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-20-SOI-0026
CFDA No: 12.630
Statutory Authority: 10 USC 2358
Project Title: Understanding thermal mixing, water quality improvements, and algae dynamics with the pulsing of releases from Jordan Reservoir

Announcement Type: Initial announcement
Issue Date: 4 June 2020
Statement of Interest/Qualifications Due Date: 3 July 2020, 1pm CDT
Full Application Package Due Date, if Invited: 31 July 2020, 5pm EDT
Estimated Award Ceiling: $25,000
Expected Number of Awards: 1

Section I: Funding Opportunity Description

Background:

The Cape Fear River Basin was added to a nationwide program called The Sustainable Rivers Program (SRP) in 2016. SRP is a joint program between The Nature Conservancy (TNC) and the US Army Corps of Engineers (Corps) to improve the health of rivers by analyzing how the Corps operates their infrastructure, such as the release of water out of dams. The SRP attempts to analyze the effects from dams and use reservoir operations to enhance and manage downstream (and sometimes in lake) ecosystems.

The Cape Fear River Basin was chosen for the SRP because of its complex human-ecology relationships, the expert stakeholders in the basin, and because the Corps-owned B. Everett Jordan Dam (Jordan Dam) has potential to influence fish and wildlife habitat, water quality, and other natural resources. The Cape Fear River Basin contains over two million people (2010 census), one-fifth of the state's population. This includes growing urban areas of Durham, Greensboro, Pittsboro, Fayetteville, Wilmington and other cities, which contribute urban runoff into the river, but many of which also get a portion of their drinking water from this waterbody. The basin also supports 95 species of recreational fish, 42 rare aquatic species, as well as streamside habitat containing some of the oldest trees east of the Rocky Mountains; some of which are over 2000 years old (Stahle, 2012).

Natural and human environments rely on the Cape Fear River, making its water quality and water quantity of the utmost importance. There have been multiple harmful algal bloom outbreaks behind Lock and Dam 1. These algal blooms are harmful to the health of the aquatic ecosystem, resulting, at times, in fish kills. The Cape Fear River also has many drinking water users, especially near locations of historic algal blooms. The algal blooms impact the treatment capacity of the many water supply systems on the Cape Fear River.

The Corps, TNC and expert stakeholders have collaborated and identified flow recommendations that may reduce these harmful algal blooms. Flow recommendations include pulsing events to flush lower velocity (pooled) areas, drought conditions, temperature improvements, and like issues.

This request seeks to study the impacts of releases on water quality downstream.

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Brief Description of Anticipated Work:

The objectives of this work are to:

- Understand thermal stratification of the Cape Fear River, especially near Lock and Dam 1;
- Correlate different flow rates with potential thermal mixing of the water column;
- Track water quality constituents, especially chlorophyll a, as it relates to flow
- Relate the Corps' water management to water quality and investigate the influence of releases out of Jordan Reservoir.

Public Benefit:

There have been multiple harmful algal bloom outbreaks on the Cape Fear River. The Cape Fear has many drinking water users, especially near locations of historic algal blooms. These harmful outbreaks also harm the aquatic ecosystem and have caused fish kills. This obvious impact to aquatic life also extends to the recreational fishery that so many in the region enjoy and even depend on. This work will provide insight to if releases out of Jordan Dam can reduce harmful algal blooms, thereby improving water quality for the downstream environment and water users.

This work will have national influence, as the Cape Fear River and the work being done through SRP, has been identified as one of the SRP's "Learning Watersheds." The methods and results of these studies will be shared among Corps reservoirs nationwide.

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 Wilmington District and the Engineer Research and Development Center to provide water quality sampling and expertise to understand the relationship between flows and water quality constituents. The estimated level of funding for this effort is approximately $25,000 for a 16 month period of performance.

Government Involvement:

The Corps is analyzing the enabling conditions to conduct test pulses out of Jordan Reservoir with the goal to determine if it is possible to mix the water column at Lock and Dam 1. The Corps will work with the researchers to discuss

the opportunities for test pulses, alert the research team if pulses will occur, and will check back with the researchers to learn the results. The Corps will involve the researchers in a broader monitoring team that includes other federal agencies, state agencies, and NGOs.

Section III: Eligibility Information

1. Eligible Applicants – This opportunity is restricted to non-federal partners of the Piedmont-South Atlantic 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:
    a. Please provide the following via e-mail attachment to: Chelsea.M.Whitten@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 Chelsea Whitten, 601-634-4679; Chelsea.M.Whitten@usace.army.mil

2. Statement of Interest/Qualifications shall be submitted NO LATER THAN 3 July 2020, 1pm CDT.

    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 Chelsea Whitten, 601-634-4679; Chelsea.M.Whitten@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. 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 31 July 2020, 1pm CDT

4. Submission Instructions

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

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

b. 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

Chelsea Whitten, Grants Officer
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