RESTORE Council FPL 3 Proposal Document

General Information

Proposal Sponsor:
Mississippi Department of Environmental Quality

Title:
Coastal Nearshore Habitat Restoration and Development Program in Mississippi

Project Abstract:
Mississippi, through the Mississippi Department of Environmental Quality (MDEQ), is requesting $40M in Council-Selected Restoration Component funding for the proposed Coastal Nearshore Habitat Restoration and Development Program in Mississippi. This would include $8M in planning funds as FPL Category 1, as well as a separate $32M implementation component as an FPL Category 2 priority for potential funding. This program would support the primary RESTORE Comprehensive Plan goal to restore and conserve habitat through activities to create, restore, and enhance coastal habitat, including marsh, beach, and dunes through the dedicated sourcing of materials. Program activities include planning, engineering and design, and construction of habitat in the three coastal counties of Mississippi, and builds off work funded by the Initial FPL, as well as National Fish and Wildlife Foundation Gulf Ecosystem Benefit Fund projects. To accelerate habitat creation and restoration, MDEQ may utilize multiple methods for sourcing material for habitat construction.

Coastal nearshore habitats provide many important ecosystem services including acting as natural buffers to protect shorelines from erosion, storm surge protection, fisheries production, and water quality benefits through sediment and nutrient reduction. The creation of new coastal nearshore habitats and the restoration of these habitats would continue to support and increase these ecosystem services to coastal systems in Mississippi. Program duration is 10 years.

FPL Category: Cat1: Planning/ Cat2: Implementation

Activity Type: Program

Program: Beneficial Use of Dredge Material Program for Marsh Creation and Restoration in Mississippi

Co-sponsoring Agency(ies): N/A

Is this a construction project?:
Yes

RESTORE Act Priority Criteria:
(I) Projects that are projected to make the greatest contribution to restoring and protecting the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region, without regard to geographic location within the Gulf Coast region.
(II) Large-scale projects and programs that are projected to substantially contribute to restoring and protecting the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast ecosystem.
(III) Projects contained in existing Gulf Coast State comprehensive plans for the restoration and protection of natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region.

(IV) Projects that restore long-term resiliency of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands most impacted by the Deepwater Horizon oil spill.

Priority Criteria Justification:
Marsh creation and restoration using BU sediments and other dredging activities are ways to restore the ecological integrity of any coastal bay and estuary system. Marsh systems arguably provide the greatest contribution of ecosystem services (natural buffers, storm surge protection, improves fisheries production, faunal support, sequesters carbon etc.) to coastal systems. Marsh creation and restoration within the State of Mississippi and across the Gulf substantially enhance natural resources and coastal wetland ecosystems. Coastal and Marine Resources is a foundational program in the Mississippi Gulf Coast Restoration Plan (MDEQ, 2017). Several documents and organizations have highlighted the need and economic values in using BU including the Gulf of Mexico Alliance Habitat Conservation & Restoration Team (GOMA HCRT, 2009, 2010), earlier versions of the Gulf Regional Sediment Management Master Plan, the Final Master Plan for the Beneficial Use of Dredge Material for Coastal Mississippi, and Project Management Plan for Selected Beneficial Use Projects Along Coastal Mississippi (CH2Mhill, 2011a&b). By restoring existing marsh and creating new marsh in coastal waters, the State and other partners around the Gulf are enhancing the resilience of the system allowing it to continue to provide the ecosystem services listed above.

Project Duration (in years): 10

Goals

Primary Comprehensive Plan Goal:
Restore and Conserve Habitat

Primary Comprehensive Plan Objective:
Restore , Enhance, and Protect Habitats

Secondary Comprehensive Plan Objectives:
N/A

Secondary Comprehensive Plan Goals:
N/A

PF Restoration Technique(s):
Create, restore, and enhance coastal wetlands, islands, shorelines and headlands: Protect natural shorelines
Create, restore, and enhance coastal wetlands, islands, shorelines and headlands: Sediment placement

Location

Location:
Coastal waters of the State of Mississippi including the Mississippi Sound and Barrier Islands

HUC8 Watershed(s):
South Atlantic-Gulf Region(Pascagoula) - Pascagoula(Pascagoula)
South Atlantic-Gulf Region(Pascagoula) - Pascagoula(Escatawpa)
South Atlantic-Gulf Region(Pascagoula) - Pascagoula(Mississippi Coastal)
South Atlantic-Gulf Region(Pearl) - Pearl(Lower Pearl)

