Request for Statements of Interest
Funding Opportunity Announcement

Federal Awarding Agency:
U.S. Army Corps of Engineers,
Engineer Research and Development Center
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Funding Opportunity No: W81EWF-21-SOI-0024

CFDA No: 12.630

Statutory Authority: 10 USC 2358

Program Title: Monitoring of Submerged Aquatic Vegetation in support of barrier island restoration efforts

Announcement Type: Initial announcement

Issue Date: 29 June 2021

Statement of Interest/Qualifications Due Date: July 28, 2021, 1600 hrs, Central

Full Application Package Due Date, if Invited: August 16, 2021, 1600 hrs, Central

Estimated Award Ceiling: $22,000

Estimated Total Program Funding (optional): $99,000 possible over 3 years; $22,000 for base and $38,500 per option year

Expected Number of Awards: The government will issue only 1 award from this announcement.

Section I: Funding Opportunity Description

Background:

Submerged aquatic vegetation refers to a subset of vascular plants that have adapted to live underwater, in marine, estuarine and freshwater conditions. Healthy SAV beds are important habitats that are beneficial in many ways. By buffering wave energy, modifying wave currents, preventing erosion, consolidating sediment and influencing deposition, SAV can help to maintain and shape coastal landscapes. In addition, coastal seagrass beds represent one of the most productive ecosystems on the planet and provide food, shelter and nesting grounds to many commercially and ecologically important invertebrate and vertebrate communities.

Following the hurricanes of 2005 (i.e., Cindy, Katrina, Rita), Congress funded various research efforts to develop strategic plans to reduce future hurricane and storm damage, saltwater intrusion and shoreline erosion and fish and wildlife preservation. One of the components included in the Mississippi Coastal Improvement Program (MsCIP) comprehensive plan was to evaluate a comprehensive barrier islands restoration plan which includes the filling of the "Camille Cut" on Ship Island to a pre-Hurricane Camille state as well as providing beach and dune fill at Cat Island to provide low-lying coastal areas further protection from storm surges associated with coastal storm events (U.S. Army Corps of Engineers 2009). A primary objective of this project is to conduct a multi-year monitoring program (pre, during and post construction) to determine restoration success and avoid impacts to threatened and endangered species. A monitoring plan focused on SAV will help to determine whether the resources of the Mississippi Sound are being maintained or impacted as a result of the barrier islands restoration. This project is also of interest to USACE Engineering With Nature (EWN) research program as the MsCIP project provides a field demonstration and study site for EWN focused research.

Brief Description of Anticipated Work:

This work represents an opportunity to expand a multiscale Submerged Aquatic Vegetation (SAV) monitoring program in order to drastically improve field data collection, ground truthing capability and alignment with ongoing lacunarity analysis in support of EWN andMsCIP monitoring and adaptive management efforts for MsCIP Barrier islands restoration. The focus of this research is to document SAV distribution, acreage, and condition (e.g., percent cover and canopy height) and species composition over time at Cat Island and East and West Ship Island through statistical analysis of SAV survey data. The proposed multi-year monitoring program includes multiple years of pre-fill, baseline assessment followed by comparable monitoring periods during construction and post-fill events within the project area. A baseline database, provided through the National Park Service (NPS) long-term SAV monitoring program for the NPS Gulf Seashore will be analyzed along with additional post-construction surveys. Field surveys are conducted annually, at permanent stations during peak biomass. A global position system (GPS) is used to navigate to the station (~4 m accuracy). The sampling station is generally defined as a 10-m diameter area around the station coordinate to account for GPS accuracy and the surface area of the boat. The protocol includes the collection of both SAV and water quality metrics, including species composition, canopy height, percent coverage,

temperature, dissolved oxygen, salinity, light attenuation, and Secchi depth. The seagrass coverage at each site is estimated from four subsample observations within a 0.25 m2 quadrat acquired from the four cardinal directions. Data are collected at the shallowest tides possible during daylight hours, and the depth to activity recorded for all measurements. This specific effort requires an additional sampling effort for an additional 100 sampling sites across Cat and Ship Islands.

Data Analysis will include statistical testing to assess temporal changes in SAV conditions. Permanent stations will be categorized by depth (e.g., shallow, mid-depth, and deep) for East Ship Island and West Ship Island, respectively and collectively (i.e., the East Ship Island and West Ship Island data can be pooled at a later date after construction reestablishes East Ship Island and West Ship Island as a single island). The mean percent cover (e.g., all SAV or specific species) will be calculated for each depth category per island, respectively. Following the methodology of Neckles et al. (2012) and Kopp and Neckles (2009), the change in condition over time for depth categories by island will be assessed by using repeated univariate repeated measures analysis of variance (ANOVA). The results of these analyses will be used to determine whether temporal changes in seagrass condition differ significantly among depths. In addition to percent coverage, changes to additional such condition metrics as species composition, canopy height and biomass may be explored using a similar approach.

The findings of this cooperative agreement will be made publicly available through the release of public reports or peer-reviewed journal articles as well as a public seminar describing results. The Government will be involved with the research by providing technical guidance on the research, assisting with the experimental design, and collaborating on the journal articles. The Government is not expecting the periods of performances to overlap.

Identified project tasks are:

1. Obtain SAV survey data from NPS long-term SAV monitoring program for the NPS Gulf Seashore for baseline (pre-construction) and post-construction surveys
2. Work collaboratively with ERDC to analyze data and identify SAV distribution, condition and acreage trends between project phases (pre-construction, construction, post-construction) and project zones.
3. Provide data summaries for upward reporting by ERDC.

Requirements:

Successful applicants should have expert knowledge of 1) SAV communities within the gulf region and 2) Statistical approaches used for analysis of species distribution, vegetative health, and changes in acreage.

Areas of expertise required to perform this study include:

1) Marine botany: identification and collection of submerged aquatic vegetation that dominate Gulf Coast region.
2) Statistical analysis.

Applicants will be required to submit quarterly status reports and a final report within 4 months of completion of the study. ERDC and the candidates will develop draft reports to meet EWN and MsCIP Monitoring and Adaptive Management Plan requirements as needed. ERDC and the candidates will develop a draft of the journal article or articles for internal peer review during cooperative agreement's period of performance.

Public Benefit:

Submerged aquatic vegetation (SAV) refers to a subset of vascular plants that have adapted to live underwater, in marine, estuarine and freshwater conditions. Healthy SAV beds are important habitats that are beneficial to the public in many ways. By buffering wave energy, modifying wave currents, preventing erosion, consolidating sediment and influencing deposition, SAV can help to maintain and shape coastal landscapes, providing shoreline protection. In addition, coastal seagrass beds represent one of the most productive ecosystems on the planet and provide food, shelter, and nesting grounds to many commercially and ecologically important invertebrate and vertebrate communities. SAV habitat supports many fisheries that provide coastal jobs, recreation and food. This applied research will enhance our knowledge of Island restoration, SAV habitat and adaptive management of protected resources. The findings of this cooperative agreement will be made publicly available through the release of public reports or peer-reviewed journal articles as well as a public seminar describing results.

Section II: Award Information

Responses to this Request for Statements of Interest will be used to identify potential investigators for studies to be sponsored by the Engineer Research and Development Center to provide field data collection For Cat and Ship Islands, MS. The estimated level of funding for FY20 is approximately $22K. Additional funds of $38.5k/year for 2 additional years may be available, providing the potential funding of $99K over 3 years to the successful Recipient/Awardee. Depending on findings in the early years of this effort, funding needs may increase above the anticipated $38.5K/year in subsequent years of this project; however, total funding will not exceed $99K over the life of this cooperative agreement.

Government Involvement:

The ERDC will work cooperatively with the investigator to identify issues related to analysis of data, logistics and work plan development, and will review status reports and will provide input to data interpretation for final reports. ERDC scientists will assist in the dissemination of study results through local scientific presentations and website postings and will participate in the preparation of peer-reviewed journal papers to insure wide dissemination of these finding. ERDC scientists will incorporate the data and analyses into a centralized database that will be used to evaluate project outcomes and provide guidance and justification for proposed restoration measures.

Section III: Eligibility Information

1. Eligible Applicants – This opportunity is restricted to non-federal partners of the Gulf Coast Cooperative Ecosystems Studies Unit (CESU).

2. Cost Sharing – This action will be 100% funded by USACE.

Section IV: Application and Submission Information – Two Phase Process

Phase I: Submission of a Statement of Interest/Qualifications.

1. Materials Requested for Statement of Interest/Qualifications:
   Please provide the following via e-mail attachment to: melissa.a.keen@usace.army.mil (Maximum length: 2 pages, single-spaced 12 pt. font).

   1. Name, Organization and Contact Information

   2. Brief Statement of Qualifications (including):
      - Biographical Sketch,
      - Relevant past projects and clients with brief descriptions of these projects,
      - Staff, faculty or students available to work on this project and their areas of expertise,
      - Any brief description of capabilities to successfully complete the project you may wish to add (e.g. equipment, laboratory facilities, greenhouse facilities, field facilities, etc.).

   Note: A proposed budget is NOT requested at this time.

   The administrative point of contact is Melissa Keen, 601-634-4880; melissa.a.keen@usace.army.mil

2. Statement of Interest/Qualifications shall be submitted NO LATER THAN July 28, 2021, 1600 hrs, Central.

   Based on a review of the Statements of Interest received, an investigator or investigators will be invited to move to Phase II which is to prepare a full study proposal. Statements will be evaluated based on the investigator's specific experience and capabilities in areas related to the study requirements.

Phase II: Submission of a complete application package to include a full technical proposal including budget, if invited.

1. Address to Request Application Package

The complete funding opportunity announcement, application forms, and instructions are available for download at Grants.gov.

