Science Evaluation

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

Bayou Greenways 2020 - Clear Creek Riparian Corridor Acquisition

LOCATION

Harris County, Texas

SPONSOR(S)

Texas CEQ in partnership with City of Houston, Harris County, Houston Parks Board

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

Implementation

REVIEWED BY:

DATE:

January 9, 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 proposal includes a very good summary of the scientific literature documenting the numerous benefits (habitat, water quality, water quantity) provided by streamside riparian buffers. These range from national studies and books to those of a more regional and local (Texas) nature. The literature strongly supports riparian buffer preservation and restoration as a primary means of ensuring water quality, biological diversity and integrity, and water levels in streams.

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

As noted previously, the research cited in the proposal on the benefits of riparian corridors includes work at a national, regional, and Texas specific level. Research on riparian corridors has been shown to be widely transferable around the country.

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

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

Comments

Over the past 15 to 20 years, research documenting the benefits of riparian corridors, especially along streams, has been extensive. One study that was not included is directly relevant - The "Effects of Stormwater and Stormwater Controls on Small Streams" was done for the US EPA by the Watershed Management Institute, Inc in the early 2000s with a final report in 2004 (http://www.stormwater.ucf.edu/research/small_streams.htm). The project include monitoring in Montgomery County, MD; Vail, CO; Puget Sound area, WA; and Austin, TX. The report concluded that the most valuable Best Management

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

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

Comments

The project proposal does a good job of presenting the scientific literature 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

As with any land acquisition project, the greatest risks and uncertainties are whether a property is for sale, for what price, and how long will it take to acquire. A 12 month project time line is very aggressive and short. However, because of the long term planning associated with the Bayou Greenways Project and its various components, including the Clear Creek Riparian Buffer, the project sponsors already have targeted properties for acquisition based on mutally agreed upon criteria. Equally important, the team has been acquiring properties (typically at below market values prices) and collecting information on property sales. The institutional framework set up by the partners for the Bayou Greenways Project seemingly has worked

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

While not included in the section on Risks and Uncertainties, the proposal includes an excellent summary of the institutional and financial infrastructure that has been assembled by the partners for the Bayou Greenways Project. A particular concern associated with land acquisition projects is the long term maintenance costs and potential restoration costs. As set forth in the proposal, the Houston Parks Board has the resources, thanks to the 2012 bond referendum, to ensure that the land will be managed and maintained properly over the long term.

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)?

Only minimally. However, the benefits and cost effectiveness of riparian buffers are well documented in the scientific literature and in this proposal.

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

The project partners have been acquiring riparian corridor and other properties for several years. They have a good institutional framework established to accomplish the project's objectives..

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. The project objectives are very straight forward - riparian corridor land acquisition and management - and the sponsors have established institutional and financial frameworks to minimize and mitigate risk.

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 entire project is implementation - acquire, restore, and manage riparian corridors for habitat and water management purposes. The project proposal addresses the long term operation and management of the acquired lands including providing dedicated funding for this task.

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

Yes - acquire, restore, and manage riparian corridors for habitat and water management purposes.

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

Yes - acquire, restore, and manage riparian corridors for habitat and water management purposes.

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

This is not a project that is based on statistical analysis. The measures of success are directly related to the acquisition and long term management of riparian corridors to enhance habitat, water management, and recreational opportunities.

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 project sponsors have established a land acquisition GIS that provides a long term vision for the acquisition of key riparian corridor properties. The GIS provides an easy, visual way to identify and target potential parcels for acquisition and monitor the actual purchase of properties

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 scientific literature referenced in the proposal is up-to-date and directly relevant to the project.

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, as part of the overall project proposal and review of the scientific literature.

Please summarize any additional information needed below: