Priority & Commitment To Plan Evaluation

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

Biloxi Marsh Living Shoreline

PROPORAL NUMBER

LA-3

LOCATION

St. Bernard Parish, Louisiana

SPONSOR(S)

Louisiana

TYPE OF FUNDING REQUESTED (Planning, Technical Assistance, Implementation)

Planning

REVIEWED BY:

Alyssa Dausman

DATE:

01/29/2015

A. Comprehensive Plan Goals

Of the goals addressed by the proposal, which is the single primary goal?
Proposals should discuss how the proposed activity is designed to address the primary goal.
Check one:

- (●) Restore and Conserve Habitat – Restore and conserve the health, diversity and resilience of key coastal, estuarine and marine habitats.
- ( ) Restore Water Quality – Restore and protect water quality of the Gulf Coast region's fresh, estuarine and marine waters.
- ( ) Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse and sustainable living coastal and marine resources.
- ( ) Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes.
- ( ) Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

Notes:

As indicated in the proposal, Biloxi Marsh Living Shoreline project is a project for Louisiana and the Gulf of Mexico area as it is would protect, enhance, and restore the Biloxi Marshes. These marshes function as an important storm buffer for the city of New Orleans, an important cultural and economic center for the Gulf region, and will provide habitat as well as a variety of ecosystem services.

As indicated in the proposal, the Biloxi Marshes consist of approximately 49,000 hectares of brackish and salt marshes,

B. Comprehensive Plan Objectives

Proposals must clearly identify which objectives the proposal will address

1. Restore, Enhance, and Protect Habitats

(●) YES ( ) NO ( ) Not articulated ( ) N/A

2. Restore, Improve, and Protect Water Resources

(●) YES ( ) NO ( ) Not articulated ( ) N/A

3. Protect and Restore Living Coastal and Marine Resources

(●) YES ( ) NO ( ) Not articulated ( ) N/A

4. Restore and Enhance Natural Processes and Shorelines

(●) YES ( ) NO ( ) Not articulated ( ) N/A

Notes:

As indicated in the proposal, bioengineered oyster reefs, which are man-made structures designed to promote the formation of marsh-fringing oyster reefs, have been implemented in many locations in Louisiana (Furlong 2012; La Peyre et al. 2013). Of those that have been adequately monitored, these types of projects have shown that they can significantly reduce shoreline recession and support good oyster recruitment and survival, such that the reefs created may be self-sustaining (Piazza et al. 2005; Melancon et al. 2013).

In addition to the aforementioned protection features, eastern oysters are a key species in Louisiana's coastal ecosystem

8. Of these objectives which is the single primary objective the proposal addresses?

Check one:

- (●) Restore, Enhance, and Protect Habitats
- ( ) Restore, Improve, and Protect Water Resources
- ( ) Protect and Restore Living Coastal and Marine Resources
- ( ) Restore and Enhance Natural Processes and Shorelines
- ( ) Promote Community Resilience
- ( ) Promote Natural Resource Stewardship and Environmental Education
- ( ) Improve Science-Based Decision-Making Processes

C. RESTORE Act and Comprehensive Plan Priority Criteria

All proposals must explain if the proposal addresses one or more of the priority criteria as established by the RESTORE Act and Initial Comprehensive Plan and, if so, how.

1. This project is 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.

(●) YES ( ) NO ( ) Not articulated ( ) N/A

2. This is a large-scale project/program that is 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.

(●) YES ( ) NO ( ) Not articulated ( ) N/A

3. This project is 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.

(●) YES ( ) NO

4. This project will 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.

(●) YES ( ) NO

5. Promote Community Resilience

(●) YES ( ) NO ( ) Not articulated ( ) N/A

6. Promote Natural Resource Stewardship and Environmental Education

(●) YES ( ) NO ( ) Not articulated ( ) N/A

Notes:

As discussed on page 2 of the submission proposal, the Biloxi Marsh Living Shoreline project is an important project for Louisiana and the Gulf of Mexico area as it is would protect, enhance, and restore the Biloxi Marshes. These marshes function as a storm buffer for the city of New Orleans, a cultural and economic center for the Gulf region, and provide habitat as well as a variety of ecosystem services. Additionally, as indicated on page 9 of the proposal submission, the goals of the Biloxi Marsh Living Shoreline project are to reduce shoreline recession and enhance local oyster production through the implementation of marsh-fringing, bioengineered oyster reefs.

