SCIENCE EVALUATION

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

US EPA & USGS Joint Proposal for Baseline Flow & Gage Analysis and On-Line Tool Development to Support Bay and Estuary Restoration in Gulf States

LOCATION

To cover all 5 Gulf States (TX, LA, MS, AL, FL)

SPONSOR(S)

US EPA & USGS Joint Proposal

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

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

They proposal contained reports and peer-reviewed references for all aspects of the project: background and need; metric and measures development; models; implementation; and ecological and economic benefits. References included federal and state agency reports, academic and private peer-reviewed publications, and industry-relevant studies. The references were appropriately used and in context with the specific proposal component.

In addition, analyses and processes were identified in the proposal to limit bias and tease apart potentially confounding factors (e.g. Page 11, part 1c, the last line of the paragraph and Page 11, part 1d, sentences 6 and 7), making the metrics and influences more robust and informative.

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 majority of the supporting information was relevant to the proposal and directly tied to the activities proposed. National data/information was used to highlight the need for this project and its information in the Gulf of Mexico.

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

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

Comments

While the citations were appropriate, citation style changed within the proposal. Citations provided in the Reference List were largely complete (2 were marginal, but could be google searched). There were formatting and style inconsistencies that made the Reference List appear rushed.

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

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

Comments

As in question #1, I felt the referenced were appropriate and applicable. They were well rounded with peer-reviewed articles, government reports and industry studies. The references supported past efforts, the need for the project, methodology for the project, case study type examples and ways to improve on similar past efforts.

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 Risk and Uncertainties section of the proposal was limited. The sponsoring agencies have done similar work and were confident in their abilities to deliver the project. I do think they did a good job of identifying mechanisms to limit bias and deliver more robust information, as identified in question #1.

A Risk or Uncertainty not identified that should be addressed is who the target audience is for their assessment tool. I saw the audience as freshwater managers, restoration practitioners, etc. and felt more thought needed to be put into including the

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

The alteration assessment and gap analysis will be great information for each of the states, almost a baseline to measure against. The Focused Watershed Study will only happen in one area. While it's template could be applied broadly across other areas, its application is funding dependent. The need for funding for additional focused watershed studies was identified, but a survey of interest for other focused watershed studies, tool adaptation for climate change or obsolescence of the tool were not addressed, among others.

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 proposal is based on relevant and applicable peer-reviewed science and publicly available data.

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 proposal does maximize the quality, objectivity and integrity of information related to the project, including models, analyses and processes that limit bias and enhance information.

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:

While it does not look at Risks and Uncertainties over time, the proposal does identify how the project will overcome Risks and Uncertainties within the proposal narrative. Gaps in Risks and Uncertainties were identified in questions #5 and #6.

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 science basis for the proposal was very sound. The cost-effectiveness discussion was limited. Re-operantionalizing recently discontinued streamflow gauges was an excellent example of a cost-effective strategy. However, the size of the one 'Focused Watershed Study' was not identified; thus, it is difficult to know how many 'Focused Watershed Studies' would be needed to cover the entire Gulf. The one 'Focused Watershed Study' could be used as a

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

We have worked on decision support tools and outreach of those tools to target audiences. My questions on target audiences and tool use are based on our own struggles. You can build it, but they don't have to come. The more involved they are in the development, the more likely they are to use it.

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.

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. The proposal discusses the multiple, and at times conflicting, uses and needs for freshwater and the need for balance between the public, industry and the environment.

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

Yes. It's primary goals of (1) Streamflow Alteration Assessment and Gauge Gap Analysis and (2) the Focused Watershed Study are well-defined and have tangible, achievable tasks and deliverables.

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

The objectives for each of the primary goals are nested as tasks under each respectively. They provide clear steps to achieving the goals.

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

A list of specific project deliverables related to the Measures of Success is provided on p 14. The outreach deliverables were not included in this section and, if they had been, it is likely that one or more target audiences would have been identified, as well as steps for outreach to those audiences.

While reference and non-reference sites are discussed and add to the depth of the proposal, availability of these sites and

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 'monitoring' for this project is more focused on model development and data collection. The discussion includes evaluating and or using 'new or emerging processes or methods as they become available'.

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

Yes. The references to the hydrologic model and streamflow metrics are all current and relevant.

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 proposal referenced several past efforts in other geographies where this or a similar tool was used to aid in habitat restoration on federal, state, and non-profit projects. The proposal also highlighted some specific areas and types of projects for use with the project tool.

Please summarize any additional information needed below:

The proposal discussed that the project is able to be scaled to include groundwater, as well as surfacewater.
The synthesis of the existing stream gauge information for use as a baseline is great, as is the concept of establishing consistent metrics for evaluation and comparison within and between streams.
The primary state examples were from TX and FL. It would have been great to have a solid example of past efforts or future application for each state.
For section 1d on optimal stream gauge networks, drainage basin characteristics (natural and anthropogenic) are to be