State(s):
Mississippi

County/Parish(es):
MS - Hancock
MS - Harrison
MS - Jackson

Congressional District(s):
MS - 4

Narratives

Introduction and Overview:
General Description of Activity:
The Coastal Nearshore Habitat Restoration and Development Program in Mississippi (Program) would support the restoration and protection of natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast Region by creating, restoring, and enhancing coastal habitat, including marsh, beach, and dunes through the dedicated sourcing of materials. To accomplish this, the Program would incorporate planning, engineering and design (E&D), and construction of habitat in the three coastal counties of Mississippi. This program builds off the planning, E&D, and permitting work funded within the Beneficial Use (BU) project under the Initial Funded Priority List (FPL) as well as National Fish and Wildlife Foundation Gulf Ecosystem Benefit Fund (NFWF-GEBF) projects. In order to accelerate habitat creation and restoration, MDEQ may utilize multiple methods for sourcing material for habitat construction (e.g. dedicated material sourcing from borrow sites, upland sites, beneficial use of dredge materials, etc.). In order to receive any materials for habitat creation and restoration, all applicable environmental permitting, testing, and compliance would need to be completed, including sediment testing.

Primary Goal and Objective:
The Program addresses the Gulf Coast Ecosystem Restoration Council Comprehensive Plan Goal #1: Restore and Conserve Habitat. The Program would restore and create habitat within Mississippi coastal waters, including priority bays and estuaries, and within the Mississippi Sound. The activity of the Program, restoring and creating coastal marsh habitats, is consistent with RESTORE Council's primary objective of Restore, Enhance, and Protect Habitats.

Commitments in 2016 Comprehensive Plan Update:
The following describes how this Program addresses the commitments set forth in the 2016 Comprehensive Plan Update:

- Regional ecosystem-based approach to restoration: There have been several documents on strategies (GOMA HCRT, 2009, 2010) to coastal restoration that highlight the beneficial use of dredged sediments as a priority investment to an ecologically and economically sustainable coastal habitat. The Gulf Coast Ecosystem Restoration Task Force (GCERTF, 2011) identified restoring and conserving nearshore habitats, with a focus on marshes as a major action across the Gulf, under one of the four main restoration goals.

- Leveraging resources and partnerships: The State of Mississippi has invested in BU of dredge materials for marsh restoration using NFWF-GEBF, RESTORE, and Natural Resource Damage Assessment (NRDA) funding. MDEQ would consider previous planning efforts and coordinate with ongoing BU marsh restoration activities during site identification and scope development for project implementation.

- Engagement, Inclusion, and Transparency: The State of Mississippi's prioritization of this Program is based on multiple public and stakeholder engagement activities; including the Annual Mississippi Restoration Summit and the Mississippi Coastal Restoration Plan (NFWF-GEBF). Throughout Mississippi's restoration public engagement and planning efforts, stakeholders have consistently identified the restoration and protection of marsh and critical habitats as a top priority (see Public Engagement, Outreach, and Education section).

- Science-based decision-making: Sustainable and effective coastal wetland enhancement is linked with sediment management in coastal ecosystems (Parson and Swafford, 2012; Parson et al., 2012; ERG, 2014). The use of BU of dredge materials is a viable conservation strategy for coastal wetland restoration (Cornwell et al., 2020; Guilfolye et al., 2020). There are multiple examples of studies around the United States where the use of sediment, dredge materials, and BU, has successfully been undertaken in coastal habitat restoration: Coos Bay, Oregon (Cornu and Sadro, 2002), thin-layer sediment application in North Carolina (Leonard et al., 2002) and Louisiana (Ford et al., 1999), beneficial use of dredge materials to supplement subsidence in diked marshes in California (Marcus, 2000), marsh creation in Louisiana (Edwards and Proffitt, 2003) and Texas (Minello and Rozas; Rozas and Minello, 2001)

- Delivering results and measuring impacts: The proposed Program would utilize project-level workplans that would adhere to site-specific milestones and monitoring success criteria. These would be documented in observational data management plans.

