on health and reproduction from multiple stressors including low salinity exposure, wetland loss in the BBES stock

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area, lower temperatures, an increased risk of harmful algal blooms (HABs), and the residual effects from the DWH oil spill. These impacts would result in decreased survival rates of BBES dolphins, with some studies projecting the functional extinction of dolphins in portions of the BBES stock over time, with only a remnant population of BBES dolphins present near the barrier islands by the end of the 50-year assessment period.

9. MBSD will have adverse impacts on threatened and endangered species. Page ES-14.

the pallid sturgeon. The Project is likely to have minor to moderate and adverse impacts on the Kemp's ridley, green, and loggerhead sea turtles based on the potential increase in commercial shrimping interactions (each species) and presence of core use habitat in the Barataria Basin (Kemp's ridley). Negligible to minor, adverse impacts on the piping plover (or its critical habitat), red knot (or its proposed critical habitat), black rail, and giant manta ray are anticipated. Negligible to moderate, permanent, indirect, and adverse impacts on the bald eagle are anticipated from potential contaminant uptake. Operational impacts of the MBSD Project on West Indian manatees, and on hawksbill and leatherback green sea turtles in marine environments, are expected to be negligible to minor and adverse. Impacts on loggerhead sea turtles on nesting beaches are expected to be negligible and no impacts would occur on the four other sea turtle species on nesting beaches, or on loggerhead critical habitat. Minor to moderate, permanent, beneficial impacts are expected on the saltmarsh topminnow.

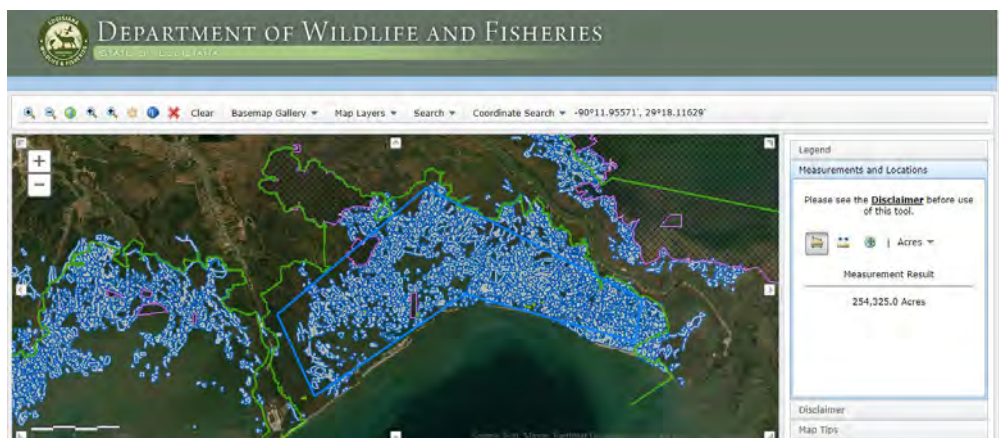
10. MBSD will have a negative impact on the speckled trout population and associated recreational and commercial sport fisheries. (Positive impact on redfish.) Page ES-19.

Minor, permanent, adverse or beneficial impacts on the regional economy associated with recreational expenditures in the region. Adverse impacts would be associated with localized site accessibility impacts and potential decrease in abundance of spotted seatrout while beneficial impacts would be associated with potential increase in abundance of red drum.

With respect to tourist expenditures in restaurants in the region, while availability of shrimp and oysters from the basin would decrease with the Project, shrimp and oysters from Louisiana would continue to be available to restaurants, potentially at higher prices. Restaurants willing to pay a premium for local seafood would likely do so, and additional importing would likely also occur. Under both the Applicant's Preferred Alternative and the No Action Alternative, consumers in Louisiana would experience higher prices for locally caught seafood, or would consume additional imported shrimp over time. However, impacts of decreased local shrimp and oyster availability and increased local shrimp and oyster prices would occur decades sooner under the Applicant's Preferred Alternative than under the No Action Alternative.

What Coastal Future is at Risk from the MBSD?

When the Mid-Barataria Sediment Diversion is online, its flood of Mississippi River water will likely destroy most of the oyster production in the Barataria Basin. If, instead of the MBSD, the money was used to create solid storm protection levees, islands, and terraces, and the salinity of the water managed for optimum oyster production, **what could annual production from the area be?**



Well-managed, traditional-practice oyster leases can produce 200 sacks of oysters per acre per year. The above screenshot from the LDWF oyster lease map shows a major portion of the Barataria Basin oyster production area enclosed by a blue line. (The light blue areas are state oyster leases.) The area enclosed by the blue line is approximately 250,000 acres. With good management of salinity and good production practices, the annual production from 250,000 acres should be 50,000,000 sacks per year. Current, long-term average oyster production in the state is 1,800,000 sacks per year. With good management of the resource, the production from the Barataria Basin could be 27 times current state-wide production.

At a landed value of 33 cents per oyster, the value of 50,000,000 sacks, each holding 250 oysters, would be \$4,125,000,000. That's 4 billion dollars per year. Modern Alternative Oyster Culture production practices can produce 1,000 sacks per acre. Where AOC is practiced, production would be 5 times the traditional practice. (Post-harvest treatment in public health certified facilities will ensure the oysters are safe for raw consumption and the best tasting oysters in America.)

But the MBSD will ensure that we never reach our potential.

The MBSD is a bad investment of public money at any price. It expects to build 20-25 square miles of freshwater marsh over a period of fifty years. Hurricanes Katrina and Rita destroyed 200 square miles of coastal land. Ida destroyed 100 square miles. If we get even one hurricane with the power of Ida, sometimes in the next fifty years, our 2-billion-dollar investment in the land built by MBSD will be lost. "Gone with the wind."

Better public policy would be to scrap the MBSD and build solid storm protection structures: levees, islands, and terraces (à la ConocoPhillips at Point aux Chênes) in locations that would combine storm protection with the expansion of the oyster industry. Because oysters are the keystone aquatic species of the brackish-water coastal zone, more oysters mean more crab, shrimp, and finfish, and more revenue from those ecologically sound, sustainable industries. Why not scrap the MBSD, build solid storm protection, and expand the ecologically sound oyster, crab, shrimp, and finfish industries?

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October 24, 2022

Letter ID: 244166

Restore the Mississippi River Delta
Maloz, Simone

U.S. Army Corps of Engineers
Colonel Cullen Jones, Commander and District Engineer
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

Re: Final Environmental Impact Statement for the Proposed Mid-Barataria Sediment Diversion Project, Plaquemines Parish, Louisiana

Dear Colonel Jones:

The Restore the Mississippi River Delta campaign (MRD) appreciates this opportunity to provide input on the Final Environmental Impact Statement (FEIS) for the Proposed Mid-Barataria Sediment Diversion Project. MRD is a coalition of national and regional nonprofit organizations working to advance an equitable, safer, and flourishing coast for Louisiana's communities, ecosystem, and economy. We are represented by conservation, policy, science and outreach experts from Environmental Defense Fund, National Audubon Society, the National Wildlife Federation, Coalition to Restore Coastal Louisiana, and Pontchartrain Conservancy.

We write to you in strong support of the identified Preferred Alternative: Variable Flow up to 75,000 cfs Sediment Diversion. Our organizations have worked collectively for over a decade toward the restoration of Louisiana's critical coastal ecosystems, with individual organizations and members having an invested presence along the coast for nearly a century. The Final Environmental Impact Statement for this project is the culmination of decades of scientific, socio-economic, and policy analysis by the U.S. Army Corps of Engineers (USACE) and the Louisiana Coastal Protection and Restoration Authority (CPRA), as well as the prudent investment and consideration by the Louisiana NRDA Trustee Implementation Group (LA TIG). We commend these agencies for their dedication to scientific analysis, robust public engagement efforts, and their commitment to a final product that reflects the critical importance and public interest in project design and mitigation of impacts.



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The purposes of this project and of the holistic Louisiana's Comprehensive Master Plan for a Sustainable Coast (hereafter referred to as the Coastal Master Plan) are to ensure a sustainable, resilient, and ecologically healthy future for the entire region. The Mid-Barataria Sediment Diversion (MBSD) is a cornerstone project of the Coastal Master Plan, and represents perhaps the most ambitious and far-reaching project for restoring natural coastal processes in history—allowing the Mississippi River to resume delta building after three hundred years of human intervention that prevented it. As detailed in the Coastal Master Plan and permitting documentation for the MBSD, the delta is in a state of collapse. Critical habitat of national significance is disappearing at a geologically dizzying rate. As a result, human communities have already suffered staggering losses in recent hurricanes, and now face an existential threat that compounds annually because of increasing land loss rates exacerbated by climate change and a lack of bold restorative actions such as the MBSD. These conditions cannot be allowed to continue. One of the most productive ecosystems in North America is at a crossroads, and the MBSD represents the first major effective science-based avenue for improving the long-term sustainability of the Barataria Basin.

The MBSD is projected to create more than 6,200 acres of land in the first 10 years, and even taking the impacts of subsidence and sea-level rise into effect, land created and sustained by the project is projected to be approximately 13,400 acres by 2070. Beyond land-building, this project will create a healthy, resilient habitat for people and wildlife, providing storm surge reduction benefits to nearby communities in the Greater New Orleans area such as Westwego, Marrero, Belle Chasse and critical habitat to ducks, largemouth bass, and alligators.

Today, the Barataria Basin no longer functions as a natural estuarine ecosystem. Because of human interventions in the twentieth century, the Mississippi River delta has shrunk and become more saline, especially in the rapidly collapsing Barataria Basin, which has seen the highest rate of coastal wetland loss in North America.

Wetland loss and increased salinity has caused the area to become more hospitable for a suite of saltwater dependent deltaic organisms, including eastern oysters, brown shrimp, spotted seatrout, and bottle-nosed dolphins. Reversing the rate of these conditions will negatively affect those salt-dependent organisms, at least in the limited geography of the basin. But the alternative is the collapse of the wetland systems that also ultimately sustain those organisms. The process has been aptly compared to economic models—a declining estuarine basin is like a declining bank account: spending the principal rather than living off the interest. It is a zero-sum game: once the principle is gone, it can longer generate interest. One can live well while the principal lasts, but then the balance is zero.



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At the same time, of course, many more organisms that thrive in fresher ecosystems suffer during the conversion to the less biodiverse saltier ecosystem. These include many species of fish including sunfish and bass, crawfish, and almost all amphibians and reptiles that occur in the delta, including American alligators. Additionally, hundreds of species of wading and migratory birds, including most ducks, geese, herons, egrets and ibis, and most species of wetland-dependent mammals including deer, otter and mink also thrive in a fresher, more biodiverse ecosystem.

The MBSD is a critical and ambitious project with monumental positive impacts; however, it will not be without some adverse short-term to permanent impacts to the affected region. The FEIS details a conservative evaluation of impacts to wildlife, human communities, industry, and cultural resources in great detail, which are by no means certain, as discussed below. The USACE, CPRA, and LA TIG have also engaged in the process culminating in the Restoration Plan, which invests more financial resources into long-term mitigation and stewardship than have been expended on any Louisiana restoration project to date. As importantly, the adverse impacts identified in the FEIS need to be considered in the context of the current worsening condition of the anthropogenically-driven receding and vanishing coastline of Louisiana that we do have; a once-growing delta disconnected from nourishing elements, which is on the precipice of becoming nothing more than open water if bold action including the MBSD is not taken now.

It is in this context that we reaffirm our strong support for the identified Preferred Alternative, and urge the completion of the Record of Decision as soon as possible. Our organizations have encouraged expedient but thorough review of this and other coastal restoration and protection projects for years. We share a common vision for our home: a just, climate-resilient coast where people and nature thrive. The Mid-Barataria Sediment Diversion, as identified in the Louisiana Coastal Master Plan, is the most effective and scientifically sound pathway to that future. Below, we offer context and additional details regarding our support of this project.

I. Historical Context of the Barataria Basin

The history of the ecosystem of the Barataria Basin is one of decline, since the Mississippi River was first leveed off from the Basin for flood control purposes in the early 18th century, and over the next two centuries distributaries were closed off and no longer carried river water into the basin. In addition, the distributary mouths were artificially extended into deeper water for navigation purposes. Development is extensive along Louisiana's coast: levees, distributary closures, hundreds of miles of drainage, logging, navigation, oil and gas exploration, oil and gas pipeline canals, roads, and drainage projects. This development accelerated saltwater intrusion that ate away fragile marshes and



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wetlands, while the impacts of climate change will hasten sea-level rise and lead to more frequent, more severe weather events. As a result, the ecosystem that exists now in Barataria Bay, already unnatural, will continue to decline at an accelerating pace.

Too much has been lost and the conditions have deteriorated to the point that returning to the Barataria Basin to a past condition is not possible. The best tool available is the sediment-laden Mississippi River, which created the delta in the first place and can restore a more natural, highly productive, and ecologically rich environment. The goal is not restoration of any point in the past of a highly dynamic system. Rather, the goal must be to reestablish a functional deltaic ecosystem that can sustain itself in an uncertain future.

Throughout the FEIS, USACE examines the impacts to resources in the context of the environment that exists today and under future conditions. But it is important to remember that the present-day system is an artificial ecosystem created by disconnecting the Mississippi River from its floodplain, leading to precipitous land loss and salt-water intrusion. The impact of project implementation is to restore Barataria Basin to a naturally cycling deltaic ecosystem. While the immediate impacts to some species of wildlife are expected to be significant, those adverse impacts pale in comparison to the ecological and social devastation associated with failing to act to secure a healthy and sustainable ecosystem for Barataria Basin, not to mention the deleterious impacts of failing to act to the economy, communities, and culture of south Louisiana.

II. Impacts

The FEIS extensively analyzed potential harm of project implementation to affected communities, stakeholders, and wildlife species. Our research and understanding of the resources at hand have led us to conclude that impacts to wildlife in the Barataria Basin are inevitable. However, we question if the extent of damages outlined in the FEIS to turtles and dolphins will be fully realized given existing scientific uncertainties along with the robust mitigation and stewardship plan to avoid, minimize, or mitigate impacts.

Fisheries

The fisheries of the Louisiana coast are invaluable to the state's identity, culture, and economy. As such, this industry, and the people it employs, will suffer from further degradation of the Barataria ecosystem without this project - a pattern of land loss will continue that only exacerbates the already-felt impacts and suffered losses from severe weather, hurricanes, and sea level rise. Without action, the collapsing ecosystem will continue to decline, as salinity levels increase, claiming wetlands that



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serve as nurseries for fish in the estuary and the Gulf. As outlined in the FEIS and the Restoration Plan, local, short-term declines and dislocations will occur for oyster, some shrimp, and some recreational fish species. But it is a matter of fundamental biophysics that adding matter and energy to a system, especially a starved system, can only increase net primary productivity. The Barataria Basin will see an increase in biological productivity as a result of MBSD. An opportunity is at hand to ensure that the fishing industry actually grows as a result of this increase in productivity, especially as supported by the Restoration Plan and the adaptive management processes proposed.

Species of Concern

Bottlenose Dolphins

Bottlenose dolphins have been able to access Barataria Bay because of anthropogenic changes that caused higher salinities and a greater aerial extent of deeper saltier water, as well as increasing availability of prey species whose populations are sustained by the deterioration of the marsh ecosystem. Dolphins have adapted to a range of habitats and are typically flexible feeders. This adaptability likely allowed them to rapidly colonize the formerly inhospitable Barataria Basin.

Collectively, we have decades of science and data collection on the delta, including on geological, hydrological, and ecological processes. This is backed by a coastwide monitoring system that has been collecting data since 2003. Coastwide planning on wetlands restoration, including the study of diversions, has been occurring since the 1970s. We also have multiple existing examples of land-building processes functioning on the landscape today, including Wax Lake Delta, Mardi Gras Pass, and Caernarvon Diversion, which provide robust science for delta-building processes. In contrast, the data sets around the dolphin population are not as robust, and nearly non-existent before the Deepwater Horizon oil spill. Although we do have more extensive monitoring since the oil spill, there are still uncertainties around the long-term movements of the population. The FEIS acknowledges that there is still a lot to learn about marine mammal behavior, physiology, and pathology. As a result, many assumptions and generalizations were used to forecast impacts at different levels of confidence. For example, there are limited examples of the interactions of dolphins and freshwater in an open bay system, such as Barataria Bay. The FEIS uses available literature and expert elicitation approaches to forecast impacts, and suggests the loss of some Barataria subpopulations as a result of MBSD operation. This is appropriate for analysis under the National Environmental Policy Act. However, we question whether these impacts will be fully realized over the lifetime of the project given the commitment outlined in appendix R to employ adaptive management strategies to monitor, respond, intervene, and minimize impacts to dolphins.



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We commend CPRA's commitment to adaptive management to minimize impacts to dolphins as part of the operations plan as outlined in Appendix R, and note its consistency with the statutory requirements of Section 20201(b) of the Bipartisan Budget Act of 2018, to minimize "to the extent practicable and consistent with the purposes of the project..." the impacts on marine mammal species and population stocks, and to "monitor and evaluate the impacts of the projects on such species and population stocks." The Final Mitigation and Stewardship Plan and Mitigation and Adaptive Management Plan, detailed in Appendix R of the FEIS, appropriately outlines monitoring efforts and mitigation measures to minimize impacts to the Barataria dolphin subpopulation, such as active surveillance on the population stock and enhanced stranding response up to ten years after construction of the Project, while remaining consistent with the project purpose, to rebuild marshland and restore the Basin to its natural deltaic state. This is the appropriate approach to adaptively manage for impacts, given the necessity to acquire data on how the basin will respond to the project, and how the dolphins will respond to changes in the basin.

In the next few decades, absent the MBSD, the estuarine marshes that serve as essential nurseries for some Barataria dolphin prey populations and dolphin foraging grounds will continue to disappear. The decrease in trophic diversity and lost productivity of the estuary will be to the detriment of dolphins not only in the bay, but in the near shore Gulf as well. The long-term health of dolphin populations in the delta and north-central Gulf of Mexico, at large, requires a change from a declining system to a revived system.

Sea Turtles

All five sea turtle species found in the Gulf of Mexico have the potential to be present in the marine portions of the project area, but, as the FEIS notes, most sea turtles are likely restricted to near or outside of the barrier islands. Of these species, the Kemp's Ridley and green sea turtles are more likely to occur in the inshore waters of the project area. The primary concerns around sea turtles, as noted in the FEIS, are increased vessel strikes during construction and increased interactions with fishers due to shifts in the location of shrimping efforts that could lead to injury or mortality. To minimize vessel impacts, as has been done for multiple Barataria Basin area marsh projects in the past, CPRA has indicated that it would adhere to best management practices recommended by USFWS and NMFS to minimize potential vessel strikes and entanglements during construction and operation. In addition, data collection and monitoring efforts are outlined in appendix R to better understand the abundance, distribution, and habitat use of sea turtles in the project area, assess the location and intensity of the brown shrimp fishery, and conduct salinity monitoring during project operation to ensure that level of take authorized by the biological opinion is not exceeded. Without the MBSD, sea turtles throughout the north central Gulf of Mexico are likely to be negatively impacted due to loss of marsh habitat that





would affect blue crab populations, the main prey for Kemp's Ridley and loggerhead turtles. The project is expected to have negligible to beneficial impacts on benefit blue crab populations which could ultimately provide a benefit to these sea turtle species.

Pallid Sturgeon

The population of sturgeon found in the lower Mississippi River is officially identified as "pallid sturgeon" a species protected under the ESA. While recent research indicates these lower-river sturgeon are likely an unnatural hybrid swarm resulting from interbreeding between Shovelnose and Pallid sturgeons, efforts to protect this population are required until the issue is resolved. The principal danger to riverine sturgeon is entrainment in the diversion outfall and their possible inability to return to the river through the structure. We concur with USFWS and believe the mitigating factors proposed to address this problem are more than adequate, and "reasonable and prudent" measures to minimize impacts, including voluntary conservation measures to assist species' recovery for the pallid sturgeon, can be informed by similar measures employed at existing diversions and spillways.

III. Adaptive Management and Restoration Plan

As stated in our comment letter on the Draft Environmental Impact Statement, a project the size and complexity of the MBSD will require a robust monitoring program and nimble adaptive management.¹ The opportunity to manage the project so that impacts to wildlife and communities are mitigated is critical. Because not all issues can be anticipated and addressed in the FEIS, a robust adaptive governance structure is of great importance, so that the project sponsor can identify improvements and efficiencies and adjust to the emerging science as implementation continues. CPRA has committed to such a governance structure. An effective governance plan needs to serve functions that address challenges in priority setting, knowledge generation/learning, knowledge mobilization/decision making, and communication and engagement.

The Final Mitigation and Stewardship Plan proposed by CPRA includes \$378 million for strategies across communities, fisheries, and marine mammals. With regard to fisheries, mitigation measures for the fishing industries are not a dollars-to-dollars replacement for annual fishery landings, but are instead meant to assist the industry in adjusting to the newly created environment and its challenges over the course of the project. The extensive monitoring network will allow fishers to get better acquainted with the aquatic environmental changes assisting them in selecting fishable areas. Given that it is projected that the brown shrimp industry will be most impacted under a Future Without Action scenario as well as the Preferred Alternative, the proposed mitigation in addition to assistance

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with the Federal Shrimping Permit Moratorium would open new avenues to access revenue for inshore shrimpers. Likewise, the vast amount of mitigation planned for the oyster industry would assist both individual fishers and the industry as a whole. Mitigation planned for the crab and finfish industries enhances, adapts, and strengthens both industries while allowing for expansion in the freshening basin. The inclusion of workforce training, habitat enhancements, business startup grants, vessel and facility upgrades, and marketing funds in mitigative measures creates investments that will have a lasting positive effect on both individual fishers and the industry as a whole.

IV. Project Funding

The MBSD is funded under the Deepwater Horizon settlement pursuant to the Oil Pollution Act of 1990 (OPA), due to the catastrophic impact that the Deepwater Horizon Oil Spill had on the Barataria Basin, an ecosystem already depleted of its natural wildlife and marshes by flood control infrastructure along the Mississippi River. After the spill, the Deepwater Horizon Trustee Council and Natural Resource Damage Assessment Trustees (Trustees) were established under OPA to ensure the environment and communities affected by the spill would be made whole from injuries sustained and reached a settlement of \$8.1 billion to do so. As part of the Louisiana allocation, the Trustees complied with OPA, evaluating alternatives to best restore the Barataria Basin, and determined that a combination of marsh creation, ridge restoration, and a large-scale sediment diversion from the Mississippi River would provide the greatest long-term benefits to injured “Wetlands, Coastal, and Nearshore Habitats” and to the large suite of injured resources that depend in their life cycle on productive and sustainable wetland habitats in the basin and in the broader northern Gulf of Mexico. Separate funding buckets are available under the OPA settlement for injuries to other habitats and living marine resources, including marine mammals and sea turtles.

V. Conclusion

The Mid-Barataria Sediment Diversion is a critical solution for coastal Louisiana’s future. Without this and other projects recreating the natural process of delta building, the long-term sustainability of our home is in peril across all sectors, with widespread and continued devastation to the natural environment that we cherish. We urge the U.S. Army Corps of Engineers to move this project forward with the chosen Preferred Alternative, and execute the Record of Decision with all available speed.



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[@RestoreDelta](https://www.instagram.com/RestoreDelta)

Sincerely,

Simone Maloz
Campaign Director
Restore the Mississippi River Delta

Kristi Trail
Executive Director
Pontchartrain Conservancy

Kimberly Davis Reyher
Executive Director
Coalition to Restore Coastal Louisiana

Cathleen Berthelot
Senior Policy Manager
Environmental Defense Fund

Brian Moore
Vice President, Gulf Policy
National Audubon Society

Amanda Moore
Director, Gulf Program
National Wildlife Federation



Letter ID: 244117

Mathieu, Ivy
LaPlace, LA 70069

The Mid-Barataria Sediment Diversion Project albeit noble effort to stop the erosion of the state's coast line, it is a race we cannot win because of continued investment into extractive industries, thus I am against the project. My position is to re-direct the funds to the people directly impacted on the coast for new forms of housing, cultural & heritage investment to preserve what remains, and invest into environmental/climate educational institutes that will re-tool and/or develop a new workforce that is equipped to live in harmony with the natural resources of the state and planet. Although, there is some money set aside for the seafood business, it is just a small band-aid for a gushing wound that requires immediate triage of creative thinking and solutions to save the quality of life of the humans that call the coast home. Moving earth and dirt only benefits the contractors because we cannot move enough of this resource fast enough. Additionally, the coast line is being washed away by rapidly rising sea levels and intense/frequent storms, thus the current efforts and plans are not saving nor restoring the coast--- poor return on investment (ROI), instead, invest directly into Louisianans! Again, No MB Diversion!

Comments to the U.S. Army Corps of Engineers, New Orleans Division, in Relation to the Mid-Barataria Sediment Diversion (MBSD) Project

October 24th, 2022

Grant S. McCall, Ph.D.
Executive Director and Chief Research Scientist
Center for Human-Environmental Research
Associate Professor
Dept. of Anthropology
Tulane University
[REDACTED]

Russell D. Greaves, Ph.D.
Director
Office of Contract Archeology
University of New Mexico
Research Associate
Center for Human-Environmental Research
[REDACTED]

Our comments pertain to the social impacts of the Mid-Barataria Sediment Diversion (MBSD) project on the coast fishing communities in Lower Plaquemines Parish and its adjacent regions. As we perceive it, the primary failing of the final Environmental Impact Statement (EIS) concerns the potential negative impacts of the MBSD project on small-scale commercial fishing activities and, moreover, the knock-on consequences for community cohesiveness and resilience. The final draft of the EIS admits that there will be “major,” “permanent,” and “adverse” effects on the commercial fishing of brown shrimp (*Farfantepenaeus aztecus*) and oysters (*Crassostrea virginica*), and that these effects will have direct negative economic consequences for commercial fishers in Lower Plaquemines Parish, as well as broader indirect consequences for their communities.

The first and most important aspect of our comment focuses on the unrealistic expectations having to do with the responses of small-scale commercial fishers and fishing communities to the negative consequences of shifting salinity levels, pollutants, sediment loads, etc. The anticipated responses to these issues on the part of commercial fishers fall into three major categories: (1) mobility, i.e. making longer fishing trips in seeking target species; (2) flexibility, i.e. generating the capability of targeting alternative species; and (3) departure, i.e. exiting the fishing industry, moving into new industries, and/or physically leaving their current homes. Each of these

expectations is, in our view, profoundly problematic reasons from both a social scientific and moral/ethical perspective.

The first adaptive strategy proposed by the MBSD EIS is the idea that fishers can cope with negative environmental consequences in the project area by traveling further offshore in pursuing target species. This strategic shift is at its most unrealistic as it pertains to the harvesting of oysters, which overwhelming takes place in private water-bottom oyster leases held by small-scale commercial fishers. In the Barataria Basin especially, virtually none of the harvested oysters come from the public oyster zones and virtually all oyster landings come from privately held water-bottom leases. Such water-bottom leases, that are granted by the Louisiana Department of Fish and Wildlife, have often been held by individuals and families for generations. The contents of their specific oyster fisheries and known and depended upon by oyster fishers. Local oyster fishers rely on extant and known infrastructure and established relationship for selling their catch. This is not necessarily easily restructured for them. In addition to the potential complexity of completely re-organizing the logistics on which their livelihood depends, oyster fishers and their families have deep temporal and cultural connections with those places in both practical and emotional terms. In many cases, families are closely tied to specific oyster leases in ways that would be impossible to re-establish through fishing activities elsewhere, either in public oyster areas or in alternative private leases. It would represent a tremendous economic hardship in an already-difficult industry, and it would be emotionally draining in relation to the potential loss of long-term family connections and attachments with particular places.

Next, as the mobility solution pertains to shrimpers, longer trip distances would further stress fishers who already exist on very thin economic return margins. Recently, a combination of high fuel costs (and other vessel operation expenses) and extremely low market prices have pushed small-scale commercial shrimpers to their limits. Many have already left the industry or are in the process of leaving. Longer fishing trip distances would obviously increase fuels costs significantly and add to the overall burden of vessel maintenance and operation. It also decreases return rates by necessitating more travel time from docks to shrimping areas, that obviously includes major opportunity costs in conducting other complementary forms of economic activity. In short, it makes a difficult lifestyle—one that has already pushed many beyond the breaking point—dramatically harder.

The second approach proposed by the MBSD has to do with the generation of increasing flexibility in terms of fishing activities, strategies, and gear/tactics. In a nutshell, the idea is the fishers can offset potential negative effects on target species by shifting their focus to alternative species. A key example in this regard is an anticipated shift from the targeting of brown shrimp, that are likely to be significantly harmed by the MBSD project, to the targeting of white shrimp, which are likely to be less affected. Above all, what is missed here is that it is not a zero-sum game: shrimpers currently depend on both species, which have non-overlapping seasonality. *Shrimpers can't simply catch more white shrimp to make up for the loss of the brown shrimp season.* Furthermore, we find it highly unlikely that those currently involved in the commercial shrimp and oyster industries, who already mix various fishing opportunities with other forms of economic activity in quite complex ways, could easily augment lost income by targeting finfish or other seafood species. If those opportunities were viable, people would already be doing them.

Finally, the most unrealistic expectation of the MBSD EIS is that small-scale commercial fishers could exit the industry and easily transition into alternative forms of quality employment. In fact, the EIS document admits this numerous times, repeating some variant of the following: “Low income and minority populations may be less likely to adapt to changing environmental conditions because switching to other industries due to age, educational or training background, cultural or language barriers is difficult” (Appendix H, p. 139). Such barriers in terms of literacy, language, immigration status, education level, age, and cultural background also deterred a core segment of the small-scale commercial fishing community from participating in the MBSD environmental review process and certain cultural/ethnic/linguistic communities have basically given up on achieving *any form* of government support at the state and federal levels. The expectation that impacted commercial fishers would, for example, enter the formal educational system to retrain into an alternative industry is as absurd as it is unfair.

Additionally, in our research, we have noted that the vast majority of small-scale commercial fishers already alternate their involvement in a diversity of other forms of economic activity at various time scales: for example, a small-scale commercial shrimper who also works as a roofer or handman. Alternative sources of economic income allow small-scale commercial fishers to cope with dynamics of economic risk posed by fluctuations in fuel prices and other operating costs, market prices, variable abundances of target species (i.e. good vs. bad seasons), and disaster events. Once again, however, combining small-scale fishing and alternative economic activities is not a zero-sum game. Fishers frequently need both kinds of economic opportunities to survive, particularly in the context of sharply declining fishing profit margins. While small-scale fishers can periodically participate in alternative forms of economic activity, they cannot continuously expand their participation in other industries as a permanent solution to the disruptions caused by the MBSD project.

In a more general sense, we feel that, in severely undermining small-scale commercial fishing activities in the Barataria Basin, the MBSD project will have profoundly negative consequences for coastal communities in the region, especially in Lower Plaquemines Parish. Our research (McCall and Greaves 2022) has shown that Lower Plaquemines Parish communities are comprised of complex and crucial networks of social support that assist individuals and families in coping with disruptions at various scales of both time and severity. On the one hand, such disruptions include personal events, such as the loss of a job, an illness/injury, a death in the family, etc. During such times, networks of social support provide a wide range of help, including money, employment, food, childcare, home repairs, mechanical assistance, emotional support, and other forms too numerous to list here. In addition, such networks of social support were fundamental in dealing with large-scale stressor events, such as Hurricane Katrina and the B.P. oil spill. More recently, such social networks played a major instrumental role in the region’s response to and recovery from Hurricane Ida—often filling gaps in terms of the shortcomings of government responses at the state and federal levels.

In our view, the greatest failure of the MBSD EIS from the perspective of social science is its characterization of Lower Plaquemines Parish as lacking “connectedness” and having low scores on indices having to do with social wellbeing at the community level. The apparent implication of this is that the negative consequences for coastal fishers will have a muted impact on overall

community wellbeing and resilience since there isn't much to lose on those fronts to begin with. Based primarily on publications by Dillard et al. (2013) and Buck et al. (2015), the EIS measures social connectedness using (among other things), "charitable giving, access to telephone services, participation in democracy (voter turnout), tenure in community, [and] number of religious organizations per 1,000" (p. 3-189). This approach was obviously designed to cull information from publicly available internet sources, such as census and corporate data, voting records, and so on. Given the life-and-death seriousness of this set of issues, we believe that deeper ethnographic research was warranted in evaluating project impacts to coastal community social systems. In reaching the wrong conclusion in this dimension, the MBSD EIS is making a serious and consequential mistake.

Our research has shown that small-scale commercial fishing is the glue that holds together such important social systems of support and reciprocity. In a broad sense, fishing provides a living for a large swath of coastal community populations, which is particularly concentrated among low-income and minority communities. If this form of economic production is lost, it will seriously harm a key segment of these communities, undermining the ability of those involved in the fishing industry to provide support to others in the community while needing further support themselves. As fishers slip further into poverty and/or leave the area, this will have wide-ranging consequences for both the overall health and resilience of coastal communities. Many residents feel that they may be forced to leave their homes and that their communities may cease to exist altogether by virtue of the impacts of this project—and we fear that they may be right. In one of the riskiest places on Earth, the social consequences of the MBSD project would seem to make it even riskier.

The final aspect of our comment has to do with process. On the one hand, the MBSD project is likely to have existential consequences for coastal communities in the Barataria basin. On the other hand, as likely the most important coastal restoration project in U.S. history (and with a price tag in the billions of dollars), the success of the MBSD project is most directly threatened by an overwhelming lack of public support, particularly among coastal communities and commercial fishers. Clearly, the review process and public engagement with the MBSD project has failed.

There are multiple overlapping reasons for this, though a few things stand out as particularly important. For one thing, the major barriers to access on the part of coastal community members, as well as public hearing and meeting fatigue, have led to a near total failure in incorporating community feedback and traditional knowledge in the consideration and design of the project. For example, we have heard repeatedly that the project might have at least provided some benefits in terms of navigation between the river and Barataria Bay (as has happened unintentionally with the recent Mississippi River crevasse at Neptune Pass on the East Bank). For another thing, it is clear that the environmental impact review process has not invested the effort necessary to relate the potential impacts of the project to the lived experiences of the affected community members. Meaningful public engagement must be more than a long series of public meetings and comment periods for environmental impact statements. In this sense, it seems to us that both the attendant social scientific research done in relation to the project impacts and the mechanisms of public engagement were superficial.

