# Science Evaluation

## Bucket 2 – Council Selected Restoration Component

**PROPOSAL TITLE**

Beneficial Use of Dredged Material to Create Emergent Tidal Marsh in Upper Mobile Bay

**LOCATION**

Alabama, Mobile County, Mobile Bay

**SPONSOR(S)**

Department of Army (Mobile District)

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

Planning, Implementation, Program

**REVIEWED BY:**

**DATE:**

01/10/2015

## 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

Yes, but only to the extent possible. The proposal DOES NOT provide evidence, in terms of supporting documentation, that the methods used will yield successful results. The proposal DOES reference their own prior expertise in beneficial-use projects similar in nature. However, although the proposal specifically states that their previous projects have been monitored and studied, and that they have been great successes, no specific citations of those works have been provided.

**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 proposed methods will be used in Mobile Bay but are also likely transferable to other regions of the US.

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

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

Comments

To the extent possible, the proposal makes an appropriate effort to properly reference and cite works most germane to the primary objectives.

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

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

Comments

Yes, the sources are used without bias.

**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

The proposal primarily addresses risk related to relative sea level rise, though other uncertainties are described (e.g., construction, environmental, etc.). While the risks are described, no specific information is provided regarding how the project will respond in light of uncertainty.

**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

Yes, the proposal primarily addresses the expected rates of relative sea level rise and finds that over the 50-year life of the project it can be mitigated through adaptation.

## 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:

**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:

**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)?**

Yes, the proposal describes previous beneficial-use projects and their successes. These prior projects used different methods than what has been proposed herein. However, the proposing agency also describes their prior expertise in using methods similar to those suggested here.

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

No.

**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 and no. Some specific risks and uncertainties are identified in the proposal, but no specific plan is described or cited. However, given that the proposing agency is the Department of the Army, a specific risk mitigation plan is almost certain to be developed.

**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, and the proposal cites that the known risks and likely uncertainties can be mitigated through adaptation.

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

Yes, the proposal clearly outlines the primary goal of the project, which is to extend their beneficial use of dredged sediments program to develop 1200 acres of emergent marsh and SAVs (habitat) and reduce long-term dredge disposal costs.

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

Yes, the proposal outlines the primary objective (establish 1200 acres of new emergent tidal marsh and SAVs) as well as a host of secondary objectives.

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

No specific measures of success are identified in the proposal.

**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)**

The proposal indicates that a monitoring program will be established.

**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, the proposal cites success implementing similar projects in the past.

**Please summarize any additional information needed below:**

It is important that one separates the goals and objectives of the USACE beneficial-use program (specifically as it relates to this proposed project) from the objectives to be met with the requested funds. The funds requested herein ($27.5M) will not be used to create habitat. Instead, these funds will be used for engineering design and construction of sediment containment structures only. If any habitat is created with the requested funds, it will be limited to the initial 100 acre donor marsh. The remaining 1100 acres of habitat will not be established with these RESTORE funds, nor will they appear immediately. The 1100 acres will be established at a rate of approximately 100 acres per year.