General Description of Environmental Benefits: Coastal marshes play a vital role in the ecological integrity of open shoreline habitats and are vital components of ecosystem health within a broader landscape context of coastal ecosystems (Wigand et al., 2017). They are keystone habitats within the coastal environment as they provide the base for a host of ecosystem services and benefits (Purcell et al, 2020). These ecosystem services include: serving as natural buffers to protect shorelines from eroding; storm surge protection (Gittman et al., 2014); fisheries production, water quality enhancement through sediment and nutrient reduction, faunal support, carbon sequestration, and providing habitat for a multitude of trophic levels within the ecosystem (Barbier et al., 2011; Mendelssohn et al., 2012). The creation of new marsh and the restoration of existing marsh in Mississippi's coastal system would continue to support and increase these ecosystem services in Mississippi.

Environmental Stressors being addressed: Between 1998 and 2004, wetland loss rates in the Gulf of Mexico were 25 times higher than anywhere in the U.S (Stedman and Dahl, 2008). In Mississippi, increased development over time (as well as storms and other impacts) has accelerated the rate of wetland loss. As a result of wetland loss, coastal services protecting the main land areas against soil

erosion, flooding, as well as providing refuge for many threatened and commercially important species are being lost (Chapman and Reed, 2006). Wetland losses can detrimentally impact coastal ecosystems through increases in the ecosystems' vulnerability to storm surge and flooding, changes in nutrient cycling, declines in net primary and secondary productivity, fluctuations in species composition, habitat loss for fisheries and wildlife, and loss of recreational, aesthetic, and ecosystem services. Mississippi is estimated to have lost 60 percent of its wetlands statewide over the last 200 years (Dahl, 1990; Chapman and Reed, 2006). Since 1950, 15 percent (9,000 acres) of the marsh south of Interstate 10 (I-10) has been lost (Schmid, 2001). Shoreline erosion in Mississippi's salt marsh systems is extensive. For example, shoreline erosion rates at Grand Bay have been recorded at more than 24 feet/year or 7 acres/year (Schmid, 2000). This rate of loss continues today and would be exacerbated by expected increases in sea-level rise. Rising sea level can have multiple impacts due to its potential to alter ecosystems (Craft et al., 2009) and threaten coastal communities (Woodrey et al., 2012) by increasing the potential for tidal flooding and enhanced storm surges. Sea level trends recorded at NOAA's Dauphin Island tide station show the mean sea level trend is approximately 3.50 mm/year based on monthly mean sea level data from 1966 to 2016 which is equivalent to a change of approximately 1.15 feet in 100 years (NOAA, 2013). Coastal wetland modification and degradation can reduce wetland function and impair natural hydrological functioning and biological integrity. Primary causes for wetland modification include increases in impervious surfaces in watersheds, agricultural practices, flood control structures (e.g., canals, ditches, levees), and industry. Although regulations and incentives have reduced wetland habitat loss since the 1970s, continued urban growth and other landscape alterations can leave wetlands open to hydrological and biological fluxes (Mitsch and Gosselink, 2000) that negatively impact ecosystem functioning including increased stormwater inflow, increased sedimentation and nutrient loading, and decreased species richness and abundance, including coastal bird species (DeLuca et al., 2008).

In addition to stresses on coastal habitat, species that utilize the coastal habitat mosaic have also endured impacts. Ecosystem ramifications resulting from bird injury following the Deepwater Horizon oil spill are well documented (Barron, 2012; Haney et al., 2014; Trustees, D.N., 2016 [PDARP]). Impaired performance or reduction in numbers had multiple effects on reproduction and trophic dynamics in the ecosystem. The Deepwater Horizon Oil Spill: Final Programmatic Damage Assessment and Restoration Plan/Programmatic Environmental Impact Statement (PDARP/PEIS) identified ninety-three bird species that were directly impacted by the oil spill. Mississippi's bird injury was extensive with thousands of birds impacted including several species of shorebirds (colonial and solitary nesters), wading birds, and marsh birds (Trustees, D.N., 2016 [PDARP]).

Total Cost: $40,000,000. Implementation is scalable.

Timeline: 10 years.

Partners: MDEQ's project identification and development efforts would include coordination with local entities to identify local dredging plans and priorities and coordination with relevant state and federal agencies (e.g., MDMR, USACE). Coordination would occur with MDMR BU program staff throughout the process and with USACE and other federal agencies (e.g., Department of the Interior, Bureau of Ocean and Energy Management), as needed, to discuss options/locations and availability of source materials, environmental compliance and other due diligence issues which may arise in the identification and assessment of project options.