Furthermore, relative to the multi-billion-dollar budget of the MBSD project, the expense of doing the kind of research and public engagement that seem warranted by such an expansive project footprint would be negligible. On top of that, it is also evident that a great deal of social scientific research was, in fact, done (see Appendix H)—much of which is generally consistent with the points made in our comment—and then it was basically ignored. In our view, the fight against coastal land loss and environmental degradation depends on having healthy and resilient coastal communities. If the MBSD project somehow succeeds in its environmental goals but drives out coastal fishing communities, it will be a Pyrrhic victory and, if the project fails at such a high cost, it threatens all future coastal restoration activities. For these reasons, the review process for projects like the MBSD must do much better in understanding, relating to, and engaging with coastal communities or the future of coastal restoration efforts is bleak.

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St. Bernard Parish Government

www.sbpbg.net

Guy McInnis
Parish President

October 6, 2022

US Army Corps of Engineers
New Orleans District
Attn: CEMVN-ODR-E; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, Louisiana 70018

Re: Mid-Barataria Sediment Diversion FINAL Environmental Impact Statement

To Whom It May Concern:

St. Bernard Parish Government (SBPG) would like to provide a summary of the parish's comments regarding the draft environmental impact statement (EIS) and submit additional comments on the Final EIS. A summary of SBPG's comments regarding the draft EIS is provided below:

1. The stated project purpose and need are inconsistent with the actual project scope of work and likely outcomes;
2. The environmental and economic risks associated with the largescale diversion of freshwater into Louisiana's estuaries is well-documented;
3. The EIS describes the project's likely severe adverse impacts on the natural environment, including many that will be permanent;
4. The EIS describes the project's likely severe adverse impacts on the socioeconomic well-being of coastal communities;
5. The EIS identifies many particularly vulnerable communities that are likely to be disproportionately impacted by the proposed project;
6. The land-building capacity of the proposed project is likely overstated and the EIS supports previous findings regarding the possibility of the project causing land loss and increasing flood risk; and
7. The operational regime for the project may evolve in a manner that exacerbates adverse impacts to the natural and human environment over time.

The final EIS validated SBPG's concerns regarding the draft EIS. Additionally, the parish's ongoing consultation with stakeholder groups has yielded new insight into the project's likely devastating adverse impacts. Stakeholders have also expressed their preference for established, cost-beneficial coastal restoration project types rather than sediment diversions. SBPG's comments regarding the final EIS are provided below.

Large-scale marsh creation was dismissed as a project alternative, yet such projects are the centerpiece of the 2017 State Master Plan.

The State of Louisiana has created over 40,000 acres of land via large-scale marsh creation since the 1990's. According to the Coastal Protection and Restoration Authority (CPRA), \$18 billion in 2017 State Master Plan funding is dedicated to marsh creation while only \$5 billion is dedicated to sediment diversions (2017, ES-16). The periodic maintenance of large-scale marsh creation projects involves incidental expenses that CPRA has understood and accepted for decades.

The Mississippi River already provides a sustainable source of sediment for coastal restoration.

The Mississippi River will continue providing a sustainable source of sediment in perpetuity, as evidenced by the US Army Corps of Engineers (USACE) Operations and Maintenance program:

The U.S. Army Corps of Engineers, New Orleans District has the largest annual channel Operations and Maintenance (O&M) program in the nation and dredges an average of 77 million cubic yards (mcy) of material annually during maintenance dredging of federal navigation channels. (USACE, n. d.)

Since 2007, the USACE New Orleans District has beneficially used dredged material to create over 68 square miles (43,520 acres) of land despite only utilizing 42% of available/suitable dredged material (USACE, n. d.). USACE-managed hopper dredge disposal areas (HDDA) along the lower Mississippi River regularly contain millions of cubic yards of sediment.

Long-distance sediment pipelines have the potential to deliver sediment from the Mississippi River to coastal restoration project sites throughout southeast Louisiana.

The *East Bank Sediment Pipeline* project (CPRA BS-33) illustrates the potential utility of long-distance sediment pipelines in coastal Louisiana. The 2017 State Master Plan includes over 50,000 acres of marsh creation in the Breton Basin. The Mississippi River provides an out-of-system, renewable source of sediment for such projects. The East Bank Sediment Pipeline feasibility study is complete and engineering/design is ongoing.

Restoring Louisiana's coast is an urgent, existential concern for residents and businesses. The region is in need of cost-beneficial coastal restoration projects that yield immediate results, particularly as it relates to flood risk reduction.

Louisiana has experienced approximately 2,000 square miles of coastal land loss over the past century. Much of this has been caused by development practices (flood control projects, oil and gas exploration, and navigation canals) and tropical weather events. St. Bernard Parish was ground zero for Hurricane Katrina (2005), when levee failures caused over 100 fatalities and damaged or destroyed virtually all 67,000 structures in the parish. Nearly 5 million barrels of crude oil were later spilled near St. Bernard Parish during the *Deepwater Horizon* event (2010). The parish was subsequently impacted by the *Gulf of Mexico Freshwater Flooding* (2019) federal fishery disaster. Consequently, St. Bernard Parish and many neighboring communities have been in a constant state of disaster recovery for over 17 years.

CPRA projects that the parish may lose up to 72% (237 square miles) of its remaining coastal wetlands over the next 50 years. According to FEMA, 94% of the parish is in the Special Flood Hazard Area and the National Risk Index for St. Bernard Parish is higher than the national and state averages. Neighboring communities are similarly situated, and the region is in desperate

need of coastal restoration projects that yield immediate results, particularly as it relates to flood risk reduction. The proposed project does not address this urgent, existential concern.

Because restoring Louisiana's coast is an urgent, existential concern for residents and businesses, CPRA should not waste time and resources on an unproven project type.

The 2017 State Master Plan highlights the importance of maintaining Louisiana's *working coast*, which CPRA describes as those ecological services that also generate economic benefits, including everything from oil and gas production to fish and wildlife habitat. The state has 15,000 miles of coastline and is home to 41% of all coastal wetlands in the US (NOAA, 2021, p. 17). Additionally, Louisiana has the second highest commercial seafood landings in the US and 25% of all seafood consumed in the country is harvested from the state's waters (Jones, 2015). CPRA provides many other key statistics regarding economic activity along Louisiana's coast:

- 75% of Louisiana's commercial fin and shellfish depend on healthy coastal wetlands for spawning, nursery habitat, and feeding; and
- Ecological services (natural capital) in the state have an estimated value of \$1.3 trillion. (CPRA, 2017, p. ES-12).

Given the economic and cultural significance of Louisiana's coastal resources, litigation regarding the proposed project appears to be inevitable. Involved parties will incur significant legal expenses and the proposed project will ultimately be delayed or cancelled. CPRA time and resources would be more effectively dedicated to established, cost-beneficial project types such as large-scale marsh creation.

The mitigation budget for the proposed project will not sufficiently address the impacts described in the final EIS.

The Bonnet Carré Spillway released approximately 10 trillion gallons of freshwater into the Pontchartrain Basin during the Gulf of Mexico Freshwater Flooding federal fishery disaster (2019). According to the Louisiana Department of Wildlife and Fisheries (LDWF), this event caused over \$267 million in damage in Louisiana alone (LDWF, 2021). Mississippi and Alabama also claimed hundreds of million in damages and were ultimately included in the resulting federal fishery disaster declaration. Based on the proposed project's scope of work and operational regime, similar impacts could be expected in the Barataria Basin annually. The proposed \$378 million mitigation budget would not sufficiently address such impacts for any period of time.

Thank you for your time and consideration.

Sincerely,



Guy McInnis
Parish President
St. Bernard Parish Government

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St. Bernard Parish Government



Guy McInnis
President

U.S. Army Corps of Engineers
New Orleans District

ATTN: CEMVNI-RGE; MYN-2012-2806-E00
7400 LEAKS AVE
NEW ORLEANS, LA 70118

Letter ID: 244144

Pontchartrain Conservancy / 501(c)(3) - Research and Advocacy

Meade, John Alden
New Orleans, LA 70115

I am a board member of the Pontchartrain Conservancy. In addition to the formal comments submitted below, I would like to add that we cannot let the perfect be the enemy of the good. This plan is needed and is essential. Great pains are being taken to assist those negatively affected, like oyster fishermen. But history shows that these folks have been steadily moving in, and the plan makes provisions for helping them move back out to where they once were.

- We support the applicant's preferred alternative. The Mid-Barataria Sediment Diversion will use the power of the Mississippi River to build and sustain land, working in synergy with other projects to protect our coast, its people, wildlife and economies in a way that nothing else can.
- The Mid-Barataria Sediment Diversion, studied for 40 years, is a cornerstone of Louisiana's coastal plan. That is because the delta is collapsing - the collapse is not only the loss of protective wetlands, but also the estuaries as saltwater continues to move further up into the delta.
- Land loss and hurricanes have already taken so much from us, and we stand to lose significantly more from relative sea level rise and stronger storms. We must confront these serious threats with bold, innovative solutions that protect our home and our way of life.
- Sediment diversions will require a transition for some coastal residents and communities, and it is essential that the process is done well. But Louisiana's coast is changing no matter what. If we do nothing, we will face even more devastating land loss and fisheries collapse across our coast.
- The project is not just about building land even though we'll see major land-building within 50 years even in the face of rising seas. This project will create a healthy, resilient habitat for wildlife and people that are otherwise facing ecosystem collapse and becoming increasingly vulnerable to climate impacts like sea level rise and intense hurricanes.

Thank you for the opportunity to comment.

Yours truly,

John Alden Meade

Letter ID: 244118

City of New Orleans / City

Monroe, Zach
New Orleans, LA 70112

In New Orleans, climate change is impacting our daily lives as we experience record-breaking Mississippi River flooding and drought, increasingly intense and frequent rainfall events, record heat waves, and unprecedented hurricane seasons. We've taken great strides to adapt and live with water. We can continue to see water as our biggest threat, or we can use it as a major asset.

The City of New Orleans is in support of the Mid-Barataria Sediment Diversion Project and the applicant's preferred alternative. This project will use the power of the Mississippi River to build and sustain land, working with the multitude of other coastal restoration projects to protect our coast, its people, wildlife, and economy.

There is no more time to wait for critical projects like the Mid-Barataria Sediment Diversion Project. The delta once created by the mighty Mississippi is collapsing, a loss created in part by federal actions to control the Mississippi River for navigation and flood control. The loss of our coastal wetlands, our first natural line of defense against hurricanes and storm surge, threaten our economy, culture, and way of life.

Land loss and hurricanes have already taken so much from south Louisiana. The region has lost nearly 25% of our coastal land in the last century, and we stand to lose significantly more land due to sea level rise and stronger storms. We must confront these serious threats with bold, innovative solutions that protect our home. The Mid-Barataria Sediment Diversion Project is informed by decades of science and research which makes clear that inaction is not an acceptable option.

The project is not just about building critically important land. This project will also create a healthy, resilient habitat for wildlife and people that are otherwise facing ecosystem collapse, dramatic sea level rise, and intensifying hurricanes.

Letter ID: 244138

Moore, Charles
Pass Christian, MS 39571

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, Louisiana 70118

Dear U.S. Army Corps of Engineers:

I hereby submit these official comments on the final EIS for the Administrative Record, feeling they are warranted given the immediate, permanent, and major adverse impacts to the Barataria Basin outlined in the EIS.

WOEFUL INADEQUACY OF THE THIRD PARTY CONTRACTOR'S (TPC) PREPARATION OF EIS

TPC chose the use of qualitative versus quantitative identification of impacts of the MBSD. While a generally acceptable practice for EIS preparation, given the complexity and unprecedented nature of the MBSD project, this methodology masks extreme adverse impacts of the project, especially economic impacts. Even the most basic cost/benefit analysis of MBSD using quantitative identification of impacts and any wetlands restorative benefits negates any public benefit of the project.

Direct, Indirect and Cumulative Impacts. As required under NEPA and other applicable executive and policy orders ensuring reinstatement of the full intent of NEPA, the EIS fails miserably in approaching any semblance of compliance with the requirement. In addition, the Memorandum of Understanding (MOU) initiated for the TPC included Scope of Work (SOW) Section 7.10 which required identification and "...a detailed quantitative analysis..." of cumulative impacts. Examples include the following:

Commercial Fisheries impacts

While the EIS notes "major, permanent, adverse" impacts to brown shrimp and oysters, it deliberately adds language to help foster a sense of mitigation to those impacts. As an example and a noted change from draft EIS:

"While availability of shrimp from the basin would decrease, shrimp from Louisiana would continue to be available to restaurants, potentially at higher prices...etc"

Not only is this additional language since the draft EIS obviously meant to lessen a reader's perception of the magnitude of the adverse impacts, the rest of the analysis fails considerably to address not only indirect but cumulative impacts as well.

Under NEPA regulations, any future or reasonably foreseeable action must be taken into consideration when evaluating impacts. One needs only to look to the applicant's other Corps of Engineer's permit

application for the Mid-Breton Sediment Diversion project to "reasonably foresee" a cumulative affect on the industries which will extremely heighten the impacts and any economic analysis of cost/benefit.

In addition, the cumulative impacts of MBSD go even further and are not addressed. As noted in our organization's draft EIS comments and reinforced by official government resolution from Cameron County Government, Texas, the EIS in no way addresses the significant concerns of economic impact to other jurisdictions of the Gulf Coast. For example in the shrimping industry, longstanding and prevailing science from NOAA recognizes the westward migration of shrimp from Barataria Basin which becomes a significant portion of Texas' shrimping economic gains. On last analysis in our partnership with Texas Shrimp Association and forwarded to Texas State Government, a cumulative loss of approximately \$150 million annually is possible once decimation of shrimp takes hold in Barataria Basin. As the EIS itself points out, this would commence at the "...onset of operations."

In addition, an evaluation of Mississippi economic losses and Alabama's seafood processing and distribution economic losses, must be undertaken to get a true picture of any cost/benefit analysis for the MBSD.

Marine Mammal Protection Act waiver

Section 20201 of Public Law 115-123 granted MBSD and two other diversion projects in Louisiana a waiver to the Marine Mammal Protection Act (16 USC 1361 et seq, as amended). However, this waiver, as worded, was granted pursuant to section 101(a)(3)(A) which solely directed a waiver to the "takings" portion of the Act.

While operation of the MBSD is now authorized to eliminate approximately 97% of the bottlenose dolphin population in Barataria Basin (Thomas et al. 2022), our organization and our partners fully assert that the granted "takings" waiver in no way negates a proper environmental review of indirect and cumulative impacts of eliminating the top species in the basin. Coupled with the other species destruction cited in the EIS itself, these indirect and cumulative impacts will inarguably have food chain implications - possibly Gulf-wide given that Barataria is one of the largest producing estuaries in the world, not just the Gulf region.

In addition, the elimination of nearly the entirety of the dolphin population will make monitoring of the estuary's health from polluted "forever chemicals," etc, extremely difficult. Dolphins are long noted to be ecosystem sentinels and biological repositories of dangerous elevations of harmful substances (Wells et al. 2004) which will surely intrude into the basin once operation of MBSD commences.

OBJECTIVITY OF THE TPC

Our organization wishes to voice our concerns officially for the Administrative Record over the possible non-objectivity of the TPC. While certainly many public officials go on to private sector engagements, in this extremely controversial and unprecedented experiment being considered for permit, concerns must be raised in relation to this particular TPC.

The MOU for the TPC was initiated in 2017 reflecting no organizational conflict of interest (OCI) in the required Appendix C. The current President of the TPC, Johnny Bradberry, joined the TPC in January, 2019. During the interim period between the MOU and his ascendance to President of the TPC, Mr. Bradberry served as Chairman of the Louisiana Coastal Protection and Restoration Authority (CPRA) - the applicant.

During his tenure as Chairman of the applicant agency in 2018, Mr. Bradberry was a stout advocate of the MBSD project, even taking the unprecedented step of publicly advising a Louisiana Parish President, acting under Plaquemines Parish Ordinance, that funding for other much-needed coastal projects would be withheld by the CPRA if his Parish's opposition to MBSD procedures then underway didn't cease. Mr. Bradberry even went further and had the CPRA Board pass an official resolution memorializing the threatened funding removal.

While objectivity in the EIS process for MBSD can certainly be maintained even with the above related facts, our organization would be remiss in not raising these concerns in our official comments for the record.

MITIGATION FOR ADVERSE IMPACTS

Even with the inadequate analysis of harmful impacts outlined in the presented final EIS, there is no reasonable argument that the currently proposed mitigation measures by the applicant would suffice. Monetarily for commercial fisheries impacts, the amount is nothing less than laughable, especially given the fact that the applicant agency itself bemoaned the Mississippi River's affects in 2019 as they helped Louisiana push for a \$258 Million Federally-declared Fisheries Disaster for the 123 day Bonnet Carre Spillway opening event which occurred in a basin that is nowhere near as productive as the Barataria basin. Most troubling is some of the proposals by the applicant for mitigation in commercial fisheries - they constitute nothing less than slight-of-hand sound bites to citizens unfamiliar with technical aspects of the industries in an effort to garner continued public support for MBSD. Louisiana's own fisheries-related Task Forces and Seafood Marketing and Promotion Board have long advised the CPRA that the Shrimp and Oyster industries will not be able to return from the devastating blow of MBSD's operations.

As for mitigation and monitoring of dolphins required under the MMPA waiver granted for MBSD, the proposed measures are nonsensical - a count of carcasses does nothing to mitigate affects, and any rehabilitation of the few dolphins that remain will not be fruitful given the destruction of the habitat to which they can't return.

PURPOSE AND NEED

The stated purpose of MBSD begins with the crucial words "...to restore for injuries caused by the DWH oil spill...". The rest of the purpose statement becomes irrelevant on that basis, especially with the stated need of MBSD further reinforcing the project's necessity to "...help restore habitat and ecosystem services injured...as a result of the DWH oil spill." The science contained in the EIS clearly outlines damages to resources, wetlands and dolphins that are exactly consistent with damages caused by the Deep Water Horizon (DWH) oil spill. Given this fact, MBSD in no way meets its stated purpose and need.

This fact also raises questions of proper funding for project delivery and mitigation given the provisions of the Oil Pollution Act of 1990 and associated federal court settlements for the DWH spill.

ENVIRONMENTAL JUSTICE

The EIS makes clear the permanent economic hardship on underserved populations and low income communities in direct violation of Executive Order 12898. This further strengthens the case as well that mitigation measures outlined by the applicant are woefully inadequate.

PROJECT ALTERNATIVE EVALUATIONS

40 CFR 1502.14 clearly states that agencies shall evaluate reasonable alternatives. It is our organization's assertion that the evaluation of alternatives failed NEPA directives. The entire reasoning behind alternatives review has the underlying basic principles of NEPA - 1) least harm to the environment, and; 2) best public interest. With "diversions" as a singular focus for "purpose," all other reasonable alternatives to sustain and/or create wetlands were immediately discounted. "Diversions" should not and can not be the singularly-focused purpose with all that is at stake for the environment and public interest as outlined in the final EIS science itself.

Our organization adamantly asserts that other alternatives such as dredging must be evaluated, especially giving the fact that the COE itself through the BUDMAT program has produced far more wetlands in far less time with far less monetary and environmental cost. It is our assertion that no argument can be given to discount proven alternatives given the principles environmental and public best interest.

I appreciate the opportunity to have reviewed the final EIS and hope that the CEMVN consider these comments carefully before making a final decision regarding the MBSD project permit.

References

Thomas, L., T.A. Marques, C. Booth, R. Takeshita, and L.H. Schwacke. 2022. Model predicts catastrophic decline of common bottlenose dolphin (*Tursiops truncatus*) population under proposed land restoration project in Barataria Bay, Louisiana, USA. *Marine Mammal Science* 2022:1-11

Well, R.S., H.L. Rhinehart, L.J. Hansen, J.C. Sweeney, F.I. Townsend, R. Stone, D.R. Casper, M.D. Scott, A.A. Hohn, and T.K. Rowles. 2004. Bottlenose dolphins as marine ecosystem sentinels: Developing a health monitoring system. *EcoHealth* 2004:1, 246-254

Letter ID: 244088

Mouton, Zachary
Port Sulphur, LA 70083

I am a Property & Home owner in Myrtle Grove (Port Sulphur) since 2003. Of coarse no solution will satisfy everyone. My only comment is that I hope this does take care of the problems we have and hopeful that all involved will be compensated in a fair and honest.way. If we do nothing, it will only get worse.

Letter ID: 244170

MUTH, DAVID

New Orleans, LA 70119-3338

October 24, 2022

U.S. Army Corps of Engineers

Colonel Cullen Jones, Commander and District Engineer

New Orleans District

Attn: CEMVN-RGE; MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, LA 70118

Re: Final Environmental Impact Statement for the Proposed Mid-Barataria Sediment Diversion Project,
Plaquemines Parish, Louisiana

Dear Colonel Jones:

Thank you for the completion of this monumental and unprecedentedly detailed analysis.

After 30 years of comprehensive scientific and engineering analysis, along with official hand-wringing, since a middle Barataria diversion was first seriously proposed in an official Corps document, we as a nation are finally ready to do what any relatively bright child could see needed to be done-begin the long process of re-connection of the Mississippi River to its dying delta.

The FEIS exaggerates potential harms and downplays potential benefits. Alas, this is the appropriate NEPA stance for your agency in a litigious society that has become untethered from reality. With a Federal agency system of analysis based upon preventing harm by destroyers, we are now apparently unable to differentiate the actions of those proposing to do good through restoration. We are at a point where those proposing to let nature take its course are subjected to more stringent standards than the destroyers of nature.

I weep.

The great pieces of law written in the 1960s and 1970s, the Clean Water act, the Clean air Act, the Endangered Species Act, the National Environmental Policy Act, the Coastal Zone Management Act, the Marine Mammal Protection Act, the National Historic Preservation Act, and others, are now being used by despoilers and vested interests as weapons to oppose restorative projects, and as excuses by Federal bureaucracies to delay and prevaricate.

When they were written no one had any idea how quickly and insidiously climate change would overtake us, and how important rapid response would become. The authors and supporters of those acts would be appalled at the way they are now being utilized to stymie real positive change. I write in strong support of the preferred alternative.

Thank you.

David P. Muth (via email)

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Letter ID: 244081

NQT 1 LLC, NQT 2 LLC and NQT 3 LLC / Commercial Shrimper

Nguyen, Tuan Q
Venice, LA 70091

Yes, I'm for it. It is good for our grand kids.

Rec'd NB
OCT 21 2022

Army Corps of Engineers, New Orleans

ry Division, MVN-2012-2806-EOO

/enue

70118

e Mid-Barataria sediment Diversion.

ject to the Mid- Barataria Sediment Diversion and ask the U.S. corps of Engineers to
nit.

he Barataria Estuary and its resources to make a living. The proposed Diversion will
ility to continue to do so and ask the Corps to reject this permit.

Sincerely

Julie North

NEW ORLEANS LA 700

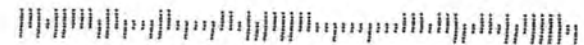
20 OCT 2022 PM 2 L



FOREVER 7 USA

U.S. Army Corps of Engineers, New Orleans
7400 Leake Avenue
New Orleans, LA 70118

70118-365100



Office of the Lieutenant Governor
State of Louisiana

BILLY NUNGESSER
LIEUTENANT GOVERNOR



October 24, 2022

[REDACTED]

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

Dear Colonel Holland:

I am writing in regards to the recently released Environmental Impact Statement for the USACE Mid Barataria Sediment Diversion Project. As both a sitting Board Member of the Coastal Protection and Restoration Authority, and my oversight of the Louisiana Seafood Promotion and Marketing Board I strongly feel that the damages to the Barataria Bay estuarine system are grossly misrepresented in the mitigation funds promised to the commercial fishing industry that is depicted within the project EIS.

Plaquemines Parish alone accounts for over seventy percent (70%) of Louisiana's commercial fish landings (shrimp, crabs, oysters, and finfish). Chapter four of the environmental impact statement has confirmed that there will be "permanent, adverse impacts to the brown shrimp population as well as the eastern oyster fishery. Louisiana's commercial fishing industry accounts for over 35,000 jobs and sell \$2.4 billion worth of seafood annually. Producing one third of all seafood consumed in the United States annually, making it the second largest seafood producer in the country.

The mitigation measures discussed within the Environmental Impact Statement (EIS) do little if nothing to mitigate the damages that will be incurred by the commercial fishing industry and the existing dolphin population once the MBSD construction begins in 2023. The \$54 million in mitigation funds promised to the commercial fishing industry is a drop in the bucket when compared to annual commercial landings in Louisiana. The 2017 Louisiana Wildlife and Fisheries Shrimp Landings value of more than \$22 million would barely mitigate the damages to these generational family operated businesses. Additionally, this diversion does nothing to lower storm surge, and therefore, will cause irreversible damage to the coast of Louisiana, doing more harm than good.

Again, I cannot support this project and ask that the USACE deny the project permit based upon the negative impacts to the coastal economy presented within the Environmental Impact Statement. If I can be of assistance to you in any way, please don't hesitate to call.

Sincerely,

A handwritten signature in blue ink that reads "Billy Nungesser".

Billy Nungesser
Lieutenant Governor

WHN/mi



October 24, 2022

To Whom It May Concern,

The Mid-Barataria Sediment Diversion (MBSD) Program is the single MOST important project within CPRA's (Coastal Protection and Restoration Authority) portfolio of projects for coastal Louisiana. After 40 years of solid scientific research on the concept of Barataria Basin nourishment, it is clearly the cornerstone of Louisiana's coastal plan.

As Executive Director of Restore or Retreat as well as a resident of lower Lafourche Parish, I fully support this project and also believe it is the primary catalyst to make many of the other surrounding projects such as barrier island restorations, land bridge creations and terracing all come together in a holistic land building, coastal marsh restoring combination. The concept of harnessing the land-building power of the Mississippi River to build along with the other projects will work in synergy in a manner nearly identical to the natural way that the targeted basin was originally built up into existence.

Those of us like myself who live here understand that sediment diversions will require a transition for some coastal communities and businesses, but we also equally understand that inaction is unacceptable, and it is essential that the process is done in order to maintain a first line of defense for our community-saving protection levees.

Lastly, it is clear that without a significant and meaningful project such as this, our delta and the reliant coastal estuaries that surround it will ultimately collapse. That collapse would not only affect the protective wetlands needed to attenuate the storm surges that come with tropical storms, but also the loss of estuaries as the saltwater continues to move northward would change the coastal ecosystems in such a way that we would no longer be able to call Louisiana a "Sportsman's Paradise".

Commenting for the benefit of coastal Louisiana,

A handwritten signature in black ink that reads 'Joseph A. Orgeron'. The signature is fluid and cursive, with a large, sweeping 'J' and 'O'.

Joseph A. Orgeron, Ph.D.
Executive Director of Restore Or Retreat
Preserving our Coast, Community, & Culture



October 24, 2022

U.S. Army Corps of Engineers
Colonel Cullen Jones, Commander and District Engineer
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

Re: Final Environmental Impact Statement for the Proposed Mid-Barataria Sediment Diversion Project

Dear Colonel Jones:

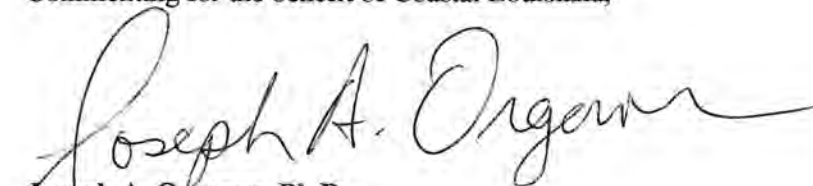
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Commenting for the benefit of Coastal Louisiana,



Joseph A. Orgeron, Ph.D.
Executive Director of Restore Or Retreat
Preserving our Coast, Community, & Culture



LOUISIANA WILDLIFE FEDERATION

The voice of Louisiana's wildlife and natural resources since 1940.

October 24, 2022

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

Re: Mid-Barataria Sediment Diversion (MBSD) Final Environmental Impact Statement (FEIS)

Dear Colonel Jones,

Louisiana Wildlife Federation appreciates the opportunity to comment on the Mid-Barataria Sediment Diversion (MBSD) FEIS and offer the following comments in support of the applicant's preferred alternative.

Louisiana's coast is critical to not only the people who live, work, and recreate here, but to the entire nation. World-class fishing attracts people from all over the world. Our ports are a major player in international trade. The nation's energy needs are largely supported by the oil and natural gas industry located along our coast.

Change is nothing new for Louisiana's coast, shaped by the Mississippi River and the Gulf of Mexico. But our coast is disappearing; the scale of changes we face now is unprecedented. It is vital that bold action is taken to help protect communities, businesses, and natural resources from the devastating effects of hurricanes, storm surge, and sea level rise. The single biggest thing that can be done to help mitigate some of this loss – and address this crisis – is to allow the Mississippi River to do what it's done for thousands of years: build land with its sediment and nutrient-rich water.

Construction of the MBSD would improve the health of Barataria Basin – a critical wetland buffer that protects Lafitte, New Orleans, Gretna and other communities from the ravages of hurricanes and tropical storms. Without this diversion, the basin is projected to lose over 400 square miles of land over the next 50 years – after already having lost that much land since 1932.

The Mid-Barataria Sediment Diversion is the cornerstone of Louisiana's Coastal Master Plan – which LWF has always supported – and will help support and enhance the lifespan of other coastal restoration and protection projects. Combined with other proposed restoration projects, the MBSD would build and preserve more than 17,000 acres of wetlands over the next 30 years. In the first decade alone, the diversion is projected to create more than 6,200 acres of land. Using diversions as a method of coastal restoration has been studied for over 35 years; the results of these studies over the last few decades has made it clear that reconnecting the river to the delta is the most viable option to combat coastal land loss. We don't have decades more to waste.

While dredging has played an important role in Louisiana's coastal restoration efforts, it has not been deemed a viable alternative for restoration of this region. The MBSD will deliver a continuous flow of water and sediment, allowing the system to restore its ecological functions over time.

The only places where land is being consistently built right now are areas where rivers are connected to wetlands. The Wax Lake Delta and Neptune Pass are two of several examples that highlight the river's potential as a land-building and habitat-sustaining machine. The river can and is building solid land that you can walk on, and creating abundant habitat for birds, fish and other wildlife. Unlike dredging projects, diversions will continue to build and sustain land over time, while also helping to sustain other coastal restoration projects, such as the Large-Scale Barataria Marsh Creation.

The MBSD will be a game-changer for the long-term health of communities and wildlife habitat in the Mississippi River Delta, including places where alligators, crawfish, red drum and largemouth bass abound. Leveeing of the Mississippi River resulted in a saltier Barataria Basin, causing saltwater species to make a northward shift; without restoration, these changes will continue, resulting in a loss of species that rely on productive freshwater and intermediate wetland habitats. Reconnecting the river to the basin will maintain vital wetlands and restore the health and vitality of the entire ecosystem.

Our Sportsman's Paradise attracts people from all over the world with its fisheries, wildlife, and abundant natural resources. That paradise is in serious peril and needs large-scale restoration projects like the MBSD. This project is critical to turning the tide on the state's land loss crisis and protecting vulnerable communities from hurricanes and sea level rise, while also ensuring the long-term health of the ecosystem and wildlife in the face of a changing climate and coast. Simply put, the Mid-Barataria Sediment Diversion is our best hope for a sustainable future.

Louisiana Wildlife Federation is a statewide conservation organization representing nearly 8,000 members and 19 affiliate organizations supported by hunters, anglers, hikers, paddlers, birders, campers and other outdoor enthusiasts. Thank you for consideration of these comments.

Sincerely,

A handwritten signature in black ink, reading "Rebecca Triche". The signature is fluid and cursive, with the first name "Rebecca" written in a larger, more prominent script than the last name "Triche".

Rebecca Triche
Executive Director

Letter ID: 244174

Louisiana Oyster Aquaculture Association / 501C

Pollock, Steve
Baton Rouge, LA 70808

The final EIS clearly indicates that environmental, culture, commercial, and recreational quality will be adversely affected by the MBSD.

For these reasons the Louisiana Oyster Aquaculture Association does not agree that the MBSD should be permitted. Dredging should be used in its place to build land in a manner that will not cause harm to the environment and to the people of Louisiana.

Letter ID: 244175

Louisiana Oyster Aquaculture Association / 501C

Pollock, Steve
Baton Rouge, LA 70808

The final EIS clearly indicates that environmental, culture, commercial, and recreational quality will be adversely affected by the MBSD.


For these reasons the Louisiana Oyster Aquaculture Association does not agree that the MBSD should be permitted. Dredging should be used in its place to build land in a manner that will not cause harm to the environment and to the people of Louisiana.

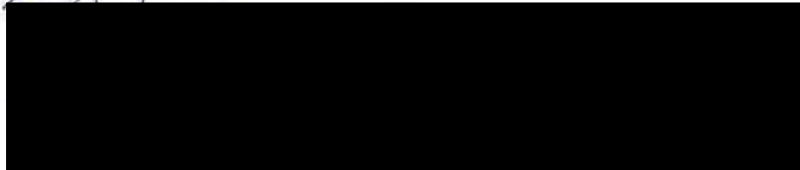
Rec'd MB
OCT 21 2022

October 16, 2022

I am writing to express my concern and opposition about the Mid-Barataria sediment diversion project. Everyone agrees that actions should be taken to do what we can to protect and improve Louisiana's coastline. Dredging has shown to build back land in specified areas in a much shorter time. This diversion project will devastate ALL FISHERIES and experts predict that a POSSIBLE 20 square miles of marsh land could develop over 50 years. This is not a chance I am willing to take while destroying families livings and cultures.

DREDGE DON'T DIVERT

Cody Portie




NEW ORLEANS LA 700
20 OCT 2022 PM 1 L



224

U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
ATTN: REGULATORY DIVISION, MVN-2012-2806-E00
7400 LEAKE AVENUE
NEW ORLEANS, LA. 70118
7018-655100

Letter ID: 244089

posey, james r
Port Sulphur, LA 70083

This address [included above] is my one and only residence, it was my retirement dream with many years of planning and effort to accomplish . It is my home. I have no other place nor do I want one. I think this Diversion is going to be very negative for people and wildlife and that rebuilding land by Dredging has been proven to work well and would be the better choice.[And probably more acceptable to most] Therefor I OPPOSE this DIVERSION project .