D. Comprehensive Plan Commitments

All proposals must demonstrate how the proposal will achieve any or all of the commitments in the Comprehensive Plan. The commitments in the Comprehensive Plan are as follows:

Does the proposal articulate how it will achieve the following commitments in the comprehensive plan?

1. Science-based Decision-Making

(●) YES ( ) NO ( ) Not articulated

Notes:

As discussed on pages 4-8 of the submission, CPRA is committed to science-based decision making. This process is set forth in the below paragraphs (especially D.2, D.4 and F.2) and provides information on the science-based decision making process that CPRA used to develop the 2012 Coastal Master Plan, which includes the Biloxi Marsh Living Shoreline project. CPRA is able to apply an integrated suite of Predictive Models and Planning Tool, a science-based decision support system developed for the Master Plan, to work towards achieving the RESTORE objectives of habitat protection and restoration.

2. Regional Ecosystem-based Approach to Restoration

(●) YES ( ) NO ( ) Not articulated

Notes:

As outlined in pages 15 and 16 of the proposal submission, the Biloxi Marsh Living Shoreline Project will control shoreline erosion and thus protect and preserve valuable marsh habitats in the Biloxi Marsh area. These marshes are critical habitat for a wide range of commercially- and recreationally-important fish and wildlife species, including shrimp, crab, finfishes, alligator, ducks, and furbearing mammals. The importance of these marshes is underscored by incorporation of a large area (approximately 14,400 hectares) into the Biloxi Wildlife Management Area. The Wildlife Management Area and surrounding wetlands are popular locations for hunting, fishing, and bird and wildlife watching; activities which are

3. Engagement, Inclusion, and Transparency

(●) YES ( ) NO ( ) Not articulated

Notes:

As indicated on pages 14 and 15 of the proposal, CPRA established a strategic outreach and engagement framework for the Coastal Master Plan that helped to guide communications and interactions with diverse audiences throughout the planning process. These audiences include key citizen groups and organizations, non-governmental organizations, local and State officials, business groups and the general public. CPRA's outreach and engagement framework provides a variety of ways for stakeholders and citizens to learn about and participate in the master planning process, including small group gatherings, web offerings, direct communication with local and State government, and through monthly public

4. Leveraging Resources and Partnerships

◉ YES ◯ NO ◯ Not articulated

Notes:

As discussed on page 15 of the proposal submission, CPRA has a variety of resources and partnerships with which it is able to leverage for the benefit of this project. Through the Coastal Master Plan, from which the concept of the Biloxi Marsh Living Shoreline project was drawn, CPRA is able to apply the integrated suite of Predictive Models and Planning Tool, a science-based decision support system developed for the Master Plan, to work towards the RESTORE objectives of habitat protection and restoration. The System-wide Assessment and Monitoring Program (SWAMP) will bring the previously described CRMS-Wetlands, BICM, and LASARD monitoring and assessment programs together into one framework in an effort to avoid duplication, improve efficiency, and provide the data needed to perform programmatic performance assessments.

