Science Evaluation

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

Pensacola Bay Watershed Restoration

LOCATION

Pensacola Bay Watershed within Florida

SPONSOR(S)

State of Florida

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

Project, Planning, Technical Assistance and Implementation

REVIEWED BY:

DATE:

1/12/2015

Best Available Science:

These 6 factors/elements help frame the reviewers answers to A, B and C found in next section:

1. Have the proposal objectives, including methods used, been justified using peer reviewed and/or publicly available information?

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Comments

This proposal has 5 projects: 2 projects to construct living shoreline (oyster reefs), a wastewater reuse (water reclamation) project expansion, a Phase II subdivision sewer collection system and stormwater treatment system project, and an investigative planning project for the removal of contaminated sediment from Bayou Chico. The first four projects are a continuation/extension of existing projects and by extension have previous activities as a credit towards justification. The last project is new, and fails to provide adequate information. The Bayou Chico sediment project does not address the potential issues associated with the adjacent superfund site contamination, the potential for water quality impacts during the investigation, the potential for generation of hazardous wastes during sampling/coring, and the fact that these wastes may possibly require incineration as the only acceptable means for disposal. These potential impacts were not discussed, nor were the potential costs and context of dealing with these materials under CERCLA.

2. If information supporting the proposal does not directly pertain to the Gulf Coast region, are applicant's methods reasonably supported and adaptable to that geographic area?

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Comments

The information does directly pertain to the Gulf Coast region.

3. Are the literature sources used to support the proposal accurately and completely cited?

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Comments

More scientific information should have been presented and referenced for the projects presented. Unfortunately, this proposal has four distinct project subject areas, which should be evaluated individually. Because of proposal space limitations and the number of subjects, the projects were not discussed in sufficient detail and literature sources are limited.

4. Are the literature sources represented in a fair and unbiased manner?

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Comments

5. Does the proposal evaluate uncertainties and risks in the scientific basis for the proposal, including any identified by the public and Council members?

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Comments

Only the Bayou Chico dredging portion of this proposal seems to be deficient in evaluating uncertainties, as discussed in response to Item 1 above.

6. Does the proposal evaluate uncertainties and risks in achieving its objectives over time? (e.g., is there an uncertainty or risk that in 5-10 years the project/program will be obsolete or not function as planned given projections of sea level rise?)

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Comments

Based on the answers to the previous 6 questions, and giving deference to the sponsor to provide within reason the use of best available science the following three questions can be answered:

A. Has the applicant made a reasonable determination that the proposal is based on science that uses peer-reviewed and publicly available data?

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Information Needed:

The living shoreline oyster reef construction project should have presented unit cost for the construction and maintenance programs based on previous activities completed. No cost-benefit analysis is presented nor easily derived from the information presented.

B. Has the applicant made a reasonable determination that the proposal is based on science that maximizes the quality, objectivity, and integrity of information (including, as applicable, statistical information)?

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Information Needed:

Living shoreline water quality monitoring frequency is insufficient. As proposed, water quality data will provide 16 data points per parameter over four years. Water quality data is greatly influenced by season and trends will be virtually impossible to discern. Recommend increased monitoring to at least monthly for water quality (physical, chemical parameters) so that

C. Has the applicant made a reasonable determination that the proposal is based on science that clearly documents and communicates risks and uncertainties in the scientific basis for such projects?

- (●) YES
- ( ) NO
- ( ) NEED MORE INFORMATION

Information Needed:

Science Context Evaluation

A. Have other methods been discussed and reasons provided to why the method is being selected (e.g., scientifically sound; cost-effectiveness)?

No. The scientific and technical content of the proposal is lacking. However, the methods presented are generally accepted as "tried and true", and are a continuation of previous activities in the project areas. The living shoreline projects could benefit from consideration of a design for potential future oyster harvesting using removable and replaceable substrates, and using commercial oyster leasing for offsetting maintenance and operation costs. Cost effectiveness is not presented in technical

B. Has your agency/vendor/project manager conducted a project/program like the one proposed?

Yes. The first four projects are extensions of existing or ongoing projects. The fifth, the Bayou Chico dredging relies on historical USCOE channel dredging nearby and the available data is most likely not representative of the contamination present nor impacts anticipated (not discussed in the proposal) caused by disturbing the sediment during the proposed activities.

C. Is there a risk mitigation plan in place for project objectives? (captures risk measures as defined under best available science by the Comprehensive Plan and Act)

Yes, for the first four projects. No for the Bayou Chico dredging investigation.

D. Does the project/program consider consequences with implementation? (captures risk measures as defined under best available science by the Comprehensive Plan and Act)

Yes, for the first four projects. No for the Bayou Chico dredging investigation.

E. Does the project/program have clearly defined goals?

Yes.

F. Does the project/program have clearly defined objectives?

Yes.

G. Does the project/program have measures of success? (captures statistical information requirement as defined by the Comprehensive Plan and Act)

Yes.

H. Is a monitoring program in place to determine project goals, success and help adaptive management (if applicable)? (captures statistical information requirement as defined by the Comprehensive Plan and Act)

Yes. The water quality monitoring needs to be strengthened for the living shorelines.

I. Does the project/program consider recent and/or relevant information? (captures statistical information requirement as defined by the Comprehensive Plan and Act)

Yes.

J. Has the project/program evaluated past successes and failures of similar efforts? (captures the communication of risks and uncertainties in the scientific basis for such projects as defined by the Comprehensive Plan and Act)

Yes, in that four of the projects are expansions on ongoing successful activities in the area.

Please summarize any additional information needed below:

The two living shoreline projects have merit and will provide a direct positive impact to the Gulf estuarine ecosystem. These projects are strongly supported by the reviewer and recommendations for increased water quality monitoring, oyster harvesting and future commercial leasing, as well as unit cost analyses for reef construction, and cost-benefit documentation are offered.

The beach water reclamation project will further reduce direct discharge of treated wastewater to Santa Rosa Sound and