Letter ID: 244076

RAGAS, KENNETH
New Orleans, LA 70114

It is impossible to predict global conditions for a 50-year period. The composition and flow rate of the Mississippi River (MR) is not a constant. Using material dredged from near shore of the Gulf of Mexico (GOM) is the smart thing to do. That GOM material is the "silver bullet" we are looking for. The cost of the GOM material is about one third of the cost of the material sourced from the MR. As you can see it does not take rocket science to destroy the CPRA computer models.

The attachment is an illustration of the cause of the great amount of marshland loss due to the USACE back levee project after hurricane Camille.

Attachment to Letter ID 244076



Letter ID: 244147

RAGAS, KENNETH
New Orleans, LA 70114

PLEASE FIND ATTACHED AN ARTICAL IN THE TIMES PICAYUNE WHICH APPEARED ON 10/23/2022.
I SUBMIT IT BECAUSE I AGREE WITH IT 100 PERCENT.

https://www.nola.com/opinions/quin_hillyer/article_726a64c6-5158-11ed-bf64-7fafed085b49.html

Quin Hillyer: The big diversion is too big a risk

BY QUIN HILLYER

OCT 22, 2022 - 6:15 PM

There are better ways to rebuild Louisiana's wetlands.

It's not too late to stop a long-imagined but misguided \$2 billion project to divert up to 75,000 cubic feet per second of the Mississippi River into the Barataria Basin to replenish disappearing marsh.

The public comment period with the U.S. Army Corps of Engineers for the Mid-Barataria Sediment Diversion Project ends Monday. Despite the decades of planning that have gone into the project, the Corps should not approve it right now. Critics such as Lt. Gov. Billy Nungesser have raised too many good objections.

More important, alternatives exist that could rebuild wetlands faster, at a lesser cost, and without the environmental harms the diversion will create.

I write this as a 35-year-long cheerleader for diversion projects for wetlands restoration. It is incontrovertible that a major reason for wetlands loss is the man-made levee system that keeps the Mississippi from regularly overflowing its banks and sending sediment-rich water into south Louisiana's marshes. For decades, coastal restorationists have reasoned that man could reintroduce nature's designs by re-engineering the levee system to re-provide part of the former sediment flow.

Alas, that theory isn't well-tested. Cheerleading must bow to empirical evidence. Prior, smaller diversion projects have seen mixed results. Several respected oceanographers say the diversion would destroy more wetlands than it would save. Plus, for millions of years, the river's water and sediments carried no pesticides and herbicides, not to mention other toxic chemicals. Now they do. And everybody agrees the sudden reintroduction of fresh water (along with the chemicals) will virtually wipe out populations of dolphins (about 2,000), oysters and shrimp in the basin, and probably also harm trout and other fish.

As has been well reported, the water from the 2019 opening of the Bonnet Carre Spillway caused horrid suffering and death of dolphins and some \$256 million in damages to fisheries overall. A separate breach at Mardi Gras Pass played havoc with oyster reefs in Breton Sound. Equally well reported has been the battle between the diversion project's advocates and adversaries. The former include engineering firms hoping for business and well-intentioned public officials with massive intellectual and sweat equity in the project. On the other side, fishing, restaurant and tourist industries, some major wildlife groups and several parish governments fear catastrophic ecological and economic damage to fisheries.

Far less well reported is that this need not be an all-or-nothing choice between fisheries and wetlands. If the \$2 billion is repurposed, there are ways to rebuild the latter without devastating the former.

Abandoned oil pipeline canals that helped cause erosion could be backfilled from soil banks. Sediment directly dredged from the Mississippi River or from offshore can be used to build new land, without the fresh water that ruins salinity levels. Berms, some of them "forested" with young trees, can be built as breakwaters to block incoming storm surges while keeping wave action from carrying soil out to sea. And new oyster reefs, which also serve as breakwaters, can be seeded with live larvae introduced to crushed stone.

And if bureaucrats get out of the way, private companies can do the dredging and filling by contracting with the state while buying property from existing owners, all with greater efficiency and less cost than if the state had to manage all the projects itself. For example, former Obama Environmental Quality honcho Tim Male, now of the Environmental Policy Innovation Center, argues strenuously for the cost-efficacy of private contracting.

We know private contracting has worked for wetlands mitigation projects for years. Pipelines can deliver slurry for marsh rebuilding that is quicker and less expensive. We know the restoration of Queen Bess (Pelican) Island and Shell Island, both using dredged material, have been tremendously successful, remarkably quickly and cost-effectively.

The diversion projects are "a very expensive experiment," said Michael Ellison, a former executive director for Louisiana's Coastal Protection Restoration Authority and former director of mitigation services in the state of North Carolina. "But there's no accountability if it doesn't work."

Ellison, now a consultant who has no clients in Louisiana (and thus no financial biases), said it makes more sense to pump sediments from the Mississippi River than to do a major project diverting the flow of river water. The dredge-and-pump solution, he said, is "one of the most useful tools in the box. It's faster. It's proven, everybody down there knows how to do it. They have been doing it a long time And it's an alternative that does not cost \$2 billion to test."

New Orleans native Quin Hillyer is a senior commentary writer and editor for the Washington Examiner, working from the Gulf Coast. He can be reached at Qhillyer@WashingtonExaminer.com. His other columns appear at www.washingtonexaminer.com/author/quin-hillyer.

Mississippi River Diversions

I was born and raised in Buras, La. 60 miles south of Gretna, La. My father and grandfather were oyster cultivators from 1910 to the 1950s. Their working camp was located on Mitchell Cut in the Buras bays area. Their oyster leases were in Mitchell Cut and bays Jack, Skip Jack, Cyprian, Coquette, Dry Cypress Bayou and Scofield Bay. They dredged and transferred seed oysters from the state reefs in the Black Bay area on the east bank. The seed oysters were planted on their leases and harvested when they matured.

I have an engineering background. I was employed by a major oil company engineering department as a project analyst for 11 years. I went into the crew boat rental business where my vessel worked mostly in the Venice passes for 17 years. I received a USCG 50 ton captain license. I later worked as a shipyard manager in Venice and a fuel dock manager in Empire, La. I have been around the waters of southeast Louisiana for most of my life.

I have been involved in coastal restoration for 35 years. I formed a group called Common Ground and sat on the CWPPRA Barataria Basin regional planning team for 10 years. I still participate with the CWPPRA PPL annual process. I have been involved in the CPRA program since it was formed.

I support most of the CPRA projects but I have studied the large Mississippi River (MR) diversions and cannot support those projects. Most of the existing streams that are being used to support the diversions aren't fully understood. I have studied and will comment on the two streams that are being used by some to justify the river diversions. Those two streams are the Bohemia Crevasse (also called Mardi Gras Pass) and the Fort Jackson Crevasse.

The Lake Pontchartrain Basin Foundation (LPBF) performed several studies on the Mardi Gras Pass (MGP) stream. I have used the data from two of the studies to calculate the actual stream changes utilizing the length, width and depth measurements. The first study was done in 2012. The volume of the 3D area in the 2012 study was 115,983 cubic yards. The volume of the 3D area in the July 2018 Bank and Bathymetry Survey was 619,378 cubic yards. The net loss which occurred during that period was 503,395 cubic yards. The stream length used was 4,000 feet. I can furnish the LPBF study sheets which have all the measurements. I also have the original drawings of the stream when it was constructed by the state of Louisiana. A half million cubic yards which exited the stream is being counted as land built by the sediment load of the river at that location. The 500,000 cubic yards of lost land is being interpreted as shallow mud flats of new land???

The Fort Jackson crevasse was studied by the USACE. That January 2014 paper is titled "Pictorial Account and Landscape Evolution of the Crevasses near Fort St. Philip, Louisiana". The abstract on that study states for the period of 1956-2008 the crevasse acted as a loss accelerant in the Fort St. Philip area. That study was part of the MRG&P which is the Mississippi River Geomorphology & Potamology Program. That area was cow pasture in the 1950s.



SAVE LOUISIANA COALITION, INC

October 18,2022

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-ODR-E; MVN-2012-2806-EOO
7400 Leake Avenue New Orleans, La. 70018

Re: Mid-Barataria Sediment Diversion FINAL Environmental Impact Statement

To Whom It May Concern:

The Save Louisiana Coalition, representing upwards of 1000 members of the Commercial, Recreational, and Coastal Communities, would like to provide comments on the Final EIS Statement for the Mid-Barataria Sediment Diversion.

1. The Corps' stated project and need for this project is totally contradicted by the results of the EIS. According to the EIS, resources that were damaged by the Deepwater Horizon Oil Spill, would be further damaged by the project. This further damage is in direct violation of the Oil Pollution Act of 1990.
2. The economic damage to the resources from polluted river water introduction is well documented in the EIS.
3. The EIS further notes multiple damages to both the environment and resources will be Permanent.
4. The EIS also makes clear permanent economic hardship on some low income families in the area of this project, this is in direct violation of Executive Order 12898, which addresses Environmental Justice in Minority and Low Income Populations.
5. According to the EIS, this project will actually INCREASE storm surge risks during the first 10 years of operation. Given rising insurance rates, this will impose further hardship on coastal community residents in the path of the operation of this project.
6. Mitigation funding provided by the CPRA amounts to a totally inadequate amount of \$378 million. Also, one of the most highly populated areas in the immediate vicinity of the outfall, the town of Lafitte, is totally left out of mitigation funding consideration. This monetary damage to resources is grossly under-valued in the respect of PERMANENT effects to fisheries and seafood, given the fact **that the 123 day event of the Bonnet Carre' Spillway opening in 2019, caused a declared \$258 million fisheries disaster, not to mention over \$500 million in total damages regionally, including Mississippi and Alabama.**
7. The Corps also did not list Dredging and Marsh Creation as an alternative to this project. We would like to point out, this viable method of land building is proven, and the Army Corps itself, has utilized this method to create over 45,000 acres in 15 years under the BUDMAT program. The CPRA lists dredging and Marsh Creation as one of its major methods of land restoration in its Master Plan.

We would also like to point out that the cost-benefit of this project is totally unacceptable, given the fact **that as of today's construction cost of \$2.4 Billion**, it amounts to over \$155,000.00 an acre, provided the



SAVE LOUISIANA COALITION, INC

13,000 acres created by this project is achieved in 50 years as stated by CPRA's own modeling. The now, under construction, Lake Borgne Marsh Creation Project in St. Bernard, will create 2700 acres in 3 years, at a construction budget of \$61 Million. This is over 25% of what will be built by the Mid-Barataria Diversion at 4% of the cost. And in 3 years, not 50.

Given **Louisiana's limited restoration funding, along with the** annual and permanent losses in revenues from brown shrimp and oysters, the inadequate mitigation, the cost of almost certain litigation funding needed by the Corps and the State to defend anticipated lawsuits, along with the loss of a culture and heritage that IS Louisiana, it would be in the Corps best interest, as well as the Citizens of Louisiana, to reject the permit for this project.

Thank you for your consideration,

Capt. George Ricks

Captain George Ricks
President
The Save Louisiana Coalition

Letter ID: 244091

Edgewater Construction LLC / construction company

Ridge, Lynwood and Stacy
Port Sulphur, LA 70083

We are writing in today to save our home in Myrtle Grove Marina Estates. We built it in 2004 to 2005, finishing just weeks before Hurricane Katrina. We followed all guidelines in place by our subdivision, parish, state and federal agencies. Our brand new home was substantially damaged. We rebuilt and raised our children in our home and have always been full time residents. Over the years, we went on experience several other high wind storms and flooding events and through it all we rebuilt and endured. Now a diversion is being proposed that will make the homes in our subdivision irreparable, unsellable and likely minimally insured or uninsurable. Not only will we have restricted access to and from our home during the high water times of the diversion, we will not be able to have family or friends to visit as they will not be able to access our home nor green space for our pets. We bought our lot and built our home with the opportunity to boat, fish and catch shrimp and crabs right from our home. The damages to the ecosystem will likely be ruined for rest of our lives. There have been many other land restoration projects that have proven land regeneration without the widespread and substantial devastation this diversion is going to cause. Why is the only land restoration plan being seriously considered one proposed by what appears to be the good old boy network once again. The people of Plaquemines and St. Bernard were sacrificed in the past to save New Orleans and Jefferson Parish and now you are proposing we be sacrificed again, along with the entire ecosystem and way of life for many people, in the name of an unproven land restoration project.

Letter ID: 244113

Paradise Louisiana TV. Owner abs Co-Host

Rispon, Gary

Greenwell Springs, LA 70739

I've been studying and listening to all comments when it's comes to Pros a d co s of The diversion ! After all the discussion and articles written my opinion and it's based on Scientific studies and comments form both Recreational and commercial fishing and other Outdoor entities The bottom line is diversion and anything that can be done to save people's lives and Holmes all city's

Large like New Orleans, Lake Charles , Houma , Morgan City Slidell and all the other small and large communities s and towns Should be priority ! Nothing compares to that ??? No Oysters ? fish ? help keep damage to a minimum but do what's right No elective office holder who gaze studied these plans abd not vote to save our Heritage abd Family Homes and business should not be re-elected or in any office or position ! Thanks

Gary V. Rispon

Owner Co-Host

Paradise Louisiana TV

Letter ID: 244134

Romano, Lori
Mandeville, LA 70448

I am strongly against the Mid-Barataria Sediment Diversion Project. It is a huge waste of money at the cost of 2 billion. It will destroy 3 bays and the wildlife inside of them. The cost of shrimp and oysters are already way too expensive. It will also kill off many Dolphins.

Thank you,
Lori Romano

Letter ID: 244074

Levees.org / nonprofit

Rosenthal, Sandy
New Orleans, LA 70115

This diversion is extremely important to the state of Louisiana and also to the country.

Letter ID: 244132

Rustemeyer, Lisa
Covington, LA 70433
n/a

This project is ill-advised and will impact all of us in Louisiana. I fail to see any upside other than a few construction companies richer and a huge downside: the death of at least three pods of dolphins that call the bay home. In addition, this diversion (toxic water flowing in from the Mississippi River, will kill at least 40% of the oyster fisheries and a large shrimp population in Louisiana. Why would we want prices on oysters and shrimp to increase so we can afford less and Louisiana will lose their shares in other market with higher prices that will result due to their scarcity? This may also impact the quality of our food supply and our health.

Please stop this project - Louisiana needs projects that are well planned and take into account all the impacts, not just money coming in quickly.

Letter ID: 244167

Healthy Gulf / Nonprofit

Sarthou, Cynthia
New Orleans, LA 70112

After a thorough review of the final EIS, we find that the concerns raised in our original comments have not been adequately addressed, particularly as they relate to (1) mitigation of impacts on protected species, including dolphins, and (2) mitigating impacts to communities downstream, particularly by increased flooding. We are reattaching and restating our original comments for the record.

**Comments on the Draft Environmental Impact Statement and
Louisiana NRDA Trustee Implementation Group
Draft Phase II Restoration Plan #3.2: Draft Restoration Plan for the Mid-
Barataria Sediment Diversion project
Submitted by Healthy Gulf, June 3, 2021**

On behalf of Healthy Gulf I am submitting the following comments on the Draft Environmental Impact Statement (DEIS) and Louisiana Trustee Implementation Group (LA TIG) Draft Phase II Restoration Plan #3: Draft Restoration Plan for the Mid-Barataria Sediment Diversion project. Healthy Gulf's purpose is to collaborate with and serve communities who love the Gulf of Mexico by providing research, communications and coalition-building tools needed to reverse the long-pattern of over exploitation of the Gulf's natural resources. Healthy Gulf has members throughout the Gulf States, including Louisiana.

While we applaud the Project's purpose, Healthy Gulf has serious concerns regarding various aspects of the DEIS' analysis of the environmental impacts of the Mid Barataria Diversion and LA TIG Restoration Plan and Appendix R-2: Mitigation and Stewardship Plan for the Proposed Mid-Barataria Sediment Diversion (MBSD) Project.

PURPOSE, NEED AND PROPOSE PROJECT

The Army Corps of Engineers ("USACE") determined that the Project's purpose is to

restore for injuries caused by the Deep Water Horizon oil disaster ("DWH") by implementing a large-scale sediment diversion in the Barataria Basin that would reconnect and re-establish sustainable deltaic processes between the Mississippi River and the Barataria Basin through the delivery of sediment, fresh water, and nutrients to support the long-term viability of existing and planned coastal restoration efforts. The proposed Project is needed to help restore habitat and ecosystem services injured in the northern Gulf of Mexico as a result of the DWH oil disaster.

DEIS, pp. 1-9 to 1-10

We applaud the CPRA's ground-breaking approach to a long-standing problem. The Mid-Barataria Sediment Diversion is the first project-level attempt at systemic ecosystem restoration to one of the world's treasures, the Mississippi River Delta. The world's most river-dominated delta, the estuary cannot be sustained through 2067 without engaging the land-building processes that created it originally. Rather than a traditional Army Corps "Diversion" project, this is truly a "river restoration" project. Given the acceleration of sea level rise after 2040, more sediment modelling projects like this one are sorely needed. The future of the Gulf Coast, Louisiana, and

the Mississippi River & Tributary system, depends on the modeling and permitting decisions in projects like this. This type of approach is good not only for the Mississippi, but the Atchafalaya River and Floodway Project, and even ecosystems in the Texas Coastal Study, and the coast impacted by the Mobile Harbor projects.

Many of the benefits of the project, in terms of soil creation and microbial process, are not captured in the engineering of the modelling behind the DEIS, which has focused on the transport of heavy sands in order to avoid legal conflicts with the federal shipping channel. Many of the fine sediments transported by the diversion cannot be dredged, but are critical soil components. LA CPRA has outlined how projects are designed to work together¹. But we have seen the immediate creation of viable habitat for fish, fowl, and insects in the wake of similar projects, such as the West Bay Sediment Diversion (MR-03), and the Delta Wide Crevasses project (MR-09), and many positive habitat benefits of crevasses like Mardi Gras Pass. We recognize that these ecological benefits do not appear as rapidly as do the effects of restoration projects from the placement of dredged river sands, however, we recognize that the benefits of reconnecting the river are critical to the sustainability of restored wetlands.

CHAPTER 3: THE AFFECTED ENVIRONMENT

The future without action is a future of increasing oil and gas leaks into the Barataria Basin.

We believe that many or most of the ongoing environmental harms to the Barataria Basin are not mentioned in the DEIS. The DEIS mentions over 2,600 miles of hazardous liquid pipelines, and over 4,990 "unplugged", (Townsend-Small et al, 2016)², inactive wells, 15,979 plugged wells, and 799 active wells. Many of these unplugged, unproductive wells are likely leaking methane into the upper atmosphere.

These pipelines and wells present a significant present risk to the natural resources of Barataria. According to a review of PHMSA pipeline incident data³, the rate of crude oil spills to water in coastal Louisiana is increasing-- 67 major crude spills from 1980-2000, and 142 since 2001, with the largest number in the year 2005. In the years since the DWH Disaster, over 516 barrels (21,672 gallons) of crude have leaked into coastal Jefferson and Plaquemines Parishes. According to National Response Center data⁴. There are roughly 20 major oil releases to the waters of

¹ Dredging and Diversions GAC.pdf 10-04-2016 Simoneaux, Rudy; Meselhe, Ehab GOVERNOR'S ADVISORY COMMISSION DIVERSION SUBCOMMITTEE

² Geophysical Research Letters Amy Townsend-Small, Thomas W. Ferrara, David R. Lyon, Anastasia E. Fries, Brian K. Lamb Emissions of coalbed and natural gas methane from abandoned oil and gas wells in the United States 20 February 2016 <https://doi.org/10.1002/2015GL067623>

³ <http://phmsa.dot.gov/pipeline>, U.S. Pipeline Incident Analysis by Richard Stover, PhD online at <http://www.icogitate.com/~oildrop/>

⁴ <https://nrc.uscg.mil/>, downloaded May 2021 via alerts.skytruth.org

Barataria annually, with annual averages increasing since 2012, and peaking in 2019. One company, Hilcorp, has spilled oil and produced waters into Barataria and the Mississippi River Delta 142 times since January 2012, for a total of over 10,000 gallons released. Hilcorp's oil can be seen covering over 9 miles of Barataria Bay in the July 25th, 2016 MODIS imagery.

Although most of these releases are claimed to have no environmental impact, no Natural Resource Damage Assessments has been completed. We would assert that these ongoing releases do indeed impact the health of the natural resources of the Barataria Basin, including marine mammals, fisheries, and endangered species. Yet, the DEIS discusses these releases in the context of its discussion of the potential impact of the continuing releases on the affected environment or in terms of their potential impact on the project.

- The Louisiana Coastal Planning and Protection Authority (CPRA) and the LA TIG must consider how existing oil and gas infrastructure and associated releases of pollution will impact the Project.
- CPRA and the LA TIG must also acknowledge that future projects and permits that excavate or oil marshes are inconsistent with the Project.

The ongoing legacy of oil and gas canals

Barataria Basin is host to thousands of miles of unused oil canals, whose neglect has altered local hydrology to the detriment of marshes within 2 kilometers of the "spoil banks" constructed of the cast aside materials from canal excavation. The DEIS does not consider these hydrologic alterations as significant. However, in our experience the cumulative impact of small canal projects can be significant.

In our research in 2013, we found that spoil banks of inactive canals in Upper Barataria affected over 3,330 acres of marsh *directly*; restoration of inactive canals within the project area would likely have an indirect impact one order of magnitude beyond the direct footprint of the canals themselves.

- CPRA and the LA TIG should work with willing landowners and users on the closure of these canals, in order to increase the benefits of the Project locally.
- The CPRA and the LA TIG must consider how the existing oil and gas infrastructure harms the Project; and must acknowledge that projects and permits that excavate marshes are inconsistent with the Project.

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

Water Quality

According to the DEIS, nitrogen and phosphorus (resulting in potential algae blooms and low oxygen levels) from the Mississippi River will have “overall minor to moderate, permanent impacts” to the Barataria Basin. The models used in the DEIS show increases in both nitrogen and phosphorus in most areas of the basin, increasing with proximity to the proposed diversion.

Despite this, the potential impacts to the basin are understated. Yet, when fully acknowledged this finding could support proactive efforts at reduction of nutrients throughout the Mississippi River Basin. This in turn could result in a cleaner Mississippi River and Barataria Basin.

In order to get a good look at the potential impacts of increased nitrogen and phosphorus pollution in the project area, the DEIS, in part, relies on Louisiana Department of Environmental Quality (LDEQ) water quality criteria. This is problematic in 3 ways:

1. It is not explained how N:P ratios indicate the health of waters. While a portion of LDEQ’s narrative nutrient criteria calls for the maintenance of ‘natural’ N:P ratios, this does not account for the fact that while ratios might remain relatively constant, the loading of N and P will certainly increase. This will most likely result in increased algal growth, which could result in toxic algae blooms and hypoxic areas.
2. The DEIS only refers to a portion of LDEQ’s narrative nutrient criteria. For some reason, the DEIS only refers to the first two sentences of these criteria, leaving out “Nutrient concentrations that produce aquatic growth to the extent that it creates a public nuisance or interferes with designated water uses shall not be added to any surface waters.” (L.A.C 33:IX.1113.B.8) This DEIS authors have not done their due diligence, as they have ignored half of the criteria that LDEQ has set forth. Moreover, this portion of the criteria is arguably the most important, as it refers to the actual impacts of nitrogen and phosphorus pollution.
3. The DEIS also does not consider EPA or other proposed numeric criteria. The DEIS does not give the public a numeric threshold where nitrogen and phosphorus concentrations would be harmful to the Barataria Basin. While science regarding nutrient criteria is still evolving, EPA and other states have developed numbers that could guide decisions promoted by this DEIS. In order for the DEIS to adequately assess the impacts of nitrogen and phosphorus pollution, it must first determine the levels (loading and concentration) the state should strive for that would both allow for maximized sediment delivery and reduced nitrogen and phosphorus pollution.

While the DEIS does acknowledge that there will be minor to moderate permanent impacts due to nitrogen and phosphorus, it states that “it is unlikely that the impacts of the Applicant’s Preferred Alternative would result in non-attainment of the narrative nutrient criterion.” It is difficult to see

how the authors can make this conclusion, when no consideration was given to half of the narrative nutrient criteria and no numeric nitrogen and phosphorus goals are given.

Water Resources and Waters of the United States (Wetlands)

The DEIS fails to fully consider the potential cumulative impact on the Project area and the Basin as a whole from the construction and operation of petrochemical facilities. There are numerous proposals, in the vicinity of the project and in surrounding communities, for petrochemical development, such as coal export, methanol export, LNG export, and crude oil export. All of the current oil and LNG export proposals come with new pipeline (crude oil, gas, or product) proposals, many of which would run through the project area from west to east, with attendant impacts on the wetlands of the Barataria basin.

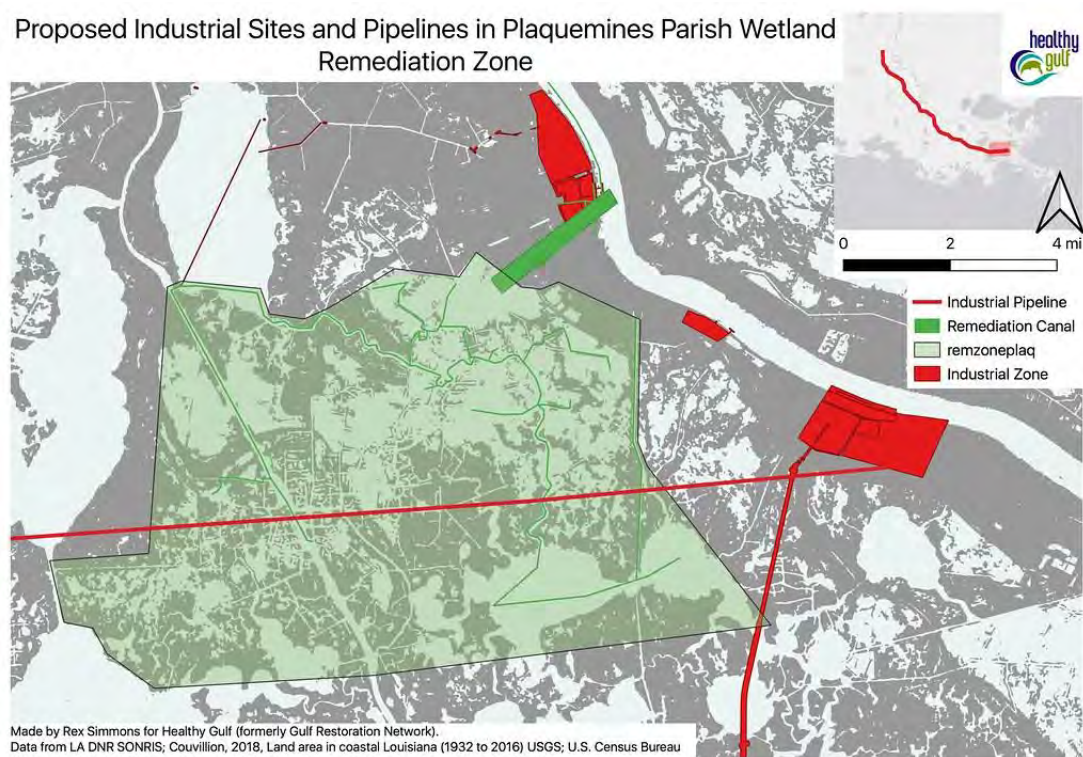


Figure 1. Proposed Industrial sites, along with a limited number of proposed pipelines associated with said facilities. Alliance Refinery is also included on this map.

For example, the previously proposed the RAM Coal export terminal, was projected to reduce the sediment-to-water ratio through the MBSD by 17%⁵. Although the DEIS has signed a new MOU on a new facility proposed for the same site, they admit that study is not complete. It is unclear

⁵ RAM Terminal CFD Modeling Technical Memorandum, October 23, 2012

how the DEIS can fully assess and make conclusions about the impact of this one proposal on the Project until the sediment study is completed.

The Venture Global LNG Delta Express Project also proposes to impact the receiving marshes in major ways. It conceives of passing over 20 miles of marshes in the Project receiving area. The Venture Global LNG Gator Express Pipeline has been permitted to disturb 641.6 marsh acres in the Project area, all of which is considered "temporary." Given the long history of pipeline impacts to marshes in Plaquemines and Jefferson Parishes, we cannot rely on a system that permanently allows such "temporary" impacts.

These industrial projects will also cause major increases in emitted CO₂; combined they exceed the largest source of carbon emissions in the state, CF Industries (EPA FLIGHT Data, 2019). The loss of wetlands combined with an increase in CO₂ is significant.

- The CPRA and the LA TIG must fully analyze how proposed and future oil and gas infrastructure will impact the project. In the future, CPRA must take the position that permits that excavate or oil marshes will impact Project success and are, therefore, inconsistent with the Project
- We request that CPRA and the LA TIG, as part of consistency with MBSD, include within the DEIS an analysis of the scale of the carbon dioxide emissions of current proposals for new petrochemical facilities and their associated infrastructure, to determine total level of emissions of CO₂ and the impact they on the Basin and the communities within it.

Marine Mammals

Analysis of the impacts of the preferred alternative on BBES Dolphins seriously flawed

In the discussion of impacts to BBES dolphins the DEIS authors posit a caveat to their analysis:

“The model results presented here consider impacts for any given year. It does not consider repeated annual exposure to low salinity waters for over many years, which could lead to higher individual mortality risk than in the first year from initial exposure. If this is the case, the approach utilized to address impacts will likely underestimate the population-level impacts, as the models only look at single years for each decade/alternative combination.”

(C4.11.3.1 General Caveat to Impact Analysis Approach – Chp. 4, p. 4-429.)

The failure to incorporate a discussion of repeated inter-annual exposures reveals a serious flaw in the DEIS that results in significant under-estimation of the potential impact of project operation on BBSE dolphins. A recent study entitled “Predicted Population Consequences of Low Salinity

Associated with the proposed Mid-Barataria Sediment Diversion Project on Bottlenose dolphins in the Barataria Bay Estuarine System Stock”, Len Thomas et al. , Centre for Research into Ecological and Environmental Modelling, University of St Andrews, National Marine Mammal Foundation (May 2021) looked at this issue. The authors conclude that “the project (based on the Applicant’s Preferred Alternative) *will not only prevent the recovery of the BBES Stock, but it will result in the functional extinction of dolphins in the West, Central, and Southeast strata of the stock area*. The only dolphins remaining in the basin would live adjacent to the barrier islands, and even this group will become severely reduced over the 50-year planning horizon of the MBSD project. “(Letter from Len Thomas et al. to the Marine Mammal Commission, May 2021) (emphasis added).

- The CPRA and LA TIG must revise their analysis of impacts on BBES dolphins in light of the new study.

The State errs in its reading of section 20201(b) of the Bipartisan Budget Act of 2018 (Public Law 115-123) as exempting it from the MMPA

The CPRA and LA TIG rely heavily on CPRA’s responsibility or lack thereof under the section 20201(b) of the Bipartisan Budget Act of 2018 (Public Law 115-123), that required that the Secretary of Commerce issue a waiver of the Marine Mammal Protection Act (MMPA) and that

(b) Upon the issuance of a [Marine Mammal Protection Act] waiver ... the State of Louisiana shall, in consultation with the Secretary of Commerce [as delegated to NMFS]: (1) To the extent practicable and consistent with the purposes of the projects, minimize impacts on marine mammal species and population stocks, and (2) Monitor and evaluate the impacts of the projects on such species and population stocks.

The CPRA, and LA TIG interpret this provision as exempting them from the need to take affirmative action to reduce impacts to marine mammals that would change CPRA’s preferred operation of the diversion and its achievement of maximum wetland restoration. In fact, within its Mitigation Plan, Appendix B, the State confirms its belief that consideration of mitigation measures that might affect the performance of the project are not required, stating “CPRA will examine operational strategies to minimize (to the extent practicable consistent with the purposes **and performance of the project**) the Project’s impact on bottlenose, Given the dynamic conditions in any estuarine system, and the uncertainty around future conditions, the minimization measures will rely on the MBSD Monitoring and Adaptive Management Plan to inform future implementation.” Mitigation Plan, p. R2-29.

The clear assumption from this language of the DEIS is that affirmative action to reduce impacts to bottlenose is not necessary because it would negatively impact project performance, whether or not the goals of the project can be achieved despite any changes in performance. This assumption pervades the DEIS and Mitigation plan. In fact, neither

the DEIS or the Mitigation Plan include any real discussion of how operational modifications might be used to mitigate impacts to BBES dolphins while still meeting the project purpose. The State's assumption in this regard is flawed -- totally ignoring the State's continuing obligation to comply with the MMPA within the constraints of Section 20201(b). As a result, the discussion of the need for mitigation to decrease the impacts to dolphins is flawed.

Section 20201(b) requires the State of Louisiana to mitigate impacts to marine mammal population stocks so long as that mitigation is practicable and consistent with the purposes of the project. An action is practicable when it "can be brought to fruition or reality without any unreasonable demands."⁶ In this case that would mean any action that does not unreasonably burden achievement of the project purpose. As discussed within the DEIS, the underlying purpose and need for the project is:

Consistent with the LA TIG's Strategic Restoration Plan and Environmental Assessment #3 and the Louisiana Coastal Master Plan, the purpose is to restore for injuries caused by the DWH oil spill by implementing a large-scale sediment diversion in the Barataria Basin that will reconnect and re-establish sustainable deltaic processes between the Mississippi River and the Barataria Basin through the delivery of sediment, fresh water, and nutrients to support the long-term viability of existing and planned coastal restoration efforts. The proposed Project is needed to help restore habitat and ecosystem services injured in the northern Gulf of Mexico as a result of the DWH oil spill.

DEIS, pp. 1-9 to 1-10.

Nowhere does Section 20201(b) state that allowable mitigation can have no effect on performance of the project, it merely cannot interfere with construction and operation of the project needed to meet the project goal, namely re-establishing "deltaic processes ...to support long term viability of existing and planned coastal restoration efforts." Id.

This interpretation is supported by the statement made by the National Marine Fisheries Service (NMFS) in granting the waiver:

Nonetheless, separate from issuance of the waiver, Congress directed the State of Louisiana to minimize impacts on marine mammal species and stocks and to monitor and evaluate any impacts of the projects...

⁶ The Law Dictionary Featuring Black's Law Dictionary Free Online Legal Dictionary 2nd Ed, thelawdictionary.org.