Alignment with FPL3 Planning Framework: This Program aligns with the FPL3 Planning Framework priority approaches and techniques for Mississippi by addressing the approach Create, restore and enhance coastal wetlands, islands, shorelines, and headlands and the technique Sediment

placement. Additionally, the proposed Program builds off of previous investments from the NFWF GEBF, RESTORE Comprehensive Plan Component (Initial FPL) and Spill Impact Component (MSEP), and NRDA restoration projects.

Proposed Methods :

The proposed Program would include the following primary activities:

Program Management and Oversight

Program management and oversight would cover all activities associated with the Program. MDEQ personnel and its contractors would provide administrative programmatic functions and/or support during the life of the grant. MDEQ, with contractual support, would also manage the data associated with this Program in accordance with the procedures outlined in the Observational Data Plan and the Data Management Plan.

Permitting and E&D

Engineering, design, and permitting of the identified solutions would utilize and apply standard engineering practices for similar projects, including certified and stamped plans. Engineering and design services would provide the design for containment and habitat dimensions for identified sites. The number of engineering and design plans would depend on the availability of source material and sites selected for project implementation.

The appropriate state/federal agencies would be engaged for permitting requirements for containment structure and source material placement. Project design would take into consideration best management practices. Additional activities may include environmental compliance, testing of sediments, geotechnical investigations and other needs associated with site design.

Construction Implementation

Federal, state, and local groups undertake dredging activities constantly in the Gulf environment for navigation maintenance, infrastructure, and/or hydrological connectivity. Synergistically linking sediment management to the science of habitat creation helps to address coastal habitat loss through sustainable resource management (GCERTF, 2011; CH2M Hill, 2011a, b; ERG, 2014). In identifying sites and developing scopes of work for implementation, MDEQ will consider previous planning efforts. In 2011, the Final Master Plan for the Beneficial Use of Dredge Material for Coastal Mississippi (CH2M Hill, 2011a) provided an appendix of potential material sources for marsh creation projects including maintenance cycle timing, date of last dredge event, timing for next dredge event, typical quantities/current disposal, and types of dredge material. In 2015, the State of Mississippi initiated a planning project titled Utilization of Dredge Material for Marsh Restoration in Coastal Mississippi (NFWF-GEBF #45721) which revisited and updated the 2011 efforts. Construction implementation would be based on final plans and specifications developed during engineering, design and permitting. Construction implementation may include all potential activities associated with habitat construction and BU capacity development. Construction implementation may include, but is not limited to, containment construction, materials sourcing (e.g. dedicated material sourcing from borrow sites, upland sites, BU of dredge materials, etc.), transport of materials, pumping costs to sites, and marsh/beach/dune construction. Engineering and design and construction services would be procured consistent with applicable procurement standards.

Coastal Habitat Site Selection

Site selection for coastal habitat restoration and creation will consider ecological principles, as well as economic and implementation feasibility. MDEQ will support BU site locations and designs which maximize direct and indirect ecological benefits to the extent practicable based on individual project dynamics. MDEQ would assess factors such as availability of material, proximity to material

supply/dredging sites, material transport logistics, overall cost feasibility (e.g., cost estimates for containment, materials sourcing/transport, and construction), and permitting. The State of Mississippi has been investing in multiple coastal habitat restoration projects. Unlike other coastal restoration programs, the landscape for coastal nearshore habitat restoration at large scales is limited by geographic variables, regulatory compliance measures, as well as opportunities to build back coastal habitat in strategic locations. The State has undertaken two planning exercises that have identified several coastal habitat restoration locations through NFWF-GEBF and the Initial FPL BU project (MDEQ 2017). From a large scale perspective, several coastal habitat restoration sites have already been identified and prioritized within the Mississippi coastal landscape including the following: Deer Island (several ongoing coastal habitat restoration projects including Deer Island Marsh Restoration [DIMR] IV, United States Army Corps of Engineers (USACE) Lagoon, and the Mississippi Coastal Improvements Program [MsCIP] proposed expansion), Round Island, Greenwood Island, Cat Island, Pelican Key, Wolf River, Beardslee, and Graveline Bayou. Significant planning has occurred for each of these sites and they are in various phases of development (e.g., E&D, permitting, construction, land acquisition, etc.). The State of Mississippi will continue to develop all of these sites but will also be working with state and federal agencies to determine additional sites that would allow strategic coastal habitat restoration to take place.

