Science Evaluation

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

Suwannee River Watershed Restoration

LOCATION

Dixie and Levy Counties, Florida

SPONSOR(S)

State of Florida

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

Planning, Technical Assistance, Implementation

REVIEWED BY:

DATE:

12-Jan-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 is a qualified "yes". for the overall proposal, the work is fairly well-justified but the three sections vary in the amount of referencing to current literature. The oyster restoration section is the best written of the three, while the silviculture best management practices on water quality are never really discussed. In a sense, the second section is simply a land purchase, with very little monitoring or post-purchase evaluation. That is not a bad thing, because as a restoration program, we expect to see some tradeoffs from ecosystem degradation from the Gulf spill versus ecosystem enhancement in other portions of the ecosystem. The third section describing water conservation by agriculture, is not well-referenced. I am not sure from this description where nutrient reduction strategies are targeted, other than in limiting water use and potrentially, runoff. BMPs need to be better described and referenced.

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

Not applicable. Study area is entirely within the Gulf watershed.

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

- ○ YES
- ○ NO
- ◉ NEED MORE INFORMATION

Comments

See above. There is a tendency for the proposal to be more descriptive than technical, other than the oyster section. That one section is worthy of funding on its own based on the details of the description and the success of other studies. a similar approach is not taken for any of the watershed sections. For instance, if nutrient loading is important, there needs to be referencing of studies that show that practices for water conservation directly affect nutrient loading. More so though, there needs to be incorporation of this study into the TMDL approach for the Suwannee River. I was quite surprised that the term

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

- ○ YES
- ○ NO
- ◉ NEED MORE INFORMATION

Comments

See above. The first section recognizes the cost/benefit of oyster restoration approaches and even references a recent paper about sea level rise and oyster response. There is not enough referencing of the second two sections to determine any bias. Maybe by not citing other external studies it avoids any potential 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

I do not have the public and Council member information. As for the uncertainties and risks, see comments above about balanced treatment of all three phases. There is risk involved in the land acquisition section. That is unfortunate. With respect to land acquisition, it would have been instructive to see some sort of prioiritization for watershed land acquisition. This could also be applied to the third phase. An evaluator needs to see some depiction of sensitive areas of the watershed. Why are these parcels important? Why should water application practices be centered on a particular section of the watershed? Where is the most return for the dollars invested? If the practices for water conservation are not practiced in 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

Again a qualified "yes" due to the strength of the first objective. Land acquisition plans allow for continued harvesting of non-sensitive areas into the future. I am not sure about the long-term goal of section 3 because there is no prioritization of BMPs. There needs to be a longer term view of the watershed implementation practices.

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:

Again, the second and third objectives truly needed a bit more thought about specific prioritization and implementation practices.

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:

Need info on effects of land practices, specific BMPs for the water management aspects.

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:

More so, the third objective needs more description of the BMPs and the risks and uncertainties. There is a small star on a map that targets where this phase will be centered, but no discussion of priorities for practices to be assessed, nor of sensitive portions of the watershed. This proposal might better have been written as three separate proposals. It does take a watershed approach, but better integration would have helped the assessment.

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)?

Only for the first section. There is not a clear prioritization for land purchase, nor for targeting water management startegies in the watershed. therefore it is difficult to assess why specific tasks have been developed and supported.

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

Our agency supports university research, outreach and education. Certainly the water conservation-nutrient runoff are key environmental issues funded and discussed nationwide. Our state's Coastal Management Program oversees land acquisition purchases. In those cases, we require discussion of prioritization in watersheds.

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)

That is difficult to assess because the proposers actually tell us "there are no significant risks with this project". That is a particularly troubling statement for the water management BMP section since there is no discussion about what practices to use and what portion of the watershed should be targeted. We are asked to take the proposers at their word without much discussion in their proposal.

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 two sections. This includes acknowledgment of problems associated with land acquisition.

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

Overall goals are clearly stated. The first section is the strongest. Third section should have similar details about the approach to achieve the goals. The firsts section went so far as to valuate an individual shell bag. The last section has no discussion of cost/benefit.

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

See above. Objectives are fairly clearly stated, but the third section isn't well integrated into the goals.

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

Firsts section does and does it well, even a thorough discussion of adaptive management. Second is more of a purchase/don't purchase measure of success. Third would be much better if it used adaptive management as a tenet of the project. I am more used to seeing proposals on adaptive management with respect to water use/water quality within a watershed and tied to TMDLs. This project could really be bolstered by that approach.

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 for oysters. None for land management other than assuring that logging will not occur in sensitive areas. Monitoring in the water management section is not described. It may be implied, but it really needs to be described. It may have been page limits, but the oyster success evaluation is well-described and could involve multiple university research projects. The water management monitoring could be a huge benefit for university-led research projects, but there is just not enough information given to understand the process. It would be a great place for a social science research project, for instance.

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

Unbalanced is the best word to describe this proposal due to the detail in the first section on oyster restoration and the lack of detail afterwards. So again, the first section is well-referenced and considers recent information. The second section as a land purchase requires some additional information. The third section is woefully under-referenced and lacking previous study assessment to prioritize activities.

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)

See above. This would ahve been particulary important assessing BMPs.

Please summarize any additional information needed below:

I applaud the authors for trying to develop a comprehensive coastal-watershed proposal. It could have easily been three proposals and the oyster restoration is the best written and worthy of support. Evaluation of success would have strengthened the land acquisition section. The water management section needs both a priority-setting/targeting section and a monitoring/evaluation section. It detracts from the strength of the overall proposal. In all three studies, I hope the leaders will involve university researchers. There have the potential to be critical ecosystem restoration projects and I can't see a better approach than training out next generation of ecosystem scientists. This is especially beneficial for training these students in