

**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-0012

CFDA No: 12.630

Statutory Authority: 10 USC 2358

Program Title: Genetic and Hybrid Characterization of Water Chestnut in the US

Announcement Type: Initial announcement

Issue Date: 08 March 2021

Statement of Interest/Qualifications Due Date: 08 April 2021 17:00 CST

Full Application Package Due Date, if Invited: 3 May 2021 17:00 CST

Estimated Award Ceiling: \$15,000.00

Estimated Total Program Funding (optional): \$30,000.00 over 2 years: \$15,000 for base year and \$15,000 for option year.

Expected Number of Awards: One award is expected from this 1 announcement

Section I: Funding Opportunity Description

Background:

Water chestnut (*Trapa* spp.) is an invasive aquatic plant introduced to the United States. Two species of water chestnut are now found in the northeastern US, *Trapa natans*, and *T. bispinosa*. *Trapa natans* has historically been problematic causing significant negative impacts to navigation and recreation, as well as facilitating degradation of aquatic habitats. The newly introduced *T. bispinosa* has been found in the Potomac River watershed and is expressing invasive traits similar to its congener. Hybridization between *Trapa* spp. has been documented within both species native ranges, and with the potential of *T. natans* and *T. bispinosa* to soon overlap in current distributions in the US, investigation into this possibility is warranted, especially knowing that offspring from hybridized species may be more invasive traits than the parents. Experimentation to discover whether these species can hybridize and whether the hybrid offspring will develop hybrid vigor should be investigated.

Brief Description of Anticipated Work:

The purpose of this project is to investigate whether there is potential for naturalized species of water chestnut in North America can hybridize.

Objectives:

Objectives will include genetic analysis of potential hybridization of both species of *Trapa* established in the US. Specifically:

Objective 1. DNA will be extracted from samples of suspected hybrids and their parents provided by USACE
Objective 2. DNA will be processed and analyzed by amplified leaf polymorphism loci (AFLP) or next generation sequencing to determine that hybridization has occurred when compared with parental DNA. Use of phylogenies and/or networks will be required to determine the relatedness of hybrid offspring to parent material; relatedness of North American introduced population hybrids to native accessions may be included.

Successful applicant should have expert knowledge of molecular characterization of aquatic plants including experience with genetic identifications of macrophytic hybrids, and biogeographical characterizations for water chestnut, in addition to a record that demonstrates research experience with collecting, analyzing, and reporting data in national and international scientific communities. The candidate will be required to prepare a Statement of Work and Work Plan regarding the research to be conducted. The candidates will also be required to submit four (4) quarterly status reports and one (1) annual report each year of the contract to provide updates on and interpretations of the molecular characterization of water chestnut for this project and how it relates to morphological differences observed in populations in the northeastern U.S.

Public Benefit:

This scientific study and experimentation will provide empirical evidence for the potential for hybridization of *Trapa* spp. in the US, increasing our knowledge of the *Trapa* study system, potential spread and impacts on native aquatic plants and animals. Additional benefits will include public access to waters for recreational and sport activities, improved water quality, prevention of invasive species spread, and protection of quality aquatic habitat.

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 genetic analysis concerning hybridization of naturalized water chestnut specie in the United States. The estimated level of funding for FY21 is approximately \$15,000.00. Additional funds of \$15,000/year for 1 additional year may be available, providing the potential funding of \$30,000 over 2 years to the successful Recipient/Awardee. Depending on findings in the early years of this effort, funding needs may increase above the anticipated \$15,000/year in subsequent years of this project; however, total funding will not exceed \$30,000 over the life of this cooperative agreement.

Government Involvement:

How will the government be substantially involved?

The USACE will participate in study site selections, design, and work plan development. USACE will participate in field data collection efforts as appropriate and will review quarterly status reports and will provide input to data interpretation for final reports. USACE will assist in the dissemination of study results through local, regional, and potentially national and international scientific presentations and website postings to maximize academic and public benefit of these results. Scientific and technical information generated from the project will be utilized to evaluate the extent of genetic differences of water chestnut populations in the U.S. which will directly contribute to management strategies.

Section III: Eligibility Information

Eligible Applicants –

1. This opportunity is restricted to non-federal partners of the Rocky Mountains 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: phoebe.v.fuller@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 Phoebe Fuller, (601) 634-3793;
phoebe.v.fuller@usace.army.mil

2. Statement of Interest/Qualifications shall be submitted NO LATER THAN 08 April 2021 @ 1700 CST.

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 Phoebe Fuller, (601) 634-3793;
phoebe.v.fuller@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 03 May 2021 @ 1700 CST.

4. Submission Instructions

Applications may be submitted by 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 phoebe.v.fuller@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 an 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

Phoebe Fuller, Grants Specialist
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