Monitoring

See monitoring section.

Environmental Benefits:

As discussed previously, there are a number of drivers and stressors of coastal marsh impacts, including erosion, land conversion, and sea-level rise. All the stressors and drivers result in marsh loss at varying rates. Efforts to mitigate this loss include the creation and restoration of marsh through targeted placement of appropriate dredged sediment and the use of marsh protection and conservation techniques, such as the installation of living shorelines, and acquisition, protection, and management of upland habitats adjacent to coastal marsh habitats that can serve as habitat transition corridors. MDEQ is currently using all of these approaches under various restoration programs. For this proposed Program, MDEQ would re-establish habitats by implementing large-scale, multi-nearshore-habitat coastal restoration projects. The projects would support the following environmental benefits: benefits to a multitude of trophic levels within the ecosystem; provide several ecosystem services including shoreline protection, storm surge buffering (Broom et al., 2019), carbon sequestration (Drake et al., 2015); and enhance water quality by trapping and holding sediment and creating biogeochemical conditions for nutrient assimilation and transformation (Tobias and Neubauer, 2019).

Sustainable restoration and creation of coastal habitats is key when confronting threats from sea-level rise and tropical storms. The creation of multiple habitat types driven by topographic variation (Kim et al., 2010), distance to tidal streams, and other factors ensures habitat viability and resilience into the future. Integrated habitats from low marsh to uplands also provide benefit to multiple species with each vegetation zone comprised of distinctive macrophyte assemblages and the species that use them (Moffet et al., 2010).

New Round Island is a recent example of the environmental benefits that can be received from utilizing BU to create a large-scale, multi-nearshore-habitat site in the Mississippi Sound. MDEQ, in collaboration with the Port of Pascagoula, MDMR, NFWF, and USACE, benefited from a federal dredging opportunity to construct approximately 220 acres of coastal nearshore (marsh and sand beach) habitat near the existing Round Island in the Mississippi Sound. The configuration of the island provides bird habitat, shoreline protection, and storm surge buffering to the cities of Pascagoula and Gautier; and with its topographical range has the capability to support numerous

habitat types from low marsh to vegetated dunes. Since its creation in 2016, thousands of shorebirds and pelicans have used the habitat for nesting, loafing, and foraging. Notable examples include: the largest count of Western Sandpiper recorded in Mississippi (900); the largest count of brown pelicans recorded in Mississippi (2,200); the only colony of Sandwich Terns recorded in Mississippi since the 1960's (nest count of 2,724), and; the largest count on record in Mississippi of Wilson's Plover (27). Additional species that have nested on the site include Snowy Plover, American Oystercatcher, Least Tern, Caspian Tern, Gull-billed Tern, Royal Tern, Laughing Gull, and Black Skimmer. As the project site evolves and marsh vegetation colonizes in the interior sections of the island, it is expected that more bird guilds will utilize the habitat. New Round Island also provides ample opportunity to apply restoration approaches and techniques to refine habitats specific to species or groups of species (e.g., shorebird nesting habitat). Coastal habitats created under this proposed Program could have similar ecological and ecosystem service benefits as New Round Island.

Metrics:

Metric Title: PRM011 : Restoration planning/design/permitting - # E&D plans developed
Target: 2
Narrative: The number of E&D plans for habitat creation projects.

Metric Title: PRM013 : Restoration planning/design/permitting - # environmental compliance documents completed
Target: 2
Narrative: The number of permits/compliance documents for habitat creation projects.

Metric Title: HR013 : Wetland restoration - Acres restored
Target: 100
Narrative: The number of acres of coastal nearshore habitat systems created.

Risk and Uncertainties:

The amount, source, and timing for available materials is the largest uncertainty. Many ports and channels have maintenance dredging permits in which a certain amount of material is expected to be dredged to maintain access; however, the implementation and timing of maintenance dredging is contingent on a number of factors (e.g., budget availability). If availability of dredge material through the Program is limited or later than expected, there are alternatives available for sourcing sediments to establish sites. Alternatives to explore include stockpiled material sites and borrow sites for deriving materials. Timing of sediment availability, as well as the cost associated with alternative material options will be identified, vetted, and weighed against site characteristics to determine the best course of action moving forward for creating containment and habitat construction.

