

## Chesapeake Bay Trust

# REQUEST FOR PROPOSALS

### CONSULTANT SERVICES

## TECHNICAL ASSISTANCE TO SUPPORT CHESAPEAKE BAY PROGRAM GOALS AND OUTCOMES - FISHERIES, HABITAT, WATER QUALITY, STEWARDSHIP, LEADERSHIP, AND CLIMATE

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### SECTION I - INTRODUCTION

#### 1.1 Purpose

The purpose of this Request for Proposals ("RFP") is to invite entities experienced in various aspects of fisheries, watershed science and policy, watershed stewardship, outreach and training, climate resilience, submerged aquatic vegetation (SAV), and other watershed issues to submit proposals to the Chesapeake Bay Trust ("the Trust"). The Trust has been designated to receive federal funds from the U.S. Environmental Protection Agency as part of the Chesapeake Bay Program ("CBP") Goal Implementation Team Project Initiative. The work to be supported will advance specific outcomes from the 2014 Chesapeake Bay Watershed Agreement that have been identified as top priorities to address, and these stretch across all Goal Implementation Teams ("GITs") and workgroups. The funding is supplied by the United States Environmental Protection Agency ("EPA").

This program and RFP includes twelve projects that have been separated into twelve individual scopes of work. Offerors can bid on one or more of the individual scopes of work, with each scope of work addressed in a separate proposal. The twelve individual scopes of work are listed below, and scope details and qualifications of Offerors are described in more detail in Appendix A. A maximum bid amount is listed for each project scope. Cost will be a factor in evaluation of bids as described in Section IV.

#### 1.2 Services/Scopes of Work and Offeror's Minimum Qualifications

Find below the list of the twelve scopes of work, expected deliverables, and minimum qualifications of Offerors.

Note, where applicable, draft reports, data, and deliverable products should be provided to the technical leads sufficiently in advance of the end of the contract date such that an effective iterative process can take place before the contract terminates. These materials, depending on the nature of the deliverable, should be provided in draft report form or in the form of a Goal Implementation Team or workgroup summary presentation. This will allow technical leads, Goal Implementation Teams, workgroups and other CBP

partners to review, provide comments, ask questions, and get clarification related to the project directly from the awardee. The draft review process should be reflected in all RFP responses where applicable; awardee hours should be allocated to the oral presentation of final draft results to the CBP via one webinar. The appropriate CBP lead, in cooperation with the awardee, will determine when that presentation would be most advantageous. Any substantive comments, questions or edits received through this process should be incorporated into the final deliverable products. Develop a timeline that will account for this iterative process.

A list of the Scopes of Work is provided below with details for each scope of work including the maximum bid and minimum qualifications provided in Appendix A.

**List of Scopes of Work:**

<b>Scope #</b>	<b>FFY19 Scope Title</b>	<b>Maximum Bid Amount</b>
Scope of Work 1:	Improved Technical Service Delivery to Landowners: Achieving Multiple CBP Outcomes	\$54,000
Scope of Work 2:	Building a Bay-Wide Scorecard to Track Climate Resilience for Watershed Communities	\$75,000
Scope of Work 3:	Chesapeake Bay Striped Bass Nursery Habitat Assessment	\$85,000
Scope of Work 4:	Piloting the Development of Probabilistic Intensity Duration Frequency (IDF) Curves for the Chesapeake Bay Watershed	\$150,000
Scope of Work 5:	Development of the “Maryland Stream Crossing Design Guidance: A Fish-Friendly Stream Crossing Design Handbook”	\$84,000
Scope of Work 6:	Development of Technical Guidance Manual and Outreach Materials for Small-scale Submerged Aquatic Vegetation Restoration in Chesapeake Bay and its Tidal Tributaries	\$50,000
Scope of Work 7:	Targeted Local Outreach for Green Infrastructure in Vulnerable Areas	\$65,000
Scope of Work 8:	Increasing Diversity in the Chesapeake Bay Program Partnership through Cultural Competency Training	\$15,000
Scope of Work 9:	Developing a Regional Outdoor Learning Network to Support MWEE Implementation	\$50,000
Scope of Work 10:	Correctional Conservation Collaborative: Achieving Pennsylvania Forestry Goals through Workforce Development	\$75,000
Scope of Work 11:	Implementation of Chesapeake Healthy Watersheds Assessment in Maryland’s Tier II Watersheds	\$55,000
Scope of Work 12:	Cross-outcome Watershed Educational Materials for Local Governments	\$50,000

## **SECTION II – BUDGET AND ADDITIONAL SERVICES**

**Amount Available:** It is anticipated that as a result of this procurement action, one contract will be awarded for each Scope. Each successful bidder for each Scope may be engaged in one additional phase of work through this procurement action.