NMFS looks forward to consulting with the State on ways to minimize impacts on the affected species and stocks and on measures to monitor and evaluate the impacts of the three projects on the affected species and stocks. (emphasis added)

https://media.fisheries.noaa.gov/dam-migration/mmpawaiver_decisionmemo_opr1.pdf

Additionally, the Marine Mammal Commission recommended “that NMFS seek agreement with the State or otherwise clarify that **“the requirements of section 20201(b) are ongoing responsibilities with consultations between the State and NMFS continuing as needed throughout all construction, operations, and maintenance activities.”**

https://media.fisheries.noaa.gov/dam-migration/mmpawavierconsultation_mmccomments_12march2018_opr1.pdf

In short, CPRA and the LA TIG’s analysis of impacts of the project on BBSE dolphins is inadequate, as is its consideration of actions that could be taken to reduce impacts to BBSE dolphins. Additional concerns about proposed mitigation of impacts to BBES dolphins will be included in our comments on the Mitigation Plan later in this document.

- The CPRA and LA TIG need to revisit their discussion of actions that could be taken to reduce impacts to BBES dolphins.

Endangered Species

While the main goal of the Project is to build land and habitats, the DEIS does not adequately address adverse effects on Threatened and Endangered Species (“TES”). This oversight should be remedied in the final DEIS and a section be added to the Mitigation Plan addressing plans for mitigating the impacts, before the Project is approved and built. The Project should be built to benefit the most number of TES, to the highest degree possible, and adversely impact the least number. Where there are adverse impacts to TES, the Mitigation Plan should clearly state the action that will be intended to reduce those impacts.

The DEIS (sections 3.12.1-2) lists fourteen species that are either federally listed as Threatened or Endangered, or that have special status at the state level (Table 1). Of these, the DEIS determined that there are likely to be adverse effects to at least six species from construction and/or operation of the project. Specifically, the Project is likely to have minor to moderate adverse impacts on three different sea turtle species (Kemp’s Ridley, Green, and Loggerhead), moderate adverse impacts on the Pallid Sturgeon and the Saltmarsh Topminnow, and up to moderate adverse impacts on Bald Eagles. The Saltmarsh Topminnow is analyzed in the Draft Feasibility Report (section 3.2.1.6.2, p. 3-42), which concludes that the Project will have both beneficial and adverse

effects to this species; while the conclusion of the DEIS is that the Project will provide “minor to moderate benefits” to the Saltmarsh Topminnow. The findings of the DEIS and the Draft Feasibility Report should be reconciled. Moreover, CPRA must plan for different scenarios in terms of the balance of adverse and beneficial outcomes for the Saltmarsh Topminnow. Mitigation plans need to be in place for such a contingency.

While the DEIS considers the impacts of project alternatives on TES, there is no in-depth discussion of mitigation measures outside of passing references to best management practices in section 4.25.12.3-4 either in the DEIS or in the Mitigation Plan. The CPRA must prepare detailed plans to mitigate adverse effects to all endangered, threatened, and special-status species, including mitigation for impacts to the habitats of adversely affected TES species. Consideration of impacts must be given to all of the following species.

Species	Federal Status	State Status
<i>3.12.1 Federally Listed Threatened and Endangered Species</i>		
West Indian Manatee	Threatened (Critical Habitat)	Endangered
Green Sea Turtle	Threatened (Critical Habitat)	Not Listed
Hawksbill Sea Turtle	Endangered (Critical Habitat)	Not Listed
Kemp's Ridley Sea Turtle	Endangered	Not Listed
Leatherback Sea Turtle	Endangered (Critical Habitat)	Not Listed
Loggerhead Sea Turtle	Threatened (Critical Habitat)	Not Listed
Pallid Sturgeon	Endangered	Endangered
Piping Plover	Threatened (Critical Habitat)	Threatened/Endangered
Red Knot	Threatened	Not Listed
Eastern Black Rail	Threatened	Not Listed

<i>3.12.2 State-listed and Special Status Species</i>		
Saltmarsh Topminnow	Under Review	Not Listed
Bald Eagle	Delisted	Endangered
Brown Pelican	Delisted	Endangered
American Peregrine Falcon	Delisted	Threatened/Endangered

Table 1. Endangered, threatened, and special status species potentially affected by the Project. Source: DEIS.

Socio-economics, Environmental Justice and Public Health and Safety

The DEIS is insufficient in terms of its definition and analysis of affected communities, particularly low income and communities of color.

- ***Exclusion of Ironton Inappropriate***

The DEIS does not address the very real effects that the Project will have upon the community of Ironton. Yet, Ironton residents have legitimate concerns about the impacts of the construction and operation of the diversion on their community. They question whether the construction of the diversion will result in increased noise and traffic impacts. Also, how will the construction of a bridge over LA-23 be sequenced, in order to maintain a constant evacuation route during construction of the project? After construction, will Ironton Road provide access to the elevated portion of LA-23 and will the bridge impede bus and emergency services traffic? Additionally, concerns voiced by Ironton residents include, but are not limited to:

- (1) the potential for additional flood risks that a new large channel might present. In the past, hurricanes reversed storm surge in the river and overtopped the river levee in and around Ironton;
- (2) the effect the diversion will have on historic sites at St. Rosalie, including impacts to community visitation at the graves of ancestors buried there. It would appear that the MBSD will create a large physical separation between the community of Ironton and the St Rosalie sites but this is not discussed in the DEIS;
- (3) the loss of tree canopy from the MBSD footprint, as any trees provide wildlife habitat for viewing and hunting, but also provide an air quality buffer between the town and Alliance Refinery stacks and oil storage tanks; and

- (4) will the diversion's separation of Ironton from the Upper Parish create another "wall" that isolates Ironton from "the life of the Parish" and disincentivize flood protection and political and economic investment in the community?

Clearly, Ironton will be impacted by the Project and the DEIS must fully consider the potential impacts, as well as actions that can be taken to mitigate those impacts.

- **Must Include Fishers from Outside the Basin**

Similarly, it is unclear whether the DEIS' discussion of impacted fishermen, including low income and persons of color, is limited to those living in the Basin. For example, there may be Vietnamese fishermen or other fishers who reside outside the Basin but travel to the Barataria Basin to fish. Clearly these fishermen will be impacted by the Project. The state must clarify the inclusion of fishermen residing within and outside the Project boundary in both its impacts analysis and its discussion of potential mitigation for impacts to fisheries.

APPENDIX R2: MITIGATION AND STEWARDSHIP PLAN FOR THE PROPOSED MBSD PROJECT

Section 6 of the Mitigation Plan addresses "Avoidance, Minimization, and Mitigation Measures," generally discussing potential mitigation measures that may be pursued by the CPRA to offset unavoidable adverse impacts resulting from construction and operation of the Preferred 1

Initially, we are concerned that the DEIS and draft Restoration Plan seem to indicate that CPRA and other entities will only begin mitigation when they have proof of impact, leaving fishers and affected communities at risk in the meantime. CPRA and TIG should presume impact and help communities begin to adapt throughout the diversion's construction so they are already in the process of adaptation as the MBSD begins operation

Additionally, we are concerned by the statement within the Mitigation Plan that "[t]he Purpose of this Mid-Barataria Sediment Diversion Mitigation and Stewardship Plan (Mitigation Plan) is to demonstrate how incidental adverse impacts of the Project will be avoided, minimized, or mitigated to the extent required under applicable federal law." (Appendix R-2: Mitigation and Stewardship Plan for the Proposed MBSD Project, p. R2-1) (emphasis added). Federal law is limited in its requirement for mitigation and, in many instances, will not cover the breadth of impacts to communities and resources that

We are also troubled by the CPRA's apparent desire, in both the DEIS and Mitigation Plan, to condition its obligation to mitigate impacts to properties and communities, through its continuing reference to the current vulnerability of those communities or the fact that those communities will become more vulnerable in the future even under the No Action alternative.

Although many areas outside levee protection are in fact vulnerable and may become more vulnerable as sea level rises and wetlands loss continues, many of those communities would not feel the full impacts for a decade or more absent the proposed diversion. Moreover, the causes of coastal wetlands loss can, at least in part, be attributable to the States' historic, and continuing, permitting of the destruction of coastal wetlands for pipeline and navigation canals, and the like. The state must ensure that it fully and fairly mitigates the impacts of this project on all affected communities.

What is clear is that neither the Mitigation Plan nor the LA TIG restoration plan makes any specific allocation of monies to mitigation. Presentations by CPRA and the LA TIG on the project discuss specific monies allocated to other mitigation topics (i.e. fisheries impacts and impacts to bottlenose dolphins.), but do not reference any specific amounts for impacted communities or other impacted resources. Although we understand that it is early in project planning, it is difficult for the public, particularly those that will be impacted by the project, to comment on the adequacy of mitigation if they are not informed of the range of funding that CPRA and/or the LA TIG intend to dedicate to this purpose. (For example, members of affected communities might have a far different belief in the adequacy of the State's mitigation if they intend to dedicate \$1 million to home elevation and storm proofing versus \$15 million.)

Combining the LA TIG Restoration Plan review with the DEIS, Mitigation and Stewardship Plan and MAMP review has created confusion. First, having two versions of the Mitigation and Stewardship Plan and MAMP with different Appendix numbers, etc. makes citation to the appropriate Appendix and various sections of the Mitigation Plan and MAMP complicated.

Additionally, there is significant confusion about funds available for mitigation versus monitoring and adaptive management. For example, when the DEIS was first issued several NGO's referenced a CPRA and the LA TIG's commitment to over \$300 million for mitigation. It is unclear where that number came from, but our presumption is that the MAM Plan proposed by the LA TIG, which commits over \$300 million to monitoring and adaptive management, was mistakenly interpreted as mitigation funding. Our reading of the MAM does not support that conclusion. In fact, the only reference we could find to funding for mitigation coming from the LA TIG was the statement in Section 8: Financial Assurances that "If the Deepwater Horizon Louisiana Trustee Implementation Group (LA TIG) decides to fund the project, that funding will include an allocation of funds adequate to ensure each component of this Mitigation Plan will be funded as part of the LA TIG's funding decision." This statement does not commit to any specific allocation of dollars.

Effective public participation and comment requires that the public be fully informed as to both the proposed actions needed, and the level of funding the CPRA feels is adequate, to fully implement its Mitigation Plan. Otherwise, the public cannot meaningfully comment on the adequacy of the proposed mitigation.

We will attempt to outline some proposals below.

Mitigation via Operational Changes

Over many years, the CPRA has discussed⁷ and modelled many alternatives to operation of the MBSD structures. Although the DEIS discusses why alternatives were rejected, it does not include any discussion of potential alternative methods of operation of the Preferred Alternative to reduce negative impacts. For example, in the past, CPRA has presented modeling on specific thresholds and triggers, but this is not discussed in the DEIS in the context of the Preferred Alternative. While we understand that thresholds change based on available data, CPRA must communicate those thresholds to the public on a regular basis.

Many of the impacts of the Project are more dramatic in the first decade of the project--after 2030, the discussion of benefits and impacts in the DEIS is based largely on a few model years. However, those model years do not acknowledge the increasing rainfall and river flooding of the past few years that can be expected to increase due to climate change. For example, it is foreseeable that a flood year like 2019 could become more normal over the next decade.

- The CPRA and/or the LA TIG must monitor sediment flow through the Project annually, particularly in the first, more critical decade of operation, in order to determine whether the goals of the project can be achieved with more efficient use of water flow in following years.
- The CPRA should communicate relevant thresholds and triggers for monitoring to the public on a regular basis.

Mitigating local employment losses

We appreciate that the MBSD DEIS represents a move by CPRA away from the USACE's usual handful of dredging contractors. Expanding the field of potential contractors would allow for some price competition for coastal restoration. It would also expand the potential economic benefits of project construction. The CPRA should explore how expanding other fields of expertise, such as engineering firms or construction contractors, which could benefit achievement of project goals while also increasing the benefit of the project to local economies. For example, the CPRA should consider developing a program to employ locals to plant emergent riverine trees, like willows (*Salix nigra*), in emerging sand banks. Transplantation using local material and well-established methods could provide root material in new land in less time. Establishment of willow banks could also be strategically planned to prevent sediments from flowing into channels CPRA is trying to keep open. Willows are successful enough on new river sandbars that

⁷ OPERATIONAL DESIGN Brad Barth | October 4, 2016 GOVERNOR'S ADVISORY COMMISSION DIVERSION SUB-COMMITTEE

Mississippi State is exploring using the plant for biomass production⁸ - a potential additional benefit to the local economy.

Other opportunities lie in the DEIS and LA TIG discussion of Monitoring and Adaptive Management and in the Monitoring and Adaptive Management Plan. Since the Project will involve pre-construction and post-construction monitoring over decades, CPRA should work with local community and four-year colleges to prepare local graduates in these monitoring techniques. They should also select from monitoring contractors that can demonstrate the largest percentage of local, coastal hires.

Mitigating water quality impacts

It is clear that pollution, especially nitrogen and phosphorus pollution, may have a negative impact on the project. We at Healthy Gulf have continually emphasized that in order to give the diversion the best chance of success, we must clean up the Mississippi River. Regretfully, levels of pollution in the Mississippi River have not gone down over the past few decades. This is largely due to the failure of states and federal agencies to prioritize nitrogen and phosphorus pollution reduction.

In order to mitigate increased nitrogen and phosphorus pollution in Barataria Bay due to additional loadings from the Mississippi River, the CPRA Mitigation Plan should prepare to mitigate those impacts by:

1. Fully funding Louisiana's *Nutrient Management and Reduction Strategy*,
2. Funding on the ground activities upstream (inside and outside of Louisiana) of the proposed project that will reduce nitrogen and phosphorus pollution in the Mississippi River,
3. Identifying and funding specific projects in other states, as identified within their nutrient reduction strategies, that would reduce nitrogen and phosphorus pollution loadings to the project area, and
4. Funding a harmful algae bloom (HAB) monitoring network in the Barataria Basin where algae blooms can be identified and monitored. It is critical that CRPA ensure systematic monitoring of algae blooms and their impacts in the Basin, both before and after project operation. Otherwise, it will be impossible to confirm CPRA's assertion that hypoxia and harmful algae blooms are an acceptable negative consequence to the Mid-Barataria Sediment Diversion.

⁸ Publication 2653 (POD-03-19) <http://extension.msstate.edu/publications/publications/black-willow-biomass>

Mitigating Impacts to Property

Within the Mitigation Plan, CPRA states that “A comprehensive inventory of potentially affected properties is progressing under the assumption that CPRA would mitigate inundations caused by the Project to properties which could take the form of

- Monitoring and adaptive management of operations
- Assisting with elevation of homes and other structures on private property
- Property rights acquisition (flowage easements or fee acquisition) and
- Structural mitigation (elevating roadways, utility, etc.)

Mitigation Plan, p. R2-24. As discussed earlier, there is no reference to the level of funding that might be available or contemplated for mitigation. Moreover, CPRA qualifies its commitment to mitigation by stating that “in the absence of project, properties in the tidal floodplain are subject to high rates of land subsidence and sea level rise”. Id. The current state of risk for properties that will suffer impacts from the project is irrelevant. Whether or not properties are currently at some level of risk or might be impacted at some point in the future without the project should not limit funding for mitigation. For example, without the proposed project, a 60 year old homeowner could have lived in their home for another 20-30 years or the remainder of their lifetime. They should not be penalized by being denied the full cost of mitigating the impacts of the diversion when the State’s project instead makes that home uninhabitable in 10-15 year. If it is established that the project increases risk to properties more rapidly than would otherwise occur, property owners must be fully and fairly compensated for that increased risk. And, fair compensation, particularly with regard to low income and minority populations, cannot be limited by traditional notions of “fair market value” or “cost benefit analysis” employed in traditional state and federal eminent domain and hazard mitigation policies. Property owners that are forced to elevate or flood proof their homes or properties must be provided with compensation adequate to cover the full costs of those enhancements. Similarly, if property owners opt for voluntary buyouts or the states takes property by eminent domain, those property owners must receive monies sufficient to purchase a comparable home/property elsewhere. These consideration must apply to all communities outside flood protection, but particularly low-income and people of color communities, that will be subject to increase surface water elevations and/or tidal duration, including but not limited to Myrtle Grove, Woodpark, Suzie Bayou/Deer Range, Hermitage, Grand Bayou, and Happy Jack identified as impacted at pp. R2-20-21. Additionally, in mitigating the impacts to communities as a whole, the CPRA must comprehensively plan for, rather than piecemeal, improvements to roads, driveways, structures and property at grade in a manner that ensures that those communities remain fully functional/inhabitable during periods of extended inundation.

Mitigating Impacts to Fisheries

Neither the DEIS, LA TIG Restoration Plan or the Mitigation Plan reference any dollar amount allocated to achieve mitigation for impacts to fisheries. Slides in a presentation by CRPA and LA TIG on the MBSD reference \$33 M for mitigation for project impacts to shrimp, particularly brown shrimp, and shrimpers, and \$40 M for impacts to dolphins but neither of these amounts appear in the Mitigation Plan or in the DEIS. And there is no explanation of how the CPRA and/or LA TIG arrived at these amounts. No similar figure is referenced for mitigation of impacts to oysters or oyster fishers or any other impacted resource. As discussed before, the public cannot comment on the adequacy of mitigation unless they are informed of what the CPRA proposes to allocate to mitigation and how they arrived at that dollar figure.

Mitigating Impacts to Oysters and Oyster Fisheries

The DEIS and Mitigation Plan find that oyster resources, and the fishery, are expected to experience major, permanent adverse impacts under the Project, versus No Action, primarily because of project driven reductions in salinity. However, they opine that “project related changes in salinity structure in the lower basin may also allow for rehab of historic oyster growing areas that don’t currently support oysters, which could help mitigation impacts.” Mitigation Plan p. R2 p 25.

In terms of mitigation: CRPA assumes that any potential mitigation to the oyster resources will benefit the oyster industry and may mitigate for the potential effects of the Project. The mitigation proposed is, therefore, limited to

- Re-establishing a public oyster area in the Lower Basin.
- Providing cultch material for “resource enhancement” either on public or private growing areas.
- Possible establishment of brood stock reefs if monitoring establishes the need for them, to provide larval supply to areas either separated hydrologically or located in a salinity regime that does not result in an annual recruitment.
- Supporting adjusted techniques such as “Alternative Oyster Aquaculture”, including training, possible start up assistance, and restricting use of state water bottoms for AOA.
- Marketing

It is unclear how the proposed mitigation measures for oyster resources would adequately compensate oyster fishers who continue to pursue a traditional approach to oystering. For example, these mitigation measures do not address potential increased costs of traveling to reefs lower in the basin. Or, if the project renders leased areas unproductive, will the CPRA provide lease swaps or compensation to lease holders? To ensure adequate mitigation for all impacted oystermen, CPRA must use allocated mitigation funding to offset the negative outcomes of MBSD on coast-dependent businesses over the lifetime of the project. This should include

establishment of a program to mitigate the increase in operating costs resulting from operation of the MBSD and creation and maintenance of a 10-year loan program for coast-dependent small business owners to establish a secondary or alternative small business to generate income as their primary businesses are impacted by the operation of the MBSD.

Additionally, special approaches to mitigation should be tailored for different sectors of the oyster industry. For example, elderly fisherfolk will need support to maintain current businesses for the next 5-10 years until retirement. Specific programming should be aimed at maintaining the extant operations of elder small business owners who formally identify that they will leave coast-dependent industries within the next 10 years.

Finally, the CPRA includes a statement that “DEIS projected disproportionate impact to some low income and minority commercial oystermen, CPRA is considering options to tailor these measures to ensure they reach those populations.” To accomplish this goal and ensure that measures are truly meaningful and reach these populations, CPRA must be willing to use community expertise, especially the expertise of Community Based Organizations (CBOs) to co-design effective community-specific adaptation programs for those impacted, but particularly to ensure that disparately impacted communities are able to effectively respond to MBSD’s impacts in the near- and long-term.

Mitigating Impacts to Shrimp

The CPRA concludes that the project will have major adverse permanent impacts on brown shrimp and, as a result, moderate to major permanent adverse impacts to the commercial shrimp fishery. Understandably, the state is focusing mitigation strategies at the fishery, rather than the resource. Proposed mitigation strategies include:

- Grants to offset the cost of purchase and installation of vessel refrigeration
- Marketing to help increase market share of domestic shrimp; and
- Grants to offset cost of rigging vessels with different types of gear or substitute gear to increase efficiency and lower cost

R2.p 28. Sadly, the proposed mitigation is unlikely to be sufficient to address the impact to shrimp fishers of the loss of their historical catch of brown shrimp. First, although vessel refrigeration would assist with the need to transport shrimp caught lower in the Basin or in other areas, this presumes that impacted fishers have vessels large enough to house refrigeration units. This program would not mitigate impacts to fisher owners of smaller vessels. Consideration must be given to how to compensate these vessel owners. The same is true for funding for gear improvements.

Finally, it does not appear that the proposed mitigation is really intended to address the potential loss of virtually all brown shrimp catch in the Basin. The loss of brown shrimp will not increase

the availability of white shrimp or, more importantly, reduce the competition for white shrimp. If anything it will increase competition and possibly reduce catch of individual shrimpers. Access to refrigeration, gear modification and marketing will not address this impact on the fishery.

We would propose that CPRA consider the following mitigation measures proposed by potentially impacted fishers, including allocating mitigation funding to support true community adaptation, including but not limited to

- Establishing and maintaining a fund to offset the negative outcomes of MBSD on shrimp-dependent businesses over the lifetime of the project.
- Establishing a program to provide grants to shrimpers need to increase the size of vessels to be able to employ needed refrigeration and gear modifications.
- Mitigating the increase in coast-dependent businesses' operating costs in light of the MBSD.
- Creating and maintaining a 10-year loan program for coast-dependent small business owners to establish a secondary or alternative small business to generate income as their primary businesses are impacted by the operation of the MBSD; and
- Developing a program to support elderly fisherfolk in maintaining current businesses for 5-10 years until retirement. Specific programming aimed at maintaining the extant operations of elder small business owners who formally identify that they will leave coast-dependent industries within the next 10 years.

The CPRA includes a generic statement that the DEIS projected disproportionate impact to some low income and minority commercial oystermen, CPRA is considering options to tailor these measures to ensure they reach those populations.” As previously stated in reference to oysters, to accomplish this goal and ensure that measures are truly meaningful and reach these populations, CPRA must be willing to use community expertise, especially the expertise of Community Based Organizations (CBOs) to co-design effective community-specific adaptation programs for those impacted, but particularly to ensure that disparately impacted communities are able to effectively respond to MBSD's impacts in the near- and long-term.

Mitigating Impacts to Marine Mammals.

As previously discussed in these comments, the DEIS fails to fully assess the impacts of the Project on BBES dolphins. Absent action to mitigate significant reductions in salinity in multiple years, the BBES will become functionally extinct. Despite the “waiver” contained within Section 20201(b), the CPRA cannot simply sit back and let this happen because to do otherwise might affect Project performance.

Although within the mitigation plan the CPRA states that it will examine operation strategies to minimize, to the extent practicable, the impacts on BBES dolphins, the State does not discuss any

alternative operational strategies, such as reductions in diversion flow during critical months, or particular salinity thresholds, which might reduce impacts to bottlenose dolphins. Yet, as discussed earlier, there is a continuing obligation on the part of CPRA to consult with NMFS throughout construction and operation on potential mitigation strategies. This must include a focus on changes in planned operation of the project that would allow achievement of Project goals without resulting in the functional extinction of BBES dolphins.

The three strategies proposed as mitigation, while laudable in terms of Gulf bottlenose dolphin populations as a whole, will have no effect in reducing impacts to BBES dolphins. Funding for a Statewide Stranding Program, might have positive impacts on other dolphin survival in other Louisiana Coastal waters, however, even if a BBES dolphin were to strand live, if released back to the Basin during Project operation, its survival would be questionable. So at most, funding of a stranding network will only allow collection of data on cause of death of BBES dolphins. This is equally true of the proposal that funding will be provided to allow enhanced response to Unusual Mortality Events.

Similarly, reducing human interaction/anthropogenic stressor reduction will not reduce or address impacts of the project on BBES dolphins. At best it may benefit bottlenose dolphin populations outside the Barataria Basin.

Accordingly, we would argue that the proposed mitigation fails to meet the obligation imposed on CPRA by the MMPA, even in the face of Section 20201(b), to identify mitigation that will reduce impacts to BBES dolphins. We would assert that there are potential actions that, if taken, could reduce impacts to BBES without interfering with the purpose and goals of the Project.

- ***Constructed Rims or Ridges for 'salinity deflection'***

CPRA should be working with scientists to explore the effect of restoration of natural features, such as ridges, on reducing impacts to salinity in some parts of the Basin, such as Caminda Bay. There is also the potential for other, strategic restoration of wetlands in the lower Basin with the goal of slowing the movement of fresh water and providing refuge for BBES dolphins. This is being seriously considered by the State of Mississippi to reduce the negative impacts of freshwater from the Bonne Carre' Spillway ("BCS") on Mississippi's coastal resources. They feel that restoration of the rim of Three Mile Bay from oil and gas canal damage (P20041525 Meridian Resources) would likely have the effect of limiting freshwater flows into the more distal estuary from the Pearl River and BCS, and create more salinity-days above an 8ppt or 5ppt threshold in more marsh areas. There are likely similar opportunities to restore oil and gas extraction damages in Barataria in a way that preserves the salinities in marsh areas for estuarine dolphins. This restoration would also likely mitigate for other fisheries damages--if Barataria Bay were as intact as it was before oil extraction, there would be more marsh platform to take advantage of the freshwater and sediment inputs, and constrain salinity changes. The main four

passes out of Barataria Bay still pass much more water than is contemplated by the MBSD, so directing freshwater flow toward those outlets shouldn't have adverse impacts.

Although this would require investment in scientific studies focused on the potential effect of these approaches in reducing impacts of freshwater on BBES dolphins, we believe that the NRDA Trustees have a responsibility to invest in this research on "salinity deflection" by created rims or ridges to fulfill their mandate to use NRDA funds, particularly funds allocated under the BP Settlement to the various TIGs for dolphin restoration.

- ***Displacement of the Menhaden fishery away from BBES islands and passes***

Another measure CPRA and LA TIG should consider is moving Menhaden fisheries further from islands and passes where BBES dolphins hunt⁹. The bycatch of BBES dolphins is likely, but usually unmonitored, in state and federal waters off Louisiana. If the Menhaden fleet was pushed further from shore, dolphins caught in Menhaden nets would more likely be of coastal or oceanic stock, reducing pressures on BBES.



Condrey, Richard, 1996. Dolphin recovered by Menhaden nets in Mississippi Sound.

This measure should be complemented with a Menhaden bycatch monitoring program with the capacity to identify which stocks of dolphins are affected by the fishery.

⁹ The Gulf of Mexico Ecosystem: A Coastal and Marine Atlas;Page 94 Menhaden Purse Seine Net Density 2006-2009 <https://oceanconservancy.org/wp-content/uploads/2017/05/gulf-atlas.pdf>

- ***Default monitoring of pods after large oil spills***

Another method to mitigate for impacts to BBES would be to respond to large oil spills in Barataria Basin on the assumption that the oil spilled affects dolphins. Larger oil spills in Barataria should be assumed to impact dolphin health, and stranding teams should also be mobilized to survey known pods after larger spills, to detect any changes in behavior. Offenders should be held as Responsible Parties under OPA to supplement the funding from the MBSD mitigation program.

Whether or not the CPRA feels compelled to affirmatively act to reduce impacts on BBES dolphins, we would argue that the LA TIG's trust duties require that they do so. Under OPA, responsibility for protection of natural resources falls with Federal, State, and Tribal Trustees. This is because no one individual "owns" a natural resource; rather, they are held in trust for the public – EPA, Natural Resource Damages: A Primer <https://www.epa.gov/superfund/natural-resource-damages-primer#nrt>.

Under this trust responsibility, the Deep Water Horizon NRDA Trustees cannot sit idly by while one of the resource, BBES dolphins, most seriously impacted by the BP disaster is driven to functional extinction by a project they are funding to restore impacts to another trust resource. Instead, it is incumbent upon the Trustees to act in the public interest to protect public resources (BBES dolphins) by investing in (1) research that explores all possible mitigation actions that will reduce impacts to BBES dolphins, and other trust resources; and (2) if proved efficacious, investing in those restoration projects.

Mitigating Environmental Justice Populations

The DEIS and Mitigation Plan conclude that that project will have minor to major impacts to populations near the Project outfall outside of levee protection due to increases in tidal flooding. “These impacts may be disproportionately high and adverse for some low income and minority populations to the extent these populations are uniquely vulnerable to tidal flooding and storm hazards or engaged in commercial or subsistence fishing and dependent on adversely impacted fisheries.” Mitigation Plan, p. R2 p.33.

To mitigate for disproportionately high and adverse impacts to subsistence oyster and brown shrimp fishing, as well as recreational fishing, “CPRA will provide public access opportunities which will primarily involve (1) the provision of public shoreline access’ and watercraft launching around the project,” R2 p. 30. The proposed mitigation ignores the challenges facing many subsistence fishers. Providing access points farther down in the basin will not address increased costs to subsistence fishers of fuel or additional wear and tear on vessels associated with travel to access points lower in the basin. As defined, subsistence fishing

broadly speaking, ...can be characterized by 1) a dependence on fishing for survival, 2) having little to no other source of income, 3) living close to the resource, 4) harvesting fish to eat or sell in order to meet basic food requirements, 5) using low-technology gear (as part of traditional or cultural practice), and/or 6) relying on the harvest to meet nutritional needs.

<https://sites.duke.edu/fishingforfood/research/rop/>

The mitigation measures currently proposed by CPRA will not address the additional challenges that subsistence fishers will face as a result of the Project. We would again propose that, to develop effective mitigation measures for subsistence fishers, CPRA use community expertise, especially the expertise of CBOs to co-design effective community-specific adaptation programs to ensure that disparately impacted communities are able to effectively respond to MBSD's impacts in the near- and long-term.

Mitigating Impacts to Cultural Resources

The CPRA states that the project will have impacts on 4 historic properties (archaeological sites) and discusses the mitigation of impacts to those and other cultural resources. However, consultation on acceptable mitigation of cultural resources is limited to federally recognized tribes. While we understand that the federal government's legal obligation to consult with Native tribes is limited to those that have been federally recognized, the tribes consulted in this instance have little or no connection to the area impacted. There are several state recognized tribes in the project area, including members of the Houma Nation, and several other tribal entities that are acknowledged to exist but are not state or federally recognized. However, the MBSD is a state sponsored project and is not, therefore controlled by federally established limitations on the need to consult tribes whose cultural resources may be adversely impacted by the Project. As the very least, it is incumbent on the State to consult with State recognized tribes to identify measures to avoid, minimize and mitigate the impacts to their cultural resources it seeks to mitigate for impacts to cultural resources. We would assert that all tribal entities whose cultural resources may be impacted should be consulted.

There will be a new disconnection made between Ironton and the St Rosalie Plantation, the first of its kind. CPRA should consider working with Ironton, including descendants of people buried at St Rosalie, on a project to maintain access to these critical cultural sites after the construction of a channel in between.

Additionally as stated above, the Project sponsors must consider how the small but multitudinous canals and pipelines in the Project area affect the hydrology of local marshes, which often include cultural resources. One federal project making significant planning progress in this area is

"Lagniappe for the working coast", awarded an NEP grant in 2020.¹⁰ The CPRA and LA TIG must consider how this project, which is already underway, can be better, fully, or additionally funded to mitigate for any loss of marshes, changes in water level, or loss of access to cultural sites.

The impacts to Grand Bayou are conspicuously part of an eastern area that will be negatively impacted by water level, and yet not likely to receive land-building benefits. CPRA should consider enhanced compliance for companies like Shell and Gulf that worked this oilfield, in order to effect restoration of the entire Magnolia oilfield sub basin--this oilfield damage seems to be the root cause of this conflict.

If residents of the Basin, particularly tribes, feel that strategic hydrologic restoration, such as weirs, ridges, marsh platform creation, or backfilling of canals, will assist with protection of cultural resources, CPRA should investigate opportunities to work with the tribes to fund and complete that restoration.

¹⁰ Lowlander Center | Lagniappe for the working coast: reducing flood risk and protecting sacred sites and tribal communities' resilience by strengthening Louisiana's marshes | \$246,385
<https://estuaries.org/initiatives/watershedgrants/2020-nep-cwg/>

Letter ID: 244187

Shelley, Terry
LA

Hello, my name is Terry Shelley, I'm calling about the Mid Barataria Diversion project, call to object to this diversion, this sediment diversion. I've been a commercial fisherman for 53 years. I'm an oyster hauler and own 20,000 acres of oyster bottom, have 5 boats, and own a processing plant in Plaquemines, down in Port Sulphur. This diversion will totally wipe me and my family out, two generations, working on a third generation, will totally put us out of business. There's no talk of any compensation, any, anything, just kick you to the side and bury you in the mud. I strongly oppose this diversion. The company name is Terry's Oysters, Terry's Shucking House. Thank you. And Shelley Farms, that's, I'm sorry, I got into the aquaculture business and that'll put that out of business, too. Thank you.

Letter ID: 244157

Simon, Gary
Covington, LA 70433

The Mid-Barataria Sediment Diversion project appears to be nothing more than a pork barrel \$2 billion stunt that would accomplish little except enrich a few people, hurt indigenous others who fish there and kill at least THREE PODS OF DOLPHINS that call the bay home. I have been informed that this diversion will kill at least 40% of the oyster fisheries and a large shrimp population in Louisiana. This proposed project is nothing short of ignorant and insane. The greed must stop.

In addition to the destruction to the bay itself remember "fresh" water that will be dumped into the bay is Mississippi River water, a toxic soup of chemicals that has created a Dead Zone of over 6,300 square miles in the Gulf at the mouth of the river. Nothing is likely to be able to survive in the Barataria Bay once this hypoxic water hits the fragile marshes and animal life in the bay.

Why in the world would something this destructive be approved? There is no benefit to people who fish there, the dolphins, oysters and shrimp. Above all, it would be so environmentally destructive. We have lost so much already? YOU CANNOT LET THIS HAPPEN.

Letter ID: 244155

Simon, Joan
Covington, LA 70433

This project appears to be nothing more than a pork barrel \$2 billion plus project that should accomplish little except enrich a few people, hurt indigenous people who fish there and kill at least three pods of dolphins that call the bay home. I have learned from informed sources that this diversion will kill at least 40% of the oyster fisheries and a large shrimp population in Louisiana. How much are you willing to pay for oysters and shrimp as they become more scarce?

