Priority & Commitment To Plan Evaluation

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

Coastal Ecosystem Restoration and Enhancement in the Barataria Terrebonne Basin

PROPORAL NUMBER

USDA-5

LOCATION

Barataria Terrebonne National Estuary

SPONSOR(S)

Department of Agriculture

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

Technical Assistance/Implementation

REVIEWED BY:

Ebonye T. Allen

DATE:

12 February 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 stated in the proposal, this coastal ecosystem enhancement project aims to create an ecosystem scale model for Gulf Coast restoration priorities. The primary goal is to protect and restore water quality while conserving critical habitat in the estuary system. The ultimate objective of restoring, protecting, and improving water resources and associated habitat value will be achieved by reducing the nutrient loading into impaired watersheds by: (1) redirecting agricultural runoff (from soybean and sugarcane fields) through impounded and natural wetlands; (2) rerouting stormwater through wetlands to reduce pollution in local receiving water bodies (water bodies with established TMDLs); and (3) through coastal restoration and the implementation of native plantings and invasive species removal in marginal lands and impoundments to improve migratory

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:

Please see notes in Section A.

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 indicated in the proposal, this project would identify working land tracts, within targeted focal areas of the estuary to implement a comprehensive conservation system on working lands. Project sites would be ranked and selected in hydrological sensitive areas that would target conservation practice investment. RESTORE funding would be used in conjunction with USDA-NRCS program dollars to maximize conservation benefit within the estuary. The Environmental Quality Incentives Program (EQIP) promotes agricultural production, forest management, and environmental quality as compatible goals, and optimizes environmental benefits. Through EQIP, the NRCS provides assistance to eligible farmers to address soil, water, and air quality, wildlife habitat, surface and groundwater conservation, and related natural resource

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 stated in the proposal, this coastal ecosystem enhancement project aims to create an ecosystem scale model for Gulf Coast restoration priorities. The primary goal is to protect and restore water quality while conserving critical habitat in the estuary system. The ultimate objective of restoring, protecting, and improving water resources and associated habitat value will be achieved by reducing the nutrient loading into impaired watersheds by (1) redirecting agricultural runoff (from soybean and sugarcane fields) through impounded and natural wetlands; (2) rerouting stormwater through wetlands to reduce pollution in local receiving water bodies (water bodies with established TMDLs); and (3) through coastal restoration and the implementation of native plantings and invasive species removal in marginal lands and impoundments to improve migratory

2. Regional Ecosystem-based Approach to Restoration

(●) YES ( ) NO ( ) Not articulated

Notes:

As stated in the proposal, the Barataria-Terrebonne watershed includes 4.2 million acres of land between the Mississippi and Atchafalaya Rivers extending from the Gulf of Mexico north to the old river control structure. Recognized as a resource of national significance, the Barataria-Terrebonne Estuary (BTE) system plays a vital role in fisheries, agriculture, transportation, and energy, therefore restoring this area supports regional ecosystem restoration. However, due to both natural and human-induced causes, land loss in the estuary is occurring at an alarming rate, habitat is being destroyed, water and sediment are being contaminated by toxic substances and organic materials, life cycles of animals are being disrupted, and the cultural heritage of residents is in jeopardy.

3. Engagement, Inclusion, and Transparency

(●) YES ( ) NO ( ) Not articulated

Notes:

As stated in the proposal, verified and documented forms of all appropriate data and metadata will be prepared and placed in a publicly accessible data archive or library following National Science Foundation (NSF) data archiving policies. Possible data storage locations include the Consultative Group on International Agriculture Research (CGIAR), the Oak Ridge National Laboratory -Distributed Active Archive Center (ORNL-DAAC), Ecological Archives, NatureServe, and Dryad, among others. In addition, information on experimental design and methodological procedures will be available to the general public upon request.
Each individual conservation system and land treatment will undergo an Environmental Evaluation using the NRCS-CPA-52

4. Leveraging Resources and Partnerships

(●) YES ( ) NO ( ) Not articulated

Notes:

As stated in the proposal, this project will be carried out through a partnership between the USDA-Natural Resource Conservation Service (NRCS), Barataria Terrebonne National Estuary Program (BTNEP), Bayou Land Resource Conservation and Development (RC&D) Council, Louisiana Department of Agriculture and Forestry (LDAF) Office of Soil and Water Conservation, local Soil and Water Conservation Districts (SWCDs), and Nicholls State University. Project objectives will be accomplished through partnerships with other public and private landowners, businesses, and organizations as necessary. Project success will be measured throughout the course of this five-year project by implementing a performance based, task-driven monitoring program.