**Additional Services.** The Contract Officer may request ancillary or additional services within the capacity of the Contractor as may be useful or necessary in the interests of the Trust and the Project for the above Scope of Work.

**ADD/DEDUCT:** The Trust reserves the right to add or remove items from the base bid proposal during the contract and modify or adjust scope of work and payment as needed.

## **SECTION III - PROPOSAL FORMAT AND SUBMISSION INFORMATION**

### **3.1 Principal Solicitation Officer and Issuing Office:**

Contract Officer: Sarah Koser  
Telephone Number: 410-974-2941, ext. 106  
E-Mail: skoser@cbtrust.org  
Address: Chesapeake Bay Trust  
108 Severn Avenue  
Annapolis, MD 21403

The sole point of contact for the purpose of this RFP is the Contract Officer.

**3.2 Prospective Offerors:** An “Offeror” is a person or entity that submits a proposal in response to this RFP.

**3.3 Cancellation; Discretion of Contract Officer:** This RFP may be canceled in whole or in part and any proposal may be rejected in whole or in part at the discretion of the Contract Officer. In addition, the Contract Officer has the right to negotiate separately with any Offeror in any manner which will best serve the interests of the Trust. The Contract Officer may waive any mandatory condition or minimum qualification if the Contract Officer determines that such action is in the best interest of the Trust.

**3.4 Submission Instructions/Proposal Closing Date:** Offerors must submit proposals using our Online Application System, located at: [https://www.grantrequest.com/SID\\_1520?SA=SNA&FID=35071](https://www.grantrequest.com/SID_1520?SA=SNA&FID=35071) no later than **4:00 p.m. on Thursday, December 12, 2019** (the "**Closing Date**"). Requests for extensions will not be granted, late applications will not be accepted, and the online funding opportunity will close promptly at 4:00 pm. **Offerors are strongly encouraged to submit at least a few days prior to the deadline** given potential for high website traffic on the due date. The Trust cannot guarantee availability of Online Application System technical assistance on the deadline date. If email confirmation of submission is not received within two business days, please contact the Principal Solicitation Officer listed in Section 3.1.

Proposals are irrevocable for 90 days following the Closing Date.

**3.5 Proposal Format:** An Offeror may bid on more than one scope of work outlined in Appendix A in separate proposals.

Narrative:

You will be asked to submit a narrative. Each proposal (i.e., a submission in response to each Scope of Work) must include responses to a through e in a concise (≤ 5 page) description. Items f, g, and h may be addressed outside of the 5-page limit and may be attached as additional pages. All material must be submitted in one electronic file.

- a) Names of individuals providing the services and number of years of experience in such areas
- b) Scope on which the Offeror is bidding: Scopes #1 through 12
- c) The individual’s proposal for how to address the elements of the Scope(s) of Work and required outcomes described in the deliverables section (in Appendix A)
- d) Response to the qualifications section: a description of the experience to provide services in the topics described above as described in Appendix A
- e) Names, phone numbers, and email addresses of three references
- f) Provide the deliverables schedule using the table format below and include details for the deliverable format (e.g., excel spreadsheet). A template is provided for the first deliverable. Add rows for additional deliverables. Awards will be managed as firm-fixed-price contracts.

Table X. Project deliverables and timeline.			
Report # and Reporting Period	Project Deliverables	Date of Delivery	Amount
Report #1: X/X/20XX to X/X/20XX	The deliverables are: • (add deliverables here)	X/X/20XX	\$

- g) The resume or CV of the individual(s) providing the service
- h) Any other information which the Offeror considers relevant to a fair evaluation of its experience and capabilities

Budget:

The budget is a spreadsheet that is uploaded separately into the online application. **The Offeror shall submit a budget including total number of hours and hourly rate of compensation for the services to be performed during the term of the Contract broken down by direct rate, benefit rate, indirect rate, profit, and direct expenses; any additional costs required to complete the project; and total compensation.** Under this program, food and beverage costs will not be supported. Use the Application Budget worksheet in the Financial Management Spreadsheet accessible at [www.cbtrust.org/forms](http://www.cbtrust.org/forms), and if needed, provide additional justification or explanation as an attachment to the proposal. The proposed rates of compensation will be irrevocable for a period of 90 days from the Closing Date, or if modified during negotiations, for a period of 90 days from the date such modified rates are proposed by the Offeror. If your proposed indirect rate is higher than 10% of the direct costs and your proposal is selected for funding, you will be required to provide the Negotiated Indirect Cost Rate Agreement (NICRA) documentation.