Additionally, there may be uncertainty about the suitability and quality of identified source materials which will be considered in planning, design and permitting. Based on the geology of the sediments, compaction and settlement may occur at respective sites. To mitigate this risk, engineers may design the habitat/marsh to a higher elevation to account for compaction and settlement. Environmental suitability of source materials will also be assessed. Sediments identified as a source will undergo any required environmental compliance sediment testing to ensure that the material is appropriate for use. If a sediment source is determined to be environmentally unsuitable, alternative material sources may be considered.

Sea-level rise and storm surge are two risks and uncertainties to project implementation performance. The threat of storms is a project risk for many coastal restoration projects. In the case

of marsh restoration, a containment and/or breakwater structure constructed will buffer storm damage to natural marsh but may be susceptible to damage. Engineering and design of containment will utilize best practices from similar projects and be based on best available science and factors such as wave and wind energies to minimize these risks as much as possible. Given the variability in sea level rise prediction as well as the anticipated immediate ecosystem service benefits of the implementation of coastal marsh restoration, sea-level rise considerations may be evaluated. (Hummel et al., 2018) summarized a national assessment of coastal facilities at risk for sea level rise. Mississippi was classified as low risk, with low exposure across a sea level rise gradient from 1ft to 6ft.

Monitoring and Adaptive Management:

Monitoring activities would occur at the program level for each individual workplan implemented. The core components of determining whether coastal habitat restoration and creation was successful include dimension (e.g., marsh elevation and spatial extent) and vegetation density (e.g., abundance and species composition). Monitoring of coastal habitat restoration sites is anticipated to follow established monitoring guidance, including potentially utilizing established reference sites as baseline/reference conditions for this Program in the Mississippi coastal landscape. MDEQ may consider applicable monitoring information from the NRDA Cross Trustee Implementation Group (TIG) Monitoring and Adaptive Management (MAM) and the Council Monitoring and Assessment Program. Each project's observational data plan and data management plan would document the timing of monitoring activities, frequency of data collection, and the duration of the monitoring component.

Data Management:

MDEQ would store and manage an ISO-compliant relational database and geospatial database on a server that utilizes the Amazon Web Services cloud-based server environment. In addition to the network and server administration provided by Amazon Web Services, MDEQ manages the server, operating system, software and services. GIS information is backed up in three locations. The data is included in server snapshots performed by and stored at Amazon Web Services. Duplicate datasets are also located on a secure, cloud-based system. This system includes separate cloud backup and storage on two separate network attached storage arrays located in Gulfport and Jackson, Mississippi. Finally, copies of the data are stored on an internal server. All electronic data and metadata would be delivered to the RESTORE Council on a yearly basis for review and approval.

Collaboration:

MDEQ's project identification and development process would include collaboration with the MDMR BU program staff and with the USACE to better understand dredging schedules, source material options, and availability. Future efforts would also include coordination with local units of government to identify local dredging plans and priorities and coordination with relevant state and federal agencies (e.g., MDMR, USACE). MDEQ would engage with cities, counties and other local entities to understand dredging needs, schedules, quantities, and BU site capacity needs, as well engage other federal agencies (e.g., Department of the Interior, Bureau of Ocean and Energy Management) as needed to discuss source material options (e.g., dedicated material sourcing from borrow sites, upland sites, beneficial use of dredge materials, etc.) and availability, environmental compliance and other due diligence issues which may arise in the identification and assessment of project options.

Public Engagement, Outreach, and Education:

The State of Mississippi's prioritization of the Program is based on multiple public and stakeholder engagement activities. Throughout Mississippi's restoration public engagement and planning efforts, stakeholders have consistently identified the restoration and protection of marsh and critical

habitats as a top priority. The following are examples of public engagement, outreach and education activities which were considered in the selection of this proposal:

Annual Mississippi Restoration Summit: MDEQ has hosted the Mississippi Restoration Summit annually for four consecutive years. The public is invited to learn about restoration projects and programs and to provide input on current and future priorities for restoration. The priority of marsh restoration and protection through the beneficial use of dredge material has been highlighted each year. Based on the input received at the annual summits, investing in coastal habitat restoration and protection continues to be a top priority of stakeholders.

Mississippi Coastal Restoration Plan (NFWF-GEBF): In 2014, MDEQ undertook a multi-year planning effort to develop a comprehensive plan to support NFWF-GEBF restoration program activities in Mississippi. Development of the Mississippi Coastal Restoration Plan included extensive engagement with the public, NGO's/subject matter experts and state and federal agencies. MDEQ's community engagement activities included community conversation and resource summits held in each of the three coastal counties. The community conversation meetings had more than 200 participants, representing 125 organizations, across the three coastal county locations. The priority of habitat conservation and restoration, including utilization of beneficial use of sediments, was a top common value voiced across all three coastal counties.