5. Delivering Results and Measuring Impacts

(●) YES ( ) NO

Notes:

As stated in the proposal, the success of this project will be identified at multiple scales. In year one of the project, measurable success will be determined as the number of landowners engaged and committed to implementing in-field and edge-of-field conservation practices and agricultural runoff rerouting. As runoff is managed, nutrient reductions would be measured through analysis of data collected both in receiving wetlands and compared with on-going water quality data collected from local receiving water bodies where nutrient removal may be detectable. The project team would track changes in nutrients in receiving wetlands for two years post implementation. Throughout the project time-frame, habitat restoration and

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:

As stated in the proposal, Drs. Sean Graham, Aaron Pierce, and Balaji Ramachandran of Nicholls State University would provide technical advice for site selection and experimental design. Drs. Graham, Pierce, Ramachandran, and their students will work with other project team members to design and implement baseline monitoring. In project year two, pre-implementation sampling will begin once contracts are in place with landowners and reference/implementation sites are selected. In project years four and five, the Nicholls State University team will monitor post-implementation of agricultural runoff rerouting by tracking changes over time within application sites and comparing these sites to an appropriate reference site.

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 stated in the proposal, numerous studies have investigated the function of wetlands in the removal of pollutants, including nutrients [See Reference List that starts on page 26, #'s10-13]. Both human-made and natural wetlands function to buffer downstream water quality by storing and transforming nutrients [See Reference List that starts on page 26, #14]. In addition to reducing water pollution in estuaries, coastal wetlands provide a wide range of valuable ecosystem services, including habitat support of fish and wildlife, countless recreation opportunities, nutrient assimilation, carbon sequestration, and erosion control, in addition to providing storm surge protection for coastal communities [See Reference List that starts on page 26, #'s 15-20].

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

(●) YES ( ) NO ( ) Not articulated

Notes:

As stated in the proposal, the actions include (1) redirecting agricultural runoff (from soybean and sugarcane fields) through impounded and natural wetlands; (2) rerouting stormwater through wetlands to reduce pollution in local receiving water bodies (water bodies with established TMDLs); and (3) coastal restoration and implementation of native plantings and invasive species removal in marginal lands and impoundments to improve migratory bird habitat. In doing so, this project can restore and sustain key habitat functions important for coastal water birds, shorebirds, and commercial and recreational fisheries by reconnecting natural flow regimes from agricultural land and coastal communities to degrading wetlands.

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

(●) YES ( ) NO ( ) Not articulated

Notes:

See Notes in Section F.2. In addition, as stated in the proposal, project implementation is projected to contribute to restoring and protecting the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region. This project contributes to the comprehensive restoration of one of Louisiana's priority watersheds, as identified in the 2012 Nonpoint Source (NPS) Management Plan as well as achieving objectives identified by the BTNEP Management Committee's Comprehensive Conservation & Management Plan. USDA and its partners have a long history of success in the implementation of similar projects and practices through the use of science based practices carried out at the local level. Successful approaches utilized in the past will be utilized here to ensure the successful implementation of the

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 stated in the proposal, Nicholls University will support two graduate students and three undergraduate student workers or four years, potentially enhancing the educational opportunities of up to 10 students total.

As indicated in the proposal, Barataria-Terrebonne Estuary (BTE) is a dynamic working system that supports the people of southeast Louisiana, the nation's oil and gas infrastructure, as well as a diversity of flora and fauna. Restoration of this area should benefit these geographically and socially vulnerable communities as well as benefit the natural resources critical to natural-resource dependent industries. Finally, the project will be conducted utilizing a locally available work force as