**3.6 Professional Liability Insurance:** The Offeror shall agree to maintain in full force and effect during the term of the Contract usual and customary amounts of liability insurance coverage in connection with the performance or failure to perform services under the Contract.

**3.7 Eligible Organizations:** No entity may enter into a Contract with the Chesapeake Bay Trust under this funding opportunity if the entity is listed in [www.sam.gov](http://www.sam.gov) as debarred, suspended, or otherwise excluded and unless the entity has provided its DUNS (Dun & Bradstreet) number to the Trust. You will be asked to submit your DUNS number in the online application form.

**3.8 Subcontracting Opportunities and Procurement:** It is assumed this solicitation will result in one small procurement(s) per bid that will not provide realistic opportunities for subcontracting, though multiple organizations may apply as a collaborative or partnership with an identified project lead. If, however, an Offeror considers subcontracting of services to be available, it is assumed that all subcontracting service procurements should be under the threshold of small procurement, which is \$150,000, given the scope of the work and maximum bid amounts. The Offeror should specify the intent to procure subcontracting services and demonstrate compliance with federal procurement guidelines for all subcontracting services between \$3,000 and \$150,000:

- a) Obtain three estimates for subcontracted work and show Good Faith Efforts to engage minority/disadvantaged/women/small business enterprise (MBE/DBE/WBE/SBE) by reaching out to DBE/MBE/WBE/SBE firms to submit estimates/bids, documenting Good Faith Efforts to engage Disadvantaged Business Enterprises and estimates. The following website may be helpful in identifying firms: <https://mbe.mdot.maryland.gov/>, <https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise/dbe-program-points-contact>, OR
- b) Obtain services through a competitive bid, documenting Good Faith Efforts to engage Disadvantaged Business Enterprises and estimates.

All subcontractors must be verified by checking at [www.sam.gov](http://www.sam.gov) to ensure that they have not been suspended, debarred, excluded, or disqualified to do work with federal government resources.

## **SECTION IV - EVALUATION PROCEDURE**

**4.1 Qualifying Proposals:** The Contract Officer will review each proposal for compliance with the minimum qualifications set forth in "Offeror's Minimum Qualifications."

**4.2 Deviations and Negotiation:** The Contract Officer shall have the sole right to determine whether any deviation from the requirements of this RFP is substantial in nature, and the Contract Officer may reject non-conforming proposals. In addition, the Contract Officer may waive minor irregularities in proposals, allow an Offeror to correct minor irregularities, and negotiate with responsible Offerors in any manner deemed necessary or desirable to serve the best interests of the Project.

**4.3 Evaluation:** Proposals shall be evaluated by a review committee composed of technical experts and facilitated by the Contract Officer. Evaluation will be made on the basis of the evaluation criteria discussed below and may include any oral presentation that may be required by the Contract Officer, through a recommendation by the technical review committee, at his or her discretion. The Contract Officer reserves the right to recommend an Offeror for contract award based upon the Offeror's proposal

without oral presentations or further discussion. However, the Contract Officer may engage in further discussion if he or she determines that it might be beneficial. In such case, the Contract Officer will notify those responsible Offerors with whom further discussion is desired. In addition, the Contract Officer may permit qualified Offerors to revise their proposals by submitting "best and final" offers.

**4.4 Evaluation Considerations:** Proposals and any oral presentation by Offerors who meet the minimum qualifications set forth in Appendix A will be evaluated by the technical review committee on the basis of the following factors:

- a) Proposed Team (Specific Individual(s) Responsible for Performance of Contract). Evaluation of the qualifications, reputation, and compatibility with needs of the Trust and the Project of the individual or individuals who will perform the Contract.
- b) Proposed Approach. Evaluation of the work to be performed to accomplish the goals outlined in the Scopes of Work in Appendix A.
- c) Experience of Offeror. Evaluation of the quality and quantity of the Offeror's experience and expertise in the areas proposed, supported by references.
- d) Capacity. Evaluation of the Offeror's ability and commitment to meet timeline for the Project.
- e) Price and Hours. Hourly rate, indirect rate, and number of hours to be devoted to the project.

