

PROJECT ANNOUNCEMENT

US Army Corps of Engineers (USACE) Engineer Research and Development Center (ERDC)

Title: Oyster Larval Transport/Hydrodynamic Modeling for the Herring Bay Sanctuary,
Maryland

Announcement Type: Initial Announcement

Funding Opportunity Number: W81EWF-25-SOI-0008

Assistance Listing Number: 12.630

Date Issued: 18 June 2025

Key Dates: Phase I announcement will be open to receive statements of interest continuously until 2:00 Central Time (CT), 18 July 2025, at which point all statements of interest must be received.

If invited to Phase II, full proposal applications will be due at 2:00 Central Time (CT), 06 August 2025.

Estimated Award Ceiling: \$115,000

Estimated Total Program Funding: \$115,000

Agency Contact: Stacy Thurman, Stacy.D.Thurman@usace.army.mil

I. Program Description

A. Short Description of Funding Opportunity

ERDC seeks applications for: oyster larval transport and hydrodynamic modeling for the Herring Bay Sanctuary, Maryland

B. Background

The Chesapeake Bay Agreement 2014 goal of successfully restoring oysters to 10 tributary rivers, 5 in Virginia and 5 in Maryland is on track to be achieved in 2025. This was the initial goal of the Chesapeake Bay Program's Oyster Goal Implementation Team (GIT). In considering future restoration efforts, USACE-Baltimore District and the Maryland Department of Natural Resources (MDNR) are considering selecting Herring Bay, an open water sanctuary for a large-scale restoration project. Herring Bay is in the mainstem of the middle Chesapeake Bay along the western shoreline. The Herring Bay Sanctuary is expansive at 16,792 ac. Within the sanctuary, 7,981 (48%) is historic oyster bottom or Yates Bars that would be evaluated for restoration potential as part of the process to develop a restoration plan for the sanctuary. Historically, this portion of the Bay held abundant oyster habitat, but over harvesting, impaired water quality, loss of habitat, and disease have all contributed to low populations today. Limited sampling by the Maryland Department of Natural Resources (MDNR) have identified populations to be essentially eliminated from the existing sanctuary. Conditions including water quality and bottom substrate support reef restoration, however little information on reproduction and larval transport are available to support developing restoration plans. An understanding of local currents and their ability to transport oyster larvae to and within the sanctuary will play a key role in reestablishing sustainable oyster reef habitat and populations. It is known that most oyster reef systems consist of both source and sink reefs, with the source reefs providing oyster larvae to self-replenish, as well as providing larvae to other hydrodynamically-connected reefs (Lipcius et al. 2015, Theuerkauf et al. 2021). The intent of this investigation is to generate information to identify source and sink dynamics within Herring Bay. That information will be folded into tributary plan development to prioritize sites for restoration sites. Simulations from bio-physical models can be used to identify potential restoration sites based on how they fit into the regional metapopulation. USACE and MDNR intend to use the findings of the proposed modeling to identify a phased restoration plan to restore sustainable oyster populations to Herring Bay.

Lipcius, R.N., Burke, R.P., McCulloch, D.N., Schreiber, S.J., Schulte, D.M., Seitz, R.D., Shen, J., 2015. Overcoming restoration paradigms: Value of the historical record and metapopulation dynamics in native oyster restoration. *Frontiers in Marine Science* 2, 65.

Theuerkauf, S.J., Puckett, B.J., Eggleston, D.B., 2021. Metapopulation dynamics of oysters: sources, sinks, and implications for conservation and restoration. *Ecosphere* 12, e03573.

C. Program Description/Objective: (brief description of the anticipated work)

The objective of this investigation is to perform hydrodynamic modeling of the region with a linked oyster larval model in order to assess oyster larval transport and

metapopulation dynamics in the region and inform a restoration plan for the Herring Bay Sanctuary. Source and sink reefs should be identified, as well as reefs that auto-recruit sufficiently to be self-sustaining on their own. If possible, indicate, based on oyster biology, how large a particular source area should be to augment regional recruitment to a detectable level. Restoration in Herring Bay has the potential to be very expansive. Understanding the larval connections within and to Herring Bay will enable a multi-phase restoration plan to be developed. An additional objective is to understand from where larvae are transported to Herring Bay, thereby developing connectivity to other oyster restoration efforts as well as adjacent harvest grounds.