RESTORE Act Mississippi State Expenditure Plan: Since 2016, MDEQ has solicited stakeholder input to support planning and development of the Mississippi State Expenditure Plan (MSEP). Engagement with a wide range of stakeholders, including private citizens, non-governmental organizations, business owners, elected officials, and other community leaders, has informed the priorities for restoration. In 2019 MSEP planning and development, MDEQ received input from stakeholders that projects which support community resiliency be prioritized.

Leveraging:

Funds: $44,000,000.00
Type: Bldg on Others
Status: Committed
Source Type: Other
Description: These funds are obligated for marsh creation through two projects (Utilization of Dredge Material For Marsh Restoration in Coastal Mississippi Phase I+II). MDEQ has worked with state and federal partners to identify priority sites for marsh creation and has invested in planning, engineering and design, and permitting for sites, as well as construction funding for containment.

Funds: $2,200,000.00
Type: Bldg on Others
Status: Received
Source Type: Other Federal
Description: The Enhancing Opportunities for Beneficial Use (BU) of Dredge Sediments in the Mississippi Sound (Planning) project provides funding for planning, engineering and design, and permitting for BU sites.

Funds: $13,000,000.00
Type: Bldg on Others
Status: Received
Source Type: Other

Description: 46 acres of marsh would be created and restored in Heron Bay through the Hancock County Marsh Living Shoreline Early Restoration project.

Environmental Compliance:

Environmental compliance documentation will be updated. Similar to project specific implementation information, environmental compliance checklists and required environmental compliance information will be provided on individual projects as identified. All specific environmental compliance needs will be identified during project identification and development activities.

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Budget

Project Budget Narrative:

A total of $40,000,000 is being requested from FPL 3b to fund activities associated with the Program. The funds being requested are solely intended to be used for the planning, implementation, and monitoring associated with the Program. An estimated 20% will be used for FPL Category 1 activities such as project planning (e.g., project selection and development), program and project administration (e.g., administrative programmatic functions, coordination, and sub-recipient / contractual support for project implementation), engineering and design, permitting, monitoring, adaptive management and data management activities. An estimated 80% will be for FPL Category 2 implementation (i.e., construction) activities associated with the Program. The need for contingency costs will be considered as appropriate when developing individual project-specific budgets.

Total FPL 3 Project/Program Budget Request:

$ 40,000,000.00

Estimated Percent Monitoring and Adaptive Management: 10 %
Estimated Percent Planning: 8 %
Estimated Percent Implementation: 80 %
Estimated Percent Project Management: N/A
Estimated Percent Data Management: 2 %
Estimated Percent Contingency: N/A

Is the Project Scalable?:

Yes

If yes, provide a short description regarding scalability.:

The extent of implementation of BU is scalable to a point. If construction funding is necessary to complete a containment or a filling project, that specific construction effort may not be scalable based on engineering and design.

Environmental Compliance[1]

Environmental Requirement	Has the Requirement Been Addressed?	Compliance Notes (e.g.,title and date of document, permit number, weblink etc.)
National Environmental Policy Act	Yes	In Category 1, this proposed activity involves only planning actions. These planning actions are covered by the Council's NEPA Categorical Exclusion for planning, research or design activities (Section 4(d)(3) of the Council's NEPA Procedures). Additional NEPA compliance will be required for Category 2 efforts.
Endangered Species Act	N/A	Note not provided.
National Historic Preservation Act	N/A	Note not provided.
Magnuson-Stevens Act	N/A	Note not provided.
Fish and Wildlife Conservation Act	N/A	Note not provided.
Coastal Zone Management Act	N/A	Note not provided.
Coastal Barrier Resources Act	N/A	Note not provided.
Farmland Protection Policy Act	N/A	Note not provided.
Clean Water Act (Section 404)	N/A	Note not provided.
River and Harbors Act (Section 10)	N/A	Note not provided.
Marine Protection, Research and Sanctuaries Act	N/A	Note not provided.
Marine Mammal Protection Act	N/A	Note not provided.
National Marine Sanctuaries Act	N/A	Note not provided.
Migratory Bird Treaty Act	N/A	Note not provided.
Bald and Golden Eagle Protection Act	N/A	Note not provided.
Clean Air Act	N/A	Note not provided.
Other Applicable Environmental Compliance Laws or Regulations	N/A	Note not provided.