In addition to the destruction to the bay itself, remember that the "fresh" water that will be dumped into the bay is Mississippi River water, a toxic soup of chemicals that has created a Dead Zone of over 6,300 square miles in the Gulf at the mouth of the river. Nothing is likely to be able to survive in the Barataria Bay once this hypoxic water hits the fragile marshes and animal life of the bay.

Why in the world would something this destructive be approved? There is no benefit to people who fish there, the dolphins, oysters and shrimp. Above all, it would be so environmentally destructive. We have lost so much already? How can we let this happen?

Letter ID: 244143

Slavich, Jozo
Buras, LA 70041

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October 24, 2022

Re: FINAL EIS COMMENTS - Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

To Whom it may concern:

My name is Jozo Slavich, and I live in Buras, Louisiana. I am fourth generation commercial oyster fisherman in lower Plaquemines Parish, Louisiana. I escaped Communist Yugoslavia in 1968 and immigrated to America in search of a better life for my family. I followed in the foot steps of my Great-Grandfather, Grand-Father, and Father as oyster fishermen in Louisiana. I have dedicated my life to my trade as a commercial oyster fisherman and have passed on the tradition of farming oysters to my sons.

As a resident of coastal Louisiana who makes my living in the state's commercial fisheries industry, I want to voice my strong opposition to permit application # MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid Barataria Sediment Diversion project.

This project threatens our livelihoods, and our way of life. And for what, 20.9 square miles of land by 2070 (ES.4.1 Geology and Soils, ES-7)? Louisiana has had a thriving commercial fishing industry for more than 150 years. Our fisheries provide nearly 35,000 jobs for residents and produce and sell \$2.4 billion of seafood annually. Yet, the state wants to spend \$2 billion on a project that is going to build less land than we lose in a year.

The final EIS clearly states that due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) within the Barataria Basin (ES-18). Our fisheries are irreplaceable.

I am not alone in my opposition to this risky and expensive project. Opponents include Plaquemines Parish Government, St. Bernard Parish Government, Town of Grand Isle, The Save Louisiana Coalition, Healthy Gulf, the Louisiana Seafood Promotion and Marketing Board, Louisiana Oyster Task Force, Louisiana Shrimp Task Force, Louisiana Crab Task Force, Louisiana Joint Fisheries, Louisiana Sea Grant, American Shrimp Processors Association, Southern Shrimp Alliance, Sierra Club Delta Chapter,

Defenders of Wildlife, Marine Mammal Commission, Institute of Marine Mammal Studies, Louisiana Lieutenant Governor Billy Nungesser, Mississippi Lieutenant Governor Delbert Hoseman, Animal Welfare Institute, Center for Biological Diversity, The Humane Society of the United States, Creation Society International, Humane Society Legislative Fund, International Marine Mammal Project, Ocean Conservation Research, Oceanic Preservation Society, and New York Whale and Dolphin Action League.

Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,

Jozo Slavich

[REDACTED]

[REDACTED]

Letter ID: 244142

Slavich, Matthew
Buras, LA 70041

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October 24, 2022

Re: FINAL EIS COMMENTS - Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

To Whom it may concern:

My name is Matthew N. Slavich, and I live in Buras, Louisiana. I am a fifth generation Croatian-American oyster fisherman and oyster dealer in lower Plaquemines Parish. I have been a lifelong resident of Plaquemines Parish and my roots run deep in the oyster industry. One hundred percent of my income comes from growing and selling oysters from the Barataria Basin.

As a resident of coastal Louisiana who makes my living in the state's commercial fisheries industry, I want to voice my strong opposition to permit application # MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid Barataria Sediment Diversion project.

This project threatens our livelihoods, and our way of life. And for what, 20.9 square miles of land by 2070 (ES.4.1 Geology and Soils, ES-7)? Louisiana has had a thriving commercial fishing industry for more than 150 years. Our fisheries provide nearly 35,000 jobs for residents and produce and sell \$2.4 billion of seafood annually. Yet, the state wants to spend \$2 billion on a project that is going to build less land than we lose in a year.

The final EIS clearly states that due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) within the Barataria Basin (ES-18).

Our fisheries are irreplaceable.

I am not alone in my opposition to this risky and expensive project. Opponents include Plaquemines Parish Government, St. Bernard Parish Government, Town of Grand Isle, The Save Louisiana Coalition, Healthy Gulf, the Louisiana Seafood Promotion and Marketing Board, Louisiana Oyster Task Force, Louisiana Shrimp Task Force, Louisiana Crab Task Force, Louisiana Joint Fisheries, Louisiana Sea Grant, American Shrimp Processors Association, Southern Shrimp Alliance, Sierra Club Delta Chapter, Defenders of Wildlife, Marine Mammal Commission, Institute of Marine Mammal Studies, Louisiana

Lieutenant Governor Billy Nungesser, Mississippi Lieutenant Governor Delbert Hoseman, Animal Welfare Institute, Center for Biological Diversity, The Humane Society of the United States, Creation Society International, Humane Society Legislative Fund, International Marine Mammal Project, Ocean Conservation Research, Oceanic Preservation Society, and New York Whale and Dolphin Action League.

Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,

Matthew N. Slavich (Owner of Slavich Seafood, LLC and Co-Owner of Slavich Oyster Dock, LLC)

[REDACTED]

[REDACTED]

Letter ID: 244121

Smith, Leighann
New Orleans, LA 70119

Dear Colonel Jones,

As a restaurant owner, a small business owner and a resident of New Orleans, Louisiana I am writing to express my strong support for the Mid-Barataria Sediment Diversion. This project is crucial for protecting coastal communities, including New Orleans, our local economies and the wildlife that is so important to our culture here.

Without action, the ecosystem in the Barataria Basin is at great risk of collapse and along with it our natural resources including storm protection and our fisheries. This area was one of the hardest hit by the 2010 BP oil spill and the settlement funds should be spent on this project, not only to restore the damage caused by the spill but to also benefit the entire northern Gulf Mexico ecosystem by ensuring we have healthy and stable wetland habitat for the fish and wildlife that depend on it.

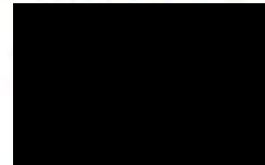
This project will restore the natural processes that built Southern Louisiana by reconnecting the Mississippi River to the surrounding sediment starved areas. It will also enhance and extend the life span of other nearby restoration projects, maximizing our efforts and limited dollars. This is the only way that we can hope to keep pace with sea level rise, buffer ourselves from more frequent and stronger storms and adapt to climate change.

Constructing the diversion will not only create new jobs and positive economic impacts for communities south of New Orleans, but it will protect industries all over the coast, including the New Orleans restaurant and hospitality industry.

I also recognize that the bold action necessary to save our coast will not come without cost. Sediment diversions will require a transition for some coastal residents and communities, and it is essential that the process is done well. Planned mitigation and stewardship efforts should continue to be centered in community needs and input. We will not be truly successful in this if we knowingly leave our most vulnerable communities behind. But Louisiana's coast is changing no matter what. If we do nothing, we will face even more devastating land loss and increased impacts to communities across our coast.

I believe what the scientific community overwhelmingly agrees on, this project and others like are the best long-term solution for the challenges that we face. I support the applicant's preferred alternative. The Mid-Barataria Sediment Diversion will use the power of the Mississippi River to build and sustain land, working in synergy with other projects to protect our coast, its people, wildlife and economies in a way that nothing else can.

Thank you,
Leighann Smith, Chef and Owner Piece of Meat Restaurant
New Orleans, LA



October 24, 2022

US Army Corps of Engineers
New Orleans District
Attn: CEMVN-OD-SE, MVN-2012-2806-EOO 7400 Leake Avenue
New Orleans, LA 70118

Submitted via email to: CEMVN-Midbarataria@usace.army.mil

To Whom It May Concern:

Established in 1984, the Institute for Marine Mammal Studies is a Mississippi 501 (c)(3) nonprofit organization dedicated to the conservation and research on marine mammals and sea turtles in the north central Gulf of Mexico. It has conducted pioneering research on the biology and natural history, stranding response, and rehabilitation of marine mammals and sea turtles in the region for decades. A summary of programs and accomplishments of the Institute are presented on its website www.imms.org.

Based on the information that we have reviewed and the research that we have conducted, it is our opinion that the proposed mid-Barataria diversion as planned will have a catastrophic effect on the local dolphin population and the ecosystem that supports it. In addition to the loss of marine fishery resources resulting from the diversion of polluted

Mississippi River water into the Bay, there will be serious economic and cultural losses that will occur, which need to be considered. We recommend that extensive studies be done on the marine resources and their habitat to evaluate the effect of the polluted Mississippi River that will be redirected into Barataria Bay. Furthermore, other alternate options should be seriously considered prior to the issuance of the requested permit.

In 2019, the redirection of the polluted Mississippi River water to the Mississippi Sound and adjacent waters resulted in massive losses of marine resources (dolphins, oysters, crabs, and fish) and significantly affected the local economy. This Unusual Mortality Event was investigated by NOAA, and the results of this investigation should be considered in the evaluation of the mid-Barataria project, which would be introducing the River water to the Bay estuary year after year. Even though, the State of Louisiana has a waiver for the lethal removal of dolphins resulting from this diversion which is contrary to the MMPA; the proposed mitigation plan to rescue, rehabilitate and reintroduce the dolphins back into destroyed habitat does not make sense. Furthermore, the mid-Barataria diversion is inconsistent with the provisions of the Magnuson-Stevens Fisheries Act as it relates to protecting Essential Fish Habitats. Destroying the nurseries will not result in having any of the adults in faraway waters. The project is also in violation of the Endangered Species Act, as it relates to protecting sea turtles, especially, the Kemp's ridley turtle.

Finally, the DWH settlement money that is being used to construct the mid-Barataria diversion was specifically for the restoration and recovery of the marine species and their habitat that were damaged by the oil spill. Therefore, these funds should not be used to further destroy the very resources that these monies were to be used for their restoration. A legal opinion on the possible violation of the BP Settlement Agreement should be sought before using these monies for the construction of the diversion, which will result in the destruction of the marine resources.

Sincerely,

Moby Solangi, Ph.D.
President and Executive Director

Letter ID: 244163

Sparks, Cory

NEW ORLEANS, LA 70115

My support for the Mid-Barataria Sediment Diversion builds from my faith and a call to creation care. Louisiana has a moral obligation to protect our shrinking coast. The diversion is critical to Louisiana's coastal master plan. It has been studied for 40 years and builds from science that demonstrates that in the places where land is consistently built, rivers are connected to deltas, such as at Wax Lake Delta and Neptune Pass. Dredging alone can't save our coast. I share concerns about the effects of sediment diversion on oysters, brown shrimp, and dolphins. Changing the ecosystem to a more natural state will affect fishing communities. It's important to address these impacts through stewardship measures and funding. However, the long-term survival of these communities depends on taking strong action against the threat to wetlands posed by storms and sea level rise.

October 16, 2022

I am writing to express my concern and opposition about the Mid-Barataria sediment diversion project. Everyone agrees that actions should be taken to do what we can to protect and improve Louisiana's coastline. Dredging has shown to build back land in specified areas in a much shorter time. This diversion project will devastate ALL FISHERIES and experts predict that a POSSIBLE 20 square miles of marsh land could develop over 50 years. This is not a chance I am willing to take while destroying families livings and cultures.

DREDGE DON'T DIVERT

Eden Tesnyn



US Army Corps of Engineers, N.O. District
Attn: Regulatory Division, MW-2012-2806-E00
7400 Leake Ave
New Orleans, LA 70118

Tesvich, Kuzma

OCT 26 2022

October 21, 2022

Kuzma D. Tesvich
138 Hunt St.
Belle Chasse, LA 70037

US Army Corps of Engineers, New Orleans Division
Attn: Regulatory Division, MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

To whom it may concern:

I am strongly against the Mid-Barataria Diversion Project.

I have fished the waters of Upper Barataria Bay since 1978. I have two oyster boats that fish approximately 1250 acres of oyster leases in Bayou Wilkerson, Bay Jimmy, Flat Bay, Bay West, and Chene Fleur/Hospital Bay. I have a shrimp boat and frequently trawl those same waters during the brown shrimp and white shrimp seasons.

This project will destroy my livelihood. This project will flood those areas with fresh water and eliminate the fertile, productive oyster reefs I have worked for 44 years. This project will negatively impact the estuary and will eradicate the shrimp catch.

In addition to what I have done in my lifetime, these oyster leases have been productive for over 100 years. Countless boats have fished other oyster leases in the area. Even more boats have trawled for shrimp in these areas. This project will destroy all of these other fishermen's livelihoods, too. This is unacceptable.

Why is the USACoE permitting a project that will negatively impact a way of life that existed long before the current generation of fishermen were here? Why are we erasing history of a proud, resilient people? Moreso, why are we doing this when it will not even counteract the land loss we know will happen in the next 50 years?

This project, as planned, is claiming that it can restore 27 square miles of land in 50 years. In that same time, projections show that we will lose over 100 square miles of land. To me, this doesn't make sense. Why spend billions of dollars on a project that cannot even replace what we are losing? Can we pursue a project that will build 27 square miles of land sooner? One that will not destroy our livelihood and our culture?

I ask you to go back to the drawing board and come up with a better plan to rebuild Louisiana's coast. Others in my industry have pushed for dredging sediment and placing it exactly where we need it. I agree with them that directly moving sediment is a much more efficient way to rebuild Louisiana's coast.

Thank you for your consideration.



My name is Matthew Tesvich. I'm currently 30 years old. I am a 4th generation oyster fisherman on my Dad's side of the family tree. I've been working in the oyster business since I was 16 years old, but I have been a full-time captain since 2014.

I know I've only been fishing oysters a small fraction of time compared to some other fisherman, but I feel I've reached a point of understanding and appreciation for this business. I've seen what makes oyster reefs successful and also what makes them fail. With that being said, although oysters are very tough organisms, I've seen what fresh water does to them. **For the following reasons, I ask that you please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.**

Fresh water is arguably the worst thing an oyster can encounter. We had a record high river in 2019 (and therefore a surplus of fresh water) which caused oysters to start dying as far north as Bay Adams and No Man's Land. My dad, Kuzma Tesvich Jr., said he's never seen that his entire life. There was no strong storm that pushed the water in. These were regular days with a regular summer breeze. **THIS WATER TRAVELED ALL THE WAY FROM VENICE ON ITS OWN.** A marine biologist had checked the water in north Bay Adams and the salinity was 0 parts per million. ZERO. Bay Adams, a body of water that is 20-25 miles north of Venice consisted of 100% river water for one full week. In just that one week, some fishermen saw as much as 60% of their oyster reefs perish. This was the main example I wanted to cover in terms of what freshwater can do to oyster reefs. I could go in extreme detail about other scenarios, but I would be writing several more pages.

But now y'all want to put a giant diversion 20 miles north of Empire? I am no biologist or scientist, but after reading the above information it doesn't take either one of those to see that every oyster reef between Myrtle Grove and Venice will be nonexistent if this diversion is built.

The state is now saying things like, "The mid Barataria diversion benefits the seafood industry." This is a misleading/pathetic statement in hopes of swaying the opinion of anyone ignorant on the topic. Sure, it would help crawfish and alligators, and the lily pads will be flourishing—BIG DEAL! It will completely wipe out the shrimp, oyster, crab, and charter fishing industries, and also the inshore sport fish populations! Say goodbye to speckled trout between Venice and Myrtle Grove! Yes, you can still catch them if you travel maybe 50 miles. Oh, and say goodbye to the dolphins (research how many dolphins were killed by the fresh water in 2019). The state was made aware of this, yet somehow they were able to get the Marine Mammal Act waived, an act that apparently prevents any type of operation that will kill marine mammals.

The fact that the corps of engineers and other state entities are saying this will build land is absolutely ridiculous. Go look at Mardi Gras Pass and Caernarvon. It didn't build land. It grew lily pads. Are lily pads great hurricane protection? You tell me.

Sure, the diversion will move some sediment, but the sediment will settle and have to be DREDGED! This sediment will build up in certain areas and will still have to be suction dredged and relocated to the desired location. How about we only dredge and cut out the billions of gallons of polluted river water? The mouth of the Mississippi River is constantly being dredged, and corps of engineers foolishly dump the dredged material off the continental shelf! Take that sediment and build/add to islands. Want more islands? MAKE THEM! You are *hoping* this will build land in 40 YEARS, but there is no proof. Do you want a barrier island that's bulletproof? MAKE IT and put it exactly where you want it! Make islands TOMORROW by dredging, and not by devastating the seafood industry!

On another note, I understand the whole “natural” approach, I really do. “Build these estuaries in their natural locations from hundreds of years ago.” But I’ve got some news for you. We pissed in mother nature’s face years ago when we built the levee system. We cannot go back in time. What’s the most natural thing we can do?—Completely bust levees wide open and let all the land from Belle Chase down to Venice naturally flood six months out of the year. Sounds crazy right? That’s because it is.

The seafood industry in Plaquemines Parish is thriving. Lower Plaquemines has great commercial and recreational fishing. So you want to wipe out the most successful form of revenue in lower Plaquemines, the only thing causing it to still thrive? And not just in forms of money, but in ways of life. It’s generations of businesses (including charter fishing, lodging, shrimp, oysters, and crabs, for example) that have been passed down and thousands of people and families that have fully invested their lives into the industries. It’s all they know. Why wipe out all these industries for a hope and a prayer that good solid land will magically create these dream barrier islands 40 years from now and flourish? Wake up!

Lastly, the most common response I hear from diversion supporters is “Yes, the business will get harder, the tough will survive. You just have to move your reefs out further.” The resolution of “moving our reefs out further” is absolutely absurd and obviously said by people that know nothing about oyster reproduction, cultivation, and maintenance. An oyster reef will be successful due to years of cultivating and maintaining the reef. I can speak for 20 minutes JUST on oyster reproduction, but I won’t do that. Very rarely do we attempt to create a reef on new sea bottom, and if we do, it’s very rare that we see success or even a return that’s worth our while. My own father (someone who has started to give up on fighting the diversions because “the state’s going to do what the states going to do”) has attempted to harness this “move your reefs further” mentality. He’s trying to jump the gun a little bit and has bought oyster leases in Fox Bay close to Mississippi (in preparation of the Breton Sound diversion, which is also in the works). For the last 4 consecutive years, he planted 1 hopper barge of limestone per year. Each hopper barge at 1,800 tons per barge is \$60,000.00. So 4 hopper barges total a \$240,000.00 investment. However, the oysters did not spat (reproduce) like we planned. My dad took a risk, made a serious investment, and the last 2 years we have not even sold 600 bushels of oysters from that lease. The return on this \$240,000 investment has been around \$30,000. We will be very lucky to sell 1,200 - 1,500 bushels from this entire lease. All of this to say that you can’t just “move” oysters reefs. It doesn’t just happen. And if it does happen, the expenses alone would leave you with nothing. So that argument/response is becoming stale.

DO THE RIGHT THING, dredge DON’T divert! I, on behalf of the oyster fisherman in Plaquemines Parish, beg you to **reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.**

Sincerely,
Matthew Tesvich, a pissed-off oyster fisherman

Matthew Tesnich

US Army Corps of Engineers, N.O. District
Attn: Regulatory Division, MVN-2012-2806-000
7400 Leake Avenue
New Orleans, LA 70118

Letter ID: 244179

Tony Tesvich Oysters, Inc. / Corporation

Tesvich, Tony
Buras, LA 70041

Considering the negative effects to the entire Barataria Estuary, and the culture of the people there're in south Louisiana, I am not in favor of issuing this permit. Furthermore, it is much more feaseable and less devastating to build land by conventional methods, and to see results within days.



America's Leading Oyster Processing Company

October 21, 2022

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

RE: Comments to the Final EIS For the Mid-Barataria River Diversion Project (MBSD)

Dear USACE,

Based on the final EIS that has been presented, the USACE should either postpone or outright reject the permit for the Mid Barataria Diversion at this time. This comment/recommendation is based on the following facts: (Most of the details of the following list have been self-evident and/or elaborated on in previous comments to this project made to the USACE and the permittee, the Coastal Protection and Restoration Authority (CPRA). Therefore, I will not repeat those details here.)

- 1) The final EIS for MBSD specifies the hugely significant negative impacts that the project would cause. The damages would amount to hundreds of millions of dollars in lost economic revenue annually. The damages will displace people and severely impact entire communities. Operation of the project will do long-term or permanent damage to marine mammals, Essential Fish Habitat (EFH), several wildlife and fish species. The applicant CPRA's proposals for mitigation of damages are woefully inadequate.
- 2) The majority of local residents and the governments of Plaquemines Parish and St. Bernard Parish are steadfastly opposed to this project. Most of the coastal residents of Jefferson and Lafourche parish are also against the project. Public awareness concerning the significant negative impacts of this project is just starting to grow, having been delayed by a concerted well-funded effort of promotion by the proponents of large-scale river diversions, coordinated in cooperation with the CPRA. An example is the campaign "Let's Reconnect the River to its Wetlands"
- 3) The CPRA is well aware of the opposition to this project since it's conception. The CPRA has steadfastly chosen to ignore and tamp down opposition using whatever means necessary including lies, threats, and intimidation.
- 4) The project is mainly supported by a group of well financed factions, including NGOs, wetland-owners, contractors, engineers, and etc. The vocal supporters clearly stand to benefit from the project. However, without broad support extending into the local area of the project's impact, the project will have significant challenges in moving forward.

- 5) The CPRA, working in coordination with the Louisiana Board of Trustees for the BP Horizon Oil Spill, has decided to fund the project using oil spill damage relief funds. The negative impacts of the MBSD project will create additional damages to the same natural resources (dolphins, EFH, oysters, shrimp, and etc.) hurt by the oil spill. This is a clear violation of the Oil Pollution Act of 1990. This has not yet been challenged in the court of law. Likewise, the legality of the exemption from the Marine Mammal Protection Act, and other environmental protection regulations will likely be challenged by opponents of this project.
- 6) The permittee has other and better means to create wetlands using proven methods such as pipeline sediment delivery. Methods like pipeline sediment delivery will not create the damages that the large-scale river diversion will. These methods that have broad support by the public including coastal residents. The USACE, of course, is well versed in all of this as is established in many of its own reports.

The preceding facts are significant enough to have the USACE hold off on issuing the permit at this time, not allowing the project to move forward. Should the USACE move to issue a permit under these conditions, it is very likely to create a scenario such as what happened with the building of the Mississippi River Gulf Outlet, which now, after-the-fact, remains a blemish on state and federal regulatory bodies acting on behalf of special interests and politics. This quagmire can be prevented.

Sincerely Yours,



John A. Tesvich, President

Rec'd WB
OCT 21 2022

October 8, 2022

I am writing to express concerns about the Mid-Barataria sediment diversion project. EVERYONE agrees that actions should be taken to do what we can for Louisiana costline, but this is not the way to go. This diversion project will devastate ALL FISHERIES in South Louisiana. This fact has been realized and agreed on by everyone involved, both for and against. This project will change the lives and culture in South Louisiana forever. Louisiana seafood, which is a major attraction, both in and out of state, will be significantly diminished.

The BP oil spill of 2010 was a devastating blow to the entire Gulf Coast, but Louisiana was hardest hit and in judgements made years later huge amounts of money were distributed to build back our fragile coast line. This money was meant to help the people of Louisiana, not hurt them further.

Much of the money is being used for the sediment diversion project. It has constantly been mentioned that the effects of the fresh water that transports the sediment will devastate the area. THOUSANDS of acres of oyster leases will be destroyed. In an article written by Alisha Renfro, *Is There Enough Sediment in the Mississippi River to Restore Louisiana's Coast*, it says how much LESS sediment flows down river compared to years ago. It also suggests that dredging from the Mississippi River is an option. By dredging results are seen more quickly and in the exact areas needed. If the sediment diversion takes place, experts predict that a POSSIBLE 20 square miles of marsh land could develop over 50 years! Again, EVERYONE agrees steps should be taken to save what we can of our coastline, but not with this program that will totally wipe out the seafood livelihood of South Louisiana.

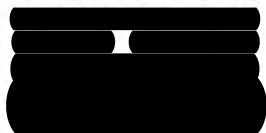
Kuzma I. Tesvich, Jr



Fourth generation oyster fisherman



TESVICH



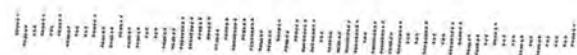
NEW ORLEANS LA 700

19 OCT 2022 PM 1 L



U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
ATTN: REGULATORY DIVISION, MVN-2012-2806-EDD
7400 LEAKE AVENUE
NEW ORLEANS, LA. 70118

70118-365100





MARINE MAMMAL COMMISSION

18 October 2022

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, Louisiana 70118

Louisiana Trustee Implementation Group
c/o U.S. Fish and Wildlife Service
P.O. Box 49567
Atlanta, Georgia 30345

Dear U.S. Army Corps of Engineers and Louisiana Trustee Implementation Group Members:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the U.S. Army Corps of Engineers, New Orleans District's (CEMVN) final Environmental Impact Statement (EIS) for the proposed Mid-Barataria Sediment Diversion (MBSD) project in Plaquemines Parish, Louisiana¹. The final EIS evaluated the Louisiana Trust Implementation Group's (LA TIG) alternatives for restoring Louisiana's wetland, coastal, and nearshore habitats injured by the *Deepwater Horizon* (DWH) oil spill, and the potential impacts of the proposed MBSD project on the natural and human environment. The Commission has provided comments on the proposed MBSD project and its potential impacts on bottlenose dolphins at every step of the restoration planning process², and believes additional comments on the final EIS are warranted considering the immediate, permanent, and major adverse impacts on the Barataria Bay stock of bottlenose dolphins expected to occur as a result of operation of the proposed MBSD project.

The Louisiana Coastal Protection and Restoration Authority (CPRA) and the LA TIG have proposed the MBSD project as an ambitious engineering attempt to rebuild marsh land that has been lost in the Barataria Basin over the course of several decades. The final EIS chose as its preferred alternative the variable flow of up to 75,000 cubic feet per second (cfs) of water and river-borne sediments from the Mississippi River into the Barataria Basin once the MBSD project is operational. The expectation is that river-borne sediments discharged into the Barataria Basin would result in a buildup of approximately 25.3 km² (6,260 acres) of land in the first ten years of operation, and a maximum of 70 km² (17,300 acres) of land by 2050. The CEMVN notes that this buildup "would occur against a backdrop of significant land loss across the region due to subsidence and sea level rise," with a projected net land loss across the Barataria Basin and Mississippi Delta between 2030 and 2070. As a result of this competing land loss, total land accretion by 2070 due to the MBSD project is expected to result in a net increase of approximately 54.2 km² (13,400 acres).

¹ See notice of availability at 87 Fed. Reg. 58083 (23 September 2022).

² See the Commission's [2 June 2021](#), [5 February 2018](#), and [4 December 2015](#) letters.

The projected impacts on the resident stock of Barataria Bay bottlenose dolphins from prolonged exposure to low-salinity conditions resulting from operation of the MBSD project have not changed from the draft EIS, and are expected to be catastrophic (Thomas et al. 2022). The Barataria Bay stock of bottlenose dolphins experienced significant mortality due to the DWH oil spill, with an estimated 45 percent reduction in population size relative to its pre-spill baseline (Schwacke et al. 2022). The most recent abundance estimate for the Barataria Bay stock is 2,071 dolphins (95% CI: 1,832 – 2,309), derived from a capture-mark-recapture (photo-identification) survey conducted in March 2019 (Garrison et al. 2020). Modeling based on the projected 75,000 cfs flow rate of the MBSD project predicted that dolphins in the Central and Western portions of the bay would be functionally extinct after ten years of operation, and the dolphins in the Southeast portion of the bay would have an 85 percent probability of functional extinction (Thomas et al. 2022). After 50 years, there would be a 97 percent decrease in abundance of bottlenose dolphins across the entire bay. Only dolphins in the Island portion of the bay would remain, but even those dolphins are expected to experience a 91 percent decline in abundance over the 50-year duration of the project (Thomas et al. 2022).

In its previous comments, the Commission recommended alternative actions and additional measures that the state of Louisiana could take that would reduce the impacts on dolphins, while still allowing the purposes of the project to be achieved. These included other sediment diversion-related alternatives that could reduce impacts on dolphins, such as setting an operational trigger that would reduce prolonged exposure of dolphins to low-salinity conditions. The CEMVN evaluated alternative flow scenarios for the MBSD in the final EIS, but determined that design and operational triggers, including one based on salinity levels, would not meet the project's purpose and need. These alternatives were eliminated from further consideration (Chapter Two and Appendix D), and the possible use of a salinity-based trigger was not discussed in any detail in the CEMVN's analyses. Furthermore, the CEMVN did not include in the final EIS an evaluation of the potential impacts on bottlenose dolphins associated with design or operational alternatives that might reduce prolonged exposure of dolphins to low-salinity conditions, as the Commission had recommended in its comments on the draft EIS.

In its brief explanation of why operational triggers based on salinity and other factors were eliminated from further evaluation (Appendix D2), the CEMVN indicated that adaptive management of the proposed diversion would be addressed in the Operations Plan and Adaptive Management Plan. However, upon review, the project's Evaluation of Operational Alternatives (Chapter Two) and Monitoring and Adaptive Management Plan (Appendix R) fall short of any meaningful consideration of operational strategies or other mitigation measures that would minimize, to the extent practicable and consistent with the purposes of the project, the project's impacts on bottlenose dolphins, as required by the waiver³ issued to the state of Louisiana under the Marine Mammal Protection Act (MMPA) that authorizes the taking of marine mammals during the construction, operation, and maintenance of the MBSD.

The Commission appreciates the considerable efforts made by the National Marine Fisheries Service (NMFS), a cooperating agency on the draft and final EIS, to include a Dolphin Intervention Plan (Appendix R5) as part of the project's Monitoring and Adaptive Management Plan. The

³ Section 20201 of Public Law 115-123 (the Bipartisan Budget Act of 2018).

Dolphin Intervention Plan outlines the extensive pre- and post-construction monitoring, behavioral observations, enhanced surveillance, and stranding response activities proposed for the project. Those measures are based on the extensive experience of NMFS and other biologists in responding to bottlenose dolphins that have been injured as a result of exposure to low-salinity or freshwater conditions. However, none of the activities outlined in the Dolphin Intervention Plan appear to be targeted at mitigating or preventing harm to or death of bottlenose dolphins expected from exposure to the low-salinity conditions that will result from the MBSD project.

An expert elicitation conducted by Booth and Thomas (2021) noted that dolphins can likely endure exposure to salinity levels below 5 ppt for only a few weeks before their health is compromised. However, the period of tolerable exposure is likely shorter for dolphins exposed to acute changes in salinity, with a median expected time to death of 22 days of continuous exposure to water with salinity levels below 5 ppt. The experts also concluded that, once survival probability begins to decrease, it decreases rapidly, especially in the presence of other environmental or health stressors. The large geographic area and remoteness of Barataria Bay is expected to contribute to delays in detecting and rescuing distressed dolphins. There is also limited capacity to respond to and treat distressed dolphins at existing marine mammal rehabilitation facilities in the northern Gulf of Mexico. Even if dolphins are rescued and rehabilitated, the changes to their habitat in Barataria Bay resulting from the MBSD project would preclude successful reintroduction, forcing them either to remain in captivity or be relocated to other areas with suitable habitat. The combination of these factors provides scant hope that even a well-thought out and fully-funded Dolphin Intervention Plan will be capable of increasing dolphin survival rates beyond those projected by Thomas et al. (2022).

Given these realities, and despite Congress's directive to issue an MMPA waiver for the project, the Commission does not see how the projected mortality of 97 percent of the Barataria Bay bottlenose dolphin stock and the loss of most of its current habitat as a result of project operations can be considered consistent with the spirit and intent of the MMPA. The MMPA was established in part to prevent human activities from causing marine mammal stocks to diminish "beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part"⁴. In its findings and declaration of policy, Congress further directed that "efforts should be made to protect essential habitats, including the rookeries, mating grounds, and areas of similar significance for each species of marine mammal from the adverse effect of man's actions."⁴ The Commission therefore recommends that the CEMVN and LA TIG reconsider the selection of the preferred alternative and instead re-evaluate other alternatives for land building in Barataria Bay that would not result in the mortality of large numbers of dolphins and possible extirpation of the resident stock.

The Commission is also concerned that the LA TIG has yet to fully implement restoration activities designed to promote recovery of bottlenose dolphins from the DWH oil spill. Despite its \$50 million budget for restoring marine mammals, to date, the LA TIG has implemented only one marine mammal project. In previous letters⁵, the Commission identified a number of other projects that should be considered for restoration of bottlenose dolphins in Barataria Bay and other

⁴ 16 U.S.C. § 1361(2)

⁵ See, in particular, the Commission's [2 June 2021](#) letter.

Louisiana bays, estuaries, and coastal waters that were impacted by the DWH oil spill. Although we recognize the enormity of the impact of the oil spill on Louisiana's natural resources and the workload associated with DWH restoration planning, the LA TIG's progress on marine mammal restoration planning seems unnecessarily slow, constrained, and inefficient. The Commission recommends that the LA TIG immediately prepare and publish a restoration plan for bottlenose dolphins in Louisiana to address high-priority restoration projects that can be implemented without delay.

The Commission appreciates the opportunity to review the final EIS and hopes that the CEMVN and LA TIG consider these comments carefully before making a final decision regarding this project. Please contact me if you have any questions concerning any issues raised in this letter.

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director

cc: Brian Lezina, Louisiana Coastal Protection and Restoration Authority
Kimberly Damon-Randall, NMFS Office of Protected Resources

References

- Booth, C., and L. Thomas. 2021. An expert elicitation of the effects of low salinity water exposure on bottlenose dolphins. *Oceans* 2(1):179–192. <https://doi.org/10.3390/oceans2010011>
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Letter ID: 244184

Yes, and personally / University Center

Thomas, Robert
New Orleans, LA 70118

I fully support the concept of the Mid-Barataria Freshwater Diversion. I believe it is necessary for the LONG TERM stability of our coast. I have reviewed the plans as they have developed and believe CPRA and its supporters are on the correct track.

I do urge every consideration of social justice planning for those whose livelihoods will be seriously altered. We are supportive of the values to our state of the cultures that have developed over the past centuries, and the stability of the fisheries must be maintained for the benefit of all in our state.

That said, the final decisions MUST focus on the LONG TERM solutions that we can control at this time, with constant adjustment flexibility built into its management. I'm convinced CPRA will do that.