5. Delivering Results and Measuring Impacts

◉ YES ◯ NO

Notes:

As discussed on page 12 of the proposal submission, the Biloxi Marsh Living Shoreline project will be deemed successful if monitoring shows that it reduces shoreline recession and supports oyster recruitment and survival such that the reefs are self-sustaining. At the project-scale, performance measures will track the progress towards meeting management goals and objectives. When monitored over time, performance measures can help reduce uncertainty surrounding predictive models and inform whether intended results are being achieved or if additional actions are needed to fulfill program expectations. In addition, performance measures can also be used to inform the public of the system's response

E. Meeting Commitments and Tracking and Measuring Progress

1. Does the proposal articulate how it will meet and achieve its commitments?

◉ YES ◯ NO ◯ Not articulated

2. Does the proposal have a plan for tracking and measuring progress?

◉ YES ◯ NO

Notes:

Please see notes in Section D.

F. Proposal Emphasis Areas

Does the submission describe how the proposed project or program addresses the following four considerations:

1. Is the proposed activity **foundational** in the sense that the project or program forms an initial core step (or steps) in addressing a significant ecosystem issue, and can future activities be tiered to substantially increase the benefits?

(●) YES ( ) NO ( ) Not articulated

Notes:

As discussed on page 9 of the proposal submission, the goals of the Biloxi Marsh Living Shoreline project lay out how the project is foundational in nature. The goals of the Biloxi Marsh Living Shoreline project are to reduce shoreline recession and enhance local oyster production through the implementation of marsh-fringing, bioengineered oyster reefs. The Biloxi Marshes consist of approximately 49,000 hectares of brackish and salt marshes that have been greatly impacted by shoreline erosion from wind-driven waves, with shoreline retreat rates ranging from 1 to 4 meters per year (CPRA unpublished data). These marshes represent an important storm buffer to the city of New Orleans, and are also

2. Will the proposed activity be **sustainable** over time?

(●) YES ( ) NO ( ) Not articulated

Notes:

As discussed on pages 8 and 9 of the proposal submission, in addition to the aforementioned ecosystem services, oyster reefs help protect marsh habitats by reducing shoreline recession. Oyster reefs frequently occur just offshore of the marsh edge, and their vertical structure serves to attenuate wave energies and reduce water velocities resulting in reduced erosion as well as increased sediment deposition behind the reef, both of which act to stabilize the shoreline (Campbell 2004; Piazza et al. 2005). However, many marsh-fringing, vertical oyster reefs have been lost due to saltwater intrusion, disease, and overharvest, and there has been a concomitant loss in shoreline erosion control (Stone et al.

3. Is the proposed activity **likely to succeed**?

(●) YES ( ) NO ( ) Not articulated

Notes:

The proposal submission touches on two points that, when combined, address the likelihood of success for the Biloxi Marsh Living Shoreline project. First, the predictive modeling and planning tool outlined in pages 6 through 8 lay out the modeling and planning achieved on the front end for the project proposal. Additionally, pages 10 through 12 of the proposal submission align with this previous discussion of predictive modeling and the planning tool by showing that monitoring and adaptive management process projects into a how the success of this project will be measured.

The modeling in combination with adaptive management address project uncertainties and measurement of project

4. Does the proposed activity **benefit** the human **community**?
(examples of benefits may include, but are not limited to: how a project will utilize local workers, how a project will benefit geographically or socially vulnerable communities, how a project will benefit the natural resources critical to natural-resource dependent industries such as fisheries, tourism, etc.)

- (●) YES
- ( ) NO
- ( ) Not articulated

Notes:

As discussed on pages 15 through 17 of the proposal, the Biloxi Marsh Living Shoreline Project will control shoreline erosion and thus protect and preserve valuable marsh habitats in the Biloxi Marsh area. These marshes are critical habitat for a wide range of commercially- and recreationally-important fish and wildlife species, including shrimp, crab, finfishes, alligator, ducks, and furbearing mammals. The importance of these marshes is underscored by incorporation of a large area (approximately 14,400 hectares) into the Biloxi Wildlife Management Area. The Wildlife Management Area and surrounding wetlands are popular locations for hunting, fishing, and bird and wildlife watching; activities which are critically important to the region's economy. Southwick and Associates (2008) found that hunting, fishing, boating, and