D. Public Benefit

Undertaking a large-scale ecosystem restoration project in the open, mainstem of the Chesapeake Bay is a new approach compared with past efforts that focused on retentive tributary systems. Determining how to implement mainstem restoration efforts could serve as a model for restoration in other regions.

The societal benefits from restoring functioning oyster reef habitat are numerous. Oysters are a keystone species in Chesapeake Bay providing unique hard habitat to reef-dwelling and reef-associated species. Once estimated to be able to filter the entire volume of Bay water in approximately three days, the present population, being severely depleted, takes over a year to perform this ecological service. Restored reefs are expected to improve water quality by restoring filtering capacity and increasing denitrification rates and water clarity. In addition to providing oyster habitat, the restored reefs will improve local production of commercially and recreationally valuable fished species, such as blue crabs. Further, oyster reefs stabilize sediment to improve water clarity. Understanding larval connections to adjacent areas could provide benefits to wild harvest areas.

The results of this study shall also be published in a peer-review journal in collaboration with Baltimore District personnel, to provide the information gathered in the proposed study to the wider scientific community.

E. Authorization: 10 USC 4001

F. Legal Requirements

Each Cooperative Agreement awarded under this announcement will be governed by 2 CFR 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards”, 2 CFR 1100 Subchapter D—Administrative Requirements Terms and Conditions for Cost-Type Grants and Cooperative Agreements to Nonprofit and Governmental Entities and the most current DoD research general terms and conditions located at <https://www.onr.navy.mil/work-with-us/manage-your-award/manage-grant-award/grants-terms-conditions>.

G. Program-Specific Requirements

The resulting agreement will be subject to the following:

1. The award recipient will attend regular review meetings and will work with USACE to

determine the necessary frequency of these meetings.

2. The award recipient shall be solely responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The recipient will be expected to comply with all environmental regulations and obtain all necessary licenses and permits for the selected operational setting.
3. All use of vehicles in the performance of this agreement, whether manned or unmanned, shall be in accordance with applicable state, Federal, and local laws, executive orders, rules and regulations, USACE policy, and university policy regarding the use and operation of vehicles. This applies to both recipient(s) and any subrecipients.
4. See Appendix C to Part 1122—Terms and Conditions for NP Article III, “National Policy Requirements Concerning Live Organisms” for requirements regarding research involving human subjects and animals and the following program-specific requirements:
 - a. Prohibition of Human Subjects Research: You will not commence performance of research involving human subjects that is covered under 32 CFR Part 219 or that meets exemption criteria under 32 CFR 219.104, or expend funding on such effort, until and unless the conditions of either the following paragraph (1) or (2) have been met:
 - (1) You furnish to the ERDC liaison to the Human Research Protection Official (HRPO), with a copy to the Grants Officer, an assurance of compliance, Institutional Review Board (IRB) approval, and associated research documents. You receive written notification from the Grants Officer that the HRPO has accepted the assurance as appropriate for the research under the agreement and also that the HRPO has reviewed the research and associated documents and accepted the IRB approval for compliance with the Department of Defense (DoD) component policies.
 - (2) You furnish to the ERDC liaison to the HRPO, with a copy to the Grants Officer, documentation as required by DoD R&D General Terms and Conditions, NP Article III, Section A.1.c., and receive written notification from the Grants Officer that the exemption is determined acceptable. The determination will include citation of the exemption category under 32 CFR 219.104 and associated study documents.
 - (3) The ERDC Liaison to the HRPO is:
Name: [To be Provided at Time of Award]
Phone: [To be Provided at Time of Award]
Email: [To be Provided at Time of Award]
 - b. Prohibition of the Use of Animals: Notwithstanding any other terms and conditions contained in this award or incorporated by reference herein, the recipient is expressly forbidden to use or subcontract for the use of animals in any manner subject to Department of Defense Instruction 3216.01, Use of Animals in DoD Programs (20 March 2019) and Defense Health Agency-Multi-Service Regulation 6025.02, The Care and Use of Animals in DoD Research,