The administrative point of contact is Melissa Keen, 601-634-4880; melissa.a.keen@usace.army.mil

2. Content and Form of Application Submission

All mandatory forms and any applicable optional forms must be completed in accordance with the instructions on the forms and the additional instructions below.

a. SF 424 R&R - Application for Federal Assistance
b. Full Technical Proposal – Discussion of the nature and scope of the research and technical approach. Additional information on prior work in this area, descriptions of available equipment, data and facilities, and resumes of personnel who will be participating in this effort should also be included.
c. Cost Proposal/Budget – Clear, concise, and accurate cost proposals reflect the offeror's financial plan for accomplishing the effort contained in the technical proposal. As part of its cost proposal, the offeror shall submit cost element breakdowns in sufficient detail so that a reasonableness determination can be made. The SF 424 Research & Related Budget Form can be used as a guide but is required if you choose to utilize the subaward budget form. The cost breakdown should include the following, if applicable:
    1. Direct Labor: Direct labor should be detailed by level of effort (i.e. numbers of hours, etc.) of each labor category and the applicable labor rate. The source of labor rates shall be identified and verified. If rates are estimated, please provide the historical based used and clearly identify all escalation applied to derive the proposed rates.
    2. Fringe Benefit Rates: The source of fringe benefit rate shall be identified and verified.
    3. Travel: Travel costs must include a purpose and breakdown per trip to include destination, number of travelers, and duration.
    4. Materials/Equipment: List all material/equipment items by type and kind with associated costs and advise if the costs are based on vendor quotes and/or engineering estimates; provide copies of vendor quotes and/or catalog pricing data.
    5. Subrecipient costs: Submit all subrecipient proposals and analyses. Provide the method of selection used to determine the subrecipient.
    6. Tuition: Provide details and verification for any tuition amounts proposed.
    7. Indirect Costs: Currently the negotiated indirect rate for awards

through the CESU is 17.5%.

8. Any other proposed costs: The source should be identified and verified.

3. Application package shall be submitted NO LATER THAN August 16, 2021, 1600 hrs, Central.

4. Submission Instructions

Applications may be submitted by e-mail or Grants.gov. Choose ONE of the following submission methods:

E-mail:
Format all documents to print on Letter (8 ½ x 11") paper. E-mail proposal to melissa.a.keen@usace.army.mil

Grants.gov: https://www.grants.gov/:
Applicants are not required to submit proposals through Grants.gov. However, if applications are submitted via the internet, applicants are responsible for ensuring that their Grants.gov proposal submission is received in its entirety.

All applicants choosing to use Grants.gov to submit proposals must be registered and have and account with Grants.gov. It may take up to three weeks to complete Grants.gov registration. For more information on registration, go to https://www.grants.gov/web/grants/applicants.html.

Section V: Application Review Information

1. **Peer or Scientific Review Criteria:** In accordance with DoDGARs 22.315(c), an impartial peer review will be conducted. Subject to funding availability, all proposals will be reviewed using the criteria listed below (technical and cost/price). All proposals will be evaluated under the following two criteria which are of descending importance.

a. **Technical (items i. and ii. are of equal importance):**
i. Technical merits of proposed R&D.
ii. Potential relationship of proposed R&D to DoD missions.

b. **Cost/Price:** Overall realism of the proposed costs will be evaluated.

2. **Review and Selection Process**

a. **Categories:** Based on the Peer or Scientific Review, proposals will be categorized as Selectable or Not Selectable (see definitions below). The selection of the source for award will be based on the Peer or Scientific Review, as well as importance to agency programs and funding availability.

i. **Selectable:** Proposals are recommended for acceptance if sufficient funding is available.

ii. **Not Selectable:** Even if sufficient funding existed, the proposal should not be funded.

Note: The Government reserves the right to award some, all, or none of proposals. When the Government elects to award only a part of a proposal, the selected part may be categorized as Selectable, though the proposal as a whole may not merit such a categorization.

b. No other criteria will be used.

c. Prior to award of a potentially successful offer, the Grants Officer will make a determination regarding price reasonableness.

Section VI: Award Administration Information

1. Award Notices

   Written notice of award will be given in conjunction with issuance of a cooperative agreement signed by a Grants Officer. The cooperative agreement will contain the effective date of the agreement, the period of performance, funding information, and all terms and conditions. The recipient is required to sign and return the document before work under the agreement commences. **Work described in this announcement SHALL NOT begin without prior authorization from a Grants Officer.**

2. Administrative Requirements

   The cooperative agreement issued as a result of this announcement is subject to the administrative requirements in 2 CFR Subtitle A; 2 CFR Subtitle B, Ch. XI, Part 1103; and 32 CFR Subchapter C, except Parts 32 and 33.

3. Reporting

   See 2 CFR Sections 200.327 for financial reporting requirements, 200.328 for performance reporting requirements, and 200.329 for real property reporting requirements.

Section VII: Agency Contact

Melissa Keen, Grants Specialist
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