## **SECTION V: OTHER INFORMATION**

**5.1 Disclosure:** Proposals submitted in response to this RFP may be provided to government agencies and be subject to disclosure pursuant to the provisions of the Access to Public Records Act of the State Government Article of the Annotated Code of Maryland (the "Public Information Act") or equivalent for your area. Offerors must specifically identify those portions of their proposals, if any, which they deem to contain confidential or proprietary information and must provide justification why such materials should not, upon request, be disclosed by the State under the Public Information Act.

**5.2 Quality Assurance Project Plan:** Several of the scopes of work listed in Appendix A will require a Quality Assurance Project Plan ("QAPP"). General guidance on QAPP's can be found on the EPA QAPP website: <https://www.epa.gov/osa/elements-quality-assurance-project-plan-qapp-collecting-identifying-and-evaluating-existing>. If data originates from sources other than federal reports and peer reviewed journals, a statement on data quality suitability will be required in the final report. When submitting a proposal for a scope of work that requires a QAPP, the Offeror should understand and account for any costs associated with completing this component of the work.

**5.3 Expenses:** The Trust and the Contract Officer are not responsible for any direct or indirect expenses that an Offeror may incur in preparing and submitting a proposal, participating in the evaluation process, or in consequence of this solicitation process for any reason.

**5.4 Acceptance of Terms and Conditions:** By submitting a proposal in response to this RFP:

- a) the Offeror accepts all of the terms and conditions set forth in this RFP;
- b) the Offeror, if selected for award, agrees that it will comply with all federal, State, and local laws applicable to its activities and obligations under the Contract;
- c) the Offeror shall be deemed to represent that it is not in arrears in the payment of any obligation due and owing the United States Government or the State or any department or unit thereof,

- including, without limitation, the payment of taxes and employee benefits, and, if selected for award, that it shall not become so in arrears during the term of the Contract; and
- d) the Offeror, acknowledges that they are compliant with federal employment and non-discrimination laws and have not been debarred, convicted, charged or had civil judgment rendered against them for fraud or related offense by any government agency (federal, State, or local) or been terminated for cause or default by any government agency (federal, State, or local).

**5.5 Minority Business Enterprise (MBE) Program, the Disadvantaged Business Enterprise (DBE) Program, Women Business Enterprise (WBE), and Small Business Enterprise (SBE) Program Participation:** This RFP encourages the participation of MBE/DBE/WBE/SBE firms (members of a group as defined in the State Finance and Procurement Article of the Annotated Code of Maryland (the "Procurement Article"), Section 14-301(f)(i)(ii)). The Trust encourages MBE/DBE/WBE/SBE firms who meet the minimum qualifications to respond to this RFP.

**5.6 Parties to the Contract:** The contract to be entered into as a result of this RFP (the "Contract") shall be between the successful Offeror (the "Contractor") and the Trust and may be subject to EPA approval prior to Contract award.

**5.7 Contract Documents.** The Contract shall include the following documents: this RFP, the Contractor's Proposal (to the extent not inconsistent with the RFP or the Contract), and the Contract. In the event of an inconsistency, the Contract shall have priority over the other documents and specific conditions of the Contract shall have priority over General Conditions.

**5.8 Contract Term.** The Contract term shall commence as of a date to be specified in the Contract and, unless sooner terminated in accordance with the Contract, shall end when all work authorized under the Contract has been successfully completed by the project end date, unless the Contract is renewed or extended at the sole option of the Contract Officer.

**5.9 Billing Procedures and Compensation.**

- a) **Method:** The Contracts to be entered into as a result of this RFP will not exceed the small procurement threshold fixed at 41 U.S.C. 403 (11) (currently \$150,000). The Contractor(s) must comply with billing procedures as may be required by the Contract Officer and US EPA. These may entail monthly reporting of time and eligible expenses or may be based upon satisfactory completion of benchmark tasks.
- b) **Records:** The Contractor(s) shall submit invoices in a form acceptable to the Contract Officer and maintain records relating to the costs and expenses incurred by the Contractor(s) in the performance of the Contracts for a period of three years from the date of final Project payment under the Contracts.