Development, Test, and Evaluation (RDT&E) or Training Programs (1 September 2022), without the express written approval of the Animal Research Compliance & Oversight Office (ARCOO), Office of the Surgeon General, U.S. Army Medical Command. Written authorization to begin research under applicable protocol(s) proposed for this award will be issued in the form of an approval letter from ARCOO to the recipient with a copy to the ERDC Grants Officer. Furthermore, modifications to already approved protocols require approval by ARCOO prior to implementation. For each fiscal year, the recipient must maintain, and upon request from ARCOO, submit animal usage information. The recipient must promptly inform ARCOO of adverse events regarding animals under applicable protocol(s) associated with this award. These requirements are defined in the approval letter from ARCOO. Noncompliance with any of these terms and conditions may result in withholding of funds and/or the termination of the award. Questions regarding ARCOO protocol review processes should be directed to ARCOO at the following:

Phone: [To be Provided at Time of Award]

Email: [To be Provided at Time of Award].

II. Federal Award Information

The following information applies to awards issued under this announcement:

- This is a one-time initiative
- The Government anticipates 1 Federal awards from this announcement, but reserves the right to award more or less
- The total amount of funding expected to be awarded through this announcement is \$115,000
- The expected amount of funding for each award is \$115,000
- The expected award structure is by Year: Year 1 = \$115,000.
- Award(s) from this announcement will be Cooperative Agreement(s)
- The anticipated period of performance is 18 months.
- Applications for renewal or supplementation of existing projects are eligible to compete with applications for new Federal awards
- The government reserves the right to accept only portions of an application and to negotiate with potential awardees
- Government's substantial involvement includes the following: USACE personnel will assist in experimental design, provide maps of sites and locations of current and historic reef habitat in the Herring Bay Sanctuary and adjacent region, consult with the awardee on the specific proposed methodology to conduct the modeling, assist in production of a report that will also be published in a peer-reviewed science journal. USACE personnel will be co-authors on any peer-review articles that are produced from this study, assisting in writing as needed, and approve the document for publication.

III. Eligibility Information

A. Eligible Applicants

This opportunity is restricted to non-federal partners of the **Chesapeake Watershed** Cooperative Ecosystems Studies Unit (CESU).

Disclosures of current and pending support made in this application may render an applicant ineligible for funding. Prior to award and throughout the period of performance, ERDC may continue to request updated continuing and pending support information, which will be reviewed and may result in discontinuation of funding.

Religious organizations are entitled to compete on equal footing with secular organizations for Federal financial assistance as described in E.O. 13798, "Promoting Free Speech and Religious Liberty."

B. Cost Sharing or Matching

This action will be 100% funded by USACE.

C. Conflict of Interest

a) General Requirement for Disclosure

You and your organization must disclose any potential or actual scientific or nonscientific conflict of interest(s) to us. You must also disclose any potential or actual conflict(s) of interest for any identified sub recipient you include in your application. We may have to ask you more questions if we need more information.

At our discretion, we may ask you for a conflict-of-interest mitigation plan after you submit your application. Your plan is subject to our approval. Refer to 2 CFR §§ 200.112 and 200.318.

b) Scientific Conflict of Interest

Scientific collaborations on research and development projects are generally the result of close collaboration prior to the submission of applications for support. Accordingly, these collaborations should be considered when considering potential conflicts of interest. The potential conflict is mitigated by the disclosure of these collaborations, and the list of current and pending support you provide for senior and key researchers. Therefore, you must include in your list of current and pending support all collaborators, even if they did not formally provide support.