Letter ID: 244119

Toups Meatery / Restaurant

Toups, Isaac
New Orleans, LA 70122

Dear Colonel Jones,

When you grow up in Southern Louisiana, you look at things a little bit differently. I was born and raised in Rayne, Louisiana, deep in the heart of Cajun country. Living near our coast had a tremendous impact on me, and taught me a deep appreciation for nature. I learned to express that appreciation through my cooking, honoring the foods coming into my kitchen every day. This is the coast that has given life to over 700 species of birds and wildlife, the coast that raised my family over the past 300 years, and the coast that puts food on the table of so many locals and visitors. But now, it is disappearing. We are at a critical juncture, where the decision to act or sit idly by, will determine the outcome for generations to come. It's time to get serious about saving our coastal wetlands, now. We possess the tools to recreate a bountiful paradise that could be even more productive than the land we are losing, by tapping into the power of nature and our nation's great river: the mighty Mississippi. And if we overcome this crisis with resolve, Louisiana could actually become the new global standard against coastal land loss.

I support the applicant's preferred alternative and support the Mid-Barataria Sediment Diversion Project. The Mid-Barataria Sediment Diversion will use the power of the Mississippi River to build and sustain land, working in synergy with other projects to protect our coast, its people, wildlife and economies in a way that nothing else can. The time to act is now.

- Chef Isaac Toups, Toups' Meatery

Letter ID: 244101

Turner, Marissa

LA 70769

The Mid-Barataria Sediment Diversion will use the Mississippi River to build and sustain land to protect our coast, people, wildlife and economies in a way that nothing else can. I support the applicant's preferred alternative, and have been advocating for these diversions since the RESTORE Act became a reality.

The Mid-Barataria Sediment Diversion, studied for 40 years, is a cornerstone of Louisiana's coastal plan. That is because the delta is collapsing - the collapse is not only the loss of protective wetlands, but also the estuaries as saltwater continues to move further up into the delta.

The project is not just about building land, even though we'll see major land-building within 50 years even in the face of rising seas. This project will create a healthy, resilient habitat for wildlife and people that are otherwise facing ecosystem collapse and becoming increasingly vulnerable to climate impacts like sea level rise and intense hurricanes.

Letter ID: 244102

Turner, Sean
LA

I support the applicant's preferred alternative of the Mid-Barataria Sediment Diversion. I support Louisiana's coastal plan and the mids are a big part of it, because the delta is collapsing - the collapse is not only the loss of protective wetlands, but also the estuaries as saltwater continues to move further up into the delta.

The project is not just about building land; this project will create a healthy, resilient habitat for wildlife and people that are otherwise facing ecosystem collapse and becoming increasingly vulnerable to climate impacts like sea level rise and intense hurricanes.



SIERRA CLUB DELTA CHAPTER



October 23, 2022

U.S. Army Corps of Engineers

New Orleans District

Attn: CEMVN-RGE; MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, LA 70118

Comment: Mid-Barataria Sediment Diversion by Sierra Club Delta Chapter

The Sierra Club Delta Chapter, which represents the membership in the state of Louisiana, originally decided to temporarily object to the Mid-Barataria Sediment Diversion (MBSD) after the publication of the draft EIS last year. We stated then that our final decision would be forthcoming based on what was discovered in the Final EIS, which was published last month.

The Sierra Club's mission is "To explore, enjoy, and protect the wild places of the earth; To practice and promote the responsible use of the earth's ecosystems and resources; To educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives." Additionally, our dedication to protecting humans, their rights, and their equity in representation, especially in environmental matters, is foremost in our thinking.

With this in mind, and after discussions on the findings of the Final EIS, the Delta Chapter remains disillusioned by the fact that Indigenous peoples (there are three Indigenous communities in the basin), and minority and low-income populations in the Barataria Bay area are most likely to be the most widely and adversely affected. This is supported in a statement by U.S. Fish & Wildlife Service (USFWS – Appendix T) that notes that "disproportionately high and adverse impacts could occur on low-income and minority populations within the communities of Myrtle Grove, Hermitage, Grand Bayou, and Happy Jack, to the extent that affected populations lack resources to avoid or otherwise respond to the impacts."

Eugene Turner, a coastal science professor at LSU, echoes these concerns that the increase in water may "force much higher storm surges through the Bay during tropical activity," causing the limited access roads into many of the small communities to be flooded during evacuation events. (The Revelator, Madison McLoughlin, 6-Sept-2022) In Chapter 4 of the Final EIS, you state a similar concern: "increasing the frequency of tidal flooding in communities outside levee protection."

Often these people live off the land, or water to be more accurate. Many are generational fishermen, whose families have subsisted on Barataria Bay's seafood and other produce for decades. This diversion seems to affect them negatively in their homes (from flooding), and in their source of revenue (seafood and hunting/trapping).

Additionally, water quality in the bay is likely to be extremely adversely affected by the introduction of Mississippi River water into the now thriving ecosystem of Barataria Bay. Imagine a replication of the hypoxic 6,300 square mile Dead Zone which exists off the mouth of the river due solely to the addition of toxins delivered by the "fresh water" of the river.

To quote Mike Roberts, founding board member of the Save Louisiana Coalition and chair of the Go Fish Coalition (City Business 26-June-2022), "A report generated by Environment Missouri concludes that more than 12.7 million pounds of toxics including nitrates, arsenic, benzene and mercury were dumped into the Mississippi

River in 2010 alone; that number has obviously increased since then with additional industrial development up and down the river. Courtesy of MBSD, all those pollutants will end up in Barataria Bay and surrounding waters and in prime fishing, oystering and crabbing grounds that satisfy our appetites, support our restaurants and go a long way to defining our unique culture.” Anything that manages to live in this lethal environment will not likely be edible. In The Revelator article, Eugene Turner said that he “fears a diversion as big as the one proposed for Barataria Bay could result in a continuous algal bloom that would choke out animal life from thriving in the wetlands”.

Once restoration work, such as the MBSD is planned, it must meet the criteria of developing a reasonable range of restoration alternatives under § 15 CFR 990.53 (pertains to Natural Resource Damage Assessments), and the proposed alternatives must be evaluated based on, at a minimum:

- (1) *The cost to carry out the alternative;*
- (2) *The extent to which each alternative is expected to meet the trustees' goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses;*
- (3) *The likelihood of success of each alternative;*
- (4) *The extent to which each alternative will prevent future injury as a result of the incident, and avoid collateral injury as a result of implementing the alternative;*
- (5) *The extent to which each alternative benefits more than one natural resource and/or service; and avoid collateral injury as a result of implementing the alternative;*
- (6) *The effect of each alternative on public health and safety.*

We do not feel that these criteria have been seriously considered in the decision to move on with the MBSD.

Defined under 15 CFR 990.30, cost-effective means the least costly activity among two or more activities that provide the same or a comparable level of benefits. If the MBSD project had a Benefit Cost Analysis run in Year 1 through Year 50, the benefits would never overcome the first year’s costs because the cost of killing all the dolphins, most of the spartina patens (an essential fish habitat protected under the Magnuson–Stevens Fishery Conservation and Management Act), the oysters, the shrimp, the spawning grounds of trout, etc., is an overwhelming expense and permanent loss.

Just looking at #1 (above), the cost to individuals – those living and using the resources of the Basin – and the cost to the local seafood industry being heavily affected would seem to be enough to shut down the speculation on the MBSD. However, Bottlenose dolphins – which are territorial and not likely to leave their bay home, will be devastated by the introduction of fresh water as well as the toxic mix that will not only kill them, but kill the seafood that they live on. During the 2010 BP oil spill many bottlenose dolphins died. The price put on each life was two million dollars. At that rate, the cost of just killing the bottlenose dolphins in the Barataria Basin amounts to about four billion dollars (\$4,000,000,000).

NOAA (<https://www.fisheries.noaa.gov/species/common-bottlenose-dolphin>) notes that “Dolphins can be exposed to harmful algae bloom toxins through the air or by eating contaminated prey. Biotxin exposure can lead to both acute and more chronic health issues for dolphins.”

Bottlenose dolphins in the United States are not endangered or threatened under the Endangered Species Act, but they are protected under the Marine Mammal Protection Act (MMPA). How can the Enforcement Division of MMPA write-off the potential deaths of 1,500 to 2,000 dolphins that are currently active in the Basin?

From the Final EIS Executive Summary, “Oysters and shrimp are two of our most lucrative seafood industries in the state. Adverse impacts on brown shrimp abundance and subsequent adverse impacts on the overall shrimp fisheries would begin at the onset of operations and last permanently throughout the 50-year analysis period... Overall, the eastern oyster fishery in the Project area is expected to experience major, permanent, adverse impacts under the proposed Project.” Additionally, almost a fifth of Louisiana’s blue crabs are caught in the Barataria Basin.

It is estimated that 25% to 40% of the Louisiana oyster crop is taken from Barataria Bay. Besides destroying the occupations and livelihood of oystermen throughout the bay, the overall effect of monetary loss to Louisiana fishermen and the resultant increase in costs of seafood in our thriving restaurant and seafood deli industries are bound to be a detrimental force, not to mention the fact that our state, which once produced over a third of the nation’s seafood, will become a major importer of seafood, particularly oysters, blue crabs and shrimp. In Chapter 4 of the Final EIS, you state:

“All action alternatives would likely have major adverse impacts on the Barataria Basin population of oysters (predominantly from salinity changes, and sedimentation) and brown shrimp (predominantly from changes in salinity and precluded larval recruitment). Due to the anticipated decrease in these populations, the MBSD Project action alternatives are expected to cause up to major adverse impacts on oyster and shrimp fisheries (and fishermen) within the Barataria Basin.”

As the USFWS points out in Appendix T, “Louisiana supports the largest area of coastal marsh in North America (Coleman and Huh 2004, Couvillion et al. 2017). As observed by Remsen et al. (2019), the richness and abundance of birds of Louisiana’s coastal marshes is matched nowhere in the United States.

“Large populations of migratory waterfowl, including teal, wigeons, mottled ducks, pintails, and mallards, are present during winter primarily in fresh and intermediate marshes. The Barataria Basin is at the terminus of the Mississippi Flyway, which is the largest waterfowl migration route in North America. The coastal marshes of Louisiana provide winter habitat for more than 50 percent of the duck population of the Mississippi Flyway.

“Within the project area, there are the following threatened or endangered species under the Federal jurisdiction of the Service (U.S. Fish and Wildlife Service), and/or the NMFS (National Marine Fisheries Service): West Indian manatee, pallid sturgeon, red knot, piping plover, several sea turtle species (five species), and the eastern black rail.

“At-risk species are defined by the Service’s Southeast Region as those species that are: (1) proposed for listing as threatened or endangered under the Endangered Species Act, (2) candidates for listing, or (3) have been petitioned by a third party for listing.”

At-risk species include: Saltmarsh Topminnow, Reddish Egret, Golden-winged warbler, Diamond-backed terrapin and additionally protected species such as Bald Eagles which have known nesting locations in the bay (approximately 130 eagle nests have been detected in the Barataria Basin since 2000).

USFWS also recommends, and we second, that “prior to construction, the applicant contact the Service regarding the Endangered Species Act (ESA) determination to ensure that new species have not been listed, new critical habitat has not been designated, or that no new information has been gained that could change the results of the consultation thus triggering re-initiation of ESA consultation”.

“Moreover, despite claims that the project will somehow miraculously save our coast from the wrath of Mother Nature, the federal government’s own draft Environmental Impact Statement affirms that with the MBSD, total wetland acres would be 85,500 by 2070 but, with no action at all, the total wetland acres would be 72,800 in Barataria. The birdfoot delta would ultimately lose 2,900 wetland acres with the diversion than without it. This

means an expenditure of nearly \$2 billion to create a mere 9,800 acres – more than \$204,000/per acre – of new marshland over 50 years”. (Roberts, City Business 26-June-2022).

CONCLUSION

In Appendix T, the USFWS also makes note of Clean Water Act guidelines for projects of this type. “Under the Clean Water Act (CWA) Section 404(b)(1) Guidelines, mitigation for impacts is a three tiered system: avoidance, minimization, and compensatory mitigation. These guidelines dictate that a CWA Section 404 permit can only be issued if the applicant has taken all appropriate and practicable measures to minimize potential adverse impacts on the aquatic ecosystem. “Practicable” means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Avoidance of impacts on aquatic resources involves selecting the least-damaging project type, spatial location, and extent compatible with achieving the purpose of the project. Minimization involves managing the severity of a project’s impact on resources. If impacts cannot be avoided or minimized, compensatory mitigation should be provided.”

USFWS admits that there is no way to accurately predict future conditions, but using analyses based on assumptions regarding the range of conditions: salinity, inundation, turbidity, water surface elevations, etc., the best-case scenario is that we may add less than twenty square miles of marsh to the delta over the fifty year measurement period. After that period, the amount of new marsh produced by the MBSD is negligible. In fact, due to storms, subsidence and sea level rise, it is likely that the optimal amount of newly built marsh will not occur.

Therefore, the Sierra Club Delta Chapter is not in agreement with the concept that this MBSD plan is the only and best way to protect the city of New Orleans and surrounding areas. Although we support the concept of coastal restoration and the rebuilding of our delta, for the many varied reasons stated above we cannot throw our support behind the MBSD as it is currently planned. The Clean Water Act guidelines specifically advocates for avoidance to minimize “potential adverse impacts” on the habitats affected by such a project. This project does an appreciable amount of harm to the people, wildlife and habitats of the Barataria Basin with little hope for a positive outcome. **IF** land restoration in the Barataria Basin can be carried out as noted in the Appendix T by U.S. Fish & Wildlife Services, and unless catastrophic damage to the ecosystem can be avoided as per their comments, the Delta Chapter prefers an alternative that is not so environmentally destructive.

Rec'd
MB
OCT 21 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, 70118

I regards to the Mid-Barataria sediment Diversion.

I strongly object to the Mid- Barataria Sediment Diversion and ask the U.S. corps of Engineers to reject the permit.

I DEPEND on the Barataria Estuary and its resources to make a living as a

OYSTER FARMER The
proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely Frank Vujnovich

10-19-22

FRANK VUJNOVICH

NEW ORLEANS LA 700

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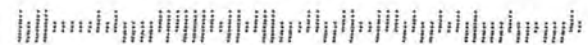


ENERGY
ACTION
MONTH



Regulatory Division
7400 Leake Avenue
New Orleans La 70118

70118-365100



'OCT 26 2022

October 8, 2022

I am writing to express concerns about the Mid-Barataria sediment diversion project. EVERYONE agrees that actions should be taken to do what we can for Louisiana costline, but this is not the way to go. This diversion project will devastate ALL FISHERIES in South Louisiana. This fact has been realized and agreed on by everyone involved, both for and against. This project will change the lives and culture in South Louisiana forever. Louisiana seafood, which is a major attraction, both in and out of state, will be significantly diminished.

The BP oil spill of 2010 was a devastating blow to the entire Gulf Coast, but Louisiana was hardest hit and in judgements made years later huge amounts of money were distributed to build back our fragile coast line. This money was meant to help the people of Louisiana, not hurt them further.

Much of the money is being used for the sediment diversion project. It has constantly been mentioned that the effects of the fresh water that transports the sediment will devastate the area. THOUSANDS of acres of oyster leases will be destroyed. In an article written by Alisha Renfro, *Is There Enough Sediment in the Mississippi River to Restore Louisiana's Coast*, it says how much LESS sediment flows down river compared to years ago. It also suggests that dredging from the Mississippi River is an option. By dredging results are seen more quickly and in the exact areas needed. If the sediment diversion takes place, experts predict that a POSSIBLE 20 square miles of marsh land could develop over 50 years! Again, EVERYONE agrees steps should be taken to save what we can of our coastline, but not with this program that will totally wipe out the seafood livelihood of South Louisiana.

Melissa Warnock Tevich

Melissa Tevich

*TESVICH OYSTER CORP

*M/V NEW YORK INC

Letter ID: 244093

Williams, Charled
Greenwell Springs, LA 70739

Re Mid-Barateria Diversion project

I am a native of Louisiana who currently resides in EBR Parish.

The loss and decline of our swamps and marshes has been very disconcerting to me. Now, with this project we have a chance to restore a bit of the natural geomorphological process and save at least some of our coast and the wetlands that we love for the food, recreation, and livelihoods they provide.

I strongly support the Mid-barateria diversion and am satisfied that the environmental benefits outweigh the few negatives.

Sincerely Charles Williams

Letter ID: 244135

Willis, Brian And Charlotte
Port Sulphur, LA 70083

I am a homeowner in Myrtle Grove Estates. I oppose the diversion for several reasons as outlined below.

Appendix R 6.1 Avoidance and Minimization Measures

CPRA has committed to implement Best Management Practices to minimize the impact associated with construction and operation of the project. Below are items listed in the Executive Summary that are in conflict with this statement.

ES 4.9 Marine Mammal

The impacts would result in decrease survival rates BBES dolphins with some studies projecting the functional extinction of dolphins in portions of the BBES stock

ES 4.13 Commercial Fisheries

Overall moderate to major adverse permanent direct and indirect impact are anticipated on shrimp fisheries.

Overall the eastern oyster fisheries in the project area is expected to experience major permanent, adverse impacts under the proposed project

ES 4.14 Recreational and Tourism

The project will have long term minor to moderate adverse impacts on site accessibility, recreational fishing due to tidal flooding

There will be moderate, permanent adverse impacts on recreational boating due to increase in the introduction and expansion of invasive plant species in the basin.

Minor permanent adverse impacts would be expected on recreational spotted sea trout

ES 4.14 Consumer in Louisiana would experience higher prices for locally caught seafood

ES 4.18.2 Storm Hazards

The MBSD Project is projected to a maximum decrease in storm surge 1.0 feet at the West Band vicinity levees near New Orleans. When you have a 10-12 foot storm surge what will one foot reduction do? A lot of money is being spent on this project to reduce storm surge by one foot.

Chapter 3 Barrier Islands

3.11.1 All dolphins are protected under the Marine Mammal Act

Bartaria Bay Estuaries System Stock with an estimated population of 2,071 is considered strategic.

3.14.3.3 Oyster Landing from 2014 to 2018 average 4.7 million pounds value of \$32.7 million in project area 36% of total Louisiana oyster landing by weight

Chapter 4 Environmental Consequences

Table 4.11-8 Summary of Potential Impacts

Permanent, major, adverse impacts on BBES dolphins under the Applicant's Preferred Alternative

After the BP Oil Spill BP had settled with the coastal states for damages to the Coast. They settled with Louisiana and agreed upon what the money is to be used for. As per the agreement the money is to be for the following:

- *Restore oyster reef habitat
- *Create and enhance barrier islands and headlands
- *Protect and conserve marine, coastal estuaries
- *Enhance sea turtle hatching productivity
- *Increase marine mammal survival

The diversion will do the opposite of the agreement

This year CPRA has completed barrier island projects in Jefferson and Terrebonne Parish. In the news letters CPRA sent out Chip Kline states building barrier islands, restore marshes will increase our defense against our strengthening and more frequent storms. Where and when will we rebuild the barrier islands in Barataria Bay?

Besides these facts, this project will devastate the Myrtle Grove subdivision. The rise in water levels will cause our homes to have a higher probability of taking on flood water. The proposed raising of

bulkheads and docs is not a viable solution. This is a safety risk for anyone who has young children because the bulkhead will block the view of the water. If a child happens to fall in the water, you would not be able to see them.

As stated by Quin Hillyer in the morning advocate on October 23, 2022, "the sudden introduction of fresh water along with CHEMICALS will virtually wipe out populations of dolphins, oysters and shrimp in the basin, and probably also harm trout and other fish". According to Mr Hillyer there are several other alternatives which would build land quicker, have minimal impact on the dolphins, oysters and fish and cost a lot less!

I hope these comments are considered by the corps of engineers when making their decision. We expressed our concerns with CPRA and are yet to hear back from them as was promised.

Feel free to give me a call if you have any questions.

Brian Willis

To: U. S. Army Corps Of Engineers

New Orleans District

Attn: CEMVN-ODR-E; MVN-2012-2806-EOO

Public Comment to USACE Mid-Barataria Environmental Impact Statement

From: Andrew C. Wilson, Esq., **MILLING BENSON WOODWARD L.L.P.**

[REDACTED]

[REDACTED]

[REDACTED]

Subject: Public Comment to USACE Mid-Barataria EIS

Dear Sir/Madam:

This is to present a brief comment related to the USACE Mid-Barataria EIS, and a more detailed comment related to the Mitigation Plan included in the Appendices to the EIS.

By way of background, I defended the State of Louisiana through the Louisiana Department of Natural Resources (“LDNR”) and the Louisiana Department of Wildlife and Fisheries (“LDWF”) in all of the major litigation related to the State’s initial foray into fresh water and sediment diversion structures, beginning with the Caernarvon Freshwater Diversion Structure, and subsequently, the Violet Canal Diversion and the West Pointe-a-la-Hache and Naomi/LaReussite siphons. I also consulted with State officials at both LDNR and LDWF regarding the compensation program for the Davis Pond Diversion Structure. Finally, I also drafted the current State Oyster Lease Form and successfully litigated the State’s right to implement the new revised Oyster Lease Form based upon the Public Trust Doctrine.

All of that litigation lasted approximately 14 years. From that experience, my most memorable moments were when then LDNR Secretary Jack Caldwell described the process leading up to that litigation as a “slow-motion train wreck.” During the pendency of all of that litigation, I recall Mark Davis, then Director of the Coalition to Restore Coastal Louisiana, describing the litigation as the “State’s self-inflicted wound.” The end result of the litigation after many years was that the State was found immune to suit in the factual context associated with Caernarvon, and the oyster fishermen received no compensation. It would seem that it was a “lose-lose” situation for all involved.

My concern now is that the State is headed for another “slow-motion train wreck” or “self-inflicted wound” due to the absence of any meaningful effort to preserve the oyster industry in Barataria Bay.

In this regard, the Final EIS fails to integrate the concept of land structures which might serve to preserve favorable salinity conditions for oyster cultivation. The environmental impacts described in the EIS suggest that the entire Barataria Bay will be rendered too fresh to support oyster cultivation except maybe in the areas around Grand Isle or near to the Gulf. The Project as planned will essentially destroy the entire oyster industry in Barataria Bay.

If so, and if that is the intent of the Project, in all likelihood this will lead to protracted litigation which will delay the project. In the case of Caernarvon, that Project was delayed and not allowed to operate as intended. As a result, it did not create the wetlands it should have by 2005 to protect the coastal parishes and the City of New Orleans. Ironically, Hurricane Katrina made landfall in that exact Project area.

It appears that the State is headed for the exact same outcome with this Project. In these times of increasing climate change effects, time is of the essence and therefore some type of compromise in the form of revisions to the project should be made so as not to wipe out the entire oyster industry and at the same time implement the Project. The same could be said for the shrimp, crab and charter fishing industries as well.

With these considerations in mind, this is to suggest that for the overall Project, and the EIS related to same, that consideration should be given to creating land structures such as islands, levees, breakwaters, groins and/or terraced sediment barriers which would create higher salinity havens where oysters could still grow despite the introduction of massive amounts of freshwater from the River. This Project as described in the EIS does not contemplate the creation of such structures which might serve to protect oyster reefs and oyster beds from freshwater intrusion. Accordingly, some consideration should be given to the creation of barriers or baffles to the freshwater flow in some areas further south in Barataria Bay for oyster cultivation. This leads to considerations of mitigation.

Previously, in connection with Legislative efforts to address adverse effects on existing oyster leases (La. R.S. 56:432.1, *et seq.*) a Program was developed to assist the oyster industry in responding to the rapid changes in salinity associated with other freshwater diversion structures, particularly Davis Pond. That Program presented oyster fishermen with four options for their oyster leases: (1) retention; (2) exchange; (3) relocation; and, (4) purchase/compensation.

The fourth option essentially allows individual oyster fishermen to be compensated and then leave the business, ending a culture, tradition and way of life. This is always the more attractive option in resolving these situations given the possibility of a large, single payment. But the proposed Mitigation Plan does not indicate any specific source of funding for any types of payments along these lines. And to do so would essentially eliminate the oyster industry in Barataria Bay.

Moreover, in terms of the “buy-outs” which CPRA has undertaken since 2005 in the State’s Oyster Lease Acquisition Program,¹ those payments have been minimal and do not reflect the actual market value of an oyster lease. That issue has been more complicated by the fact that the Courts have now ruled that compensation may not be paid to oyster fishermen for the acquisition of their oyster leases.² The Mitigation Plan does not address this legal obstacle.

In sum, both the EIS and the related Mitigation Plan fail to address the destruction of the fisheries industries in Barataria Bay, the likely protracted litigation that will ensue, or the lack of funding to address the concerns of all those adversely affected economically by the implementation of this Project. The EIS should have included, at a minimum, specific projections of salinity zones to advise the fisheries industries so that they might take steps to mitigate their losses on their own.

In addition, the EIS and related Mitigation Plan omits the concept of creating preferred areas of new oyster beds and reefs through the use of cultch plants as was done in the Biloxi Marsh Area with tremendous success. The EIS and Mitigation Plan also fail to consider the importance of a wide-spread system of real-time, satellite monitoring to aid the fisheries industries in responding to the massive changes in salinity contemplated by this Project. The EIS also fails to even consider the creation of new sediment barriers to the introduced freshwater from the Project.

Finally, the EIS and Mitigation Plan wrongfully suggest that Alternative Oyster Culture (“AOC”) can somehow mitigate or substitute for the massive oyster production from current wild reefs which is simply impossible. That “off-bottom” culture is a “boutique” industry that could never possibly reach the level of production that Louisiana’s wild reefs produce at the present time.

¹ La. Rev. Stat. Ann. § 56:432.1(B)

² *Gulf Wave Oysters v. State*, 20-1149 (La. App. 1 Cir. 08/19/21); 2021 La. App. LEXIS 2151

I appreciate the opportunity to comment. Should you have any questions or require any additional information or documentation concerning this comment, please contact me at your convenience.

Respectfully,

Andrew C. Wilson, Esq.

Letter ID: 244186

WILSON, ANDREW
Mandeville, LA 70471

To: U. S. Army Corps Of Engineers
New Orleans District
Attn: CEMVN-ODR-E; MVN-2012-2806-EOO
Public Comment to USACE Mid-Barataria Environmental Impact Statement
From: Andrew C. Wilson, Esq., MILLING BENSON WOODWARD L.L.P.

Subject: Public Comment to USACE Mid-Barataria EIS

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My concern now is that the State is headed for another "slow-motion train wreck" or "self-inflicted wound" due to the absence of any meaningful effort to preserve the oyster industry in Barataria Bay. In this regard, the Final EIS fails to integrate the concept of land structures which might serve to preserve favorable salinity conditions for oyster cultivation. The environmental impacts described in the EIS suggest that the entire Barataria Bay will be rendered too fresh to support oyster cultivation except maybe in the areas around Grand Isle or near to the Gulf. The Project as planned will essentially destroy the entire oyster industry in Barataria Bay.

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I appreciate the opportunity to comment. Should you have any questions or require any additional information or documentation concerning this comment, please contact me at your convenience.

Respectfully,

Andrew C. Wilson, Esq.

NOV 07 2022

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October X, 2022

Re: FINAL EIS COMMENTS – Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

My name is Capt Pete and I live in Plaquemines Parish.

As a resident of coastal Louisiana who makes my living in the state's commercial fisheries industry, I want to voice my strong opposition to permit application # MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid Barataria Sediment Diversion project.

This project threatens our livelihoods, and our way of life. And for what, 20.9 square miles of land by 2070 (ES.4.1 Geology and Soils, ES-7)? Louisiana has had a thriving commercial fishing industry for more than 150 years. Our fisheries provide nearly 35,000 jobs for residents and produce and sell \$2.4 billion of seafood annually. Yet, the state wants to spend \$2 billion on a project that is going to build less land than we lose in a year.

The final EIS clearly states that due to the anticipated decrease in abundance of eastern oysters and brown shrimp during Project operations, the MBSD Project is expected to cause adverse impacts on oyster and shrimp fisheries (and fishers) within the Barataria Basin (ES-18).

Our fisheries are irreplaceable.

I am not alone in my opposition to this risky and expensive project. Opponents include Plaquemines Parish Government, St. Bernard Parish Government, Town of Grand Isle, The Save Louisiana Coalition, Healthy Gulf, the Louisiana Seafood Promotion and Marketing Board, Louisiana Oyster Task Force, Louisiana Shrimp Task Force, Louisiana Crab Task Force, Louisiana Joint Fisheries, Louisiana Sea Grant, American Shrimp Processors Association, Southern Shrimp Alliance, Sierra Club Delta Chapter, Defenders of Wildlife, Marine Mammal Commission, Institute of Marine Mammal Studies, Louisiana Lieutenant Governor Billy Nungesser, Mississippi Lieutenant Governor Delbert Hoseman, Animal Welfare Institute, Center for Biological Diversity, The Humane Society of the United States, Creation Society International, Humane Society Legislative Fund, International Marine Mammal Project, Ocean Conservation Research, Oceanic Preservation Society, and New York Whale and Dolphin Action League.

Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,

Peter Vujnovich

[REDACTED]
[REDACTED]

70037

P. VUJNOVICH



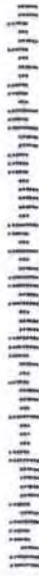
NEW ORLEANS LA 700

24 OCT 2022PM 2 L

U.S. Army Corps of Engineers
New Orleans District
ATTN: CFM/VN-RCF, MVN-2019-BOL-600
7400 Lake Ave.
New Orleans, LA 70118



70118-365100



NOV 07 2022

October 16, 2022

I am writing to express my concern and opposition about the Mid-Barataria sediment diversion project. Everyone agrees that actions should be taken to do what we can to protect and improve Louisiana's coastline. Dredging has shown to build back land in specified areas in a much shorter time. This diversion project will devastate ALL FISHERIES and experts predict that a POSSIBLE 20 square miles of marsh land could develop over 50 years. This is not a chance I am willing to take while destroying families livings and cultures.

DREDGE DON'T DIVERT



STEPHEN NAVARRE, JR

NEW ORLEANS LA 700

24 OCT 2022 PM 1 L



U.S. Army Corps of Engineers, N.O. District
Attn: Regulatory Division, MVN-202-2806-
E00
7400 Leake Ave
New Orleans, LA

[illegible]

Figure 1 consists of four schematic diagrams of clovers, labeled (a) through (d). Each diagram shows a central stem with leaves branching out. (a) shows a clover with four leaves, labeled 'a' through 'd'. (b) shows a clover with three leaves, labeled 'a' through 'c'. (c) shows a clover with two leaves, labeled 'a' and 'b'. (d) shows a clover with one leaf, labeled 'a'.

NOV 07 2022

In regards to the EIS for Mid Barataria Sediment Diversion (MBSD)

I believe the EIS description of the negative impacts to commercial industries to be very vague, lacking necessary information and or any acceptable plan to mitigate, relocate or adequately compensate the user groups in the effected area. The mitigation plan fails to make whole the industries and persons affected by the project. The EIS fails to address the economic compensation which would be required to maintain the economic wholeness of those entities impacted.

Most of CPRAs proposed projects to enhance oyster production are pretty much a cosmetic fix and appear to be mostly for public perception. Although well intended they lack sufficient industry enhancement.

The CPRA seems to encourage and highlight its effort to provide incentives to Alternative Oyster Culture (AOC) neglecting the fact that the operation of the MBSD will have a severe negative impact on AOC farms within the Barataria estuary. In 2018 and 2019 most AOC farms lost 80-90% of their product to low salinity caused by natural high river. Moderate river levels combined with proposed MBSD operation guideline would not only threaten the continued existence of the promoted AOC farms but would also negate any legal claim to reimbursement from crop insurance do to man made causes of mortality.

It should be very obvious not to mention unacceptable as to what will happen to the existing oyster industry within the Barataria basin, based on what's currently happening on the east side of the river. The over freshening of the Breton Sound estuary has destroyed a once prolific oyster producing habitat. Hundreds of square miles have been rendered unproductive for not only oysters but other economically important species, which has directly caused the economic collapse of surrounding communities which were dependent upon these resources. The EIS fails to identify the amount of oyster producing acreage that will become unproductive and or identify the economic loss to the industry and or entities .

The MBSD operational plan based on river levels for the goal of delivering as much sediment as possible. Totally neglects the concerns, needs, cultural and economic significance of the communities which have successfully maintained a way of life for generations. The proposed plan recognizes but Blatantly Disregards the significance of this fact as a necessary consequence.

A successful restoration plan should not jeopardize the existence of established economic and cultural communities, its goals and objectives should be to protect and enhance such activities.

The EIS states that significant negative impacts will occur to the brown shrimp *and* oyster industry within the Barataria estuary. Surely there will be many more negative impacts which are currently not recognized within the EIS, nor does it contain any Avenue or resources to address the unexpected negative impacts.

I believe the bigger question is not if the present or future EIS is adequate ,
But does this proposed project and proposed operation meet the criteria establish for use of monies dedicated to restore and or rehabilitate environmental damages caused by the Deep Water Horizon oil spill.

The project and its operational plan will inflict severe continuous damages to industries which were heavily damaged by the influx of oil, the use of dispersants and also by the operation of Existing Freshwater Diversions which were utilized in a attempt to stop the oil intrusion. The operation of these diversions caused significant negative impacts.

It seems counter productive to use restoration monies to continually re-enact one of the major contributors to the environmental and economic disruptions caused by the use of existing diversions in an attempt to minimize the effects of the oil spill.

In other terms are the people and industries within the basin expected to Re-Live the same negative consequences of the spill year after year.

Sincerely
Capt Pete
Vujnovich



P. VÜJNOVICH



NEW ORLEANS LA 700

24 OCT 2022 PM 1 L

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RCE; MVN-2013-2806-EO
7400 Lake Avenue
New Orleans, LA 70118

70118-355100



NOV 07 2022

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October X, 2022

Re: FINAL EIS COMMENTS – Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

Dear Corps,

As a Louisiana resident and active recreational fisherman, I am writing to voice my strong opposition to permit application# MVN-2012-2806-EOO (Section 10/404) 2013 relative to the proposed Mid Barataria Sediment Diversion project (MBSD)

I believe, as do many other recreational and commercial fishing interests that this project will do more harm than good and will threaten the livelihoods and the hobbies of thousands of Louisiana residents, and harm our recreational fishing tourism economy. The harm this project may do can be irreparable and better, more cost effective and impactful options exist that the Corps and state of Louisiana should be considering instead.