[1] Environmental Compliance document uploads available by request (restorecouncil@restorethegulf.gov).

Maps, Charts, Figures

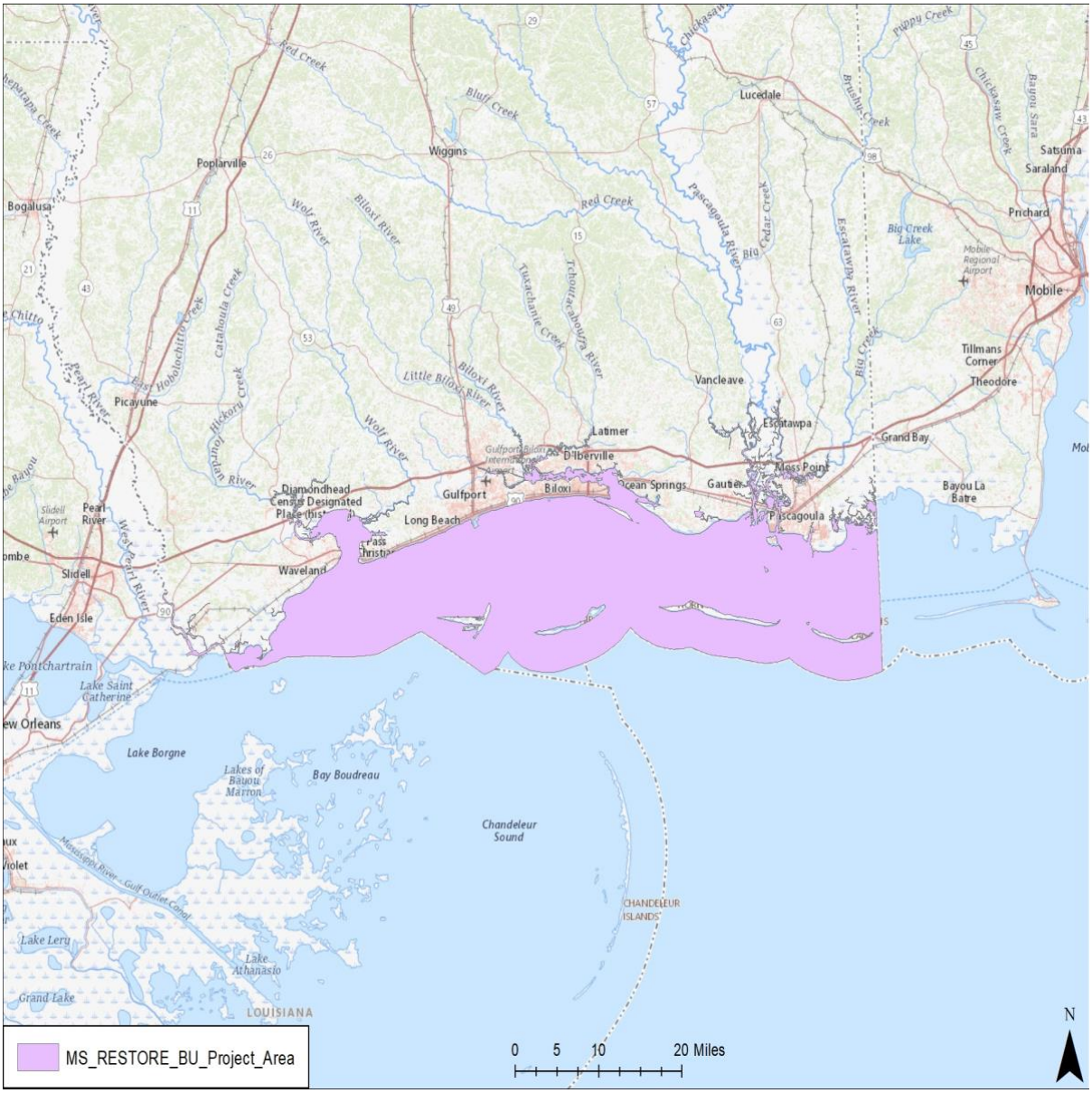

Figure 1. Map of Project area.