ALABAMA STATE EXPENDITURE PLAN (SEP)

Project #13: Longevity, Stability & Water Quality Improvements, Bon Secour DMDA

Project Description/Summary

a) This project proposes to design and construct a structurally sound weir at the Bon Secour Dredge Material Disposal Area (DMDA). The primary purpose of a DMDA is to ensure there are no downstream effects on wetlands or water quality. As dredge material is placed into the DMDA, the sediment settles to the bottom and an outlet structure releases clean water back into the watershed. The US Army Corp of Engineers (USACE) routinely performs dredging operations of the Bon Secour River, and Baldwin County provides usage of the DMDA. The Bon Secour DMDA has been in use since the late 1980s, and the outlet structure at the site is significantly eroded.

Under USACE guidelines, DMDA's are designed to filter water from dredged material in a manner which is environmentally acceptable under National Environmental Policy Act (NEPA). Weir structures serve to control the containment and release of waters inside the DMDA until they meet regulatory standards. Given the water quality factors associated with the function of a permitted and professionally constructed DMDA and a DMDA's weir structure, wetland environs downstream of the DMDA are protected through the proper functioning of the DMDA system. Wetland benefits occur through managed, controlled release of water which meets environmental standards and provides clean water to healthy wetland ecosystems in the downstream watershed; rather than uncontrolled sediment-filled waters which could potentially settle out in downstream wetlands in a non-natural, ecosystem-damaging manner.

Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

Need: This submittal seeks funding to replace an aging and structurally failing weir at the Dredge Material Disposal Area (DMDA) used by the US Army Corps of Engineers (USACE) to dispose of sediment materials dredged from the Bon Secour River on a regular basis to maintain navigability and support the economy of the region. At this DMDA, if the existing weir structure fails, the uncontrolled release of water would include massive amounts of sediments and thereby significantly impact water quality in the Bon Secour watershed and downstream wetlands. In its current state, the site is releasing approximately 143 cubic yards (418,918 lbs) of sediment annually; however, should there be a catastrophic event, the site could release up to 740,473 cubic yards (2,169,215,653 lbs.). Visual examination by professional engineers observe significant corrosion of the existing weir, and that inflow to the weir does not match outflow, indicating possible internal leakage, potentially creating conditions towards future catastrophic failure which will endanger downstream wetlands and water quality, as well as nearby properties.

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Purpose: The purpose of this project is to protect the water quality in the Bon Secour watershed and in wetlands downstream of an active U.S. Army Corps of Engineers permitted Dredged Material Containment Area (DMDA) by replacing a significantly corroded weir structure which, if not replaced, could potentially fail. Such failure would immediately damage adjacent wetlands and private properties through an uncontrolled release of currently contained dredged sediments from the nearby Bon Secour River. After failure, continued damage could occur for an extended period of time through the ongoing uncontrolled release of sediments from the DMDA. The replacement of this failing weir structure will extend the life of the DMDA and assure the controlled release of NEPA-acceptable water into Bon Secour watershed for 35+ years.

Objectives: The primary objective of this project is to:

- Complete engineering and design;
- Improve the DMDA's water quality management performance by replacing an aging and failing weir structure; and
- Evaluate and restore existing berm system.

b) This activity is located in the Gulf Coast region and will be carried out in Baldwin County, Alabama.

c) This project is anticipated to begin on 7/1/19 and end 12/31/2020 (18 months).

d) This project will be implemented by Baldwin County.

b) Replacing the aged outlet structure will ensure the DMDA continues to release clean water to the neighboring watershed and avoids the potential of major water quality issues in the event of failure. Improved water quality leads to enhanced ecosystem health and recreational opportunities resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 – Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; and Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems.

Major Milestones

a) Milestone 1: Engineering and design

b) Milestone 2: Construction contract awarded

c) Milestone 3: Construction complete

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Bon Secour DMDA project will be:

- Rehabilitation of aged and deteriorated outlet structure at the DMDA

Table 14. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Design and implementation of the Bon Secour DMDA rehabilitation project	Completed plans for engineering and design Construction of berm wall & weir structure Develop monitoring plan to assess water quality improvements	Sediment prevented from entering the Bon Secour watershed	Improved water quality and protected wetlands downstream Enhance tourism opportunities with healthy watershed

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

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Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews during construction

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

The DMDA outlet structure will be designed and constructed in accordance with engineering best practices acceptable for similar structures and in common use by the Army Corp of Engineers.

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, located on the MBNEP website and the Bon Secour Watershed Management Plan, also available on the MBNEP website.

Finding of No Significant Impact, Section 404(b)(1) Evaluation, and Environmental Assessment for Proposed Maintenance and Disposal of Dredged Material for the Bon Secour River Navigation Project - 2013; 12/5/2017. The FONSI is located on the USACE website.

Final EA FONSI 404(b)1 Bon Secour AL, 2013. This document is available on the USACE website.

"Draft Environmental Assessment. Proposed Maintenance and Disposal of Dredged Material for the Bon Secour River," 2013. The EA is located on the USACE website.

"Dredging and Dredge Material Management," USACE, 2015. The Dredging and Dredged Material Management manual is available on the USACE website.

"Confined Disposal Facility Improved Weir Design," C.K. Maglio P.E., USACE, B.M. Scully, USACE; 2016. This document is available from the Utah State University website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $350,966 (20-30% - Planning, 80-70% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time

Partnerships/Collaboration (if applicable) Not applicable at this time.

Leveraged Resources (if applicable) Not applicable at this time.

Funds Used As Non-Federal Match (if applicable) Not applicable at this time.

Other

Not applicable at this time.

Figure 13. The Longevity, Stability & Water Quality Improvements, Bon Secour DMDA project will be implemented in Baldwin County, Alabama.