D. Certifications, representations, and assurances

1. To apply for grants and other funding opportunities the applicant entity must have an active registration in the System for Award Management (SAM). Applications will not be accepted through Grants.gov or other methods unless

the entity is registered in SAM. Registration in SAM now includes the acceptance of Certifications and Assurances. See <https://www.grants.gov/web/grants/grantors/grantor-standard-language.html> for details on how to register in SAM, and Grants.gov

2. The Federal Assistance Certifications Report is an attestation that the entity will abide by the requirements of the various laws and regulations; therefore, as applicable, you are still required to submit any documentation, including the SF-LLL Disclosure of Lobbying Activities (if award value exceeds \$100,000.00), and, if applicable, informing DoD of unpaid delinquent tax liability or a felony conviction under any Federal law.
3. Certification Regarding Disclosure of Funding Sources. By checking "I Agree" on the SF 424 (R&R) block 17 you agree to abide by the following statement: "By signing this application, I certify the proposing entity is in compliance with Section 223(a) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 which requires that: (a) the PI and other key personnel certify that the current and pending support provided on the proposal is current, accurate and complete; (B) agree to update such disclosure at the request of the agency prior to the award of support and at any subsequent time the agency determines appropriate during the term of the award; and (c) the PI and other key personnel have been made aware of the requirements under Section 223(a)(1) of this Act. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. code, Title 218, Section 1001)."

IV. Application and Submission Information (2 Phase Process)

A. Phase I: Submission of Statement of Interest (SOI)

1. Materials Requested for Statement of Interest/Qualifications:

a. Please provide the following via e-mail attachment to: Stacy Thurman, Stacy.D.Thurman@usace.army.mil (Maximum length: 2 pages, single-spaced 12 pt. font).

i. Name, Organization and Contact Information

ii. 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 Stacy Thurman, Stacy.D.Thurman@usace.army.mil

2. ERDC will only accept SOIs submitted on or before 18 July 2025, 2:00 Central Time (CT).

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.

B. **Phase II** (if invited): Submission of Full Application Package

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 Stacy Thurman, Stacy.D.Thurman@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. Specifically identify any anticipated requirement to use unmanned aircraft system(s).

Data Management Plan:

A data management plan is a document that describes which data generated through the course of the proposed research will be shared and preserved, how it will be done, or explains why data sharing or preservation is not possible or scientifically appropriate, or why the costs of sharing or preservation are incommensurate with the value of doing so. See also: DoD Instruction 3200.12.

<https://www.esd.whs.mil/Directives/issuances/dodi/>

Data management plans are generally 2 pages in length, and must include the following considerations:

- (1) The types of data, software, and other materials to be produced.
- (2) How the data will be acquired.
- (3) Time and location of data acquisition, if scientifically pertinent.
- (4) How the data will be processed.
- (5) The file formats and the naming conventions that will be used.
- (6) A description of the quality assurance and quality control measures during collection, analysis, and processing.
- (7) A description of dataset origin when existing data resources are used.
- (8) A description of the standards to be used for data and metadata format and content.
- (9) Appropriate timeframe for preservation.
- (10) The plan may consider the balance between the relative value of data preservation and other factors such as the associated cost and administrative burden. The plan will provide a justification for such decisions.
- (11) A statement that the data cannot be made available to the public when there are national security or controlled unclassified information concerns (e.g., “This data cannot be cleared for public release in accordance with the requirements in DoD Directive 5230.09.”)

When preparing the Data Management Plan, it must be numbered to coincide with the above criteria that shall 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 a full budget in sufficient detail so that a reasonableness determination can be made. A recommended template will be included in the invitation to Phase II. The SF 424 Research & Related Budget Form can be used as a guide but is required if the sub-recipient uses it. 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.

d. R&R Senior/Key Person Profile

1. Biographical Sketch
2. Disclosure of Current and Pending Support:
 - i. A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
 - ii. Title and objectives of the other research projects.
 - iii. The percentage per year to be devoted to the other projects.
 - iv. The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other applications are awarded.
 - v. Name and address of the agencies and/or other parties supporting the other research projects.
 - vi. Period of performance for the other research projects.

e. SF-LLL Disclosure of Lobbying Activities (if award value exceeds \$100,000.00)

f. R&R Other Project Information

3. ERDC will only accept full application packages submitted on or before 06 August 2025, 2:00 Central Time (CT).

4. Submission Instructions

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 Stacy Thurman, Stacy.D.Thurman@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>.