**5.10 Certification.** The Offeror shall certify that, to the best of its knowledge, the price information submitted is accurate, complete, and correct as of the Closing Date, and if negotiations are conducted as of the date of "best and final offer."

**5.11 Branding.** All products (outreach materials, events) will be branded with the US EPA and Chesapeake Bay Trust logos.



# FFY19 Goal Implementation Team Projects APPENDIX A: Scopes of Work



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## **Overview of Scopes of Work**

The tables below present the descriptions of twelve scopes of work, including but not limited to expected deliverables and minimum qualifications of Bidders.

Each scope of work is presented in table format with the following sections:

<b><u>Goal Implementation Team (GIT)</u></b>	This section indicates the Goal Implementation Team (GIT) that is presenting the scope of work for bid.
<b><u>Purpose and Outcomes</u></b>	This section provides the purpose of the work and the expected outcomes of the work. This section provides background information and context for potential Bidders.
<b><u>Maximum Bid Amount</u></b>	This section identifies the maximum bid amount allowed for the scope of work.
<b><u>Project Steps and Timeline</u></b>	<p>This section outlines the specific steps and proposed timeline of work that should be accounted for by the Bidder. The Bidder should also account for and provide detail regarding any additional steps or work that may be undertaken to deliver the final products as listed in the “Deliverables” section of the table for that scope of work.</p> <p>Additional project steps and extended timelines may be added throughout the project as agreed upon by the chosen Contractor, the GIT team, the Chesapeake Bay Program (CPB), and the Chesapeake Bay Trust (Trust).</p>
<b><u>Stakeholder Participants</u></b>	This section lists the project participants that the Bidder will need to engage throughout the project to meet the deliverables of that scope of work.
<b><u>Deliverables</u></b>	<p>This section outlines the specific final products that will need to be submitted and approved by the GIT and Trust teams in order to successfully meet the terms of the contract.</p> <p>Additional deliverables may be added throughout the project as agreed upon by the chosen Contractor, the GIT team, the CPB, and the Trust.</p>
<b><u>QAPP (Quality Assurance Project Plan) Requirement</u></b>	<p>This section identifies if there is a need for a Quality Assurance Project Plan (QAPP). General guidance on QAPP’s can be found on the Environmental Protection Agency (EPA) QAPP website: <a href="https://www.epa.gov/osa/elements-quality-assurance-project-plan-qapp-collecting-identifying-and-evaluating-existing">https://www.epa.gov/osa/elements-quality-assurance-project-plan-qapp-collecting-identifying-and-evaluating-existing</a>. If data originates from sources other than federal reports and peer reviewed journals, a statement on data quality suitability will be required in the final report. When submitting a proposal for a scope of work that requires a QAPP, the Bidder should understand and account for any costs associated with completing this component of the work.</p> <p>Additional information about QAPP’s can be found in the following documents:</p> <ol style="list-style-type: none"> <li>1. <i>EPA Requirements for Quality Assurance Project Plans</i>, QA/R-5, March 2001</li> <li>2. <i>Guidance for Quality Assurance Project Plans</i>, QA/G-5, December 2002 (<a href="http://www.epa.gov/quality/qs-docs/g5-final.pdf">http://www.epa.gov/quality/qs-docs/g5-final.pdf</a>)</li> </ol> <p>In some cases when secondary data is used, a QAPP is required. Guidance for developing a QAPP for secondary data can be found at <a href="https://www.epa.gov/quality/quality-assurance-project-plan-requirements-secondary-data-research-projects">https://www.epa.gov/quality/quality-assurance-project-plan-requirements-secondary-data-research-projects</a>. If data originates from sources other than federal reports and peer reviewed journals, a statement on data quality suitability will be required in the final report.</p>
<b><u>Qualifications of Bidder</u></b>	This section outlines the experience required by the Bidder’s personnel assigned to perform under the Contract.

Please note, if awarded funding, where applicable, draft reports, data, and deliverable products should be provided to the GIT technical leads (GIT point of contact for the scope of work) sufficiently in advance of the end of the contract date such that an effective iterative process can take place before the contract terminates. These materials, depending on the nature of the deliverable, should be provided in draft report form or in the form of a GIT or workgroup summary presentation. This will allow technical leads, GITs, workgroups and other Chesapeake Bay Program (CBP) partners to review, provide comments, ask questions, and get clarification related to the project directly from the Contractor. The draft review process should be reflected in all Requests for Proposals (RFP) responses where applicable; contractor hours should be allocated to the oral presentation of final draft results to the CBP via one webinar. The appropriate CBP lead, in cooperation with the Contractor, will determine when that presentation would be most advantageous. Any substantive comments, questions or edits received through this process should be incorporated into the final deliverable products. Finally, Bidders should develop a timeline that will account for this iterative process.