The final Environmental Impact Statement (EIS) states:

“The Project is projected to cause minor to moderate, permanent, adverse impacts from the spread of invasive species in the Barataria Basin, since operation of the Project could result in the introduction or spread of invasive wetland plant species in created wetland areas. the water and sediment transported from the Mississippi River into the Barataria Basin would provide a vector for the spread and establishment of invasive plants. Freshwater and brackish wetland invasive plants could also expand as a result of reduced salinity and increased nutrients.” (ES.4.4, Wetland Resources and Waters of the U.S.)

This language is hardly a ringing endorsement for the project but rather a warning sign of things to come in association with this \$2 billion multi-decade waste of BP recovery funds. Other projected harmful impacts include endangering populations of Kemp’s Ridley, loggerhead, green and sea turtles, sturgeon, oysters, and even numerous waterfowl and birdlife. How do these risks align with the speculative benefits?

I am far from alone among my peers and colleagues and among those who make their living or spend their weekends on Gulf and coastal waters. Other vigorous opponents include Plaquemines Parish Government, St. Bernard Parish Government, Town of Grand Isle, The Save Louisiana Coalition, Healthy Gulf, the Louisiana Seafood Promotion and Marketing Board, Louisiana Oyster Task Force, Louisiana Shrimp Task Force, Louisiana Crab Task Force, Louisiana Joint Fisheries, Louisiana Sea Grant, American Shrimp Processors Association, Southern Shrimp Alliance, Sierra Club Delta Chapter, Defenders of Wildlife, Marine Mammal Commission, Institute of Marine Mammal Studies, Animal Welfare Institute, Center for Biological Diversity, The Humane Society of the United States, Creation Society International, Humane Society Legislative Fund, International Marine Mammal Project, Ocean Conservation Research, Oceanic Preservation Society, and New York Whale and Dolphin Action League.

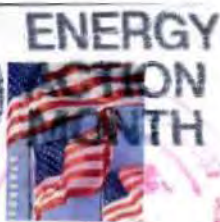
Please take a strong and common sense stand on the risky project and reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

*Respectfully,
P. Vujnovich*

P. VUJNOVICH

NEW ORLEANS LA 700

24 OCT 2022 PM 1 L



U.S. Army Corps of Engineers
New Orleans District
ATTN: CEN N-RGE; MVN-3018-3806-100
7400 Lake Ave
New Orleans, LA 70118

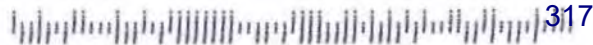
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NOV 07 2022

U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

October X, 2022

Re: FINAL EIS COMMENTS – Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013

Dear Corps

My name is Capt Pete Vujnovich jr, and I live in Plaquemines parish I am a third generation oyster farmer, and I want to voice my strong opposition to permit application# MVN-2012-2806-EOO (Section 10/404) 2013 for the proposed Mid Barataria Sediment Diversion.

This project permit application should be rejected, and the state of Louisiana instructed to restart the process of finding a more workable, less costly and less intrusive alternative.

The final Environmental Impact Statement (EIS) clearly states:

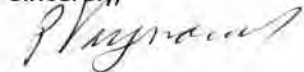
- **Permanent, minor to moderate, adverse impacts on public health and safety risks associated with storm hazards in communities outside of federal levee systems south of the diversion (including Myrtle Grove and Grand Bayou)** (ES.4.18.2 Storm Hazards).
- To a lesser extent, **tidal flooding could increase in the Lafitte area**, which includes multiple communities with varying levels of existing non-federal flood protection. (ES.4.12 Environmental Justice, ES-16)
- **Disproportionately high and adverse impacts on low-income and minority populations could occur in some communities where reductions in abundance of oysters, brown shrimp, and certain finfish species are anticipated** as a result of the Project. These impacts could occur to the extent that affected populations engage in or are heavily reliant on commercial and subsistence fishing for these species. Impacts would vary according to levels of engagement and dependence. (ES.4.12 Environmental Justice, ES-16)
- **Moderate to major adverse impacts anticipated to occur only on those plants and animals that are unable to tolerate the modified habitat**, and subsequently to the people that rely on the area plants and animals for economic, recreational, or other purposes. (ES.4 Potential Environmental Impacts)
- The proposed Project is expected to cause **minor to moderate, permanent, adverse impacts on economy, population, housing and property values, tax revenues, public service, and community cohesion in communities near the immediate outfall area** (within 10 miles north and 20 miles south) outside of flood protection due to increased tidal flooding and outmigration. (ES.4.11 Socioeconomics)
- The operation of the proposed Project could lead to **long-term, minor to major, adverse impacts on communities not protected by federal levees** from acceleration of increases in tidal flooding and, storm hazards, and major, permanent, adverse impacts on commercial fisheries, and subsistence fisheries. These impacts could be disproportionately high and adverse on some low-income and minority populations in the Project area as compared to the No Action Alternative. (ES.4.12 Environmental Justice)
- **Disproportionately high and adverse impacts could occur on low-income and minority populations within the communities of Myrtle Grove, Hermitage, Grand Bayou, and Happy**

Jack, to the extent that affected populations lack resources to avoid or otherwise respond to the impacts (ES.4.12 Environmental Justice)

Opposition to this permit application is strong and varied and includes: Plaquemines Parish Government, St. Bernard Parish Government, Town of Grand Isle, The Save Louisiana Coalition, Healthy Gulf, the Louisiana Seafood Promotion and Marketing Board, Louisiana Oyster Task Force, Louisiana Shrimp Task Force, Louisiana Crab Task Force, Louisiana Joint Fisheries, Louisiana Sea Grant, American Shrimp Processors Association, Southern Shrimp Alliance, Sierra Club Delta Chapter, Defenders of Wildlife, Marine Mammal Commission, Institute of Marine Mammal Studies, Louisiana Lieutenant Governor Billy Nungesser, Mississippi Lieutenant Governor Delbert Hoseman, Animal Welfare Institute, Center for Biological Diversity, The Humane Society of the United States, Creation Society International, Humane Society Legislative Fund, International Marine Mammal Project, Ocean Conservation Research, Oceanic Preservation Society, and New York Whale and Dolphin Action League.

Please reject Permit Application Number: MVN-2012-2806-EOO (Section 10/404) 2013.

Sincerely,



Capt Pete Vujnovich



Belle Chasse, La 70037

P. VONOVICH



NEW ORLEANS LA 700
24 OCT 2022PM 1 L

U.S. ARMY Corps of Engineers
New Orleans District
ATTN: CEMVA-RGE, MM-3013-3806-EDD
7400 Beards Avenue
New Orleans, LA 70118 REG.

284



70118-365100



Nguyen, Hao

TO: U.S. Army Corps of Engineers, New Orleans

Attention: Regulatory Division, MVN-2012-2806-EOO

400 Leake Avenue

New Orleans, 70118

regards to the Mid-Barataria sediment Diversion.

HAO NGUYEN

I strongly object to the Mid- Barataria Sediment Diversion and ask the U.S. corps of Engineers to reject the permit. *MID-BARATARIA-SEDIMENT DIVERSION-EIS*

DEPEND on the Barataria Estuary and its resources to make a living as a

OYSTER SHUCKER

The proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely



HAO NGUYEN

TO: U.S. Army Corps of Engineers, New Orleans

Attention: Regulatory Division, MVN-2012-2806-EOO

400 Leake Avenue

New Orleans, 70118

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HAO NGUYEN

NOV 07 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely

Wilfred Cross Jr
10/21/22

NOV 07 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely

Duoc Vo
10/21/22

NOV 07 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely

John Williams
10/21/22

10-24-2022

U.S. Army Corps of Engineers
New Orleans District
Attn: CEMVN-RGE; MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, LA 70118

NOV 07 2022

Regarding the Mid-Barataria Sediment Diversion,

I strongly object to the Mid-Barataria Sediment Diversion and ask the U.S. Army Corps of Engineers to reject the permit.

I DEPEND on the Barataria Estuary and its resources, for the seafood
it provides. Ruining the seafood
industry is not acceptable to our
state. We are already suffering from
the cuts of oil + gas.

The proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely,

Lynn Catalano

I support the idea of moving the silt
from the river + not letting nature take
its course over the next 50 years.

NOV 07 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO
7400 Leake Avenue
New Orleans, 70118

I regards to the Mid-Barataria sediment Diversion.

I strongly object to the Mid- Barataria Sediment Diversion and ask the U.S. corps of Engineers to reject the permit.

I DEPEND on the Barataria Estuary and its resources to make a living. The proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely

Peter Vujnovich III
10/21/22

NOV 07 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely

Melissa Cross
10/21/22

NOV 07 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely



Loren Austin

10/24/2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

400 Leake Avenue

New Orleans, 70118

regards to the Mid-Barataria sediment Diversion.

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Sincerely

A handwritten signature in black ink, appearing to be "Shirley", written over a horizontal line.

TO: U.S. Army Corps of Engineers, New Orleans

Attention: Regulatory Division, MVN-2012-2806-EOO

400 Leake Avenue


New Orleans, 70118

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Sincerely

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TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

400 Leake Avenue

New Orleans, 70118

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Sincerely

A handwritten signature in black ink, appearing to be a stylized 'M' or 'W', is written over a horizontal line.

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

400 Leake Avenue

New Orleans, 70118

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Sincerely,

A handwritten signature in black ink, appearing to be "J. L. L.", written over a horizontal line.

NOV 07 2022

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

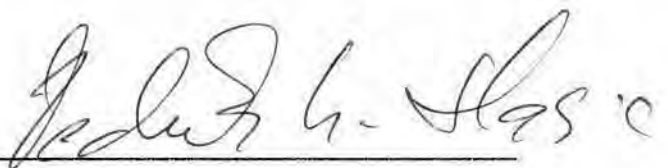
7400 Leake Avenue

New Orleans, 70118

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Sincerely 

EDDIE'S QUALITY OYSTERS INC

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely

Braco Madjos

EDDIE'S QUALITY OYSTERS INC

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely

A handwritten signature in blue ink, appearing to be 'R. L. H.', written over a horizontal line.

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely

A handwritten signature in black ink, appearing to read "Eddie's Quality Oysters, Inc.", written over a horizontal line.

EDDIE'S QUALITY OYSTERS INC

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely

A handwritten signature in blue ink, appearing to read "Mondy", is written over a horizontal line.

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Sincerely



EDDIE'S QUALITY OYSTERS INC

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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I DEPEND on the Barataria Estuary and its resources to make a living as a

Office manager of Eddie's Quality Oysters, Inc. The
proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely



TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

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New Orleans, 70118

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Sincerely

A handwritten signature in blue ink, appearing to be "F. D. Q.", written over a horizontal line.

EDDIE'S QUALITY OYSTERS INC

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

7400 Leake Avenue

New Orleans, 70118

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Owner / president of Eddie's Quality Oysters, Inc The
proposed Diversion will destroy my ability to continue to do so and ask the Corps to reject this permit.

Sincerely Eddie Kurtz

EDDIE'S QUALITY OYSTERS INC

NOV 07 2022

October 22, 2022

Dear Sir,

I am writing to voice my OPPOSITION to the Mid –Barataria sediment diversion project. You are going to destroy our communities, our way of life and employment, the seafood industry in south Louisiana, and recreational and commercial fishing in the Barataria basin so that you can create 25 square miles of mud somewhere, sometime, eventually.

I own BBFCL (Bayou Barataria Fish Club and Lodge) in Lafitte, La. I have invested a million dollars in our dock and lodging facilities. We have two fishing guide services, both over 25 years old, Dufour's Fishing Charters and Crescent City Fishing Charters are now headquartered out of our dock along with other part time guides. The guides stay very busy and have successful guide services.

The hurricanes the last two years were tough enough- but what you propose to do will possibly help in 25 years but kill everything right now. We need help now. The diversion may destroy more wetlands than it creates. And in Lafitte we just learned the value of the mud out of the marsh is zero. It is proven in Lafitte that a pipeline can be built to deliver slurry and mud from the river faster and cheaper than building a \$2 billion dollar disaster- another Mr. Go type project.

The fresh water, toxic waste, pesticides, herbicides, fertilizers, and invasive species will get into our marshes, bays, canals, and ponds and destroy all our vegetation. The dolphins will die along with the trout, shrimp, and oysters. The bass and redfish left will be living in muddy toxic water. Not good to fish and eat toxic Mississippi river water fish. Not to mention the irreparable harm done by introducing the river gar, carp, catfish, and other toxic river fish into waterways. Restaurants will have to change their menu or close.

Why am I against the diversion?

1-It will destroy more than 50 years of recreational and commercial fishing in our community

2- Better ways to protect us and cheaper

3-Benefits not that great

4- Will flood us in the spring

5- It will kill our fishing business and the fish- only thing left are toxic gar, catfish, carp, bass, and maybe some redfish – but redfish need salt water to reproduce

6- It will put us, the local commercial fishers, trawlers, fishing guides, and the city of Lafitte out of business

Sincerely,

BBFCL LLC [REDACTED] Lafitte, LA 70067

Mailing address- Tim Hummel [REDACTED] Bush, LA 70431

TO: U.S. Army Corps of Engineers, New Orleans

Attn: Regulatory Division, MVN-2012-2806-EOO

400 Leake Avenue

New Orleans, 70118

regards to the Mid-Barataria sediment Diversion.

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Sincerely

A handwritten signature in cursive script, appearing to be 'S. ...', written over a horizontal line.

TO: U.S. Army Corps of Engineers, New Orleans

Attention: Regulatory Division, MVN-2012-2806-EOO

400 Leake Avenue

New Orleans, 70118

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Sincerely

_____

**MID-BARATARIA SEDIMENT DIVERSION
FINAL EIS
NEW AND SUBSTANTIVE
PUBLIC COMMENTS/RESPONSE REPORT**

November 2022

Letter ID	Commenter	Comment	Response
244080	Lea, JD"Zach"	<p>The expected damage to the Oyster Industry, under the MBSD, is inconsistent with the CPRA mandate to protect and restore the coastal zone.</p> <ol style="list-style-type: none"> 1. The mitigation plan is dependent on funding that is not presently available (not in the bank). Experience with previous mitigation plans indicates that promises may be delayed, reduced, or ignored. This renders the implementation of the plan doubtful. 2. The timeframe proposed for mitigation measures is uncertain and raises the real possibility that most qualified oyster producers in the Barataria Basin will have left the industry before the plan is implemented. See Page 34 of the Plan where CPRA discusses the time frame in terms of years after the MBSD is operational. 3. The Plan recognizes that salinity conditions for oyster culture may not exist in the Barataria Basin after the MBSD is operational. See Page 34 of the Plan where CPRA writes: "If no suitable conditions are found in lower Barataria Basin..." In this case, the Plan proposes to move the public seed ground to another basin. This is not mitigation of the Barataria Basin oyster industry but the expansion of the oyster industry in the other basin. 4. The proposal to create or enhance broodstock reefs is flawed because it is based on an indeterminate future, namely, the salinity regime in the Basin after the MBSD has operated for "a sufficient length of time." It, too, is subject to the availability of funds in the future. It is flawed also because it proposes to use Barataria fishers for placement of reefs and, thereby, appears to offer some funding (mitigation) to affected fishers. This will not be the case. When building new reefs, the LDWF typically uses contractors to place the reef materials. The funding would go to contractors not to typical fishers. 5. The Mitigation Plan (Plan) is impractical because it assumes that Oyster Producers and Marketers (Oyster Industry) can costlessly 	<p>As noted in Section 3.2.1.1.5 of the LA TIG's Final Restoration Plan, in response to public comments and resource agency input about the proposed mitigation efforts, CPRA's mitigation and stewardship measures and associated expenditures would focus on maintaining sustainable oyster populations and the associated fisheries rather than compensating individual oyster harvesters for their particularized economic harms. Section 3.2.1.2 of the LA TIG's Final Restoration Plan quantifies its planned mitigation amounts and funding sources, which would be allocated as part of the LA TIG's funding decision. Further, CPRA has indicated that implementation of mitigation measures will rely on data from the MAM Plan to appropriately site and scale the measures based on post-operational conditions (see Section 6.3.3 of CPRA's Final Mitigation and Stewardship Plan).</p> <p>Implementation of specific measures contained in CPRA's mitigation plans, but not included in the Section 10/404 permit as special conditions, would not be required by USACE. USACE does not know whether any particular measure that is not a DA permit condition would be implemented.</p>

Letter ID	Commenter	Comment	Response
		<p>move to other locations outside the impact of the MBSD. This impractical because there are no locations, outside the MBSD impact area, that are not already being used by other members of the Oyster Industry. For the Plan to be realistic, it should provide for assistance to both the individuals being moved and the individuals being affected by their arrival.</p> <p>6. The proposal to enhance public and private oyster grounds adjacent to Barataria Basin is subject to the same critique noted above, namely, it assumes the Barataria Basin fishery will/can move to other areas. This assumption is incorrect because it assumes there are areas suitable for oyster production elsewhere that are not presently being used by oyster producers there. Where will the Barataria producers re-establish themselves? Will there be state oyster leases available to the newcomers? Who will assist them make this move. This proposal begs the question: Why are there areas elsewhere that need enhancement? If the state were managing its oyster production resources for optimal production, there would be no areas in need of enhancement.</p> <p>7. The proposal to assist affected state leaseholders to rehabilitate leases in the lower Barataria Basin is flawed because it is based on the assumptions that there will be areas appropriate for oyster production available for the newcomers. If only a small area in the lower basin is suitable, there will not be enough room to welcome producers from the affected area. The Barataria Basin currently has more than 250,000 acres of state oyster leases. See screen shot from the LDWF Oyster lease map, below, showing existing leases. The solid blue line encloses an area equal to 250,000 acres. The light blue lines enclose individual oyster leases. These leases currently occupy most of the area of the Basin. There will not be enough area unaffected by the MBSD to welcome the producers from the affected area.</p>	

Letter ID	Commenter	Comment	Response
		<p>8. The CPRA proposal relating to Alternative Oyster Culture (AOC) as the "best" way to mitigate (see Pages 35-36) is flawed on two accounts:</p> <p>a. AOC has not yet been accepted by the Oyster Industry. AOC is an emerging sector of the oyster industry. AOC has been available to Louisiana citizens for over ten years. In that time less than 20 citizens have established AOC farms. CPRA recently funded an AOC promotional program which is being implemented by LSU Sea Grant. The program was funded at \$3 million. Recently, after its second round of program grants, Sea Grant announced that the \$3 million in funding is expected to create about 200 acres of AOC farms. At the current rate achieved by Sea Grant (about \$15,000 per acre), \$8 million would establish about 533 acres of AOC farms. Even if AOC farms produced 1,000 sacks of oysters per acre, the production total would be only 533,000 sacks. Average annual, state-wide production is about 2 million sacks of oysters.</p>	

Letter ID	Commenter	Comment	Response
244096	MMC/Peter Thomas	The Commission is also concerned that the LA TIG has yet to fully implement restoration activities designed to promote recovery of bottlenose dolphins from the DWH oil spill. Despite its \$50 million budget for restoring marine mammals, to date, the LA TIG has implemented only one marine mammal project. In previous letters ⁵ , the Commission identified a number of other projects that should be considered for restoration of bottlenose dolphins in Barataria Bay and other Louisiana bays, estuaries, and coastal waters that were impacted by the DWH oil spill. Although we recognize the enormity of the impact of the oil spill on Louisiana's natural resources and the workload associated with DWH restoration planning, the LA TIG's progress on marine mammal restoration planning seems unnecessarily slow, constrained, and inefficient. The Commission recommends that the LA TIG immediately prepare and publish a restoration plan for bottlenose dolphins in Louisiana to address high-priority restoration projects that can be implemented without delay.	Comment noted. The LA TIG's implementation of restoration activities is outside the scope of the USACE decision responsibilities for the MBSD Project.
244104	Randy Gegenheimer	Reading through Appendix B I'm not confident the Cops had responded to my comments submitted to the Draft EIS. I could not find my comments or responses. Speaking with others they have the same concern on finding the comment or response.	Comment noted. The responses to your comments on the DEIS were covered in the DEIS comment-response, App. B2 Attachment 2 of the FEIS. See Correspondence ID 39678 (Page 1284 of Appendix B2, Attachment 2) and Correspondence ID 40344 (Page 1899 of Appendix B2, Attachment 2).
244127		For the life of me I don't know why we haven't brought the oyster growers in to help us in our restoration attempts. Buy their leases back and pay them to build oyster reefs as sanctuaries, not for consumption but protection for our coast. Living reefs that once protected us from storm surges and filtered our water are one of the most important structures of our coast.	As noted in Section 3.2.1.1.5 of the LA TIG's Final Restoration Plan, in response to public comments and resource agency input about the proposed mitigation efforts, CPRA's mitigation and stewardship measures and associated expenditures would focus on maintaining sustainable oyster populations and the associated fisheries. Section 3.2.1.2 of the LA TIG's Final Restoration Plan quantifies its planned mitigation amounts and funding sources, which would be allocated as part of the LA TIG's funding decision. Implementation of specific measures contained in CPRA's mitigation plans, but not included in the Section 10/404 permit as special

Letter ID	Commenter	Comment	Response
			conditions, would not be required by USACE. USACE does not know whether any particular measure that is not a DA permit condition would be implemented. The environmental benefits of oyster reefs are discussed in Section 3.10.5.2.11 of the Final EIS.
244129		The only places where land is being consistently built right now are areas where rivers are connected to wetlands. The Wax Lake Delta and Neptune Pass are two of several examples that highlight the river's potential as a land-building and habitat-sustaining machine. The river can and is building solid land that you can walk on, and creating abundant habitat for birds, fish and other wildlife.	Chapter 4 of the EIS contains a summary of the impacts that the Project is anticipated to have on coastal habitats. In addition, a summary of select natural and man-made diversions (and diversion-like structures) in southeastern Louisiana was developed and included as Appendix U of the Final EIS to compare the purpose and/or characteristics of these other diversions to the proposed MBSD Project, and their recorded impacts on the natural environment. Although Neptune Pass was not selected for inclusion in Appendix U, the 10 selected features (including the Wax Lake Delta) identify a range of beneficial and adverse effects to their respective receiving environments.
244137	George Cavnagac	While the EIS notes "major, permanent, adverse" impacts to brown shrimp and oysters, it deliberately adds language to help foster a sense of mitigation to those impacts. As an example and a noted change from draft EIS: "While availability of shrimp from the basin would decrease, shrimp from Louisiana would continue to be available to restaurants, potentially at higher prices...etc" Not only is this additional language since the draft EIS obviously meant to lessen a reader's perception of the magnitude of the adverse impacts, the rest of the analysis fails considerably to address not only indirect but cumulative impacts as well.	The additional language added to the FEIS referred to by the commenter was added in response to a public comment received on the DEIS regarding the availability of shrimp and oysters on tourism and regional economic impacts. USACE determined that additional analysis needed to be done and information needed to be added to the EIS to address the comment. T

Letter ID	Commenter	Comment	Response
244137	George Cavignac	<p>TPC chose the use of qualitative versus quantitative identification of impacts of the MBSD. While a generally acceptable practice for EIS preparation, given the complexity and unprecedented nature of the MBSD project, this methodology masks extreme adverse impacts of the project, especially economic impacts. Even the most basic cost/benefit analysis of MBSD using quantitative identification of impacts and any wetlands restorative benefits negates any public benefit of the project.</p>	<p>The EIS discusses both various quantitative and qualitative impacts from the proposed Project throughout Chapter 4 (Environmental Consequences). Quantative analysis was used when it was available. Cost-benefit anlaysis was addressed in the DEIS comment-response, App. B2 Attachment 1 of the FEIS. See Concern ID 64382</p>
244137	George Cavignac	<p>As required under NEPA and other applicable executive and policy orders ensuring reinstatement of the full intent of NEPA, the EIS fails miserably in approaching any semblance of compliance with the requirement. In addition, the Memorandum of Understanding (MOU) initiated for the TPC included Scope of Work (SOW) Section 7.10 which required identification and "...a detailed quantitative analysis..." of cumulative impacts.</p>	<p>As stated in Chapter 4, Section 4.25.1 Methodology for Assessing Cumulative Impacts, the cumulative impacts analsis for each resource, including navigation, was conducted using the best available data at the time of analysis. Analyses were based on quantitative data to the extent possible.</p>

Letter ID	Commenter	Comment	Response
244137	George Cavnag	Our organization wishes to voice our concerns officially for the Administrative Record over the possible non-objectivity of the TPC. While certainly many public officials go on to private sector engagements, in this extremely controversial and unprecedented experiment being considered for permit, concerns must be raised in relation to this particular TPC. (See letter for more language)	The TPC executed Conflict of Interest disclosure forms and submitted and instituted an Organizational Conflict of Interest Mitigation Plan. Firewalls were established to maintain the impartiality of the TPC.
244149	George Howard	We are pleased to see that the CPRA is not relying on diversion marsh creation performance to replace the permanent loss of wetlands that would result from Project construction, should the Project be permitted. However, the CPRA proposes to offset the project's permanent impacts to 193.1 acres of jurisdictional wetlands and 307.2 acres of open water by using excess excavated material in several ways, including beneficial use areas adjacent to the Project outfall feature. The CPRA proposes to repurpose 2.0 mcy of excavated material to create at least 402 acres of marsh (up to 375 acres of emergent marsh and nourish 92 acres of existing marsh) during Project construction, as updated in the FEIS. We believe, based on experience in creating Jesuit Bend Mitigation Bank, just north of the Project site, such a marsh creation method of utilizing "leftover unused excavated upland and wetland soils" represents a high risk of achieving successful wetland creation / restoration and fails to consider and give priority to credits from mitigation banks, which are available within the Barataria Basin and would eliminate all risks for successful project mitigation.	Because the beneficial use marsh creation feature would be constructed using typical marsh creation construction methods uncertainty regarding the success and environmental benefits of this Project feature would be minimized. Additionally, the permit contains stipulations regarding failure to successfully construct these features. Failure to complete the Beneficial Use Areas in accordance with the permitted drawings will result in assessment of compensatory mitigation which would have to be timely provided by the permittee to account for the unavoidable direct, secondary, and temporal adverse impacts to jurisdictional wetlands associated with construction of the project and may result in permit suspension and/or revocation, and restoration of the permit site.

Letter ID	Commenter	Comment	Response
244149	George Howard	The Project features' proposed wetland loss offset involves additional impacts to waters of the U.S. The FEIS states in Chapter 4.6.4.1.2 Applicant's Preferred Alternative. the following regarding additional impacts to waters of the U.S. from the Project's beneficial marsh creation component: "A total of 204.2 acres of wetlands would be dredged or filled within the Project construction footprint. In addition, 307.2 acres of open water (including waters of the U.S., other open water, and vegetated shallows containing SAV) would be within the Project construction footprint." We request that the Corps, at the minimum, require compensatory mitigation for the proposed 193.1 acres of jurisdictional wetland direct impacts as a result of Project construction, to include an analysis of the sediments to be used in CPRA's beneficial marsh creation component and that the required components of a mitigation plan be followed. Due to the high risk and uncertainty of success, as a part of the mitigation plan, a long-term monitoring and maintenance plan and site protection should be included. In addition, we request that the Corps observe the hierarchy of mitigation and select mitigation bank credits to offset the direct impacts to wetlands resulting from construction, reducing the risk and the time-lag of mitigation offset for the Project's direct wetland impacts, in accordance with the 2008 Final Rule (see below Section C.).	The beneficial use component of the proposed Project is not considered Permittee-Responsible mitigation; it is a Project feature. Nonetheless, USACE will require submittal of an As-Built Report and monitoring reports over the life of the project to monitor the success of the marsh creation project feature and require remedies for lack of success, such as placement of additional material required to maintain the target marsh elevation.
244149	George Howard	It does not appear from reviewing the CPRA's MBSD Permit Application or the Corps FEIS that soil suitability studies have been undertaken for the beneficial use marsh creation proposed to offset the wetland impacts. Soils were only identified and assessed using the Soil Survey Geographic database as provided by USDA. All the soil series in the project area are classified as hydric.	Because the beneficial use marsh creation feature would be constructed using typical marsh creation construction methods uncertainty regarding the success and environmental benefits of this Project feature would be minimized.

Letter ID	Commenter	Comment	Response
244149	George Howard	Further, based on the uncertainty and timing of successful creation of wetlands with the beneficial use marsh creation Project component, these environmental benefits cannot be reasonably expected to offset the significant losses of jurisdictional wetlands and their functions within the construction footprint. The MBSD involves a high degree of risk and uncertainty, including the proposed beneficial use of excess excavated sediments to create wetlands in DMPAs. This is not sufficient to override the requirement for compensatory mitigation. There will be a net loss of jurisdictional wetland values and functions, and these losses must be mitigated through the purchase of available in-kind and in-basin mitigation bank credits or other well-established mechanisms.	Benefits derived from the marsh reestablishment have been evaluated through the WVA model which considers temporal losses to and gains in aquatic function. The model demonstrates that the wetland functions and services that will be provided by the beneficial use marsh creation component of the Project will outweigh the loss of jurisdictional wetlands and their functions within the construction footprint.

Letter ID	Commenter	Comment	Response
244149	George Howard	Exercising its discretion to not require compensatory mitigation to offset the impacts to 193.1 acres of jurisdictional wetlands in the construction footprint would not be appropriate in this case and would set an alarming precedent.	Benefits derived from the marsh reestablishment component have been evaluated through the WVA model which considers temporal losses to and gains in aquatic function. The model demonstrates that functions and services to be provided by the beneficial use marsh creation component will outweigh the loss of jurisdictional wetlands and their functions within the construction footprint. Therefore compensatory mitigation is not required.

