Science Evaluation

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

Coastal Alabama Comprehensive Watershed Restoration Planning Project

LOCATION

Coastal and Intertidal 12-digit HUC Watersheds in Mobile and Baldwin Counties, Alabama

SPONSOR(S)

State of Alabama

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

Planning/Technical Assistance

REVIEWED BY:

DATE:

12 January 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

The process of developing the five-year Comprehensive Conservation and Management Plan (CCMP) for 2013-2018 appears to have had extensive public and scientific/technical input and review.

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

From the standpoint that the watershed planning process and protocols have already been applied to approximate completion in two watersheds, the proposed continuation of the process should be well adapted for the area.

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

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

Comments

In terms of citation, those applied in the proposal are accurately and completely cited.

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

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

Comments

For those that are cited, they are represented in a fair and unbiased manner.

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

Uncertainties and risks are blithely considered by the applicant to be trivial. Basically, as stated, they consider that "There are no major uncertainties related to this project." and "There are no major project risks anticipated, and an outcome of this completed project will be future risk reduction." Yet, they provide no evidence of the scope and scale of any analysis that they performed to evaluate uncertainties and risks, e.g., accelerated sea level rise.

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

There is no rigorous evaluation of uncertainties and risks, especially from the standpoint of economic, social and political change scenarios.

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:

Surprisingly, the applicants restrict most of their scientific literature citations to a few regional, and mostly "gray literature" analyses. The science of watershed approaches to coastal planning, on the other hand, is well established far beyond the Mobile Bay region in the national and international peer-reviewed literature, providing justification of the rationale and pros and cons of various approaches, e.g., Burke et al. 2013 (Land Use Policy 31: 459-459), Buttenberg and Granek 2011 (Mar Ecol

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:

The scientific input into the foundation of the applicant's watershed planning process has been impressive and comprehensive.

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:

The applicant needs to acknowledge that there are a number of potential uncertainties that must be explicitly incorporated into completing the Comprehensive Watershed Management Planning. Most notable from a scientific perspective is various scenarios of climate change, especially freshwater inflow and sea level rise. Despite mention of that as one goal of the planning process ("Improve watershed resiliency to sea level rise and impacts of a changing climate"), there is no reference to how the tremendous amount of uncertainty, but potentially very high risk, of climate change impacts would be addressed in the completion and implementation of the Comprehensive Watershed Management Planning. There are a number of other

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)?

There is not enough detail provided to the description of the actual planning process to determine why their particular approach was chosen and vetted.

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

Yes, to some degree. However, it was predominantly a scientific/technical analysis and did not involve community and stakeholder input as much as the proposed process appears to.

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)

No, this does not appear to be a fundamental component of their process.

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

No.

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

Yes, their five goals are clearly defined (although not necessarily propagated through the following technical description).

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

Yes, the objectives are clearly defined, although not necessarily commensurate with the goals.

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

Yes, although there are no definitive targets or thresholds that are based on statistical information.

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)

Since this is principally a planning process, there is no monitoring program "in place" although one objective of the Comprehensive Watershed Restoration Planning includes a monitoring program in the design implementation program. The D'Olive and Three Mile Creek watershed plans presumably include model monitoring plans that would serve as templates for the completed program, but these are not included in the proposal so difficult to technically assess.

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

The proposal could provide a better scientific justification, based on the peer-reviewed literature, for the specific approaches and methodologies for developing the comprehensive plans, which are not detailed at all in the proposal. For instance, what forms the basis for the land/water use designations or proposed management measures, and preferably what comprehensive plans in other regions have served as models for this application?

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)

The applicants do have the advantage of having gone through the D'Olive and Three Mile Creek comprehensive management plans, so presumably they have provided some "lessons learned" for completion of all the remaining watersheds. However, any such lessons learned and adaptive measures are not elucidated in this proposal.

Please summarize any additional information needed below:

It is hard to argue against comprehensive coastal restoration planning conducted at the watershed scale. That being said, it is difficult to evaluate this proposal because there are no specific details on the methodology or proposed products that highlight how this will measurably enhance restoration planning for coastal ecosystems.