SCIENCE EVALUATION

Bucket 2 – Council Selected Restoration Component

PROPOSAL TITLE

WETLAND CREATION IN WEST BAY, LOUISIANA, USING DREDGE MATERIAL FROM THE MISSISSIPPI RIVER HOPPER DREDGE DISPOSAL AREA

LOCATION

Plaquemines Parish – Lower Mississippi River

SPONSOR(S)

Department of Army (New Orleans District)

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

Project, Technical Assistance, Implementations - $36.5M

REVIEWED BY:

DATE:

26 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

There is one citation of peer reviewed literature in the nine citations listed in the primary portion of the report and three peer reviewed papers in the six citations listed in the well written and convincing supplemental section (A. GULFWIDE BENEFICIAL USE OF DREDGED MATERIAL). These relatively few citations addressed the most relevant literature to the proposed project.

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

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

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

Comments

I found nothing to indicate otherwise, but I am not an expert on the literature with respect to dredging projects.

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

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

Comments

See answer to #3 above

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 other dredging projects proposed to the Council, there seems to be little concern on the part of the USACE of environmental risk and uncertainty associated with projects. Risk and uncertainty discussions center around the availability of the material and equipment and variability in costs and timing of the project. While there is certainly some justification for this approach given the number of dredging projects conducted in the Gulf, a fuller discussion of environmental and engineering risks and uncertainty would be appropriate.

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

Discussion of this issue centered around other beneficial dredge spoil work already ongoing, in particular the existing West Bay Sediment Diversion, the Mississippi River O&M Program, CWPPRA, and the LCA BUDMAT Program. There was minimal discussion of the direct effects sea level rise would have on this particular proposal other than the need to conduct this type of work because of the effects that sea level rise is already, and is expected to continue to have, on coastal Louisiana.

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:

Pertinent literature specifically relative to the Gulf is discussed, but no inclusion of potentially relevant literature from areas outside the Gulf.

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:

Data were not presented as such and there was minimal discussion of any data analysis, thus not surprising there was no specific references to statistical information or inference from statistical analyses. The information discussed was mostly heuristic and descriptive with the discussion of numbers centered around costs and volume of material moved.

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:

Seemed reasonable

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)?

No

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)

No. As discussed above, the Plan does not consider risk beyond noting the issues associated with the logistical aspects of the proposed work (e.g., fuel costs and project timing).

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, The primary goal of this project is to address the Restore Habitat goal of the Council's Comprehensive Plan: "...specifically, to rapidly restore 400 acres of emergent wetlands through the placement of readily available dredge material."

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

Goals and Objectives were lumped together in the Proposal which also had "Secondary Objectives"
• Restore, Improve and Protect Water Resources
• Protect and Restore Living Coastal and Marine Resources
Restore and Enhance Natural Processes and Shorelines
• Promote Community Resilience

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

Yes. "The metrics for project success is the number of acres of emergent wetland habitat restored (approximately 400 acres), the cost of delivering the sediment to the deposition sites (estimated at $36.5 million), the average cost per acre ($93,000), and the length of time required to build the wetlands sites (estimated 21 months from receipt of funding)."

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, Monitoring: "Upon completion of construction activities, placement sites will be surveyed to determine the quantity of wetlands restored. The cost for this effort is included in the overall construction cost of the project. In addition, the placement sites will be monitored annually under USACE's Beneficial Use Monitoring Program (BUMP) aerial photography effort.

No, adaptive management: "Adaptive management efforts should not be warranted and are not planned under this proposal."

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

Yes, discusses overall need for the beneficial use of dredge material along the Gulf generally and the Louisiana project area specifically.

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)

Not very well as just talks about successes of past projects. No discussion of past challenges or failures in the Gulf area or elsewhere with respect to dredge spoil usage.

Please summarize any additional information needed below:

Overall, a very well written and comprehensive discussion of the issues and value of beneficial use of dredge material, especially with respect to the Gulf and its long occurring coastal erosion issues. Project appears to be sound and the strong recent track record of previous USACE dredge projects suggests this needed effort will be successful long-term.