**Scope of Work 1: Improved Technical Service Delivery to Landowners: Achieving Multiple CBP Outcomes (Maximum Bid: \$54,000)**

<b><u>Goal Implementation Team (GIT)</u></b>	Maintain Healthy Watersheds Goal Implementation Team (GIT 4)
<b><u>Maximum Bid Amount</u></b>	\$54,000
<b><u>Purpose and Outcomes</u></b>	<p>Our success to achieve Bay water quality and habitat goals is largely dependent on successfully engaging private landowners to implement practices. Collectively, individual Technical Service Providers (TSPs, defined in Stakeholder Participants below) have a wealth of knowledge on landowner financial assistance programs, landowner attitudes, barriers to adoption and effective incentives for a variety of Best Management Practices (BMPs). However, this knowledge has not been synthesized or shared across all TSPs and the restoration community, resulting in missed opportunities for 1) combining programs and BMPs to achieve holistic, integrated restoration at the parcel-scale, and 2) leveraging this information to identify regional opportunities to accelerate implementation. This project will compile, synthesize, and share information through a series of workshops and while at the same time leveraging the products of prior GIT-funded projects and efforts such as 1) Wetland Landowner Outreach Tool, 2) Quantification of Green Infrastructure Hazard Mitigation Related to Inland and Coastal Flooding, 3) Black Duck Decision Support tool 4) Healthy Watersheds Watershed Implementation Plan (WIP) guidance and others as applicable, to support improved delivery of technical services across the Bay watershed.</p> <p>We know that implementing BMPs on private lands is paramount to the success of CBP goals, but effective landowner outreach is considered a barrier by many GITs. Most privately held parcels provide a mix of water quality and habitat enhancement opportunities, which underscores the need to develop a system to deliver an integrated suite of services. We also know that, within a discrete geographic area, various TSPs have personal relationships with landowners and/or are known to be “trusted messengers”. However, many of these TSPs are unaware of all the landowner restoration programs available and the various contacts for these programs, leading to missed opportunities for effective landowner outreach and integrated service delivery.</p> <p>A coordinated system is needed that provides multidisciplinary cross-training and communication networks across the TSP community. Trusted messengers can rely on this network to pull in the needed resources to satisfy the water quality and habitat interests of private landowners at the whole parcel scale.</p>

As part of this project, three workshops are required to be conducted across the Chesapeake Bay watershed within three regional focus areas (Eastern Shore, Susquehanna River Basin, lower Western Shore), which also align with state-identified healthy watersheds. The objectives are to convene regional TSPs, share knowledge of landowner attitudes, the demographics of landowners reached, barriers to adoptions and effective incentives and financial resources, identify commonalities and differences among various habitat and water quality BMPs and develop a conceptual model, that is sustainable and reproducible for improving holistic, integrated service delivery to farm and forest land owners. This project will build on lessons learned from New England Regional Conservation Partnerships (RCPs), more info here:

<https://www.wildlandsandwoodlands.org/rcpnetwork>

The RCPs focus on developing networks that enhance collaboration among TSPs and landowners that avoid “random acts of conservation” and improved service delivery. In the 1990s, there were four RCPs in the New England area. Today there are 43 which cover over 60% of the region’s land area. Keys to this success will be evaluated to help inform this effort. The “Envision the Choptank” and Delmarva Restoration Conservation Network initiatives will also be reviewed and consultation with the project leads will be required.

Expected outcomes include:

1. More effective landowner outreach through “trusted messenger” contact and multi-disciplinary cross training and service delivery.
2. Increased understanding of landowner attitudes toward habitat BMPs, barriers to adoption, and effective incentives across different regions of the Chesapeake.
3. Applied use of decision support, guidance and landowner outreach tools, initiated with community and local government partners.
4. Increased understanding of how well current outreach efforts (contact with landowners, delivery of technical services, etc.) are reaching/engaging landowners that are representative of the entire targeted population along gender, race, age, socioeconomic and other attributes. The findings, which could be a subject of discussion at the workshop, will also be evaluated through pre- and/or post-workshop surveys to inform whether Diversity, Equity and Inclusion training could help address outreach gaps as a follow-up action.
5. TSP skill development to address hurdles, identify key programs and funding sources and ensure follow-up
6. Integrated, multi-disciplinary delivery of services to landowners that optimize habitat and water quality co-benefits, such as wetlands, living shorelines and riparian forest buffers.
7. Foundation for a TSP knowledge network that allow TSPs to know each other, their geographical areas and expertise, and have access to points of contact to foster continued collaboration.
8. Development of a framework for TSP network development, informed by workshop feedback, that is sustainable and can be replicated across the Bay watershed and beyond the three regional focus areas in this Scope. More information on possible elements of a framework are provided in Deliverable #7 below. This would be the basis for funding a potential, future Scope.

This project focuses on the implementation of improving integrated delivery of technical and financial services to private landowners through the development of coordinated TSP networks. This focus differs from the intent of the “Targeted Local Outreach for Green Infrastructure in Vulnerable Areas,” a current GIT-funded Scope, in which local decision makers in targeted areas will be better-equipped to make decisions that address climate vulnerabilities with techniques that also help meet Total Maximum Daily Loads (TMDLs) and implement BMPs (that benefit habitat for wildlife and communities).

	<p>The successful bidder should propose a methodology that meets the proposal outcomes. Travel budgets should include travel stipends to support TSP expenses to attend, including meals, and any costs associated with securing the workshop space locations. The steering committee will assist in finding locations at no cost, but this cannot be guaranteed. The budget should show a full breakdown of costs related to workshop expenses, billable hours for facilitation support and workshop planning, overhead expenses, and other details.</p>
<p><b><u>Project Steps and Timeline</u></b></p>	<p><b>Step 1: 3/1/2020 to 6/30/2020 (4 months)</b>  Inventory TSP partners, implementation resources, cross-training opportunities and lessons learned from other regional conservation and restoration partnerships.</p> <ol style="list-style-type: none"> <li>1. Form a steering committee to include representatives of various TSP sectors and project management team.</li> <li>2. Identify who the existing TSPs are in the three regional focus areas (selected by the steering committee, but defined as the Eastern Shore, Susquehanna River Basin, lower Western Shore) and the services provided.</li> <li>3. Perform a Pre-Workshop Survey to develop baseline of delivery and implementation approaches and their effectiveness</li> <li>4. Inventory existing landowner outreach decision support tools; for example, Wetlands Work website, Riparian Forest Buffer website, etc.</li> <li>5. Interview existing conservation/restoration partnerships to develop case study examples for workshop discussion.</li> <li>6. Work with CBP Diversity workgroup to assist with evaluating opportunities for promoting Diversity, Equity, and Inclusion (DEI).</li> </ol> <p><b><u>Deliverables:</u></b></p> <ul style="list-style-type: none"> <li>• List of TSPs with contact information for the three regional focus areas</li> <li>• Pre-workshop survey responses</li> <li>• Synthesis of services and programs available through TSPs and training programs for TSPs in each area</li> <li>• Summary of landowner outreach decision support tools, examples of how they are being used to facilitate implementation.</li> </ul> <p><b>Step 2: 7/1/2020 to 9/30/2020 (3 months)</b>  Conduct a minimum of three regional focus area TSP workshops (one in each area) that may be one to two days in length.</p> <ol style="list-style-type: none"> <li>1. Plan workshops with steering committee</li> <li>2. Develop a detailed agenda with goals and outcomes for each session that will incorporate discussions on: <ol style="list-style-type: none"> <li>a. effective delivery and implementation approaches (e.g. effective incentives, outreach methods, barriers to adoption)</li> <li>b. demographics of landowners currently reached and how to diversify</li> <li>c. the products, trainings, network/communication support structure that TSPs need</li> </ol> </li> <li>3. Conduct workshops for TSPs to share their experiences, successes, and challenges to implementing habitat and water quality BMPs and evaluate opportunities to improve communication and delivery of integrated restoration practices through this network. Travel stipends to non-federal workers are encouraged to support participation. Proposed budget should also provide for workshop location fees. The steering committee will assist in finding locations that are free of charge, but this cannot be guaranteed.</li> <li>4. Perform a Post-Workshop Survey and compare results to the Pre-Workshop Survey.</li> <li>5. Synthesize and distribute the results and recommendations from the workshop.</li> </ol>

Deliverables:

- Report summarizing the discussion at each of the 3 regional focus area workshops, similarities and differences between regions, and recommendations for advancing efforts across the watershed.