Organizations must have a Unique Entity Identifier (UEI) and active System for Award Management (SAM) registration to apply for Federal financial assistance.

C. Application Withdrawal:

An applicant may withdraw an application at any time before award by written notice via email. Notice of withdrawal shall be sent to the agency point of contact identified in this announcement, and are effective upon receipt.

D. Funding Restrictions

Per 2 CFR § 200.216, funds may not be used to procure telecommunications equipment or video surveillance services or equipment produced by entities identified therein.

Funds from an award may not be used to attain fee or profit.

V. Application Review Information

A. Selection Criteria

Applications will be evaluated using the following criteria, listed in descending order of importance:

- Technical merits of the proposed research and development; and
- Potential relationship of the proposed research and development to Department of Defense missions
- Cost/Price: Overall realism of the proposed costs

B. Review and Selection Process:

Each application will be reviewed based on the selection criteria above rather than against other applications submitted under this Announcement.

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.

In addition to the technical/program review, the DoD performs a budget review and a risk review as directed by 2 CFR 200.206, including a review of the Federal Awardee Performance and Integrity Information System (FAPIIS). Applicants may review information in FAPIIS and comment on any information entered into that system. Comments made by applicants will be taken into account in addition to other information in considering applicants' integrity, business ethics, and record of performance.

VI. Federal Award Administration Information

The notification e-mail regarding a selection is not authorization to commit or expend DoD funds. A DoD grants officer is the only person authorized to obligate and approve the use of federal funds. This authorization is in the form of a signed Notice of Award. Applicants whose applications are recommended will be contacted by a DoD grants officer to discuss any additional information required for award. This may include representations and certifications, revised budgets or budget explanations, or other information as applicable to the proposed award. The award start date will be determined at this time.

VII. Reporting Requirements

The terms and conditions of the award will provide the specifics on how to submit the reports and any required sections for those reports.

The following is required in accordance with 2 CFR 200.328 (Financial Reporting) and 2 CFR 200.329 (Program Performance):

Report	Requirements/Form	Frequency	Means of Submission
ERDC Progress Report	Progress during the period covered by the corresponding SF 270	Upon SF-270 submission	E-mail
Research Performance Progress Reports (Interim and Final)	OMB 0690-0032	Annually	E-mail
Financial Report	SF 425	Quarterly	E-mail
Payment Report	SF 270	Monthly	E-mail
Invention/Patent (IP) Report, if applicable & IAW 37 CFR 401.14 (c)	Form DD882	Annually	E-mail
Annual Inventory of Federally Owned Property, if applicable	See REP Article III.C of DoD R&D General Terms and Conditions	Annually	E-mail
Notification of Loss,	See REP Article III.C of		

Damage or Theft of Federally Owned Property, if applicable	DoD R&D General Terms and Conditions	Upon occurrence	E-mail
Closeout Report	See OAR Article VI of DoD R&D General Terms and Conditions	Once	E-mail

Awardees will need to comply with the reporting requirements in 2 CFR 170: Reporting Subaward and Executive Compensation Information.

The terms and conditions of the award will provide the specifics on how to submit the reports and any required sections for those reports.

VIII. Federal Contacts

Questions should be directed to:

Stacy Thurman,
Grants Specialist
Stacy.D.Thurman@usace.army.mil

Zavien Beal
Grants Officer
Zavien.T.Beal@usace.army.mil

Questions regarding Grants.gov should be directed to: the toll-free number 1-800-518-4726 and email at support@grants.gov.

IX. Other Information

The Federal government is not obligated to make any Federal award as a result of the announcement. Only grants officers can bind the Federal government to the expenditure of fund.

Applicants are advised to monitor Grants.gov for potential amendments to this Notice of Funding Opportunity. You can also elect to be automatically notified by Grants.gov whenever there is a change to the opportunity.

Applications must not include any information that has been identified as classified national security information under authorities established in Executive Order 12958, Classified National Security Information.