Letter ID	Commenter	Comment	Response
244150	Sandy Ha Nguyen	<p>Address the impact of foreign imports on Louisiana's commercial shrimping industry - The federal shrimp permit moratorium mentioned above is maintained, in part, because of "economic losses, primarily because of high fuel costs and reduced shrimp prices caused by competition from imports". While there has been discussion at the federal level about reevaluating how to regulate foreign shrimp imports, little has been done to address the net effect of a high volume of foreign shrimp being available to U.S. consumers at a much lower price than wild caught Louisiana shrimp. In spite of having an abundance of skill and quality product, Louisiana's commercial shrimp industry is struggling to maintain economic solvency. Given the centrality of environmental justice to the MBSD and in light of the fact that imports overwhelmingly impact low-income, rural, and racialized small businesses, addressing the volume and price of foreign shrimp imports is a critical component of carrying out the diversion in a way that produces more environmental justice.</p>	<p>The FEIS acknowledges in Section 4.14.4.2.2.1 (Regional Economic Impacts and Community Impacts on Shrimp Fishery) that the commercial fishing industry is faced with a great deal of uncertainty related to general economic factors such as fuel costs, prices, and consumer preference for seafood harvest from the region relative to imports and other consumer products. The additional uncertainty of impacts that diversions could have on shrimp populations is attributed as a factor contributing to shrimpers inability to plan, which could lead to waiting to make investments or making more risky investments either of which could result in decreased effectiveness of adapting and continuing to shrimp successfully. Similarly, Louisiana's Seafood Future 2019 Findings Report notes a variety of factors that contribute to uncertainty underlying the seafood industry, including loss of habitats and low commodity prices. Exits have outpaced entrants over time. The major adverse impacts on brown shrimp abundance under the Applicant's Preferred Alternative, leading to moderate to major, permanent, adverse impacts on the overall shrimp industry in the Project area may exacerbate this trend. The uncertainty of diversion impacts also has the effect of discouraging future generations from entering the industry. CPRA's proposed mitigation for impacts on the commercial shrimping industry is addressed in CPRA's Final Mitigation and Stewardship Plan in the Final EIS. It is unknown whether these measures would be implemented or whether they would be effective. In addition, mitigation in the form of funding to enforce notice laws for restaurants that serve imported shrimp was addressed in the DEIS comment-response, App. B2 Attachment 1 of the FEIS. See Concern ID 63139.</p>

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244150	Sandy Ha Nguyen	<p>Address the impact of rising fuel costs on Louisiana's commercial shrimping industry - While many federally permitted and smaller skimmer boats have begun adapting their businesses as they build back from Hurricane Ida and other disasters, many of the same fishers have increasingly found it economically prohibitive to go out on the water. At the peak of 2022's brown shrimp season, diesel cost \$5/gallon and shrimpers could only earn \$1.60/lb at the dock for 16/20 shrimp-add to this the cost of maintaining their vessels, paying deckhands, and of simply operating their boat (ice, food, equipment, etc.), and it becomes clear how devastating fuel costs can be. As cited in the prior recommendation, rising fuel costs have been central to how the National Marine Fisheries Service and Gulf of Mexico Fishery Management Council think about how commercial fisheries operate and should be regulated in the region. This newest spike in fuel costs has been devastating for the coast's most environmentally and economically vulnerable small fishing businesses-especially as it has intersected with the impact and afterlife of Hurricane Ida. Addressing the cost of fuel is critical to the ongoing project of maintaining and restoring the cultures, industries, and places of southeast Louisiana.</p>	<p>The FEIS acknowledges in Section 4.14.4.2.2.1 (Regional Economic Impacts and Community Impacts on Shrimp Fishery) that the commercial fishing industry is faced with a great deal of uncertainty related to general economic factors such as fuel costs, prices, and consumer preference for seafood harvest from the region relative to imports and other consumer products. The additional uncertainty of impacts that diversions could have on shrimp populations is attributed as a factor contributing to shrimpers inability to plan, which could lead to waiting to make investments or making more risky investments either of which could result in decreased effectiveness of adapting and continuing to shrimp successfully. Similarly, Louisiana's Seafood Future 2019 Findings Report notes a variety of factors that contribute to uncertainty underlying the seafood industry, including loss of habitats and low commodity prices. Exits have outpaced entrants over time. The major adverse impacts on brown shrimp abundance under the Applicant's Preferred Alternative, leading to moderate to major, permanent, adverse impacts on the overall shrimp industry in the Project area may exacerbate this trend. The uncertainty of diversion impacts also has the effect of discouraging future generations from entering the industry.</p> <p>CPRA's proposed mitigation for impacts on the commercial shrimping industry is addressed in CPRA's Final Mitigation and Stewardship Plan in the Final EIS. It is unknown whether these measures would be implemented or whether they would be effective. In addition, mitigation regarding additional access points for fishers in the basin including increased costs of fuel or additional wear and tear on vessels associated with the additional travel was addressed in the DEIS comment-response, App. B2 Attachment 1 of the FEIS. See Concern ID 63091.</p>

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244152	PABI Group	Therefore, the Plaquemines Association of Business and Industry formally requests that the US Army Corps of Engineers require the State to present the specifics of how the State intends to make our residents and businesses whole as well as the funding set aside to fully address these impacts. Generalities are not acceptable.	CEMVN does not have any information beyond CPRA's Mitigation and Stewardship Plan for the MBSD Project. CPRA's mitigation proposals were the result of coordination with the various fishery groups, including shrimp, oyster, crab and finfish fisheries. CPRA states that it will continue that coordination as it implements mitigation.
244156	Grant McCall	The first adaptive strategy proposed by the MBSD EIS is the idea that fishers can cope with negative environmental consequences in the project area by traveling further offshore in pursuing target species. This strategic shift is at its most unrealistic as it pertains to the harvesting of oysters, which overwhelming takes place in private water-bottom oyster leases held by small-scale commercial fishers. In the Barataria Basin especially, virtually none of the harvested oysters come from the public oyster zones and virtually all oyster landings come from privately held water-bottom leases. Such water-bottom leases, that are granted by the Louisiana Department of Fish and Wildlife, have often been held by individuals and families for generations. The contents of their specific oyster fisheries and known and depended upon by oyster fishers. Local oyster fishers rely on extant and known infrastructure and established relationship for selling their catch. This is not necessarily easily restructured for them. In addition to the potential complexity of completely re-organizing the logistics on which their livelihood depends, oyster fishers and their families have deep temporal and cultural connections with those places in both practical and emotional terms. In many cases, families are closely tied to specific oyster leases in ways that would be impossible to re-establish through fishing activities elsewhere, either in public oyster areas or in alternative private leases. It would represent a tremendous economic hardship in an already-difficult industry, and it would be emotionally draining in relation to the potential loss of long-term family connections and attachments with particular places.	<p>The FEIS acknowledges in Section 3.14.3 that the majority of commercial oysters harvested in Louisiana are from privately leased bottomlands. In describing the impacts of the project, Section 4.15, Environmental Justice, recognizes that disproportionately high and adverse impacts on low-income and minority populations could occur in communities where reductions in abundance of oysters, brown shrimp, and certain finfish species are anticipated, to the extent that affected populations engage in or are heavily reliant on commercial and subsistence fishing. Section 4.13.5.6 Community Cohesion, acknowledges that the proposed Project would be expected to accelerate adverse impacts on some small communities. In this section, the FEIS specifically recognizes that the Proposed project "is expected to adversely impact those fishing activities for shrimp and oysters, which may in turn result in adverse impacts on community cohesion."</p> <p>CPRA's proposed mitigation for impacts on the commercial oyster industry is addressed in CPRA's Final Mitigation and Stewardship Plan in the Final EIS. It is unknown whether the measures will be implemented or whether they would be effective.</p>

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		<p>Next, as the mobility solution pertains to shrimpers, longer trip distances would further stress fishers who already exist on very thin economic return margins. Recently, a combination of high fuel costs (and other vessel operation expenses) and extremely low market prices have pushed small-scale commercial shrimpers to their limits. Many have already left the industry or are in the process of leaving. Longer fishing trip distances would obviously increase fuels costs significantly and add to the overall burden of vessel maintenance and operation. It also decreases return rates by necessitating more travel time from docks to shrimping areas, that obviously includes major opportunity costs in conducting other complementary forms of economic activity. In short, it makes a difficult lifestyle-one that has already pushed many beyond the breaking point-dramatically harder.</p>	

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244156	Grant McCall	<p>In a more general sense, we feel that, in severely undermining small-scale commercial fishing activities in the Barataria Basin, the MBSD project will have profoundly negative consequences for coastal communities in the region, especially in Lower Plaquemines Parish. Our research (McCall and Greaves 2022) has shown that Lower Plaquemines Parish communities are comprised of complex and crucial networks of social support that assist individuals and families in coping with disruptions at various scales of both time and severity. On the one hand, such disruptions include personal events, such as the loss of a job, an illness/injury, a death in the family, etc. During such times, networks of social support provide a wide range of help, including money, employment, food, childcare, home repairs, mechanical assistance, emotional support, and other forms too numerous to list here. In addition, such networks of social support were fundamental in dealing with large-scale stressor events, such Hurricane Katrina and the B.P. oil spill. More recently, such social networks played a major instrumental role in the region's response to and recovery from Hurricane Ida-often filling gaps in terms of the shortcomings of government responses at the state and federal levels. In our view, the greatest failure of the MBSD EIS from the perspective of social science is its characterization of Lower Plaquemines Parish as lacking "connectedness" and having low scores on indices having to do with social wellbeing at the community level. The apparent implication of this is that the negative consequences for coastal fishers will have a muted impact on overall community wellbeing and resilience since there isn't much to lose on those fronts to begin with. Based primarily on publications by Dillard et al. (2013) and Buck et al. (2015), the EIS measures social connectedness using (among other things), "charitable giving, access to telephone services, participation in democracy (voter turnout), tenure in community, [and] number of religious organizations per 1,000" (p. 3-189). This approach was</p>	<p>The FEIS acknowledges in Section 3.14.3 that the majority of commercial oysters harvested in Louisiana are from privately leased bottomlands. In describing the impacts of the project, Section 4.15, Environmental Justice, recognizes that disproportionately high and adverse impacts on low-income and minority populations could occur in communities where reductions in abundance of oysters, brown shrimp, and certain finfish species are anticipated, to the extent that affected populations engage in or are heavily reliant on commercial and subsistence fishing. Section 4.13.5.6 Community Cohesion, acknowledges that the proposed Project would be expected to accelerate adverse impacts on some small communities. In this section, the FEIS specifically recognizes that the Proposed project is expected to adversely impact those fishing activities for shrimp and oysters, which may in turn result in adverse impacts on community cohesion. CPRA's proposed mitigation for impacts on the commercial oyster industry is addressed in CPRA's Final Mitigation and Stewardship Plan in the Final EIS. It is unknown whether these measures would be implemented or whether they would be effective.</p>

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		<p>obviously designed to cull information from publicly available internet sources, such as census and corporate data, voting records, and so on. Given the life-and-death seriousness of this set of issues, we believe that deeper ethnographic research was warranted in evaluating project impacts to coastal community social systems. In reaching the wrong conclusion in this dimension, the MBSD EIS is making a serious and consequential mistake. Our research has shown that small-scale commercial fishing is the glue that holds together such important social systems of support and reciprocity. In a broad sense, fishing provides a living for a large swath of coastal community populations, which is particularly concentrated among low-income and minority communities. If this form of economic production is lost, it will seriously harm a key segment of these communities, undermining the ability of those involved in the fishing industry to provide support to others in the community while needing further support themselves. As fishers slip further into poverty and/or leave the area, this will have wide-ranging consequences for both the overall health and resilience of coastal communities. Many residents feel that they may be forced to leave their homes and that their communities may cease to exist altogether by virtue of the impacts of this project-and we fear that they may be right. In one of the riskiest places on Earth, the social consequences of the MBSD project would seem to make it even riskier.</p>	
244160		<p>Just consider the \$256 million in economic and environmental damages caused by the multiple openings of the Bonnet Carré spillway in 1919. Algae blooms from the western shore of Lake Pontchartrain all the way to the Mississippi Sound caused catastrophic damage to our fisheries. In 2011, the breach at the failed Bohemia Spillway, also known as Mardi Gras Pass, decimated</p>	<p>Chapter 4 of the EIS contains a summary of the impacts that the Project is anticipated to have on coastal habitats. In addition, a summary of select natural and man-made diversions (and diversion-like structures) in southeastern Louisiana was developed and included as Appendix U of the Final EIS to compare the purpose and/or characteristics of these other diversions to the proposed MBSD Project, and their recorded impacts on the natural environment.</p>

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		approximately 500,000 acres of oyster reefs in Breton Sound and Black Bay.	Appendix U also includes a discussion of algal blooms resulting from the Bonnet Carre spillway openings. Although oyster impacts near the outfall of Mardi Gras Pass were not discussed in Appendix U, other described diversions identify a range of impacts on oysters in their respective receiving environments. In addition, projected impacts on oysters in the Barataria Basin from the MBSD are described in Section 4.10 of the EIS.
244161	Sean Duffy	The BRC continues to request that the if this Diversion project is approved that the USACE requires the CPRA to provide sufficient Compensatory Mitigation to maintain the balance of the known negative impacts this project will have on the national economy.	Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government
244161	Sean Duffy	our government agencies should focus more comprehensively on a project that is known to have a huge and negative impact on the navigation if constructed, these impacts will hinder commerce along the nation's most important artery of trade. Therefore, a full NSRA is indeed both warranted and represents prudent action since the concerns of the navigation industry have failed to be addressed.	Noted. The U.S. Coast Guard rescinded its request for the applicant to complete a Navigational Safety Risk Assessment for the project.
244161	Sean Duffy	The Big River Coalition challenges these points and again must insist that sufficient Compensatory Mitigation be included to reduce the known negative impact this project would have on the navigation industry.	Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government
244161	Sean Duffy	<p>"The EIS addresses the potential impacts from constructions and operation of the proposed MBSD Project on the environment and those resources identified during the public scoping period."</p> <p>However, the Big River Coalition is unable to locate any mitigation related to the negative impacts noted in the Draft EIS and listed below. Although again based on a limited 30-day review period we accept that we may have missed that, but request that the USACE and CPRA respond to any adjustments made to the requests for Compensatory</p>	Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government

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		<p>Mitigation as previously filed and reproduced and to the request to have the U.S. Army Corps of Engineers and U.S. Coast Guard perform a National Safety Risk Assessment to fill the void by inadequate and questionable vessel modeling and to protect maritime commerce.</p>	
244161	Sean Duffy	<p>Concerns documented from Section 4.27 MITIGATION SUMMARY Page 4-1010:</p> <p>"The avoidance, minimization, and compensatory mitigation for MBSD Project impacts described in this section are based on the understanding of anticipated impacts described in Sections 4.1 through 4.24, and summarized in Chapter 2, of this EIS."...</p> <p>However, no mention of compensatory mitigation for the admitted negative impact on the Mississippi River Ship Channel could be located in any of these sections by the undersigned after multiple searches and reading of noted sections. The Compensatory Mitigation for the navigation again seems to be completely left out, if this was missed in another please correct this information and provided details and funding amounts set aside by the CPRA as requested to maintain the nation's highest tonnage channel. Please accept these comments as done within a very limited time frame, there are several other challenges that could not be noted but navigation depends on the status quo for the</p>	<p>Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government</p>

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		operations of the Mississippi River Ship Channel and increased maintenance costs should be assigned to the project that will hamper, hinder and jeopardize navigational safety. The above meets the definition of Compensatory Mitigation and must be attached to the project directly especially with real concerns about the lack of proper vessel modeling and no representation or demand to address the negative projects the Mid-Barataria Sediment Diversion would have.	
244161	Sean Duffy	The USACE must remember to focus on the negative impacts this project will have a maritime commerce on its #1 Navigation Mission. Protect commerce and require sufficient Compensatory Mitigation to address additional dredging costs attributable to the proposed diversion .	Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government
244161	Sean Duffy	The Coalition's immediate responses to this lengthy document are limited to the negative impacts on the Ship Channel and requests for the establishment of sufficient Compensatory Mitigation funding to maintain the status quo of the Ship Channel and requests both that the USACE and USCG perform a full National Safety Risk Assessment (NSRA).	Noted. The U.S. Coast Guard rescinded its request for the applicant to complete a Navigational Safety Risk Assessment for the project.

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		If the impact of one dock is worthy of such proper and detailed analysis then	
244161	Sean Duffy	our government agencies should focus more comprehensively on a project that is known to have a huge and negative impact on the navigation if constructed, these impacts will hinder commerce along the nation's most important artery of trade. Therefore, a full NSRA is indeed both warranted and represents prudent action since the concerns of the navigation industry have failed to be addressed.	Noted. The U.S. Coast Guard rescinded its request for the applicant to complete a Navigational Safety Risk Assessment for the project.
244161	Sean Duffy	The purpose of the salt water sill that has just been constructed near Belle Chasse (LA) at Mile 63.8 AHP is indeed one to prevent the salt water wedge from reaching the freshwater intakes for the City of New Orleans. Due to the low water conditions across the Mississippi River and Tributaries the navigation industry is being impacted by too little water, statistically from a project requirement the USACE builds a salt water sill about every ten years, the last time was in 2012 a year after the Bonnet Carré was operated during the severe Flood of 2011.	The proposed operation of the MBSD Project would not affect salt water intrusion above Head of Passes. When the river's flow drops below 450,000, full MBSD operations would cease in accordance with CPRA's operational plan.
244161	Sean Duffy	"The ongoing impacts on navigation from past or present projects and trends are captured in the analysis in Section 4.21 Navigation. The additional impacts of the reasonably foreseeable projects identified in the operations AOT are presented here...." There are positions stated within this quote that are presented as factual but no supporting details are offered. It appears if that the CPRA is representing navigation impacts without doing a proper study or including actual navigation experts.	As stated in Chapter 4, Section 4.25.1 Methodology for Assessing Cumulative Impacts, the cumulative impacts analysis for each resource, including navigation, was conducted using the best available data at the time of analysis.

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244161	Sean Duffy	"Reasonably foreseeable projects would not appreciably contribute impacts on marine traffic in the Mississippi River During Project operations. Therefore, cumulative impacts on navigation safety and efficiency in the river during operations would not appreciably differ from those impacts of the MBSD Project action alternatives alone: intermittent but permanent, moderate, and adverse impacts on the safety and efficiency of shallow-draft vessels transiting past the intake structure during operations." There is a lot of conjecture in this paragraph with no factual backing and the assumptions are too broad and unsubstantiated to be accepted.	As stated in Chapter 4, Section 4.25.1 Methodology for Assessing Cumulative Impacts, the cumulative impacts analysis for each resource, including navigation, was conducted using the best available data at the time of analysis.
244161	Sean Duffy	"The combined cumulative impacts from operation of the MBSD Project action alternatives and operation of the foreseeable projects on dredging in the Mississippi River from Venice to the Gulf would be moderate to major, adverse, and permanent." The paragraph goes on to indicate again the negative impacts of increased shoaling in Southwest Pass and further down plays the costs of the negative impacts without presenting factual or verifiable information sources.	As stated in Chapter 4, Section 4.25.1 Methodology for Assessing Cumulative Impacts, the cumulative impacts analysis for each resource, including navigation, was conducted using the best available data at the time of analysis.
244161	Sean Duffy	The navigation industry is concerned about the impact the proposed Mid-Barataria Sediment Diversion would have on the Ship Channel, especially based on a maximum discharge of 75,000 cubic feet per second which is 25,000 cubic feet per second higher than the maximum proposed rate for the West Bay Diversion. There is no doubt this diversion would incur deposition in the Ship Channel and unlike the West Bay Diversion it is not in an area the USACE performs channel maintenance dredging. Therefore, any shoaling in the channel and within the Wills Point Anchorage should be removed by the applicant, the Coastal Protection and Restoration Authority. The Coalition requests that the USACE lead an effort to properly model the impact of the hydrology changes and shoaling in the vicinity of the proposed diversion structure before approving the Permit Application.	Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government

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244172	Sierra Club	Within the project area, there are the following threatened or endangered species under the Federal jurisdiction of the Service (U.S. Fish and Wildlife Service), and/or the NMFS (National Marine Fisheries Service): West Indian manatee, pallid sturgeon, red knot, piping plover, several sea turtle species (five species), and the eastern black rail. "At-risk species are defined by the Service's Southeast Region as those species that are: (1) proposed for listing as threatened or endangered under the Endangered Species Act, (2) candidates for listing, or (3) have been petitioned by a third party for listing." At-risk species include: Saltmarsh Topminnow, Reddish Egret, Golden-winged warbler, Diamond-backed terrapin and additionally protected species such as Bald Eagles which have known nesting locations in the bay (approximately 130 eagle nests have been detected in the Barataria Basin since 2000).	The EIS was developed in coordination with the USFWS and NMFS. Federally protected species and species of concern identified by the USFWS and NMFS are identified and assessed in Section 3.12, Section 4.12, and Appendix O of the Final EIS.
244173	Greg Gasperecz	[The project will do good things.] Evidence of this assertion is readily observable in two areas of the east bank of the Mississippi River at the Mardi Gras Pass and the Neptune Pass. In each area, new freshwater and brackish water marshes are being created in previously eroded areas. These areas are now supporting more diverse terrestrial and aquatic plants which in turn provide habitat for animal populations such as ducks, geese, shore birds, mammals, reptiles, and freshwater fish species.	Chapter 4 of the EIS contains a summary of the impacts that the Project is anticipated to have on coastal habitats. In addition, a summary of select natural and man-made diversions (and diversion-like structures) in southeastern Louisiana was developed and included as Appendix U of the Final EIS to compare the purpose and/or characteristics of these other diversions to the proposed MBSD Project, and their recorded impacts on the natural environment. Although Neptune Pass was not selected for inclusion in Appendix U, the 10 selected features (including Mardi Gras Pass) identify a range of beneficial and adverse effects to their respective receiving environments.
244173	Sierra Club	USFWS also recommends, and we second, that "prior to construction, the applicant contact the Service regarding the Endangered Species Act (ESA) determination to ensure that new species have not been listed, new critical habitat has not been designated, or that no new information has been gained that could change the results of the consultation thus triggering re-initiation of ESA consultation".	As described in Appendices O-3 (the USFWS Biological Opinion) and O-4 (the NMFS Biological Opinion) of the Final EIS, the USACE is required to reinitiate ESA consultation with the USFWS and/or NMFS if certain criteria are met. These criteria include the reinitiation of consultation if new information reveals that the Action may affect listed species or designated critical habitat in a manner or to an extent not considered

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			in the Biological Opinion, or if the Project may affect a newly listed species or newly designated critical habitat.
244185	Andrew Wilson	<p>The environmental impacts described in the EIS suggest that the entire Barataria Bay will be rendered too fresh to support oyster cultivation except maybe in the areas around Grand Isle or near to the Gulf. The Project as planned will essentially destroy the entire oyster industry in Barataria Bay.</p> <p>If so, and if that is the intent of the Project, in all likelihood this will lead to protracted litigation which will delay the project. In the case of Caernarvon, that Project was delayed and not allowed to operate as intended. As a result, it did not create the wetlands it should have by 2005 to protect the coastal parishes and the City of New Orleans. Ironically, Hurricane Katrina made landfall in that exact Project area. It appears that the State is headed for the exact same outcome with this Project.</p>	The Project purpose is discussed in Chapter 1. Impacts to oysters are discussed in Chapter 4. Potential litigation is outside the scope of this EIS.
244185	Andrew Wilson	<p>Moreover, in terms of the "buy-outs" which CPRA has undertaken since 2005 in the State's Oyster Lease Acquisition Program, those payments have been minimal and do not reflect the actual market value of an oyster lease. That issue has been more complicated by the fact that the courts have now ruled that compensation may not be paid to oyster fishermen for acquisition of their oyster leases. The Mitigation Plan does not address this legal obstacle.</p>	Comment noted. CPRA's payments in implementation of prior oyster programs is outside the scope of the USACE NEPA evaluation for the MBSD Project.

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244185	Andrew Wilson	<p>Previously, in connection with Legislative efforts to address adverse effects on existing oyster leases (La. R.S. 56:432.1, et seq.) a Program was developed to assist the oyster industry in responding to the rapid changes in salinity associated with other freshwater diversion structures, particularly Davis Pond. That Program presented oyster fishermen with four options for their oyster leases: (1) retention; (2) exchange; (3) relocation; and, (4) purchase/compensation.</p> <p>The fourth option essentially allows individual oyster fishermen to be compensated and then leave the business, ending a culture, tradition and way of life. This is always the more attractive option in resolving these situations given the possibility of a large, single payment. But the proposed Mitigation Plan does not indicate any specific source of funding for any types of payments along these lines. And to do so would essentially eliminate the oyster industry in Barataria Bay.</p> <p>Moreover, in terms of the "buy-outs" which CPRA has undertaken since 2005 in the State's Oyster Lease Acquisition Program, those payments have been minimal and do not reflect the actual market value of an oyster lease. That issue has been more complicated by the fact that the Courts have now ruled that compensation may not be paid to oyster fishermen for the acquisition of their oyster leases. The Mitigation Plan does not address this legal obstacle.</p>	<p>Authorization of work or structures by a DA permit does not convey any property right, nor authorize any injury to property or invasion of other rights. A DA permit does not convey any exclusive privileges. Furthermore, a DA permit does not authorize any injury to property or invasion of rights or any infringement of Federal, state or, local laws or regulations. The applicant's signature on its permit application is an affirmation that the applicant possesses or will possess the requisite property interest to undertake the activity proposed in the application. As noted in Section 3.2.1.1.5 of the LA TIG's Final Restoration Plan, in response to public comments and resource agency input about the proposed mitigation efforts, CPRA's mitigation and stewardship measures and associated expenditures would focus on maintaining sustainable oyster populations and the associated fisheries rather than compensating individual oyster harvesters for their particularized economic harms. Section 3.2.1.2 of the LA TIG's Final Restoration Plan quantifies its planned mitigation amounts and funding sources, which would be allocated as part of the LA TIG's funding decision. Implementation of specific measures contained in CPRA's mitigation plans, but not included in the Section 10/404 permit as special conditions, would not be required by USACE. USACE does not know whether any particular measure that is not a DA permit condition would be implemented.</p> <p>CPRA's payments in implementation of prior oyster programs is outside the scope of the USACE NEPA evaluation for the MBSD Project.</p>

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244185	Andrew Wilson	Finally, the EIS and Mitigation Plan wrongfully suggest that Alternative Oyster Culture ("AOC") can somehow mitigate or substitute for the massive oyster production from current wild reefs which is simply impossible. That "off-bottom" culture is a "boutique" industry that could never possibly reach the level of production that Louisiana's wild reefs produce at the present time.	<p>CPRA's Final Mitigation and Stewardship Plan includes multiple measures aimed at supporting and sustaining the fishing industry:</p> <ul style="list-style-type: none"> • Providing financial and technical assistance for alternate business ventures and job training for alternate jobs (Workforce/Business training -- \$2 million allocation) • Funding for shrimp vessel improvements, including, potentially, larger boats, and improving docks (shrimp Vessel/Facility improvements -- \$15 million allocation) • Establishing new oyster seed grounds (\$4 million allocation) • Enhancing public and private oyster grounds (\$15 million allocation) • Enhancing oyster broodstock reefs (\$4 million allocation) • R&D for collaboration with fishers to innovate and change the way their operations work (Alternative Oyster Culture techniques -- \$8 million allocation) • Marketing and outreach support (\$5 million allocation including oysters, brown shrimp, finfish, and crab). <p>Implementation of specific measures contained in CPRA's mitigation plans, but not included in the Section 10/404 permit as special conditions, would not be required by USACE. USACE does not know whether any particular measure that is not a DA permit condition would be implemented. The foregoing measures will not be DA permit conditions.</p>
244185		The EIS should have included, at a minimum, specific projections of salinity zones to advise the fisheries industries so that they might take steps to mitigate their losses on their own.	Salinity would vary by location and time period. Projected salinity in select locations around the Barataria Basin over time are discussed and depicted in Section 4.10.4.4.2.6.1 and Appendix N-1 of the Final EIS.

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244189	Ralph and Cindy Hermann	In this final EIS, the USACE consolidated the prior draft EIS individual comments depriving our meaning and intent to express our opinions. By editing in this manner, individual's personal statements were white washed as well as unidentifiable in clarity of what their true opinions were which benefits CPRA's position thus depriving stakeholders of their voice	<p>As explained in the FEIS, Chapter 7 (Public Involvement) and Appendix B2 (Public Meetings Summary and Response to Public Comments) all public comments received, including those in support of and critical of the Project, have been reviewed by USACE and will be considered as appropriate under relevant regulations by USACE as it makes its decision on the proposed MBSD Project. As part of the comment response process, USACE and the LA TIG worked together to review, sort, and respond to comments received on the Draft EIS and the LA TIG's Restoration Plan. Comments were first sorted into groups by topic and issue, consistent with the range of topics addressed in the Draft EIS and the LA TIG's Restoration Plan. To facilitate preparation of responses, USACE and the LA TIG then drafted 'concern statements' to represent multiple similar comments on a topic and to summarize unique comments and lengthy comments; these concern statements were later reviewed against the original comments to ensure all comments were captured. USACE and the LA TIG then prepared responses to the concern statements. The USACE and LA TIG ensured consideration of the original text from each comment when preparing the response. The comment response process was designed to ensure consideration of and appropriate responses to all comments received. Appendix B2, Attachment 1 (Summary Concern Statements and Responses) lists the summary concerns and issues identified in the public comments, along with responses from the USACE and LA TIG. Appendix B2, Attachment 2 (Public Comments and Responses) lists all public comments received along with the USACE and LA TIG's responses.</p> <p>USACE will also consider any comment received during the Final EIS public review period before making its decisions on the proposed MBSD Project.</p>

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244189	Ralph and Cindy Hermann	And why are monies from the settlement being allocated to build a privately owned railroad bridge?	The applicant's proposed modifications to the railroad are restricted to those required to construct the MBSD Project while maintaining existing railroad operations.
244189	Ralph and Cindy Hermann	The loss of flow in the river is allowing the salt water to move north and compromise Plaquemines Parish fresh water supply which is going to cost taxpayer's to pay \$6 million dollars to build a temporary sill to impede the flow of salt water. At the same time, the USACE is considering approving and signing off on the Mid Barataria freshwater river diversion project. It is a \$3 Billion project that will exacerbate (definition to make a problem or bad situation worse) by starving the river of flow water and increasing siltation thus requiring more dredging of the river.	Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government
244189	Ralph and Cindy Hermann	Why permit this diversion project when the taxpayer is paying to close 2 other natural "diversion" areas and requiring additional dredging of the river?	Funding for other projects is outside the scope of this EIS. Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government.
244189		And for what return-how many acres of land do we lose in the first 5 - 7 years of running having the affect of tremendous scour?	Projections of land gain/loss was calculated on a decadal basis and no finer scale assessment is available to determine the loss within 5 to 7 years. However, Chapter 4, Section 4.6.5.1.2.4 of the Final EIS discusses the loss of some wetlands in the immediate outfall area due to scouring and inundation during the initial period following commencement of operations.

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244194		<p>Lastly, the most common response I hear from diversion supporters is "Yes, the business will get harder, the tough will survive. You just have to move your reefs out further." The resolution of "moving our reefs out further" is absolutely absurd and obviously said by people that know nothing about oyster reproduction, cultivation, and maintenance. An oyster reef will be successful due to years of cultivating and maintaining the reef. I can speak for 20 minutes JUST on oyster reproduction, but I won't do that. Very rarely do we attempt to create a reef on new sea bottom, and if we do, it's very rare that we see success or even a return that's worth our while. My own father (someone who has started to give up on fighting the diversions because "the state's going to do what the states going to do") has attempted to harness this "move your reefs further" mentality. He's trying to jump the gun a little bit and has bought oyster leases in Fox Bay close to Mississippi (in preparation of the Breton Sound diversion, which is also in the works). For the last 4 consecutive years, he planted 1 hopper barge of limestone per year. Each hopper barge at 1,800 tons per barge is \$60,000.00. So 4 hopper barges total a \$240,000.00 investment. However, the oysters did not spat (reproduce) like we planned.</p> <p>My dad took a risk, made a serious investment, and the last 2 years we have not even sold 600 bushels of oysters from that lease. The return on this \$240,000 investment has been around \$30,000. We will be very lucky to sell 1,200 - 1,500 bushels from this entire lease. All of this to say that you can't just "move" oysters reefs. It doesn't just happen. And if it does happen, the expenses alone would leave you with nothing. So that argument/response is becoming stale.</p>	<p>As noted in Section 3.2.1.1.5 of the LA TIG's Final Restoration Plan, in response to public comments and resource agency input about the proposed mitigation efforts, CPRA's mitigation and stewardship measures and associated expenditures would focus on maintaining sustainable oyster populations and the associated fisheries rather than compensating individual oyster harvesters for their particularized economic harms. Section 3.2.1.2 of the LA TIG's Final Restoration Plan quantifies its planned mitigation amounts and funding sources, which would be allocated as part of the LA TIG's funding decision. Further, CPRA has indicated that implementation of mitigation measures will rely on data from the MAM Plan to appropriately site and scale the measures based on post-operational conditions (see Section 6.3.3 of CPRA's Final Mitigation and Stewardship Plan).</p> <p>Implementation of specific measures contained in CPRA's mitigation plans, but not included in the Section 10/404 permit as special conditions, would not be required by USACE. USACE does not know whether any particular measure that is not a DA permit condition would be implemented.</p>
244197	Barry Kohl	<p>A listing of the recommendations and responses by CPRA occur in Chpt. 5 and CPRA states that it concurs with USF&WS recommendations. With changes to the State Administrations over the life of the project,</p>	<p>Any permit includes a condition reminding the permittee that it has agreed to comply with all of U.S. Fish and Wildlife Service's FCAR recommendations. For the MBSD Project, the fourteen recommendations are detailed in Section 4.6, Fish and Wildlife Coordination Act in CPRA's "Mid-Barataria Sediment Diversion</p>

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		what assurances do we have that CPRA will continue to support the USF&WS recommendations?	Mitigation and Stewardship Plan". Failure to comply with permit conditions is grounds for modification, suspension or revocation of the permit.
244197	Barry Kohl	There are two significant, adverse impacts related to salinity changes, 1) impacts to bottle-nosed dolphins and 2) impacts to the eastern oyster. These should have a well funded and focused monitoring program to lessen the impacts in the Basin. We did note that \$54 million has been allocated to the eastern oyster mitigation program (Appendix R1, table 2). Appendix R5 did lay out a Dolphin Intervention Plan but no funding.	As noted in Section 3.2.1.1.5 of the LA TIG's Final Restoration Plan, in response to public comments and resource agency input about the proposed mitigation efforts, CPRA's mitigation and stewardship measures and associated expenditures would focus on maintaining sustainable oyster populations and the associated fisheries rather than compensating individual oyster harvesters for their particularized economic harms. Section 3.2.1.2 of the LA TIG's Final Restoration Plan quantifies its planned mitigation amounts and funding sources, which would be allocated as part of the LA TIG's funding decision. Implementation of specific measures contained in CPRA's mitigation plans, but not included in the Section 10/404 permit as special conditions, would not be required by USACE. USACE does not know whether any particular measure that is not a DA permit condition would be implemented. Decisions regarding which measures would be required as part of the LA TIG's funding decision would be set forth in the LA TIG Record of Decision related to the Project.
244200	Harold Herrmann, Jr.	While the USAGE is considering approval and sign off on the Mid-Barataria freshwater river diversion project, this \$2.2+ billion project will further starve the Mississippi River of flow water simultaneously increasing siltation thus requiring more frequent dredging of the river. Why "permit" this diversion project when it will increase the taxpayer burden to keep the river dredged?	Any Section 408 permission would require CPRA to pay for any changes to the OMRR&R of the USACE Project at no cost to the federal government

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244201		<p>The restoration plan proposes mitigation funds to assist communities impacted by the diversion. The plan suggests opening broodstock reefs to help seed depleted reefs and provide opportunities to grow oysters off bottom in cages. This is bureaucratic rhetoric that does not offer realistic measures to address this situation. LFBF suggests that the Corps truly make a concerted effort to actually work with our oyster farmers and their communities for a positive outcome. Sediment diversions and oysters should be able to co-exist.</p>	<p>Authorization of work or structures by a DA permit does not convey any property right, nor authorize any injury to property or invasion of other rights. A DA permit does not convey any exclusive privileges. Furthermore, a DA permit does not authorize any injury to property or invasion of rights or any infringement of Federal, state or local laws or regulations. The applicant's signature on its permit application is an affirmation that the applicant possesses or will possess the requisite property interest to undertake the activity proposed in the application. As noted in Section 3.2.1.1.5 of the LA TIG's Final Restoration Plan, in response to public comments and resource agency input about the proposed mitigation efforts, CPRA's mitigation and stewardship measures and associated expenditures would focus on maintaining sustainable oyster populations and the associated fisheries rather than compensating individual oyster harvesters for their particularized economic harms. Section 3.2.1.2 of the LA TIG's Final Restoration Plan quantifies its planned mitigation amounts and funding sources, which would be allocated as part of the LA TIG's funding decision. Further, CPRA has indicated that implementation of mitigation measures will rely on data from the MAM Plan to appropriately site and scale the measures based on post-operational conditions (see Section 6.3.3 of CPRA's Final Mitigation and Stewardship Plan). Implementation of specific measures contained in CPRA's mitigation plans, but not included in the Section 10/404 permit as special conditions, would not be required by USACE. USACE does not know whether any particular measure that is not a DA permit condition would be implemented.</p>

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244137, 244138	George Cavnag	<p>Section 20201 of Public Law 115-123 granted MBSD and two other diversion projects in Louisiana a waiver to the Marine Mammal Protection Act (16 USC 1361 et seq, as amended). However, this waiver, as worded, was granted pursuant to section 101(a)(3)(A) which solely directed a waiver to the "takings" portion of the Act.</p> <p>While operation of the MBSD is now authorized to eliminate approximately 97% of the bottlenose dolphin population in Barataria Basin (Thomas et al. 2022), our organization and our partners fully assert that the granted "takings" waiver in no way negates a proper environmental review of indirect and cumulative impacts of eliminating the top species in the basin. Coupled with the other species destruction cited in the EIS itself, these indirect and cumulative impacts will inarguably have food chain implications - possibly Gulf-wide given that Barataria is one of the largest producing estuaries in the world, not just the Gulf region.</p>	<p>As discussed in Section 3.11.3.1 of the Final EIS, dolphins are a top-level predator that feed on a wide variety of prey and BBES dolphin prey species (based on stomach contents) are listed in Table 3.11-3. As dolphins in the basin decrease, their primary prey could become more abundant as they would be subjected to less predation pressure. However, BBES dolphin prey would also be affected by diversion operation, either adversely or beneficially based on the changing habitat and nutrients in the basin (see Section 4.10.4.5.2). As discussed in Section 4.25.40.4.1.1, the cumulative effect of reasonably foreseeable projects is anticipated to benefit the basin-wide food web in general, as is the MBSD Project (see Section 4.10.4.4.2.8). In addition, CPRA has also indicated its intent to use numerical food web models coupled with biota sampling to inform adaptive management of the Project.</p> <p>Implementation of specific measures contained in CPRA's mitigation plans, but not included in the Section 10/404 permit as special conditions, would not be required by USACE. USACE does not know whether any particular measure that is not a DA permit condition would be implemented.</p>