**Step 3: 10/1/2020 to 2/28/2021 (5 months)**

Phase III: Develop a conceptual model to enhance habitat TSP networks across the Bay watershed:

1. Survey TSP participants 3 months after workshops to evaluate effectiveness of cross-training and implementation resource discovery on implementation efforts.
2. Based on workshop research and post workshop survey results, develop recommendations and a conceptual model, which may be customized based on regional management issues and would be eligible for future GIT funding.

Deliverables:

- Post-workshop survey with responses
- Report that includes summary of workshop effectiveness and a conceptual model to enhance coordination and multi-disciplinary landowner outreach. The conceptual model is likely to include a blueprint of the products needed to synthesize the services, programs, and financial resources available; the trainings needed by TSPs; strategies for engaging a greater diversity of landowners; and recommendations for the types of network/communication support structure needed to enhance coordination across TSPs.

Final Recommendations and Transferability Package white paper that provides recommendations and outlines next steps for developing TSP networks, addressing any potential needs for follow up Diversity, Equity and Inclusion training and other findings.

**Stakeholder Participants**

The project will engage TSPs, defined as those who have direct interaction with private landowners to provide a variety of technical and financial services for forest and farmland restoration, conservation and management. TSP sectors include, but are not limited to the following: Soil Conservation Districts, regional foresters, non-profits, government agencies, land trusts, watershed restoration specialists, private sector, experts who might be able to help landowners obtain income from their property through habitat restoration projects, such as hunting (e.g. sika deer), recreation/birding (e.g., Audubon), or forest fruit growing and harvesting, and others.

TSP participants will be convened in three regional focus areas selected by the steering committee and will be representative of Eastern Shore, Susquehanna River Basin and lower Western Shore geographies. Selection criteria will use Healthy Watershed indicators and watershed evaluations provided by the US Army Corps of Engineers Comprehensive Plan and Restoration Roadmap for the Chesapeake Bay <https://www.nab.usace.army.mil/Missions/Civil-Works/Chesapeake-Bay-Comprehensive-Plan/>

A workshop will be required by the Contractor in each of the three regional focus areas. Once the three geographic areas have been selected for the workshops, specific TSP contact information will be identified by the Contractor through existing networks available through the Habitat, Healthy Watersheds and Water Quality GITs, the Management Board and existing regional partnerships such as “Envision the Choptank” and the “Delmarva Restoration and Conservation Network.”

Coordination with EPA and previous GIT leads will be required to review products of completed GIT-funded projects, including but not limited to: 1) Wetland Landowner Outreach Tool, 2) Quantification of Green Infrastructure Hazard Mitigation Related to Inland and Coastal Flooding, 3) Black Duck Decision Support tool, and 4) Healthy

	Watersheds WIP guidance. Coordination and consultation with the project leads for the “Envision the Choptank” and Delmarva Restoration Conservation Network initiatives will also be required.
<b><u>Deliverables</u></b>	<ol style="list-style-type: none"> <li>1. A List of TSPs with contact information for the three regional focus areas (Eastern Shore, Susquehanna River Basin and lower Western Shore), with a goal of identifying approximately 30 total TSPs for each focus area that are representative of the range of TSP sectors defined in Stakeholder Participants section of this proposal.</li> <li>2. Synthesis of services and programs available through TSPs and training programs for TSPs in each area.</li> <li>3. Conduct a workshop in each of the three regional focus areas.</li> <li>4. Summary of landowner outreach decision support tools, examples of how they are being used to facilitate implementation.</li> <li>5. Pre-Workshop and Post-Workshop survey tool and responses (Draft and Final Documents for each).</li> <li>6. Interim report summarizing the discussion at each of the 3 regional focus area workshops, similarities and differences between regions, and recommendations for advancing efforts across the watershed.</li> <li>7. Final report that includes summary of workshop effectiveness and a proposed framework for developing TSP networks to enhance coordination and multi-disciplinary landowner outreach. The framework is likely to include a blueprint of the products needed to synthesize the services, programs, and financial resources available; the trainings needed by TSPs; strategies for engaging a greater diversity of landowners; and recommendations for the types of network/communication support structure needed to enhance coordination across TSPs.</li> </ol> <p>Final Recommendations and Transferability Package white paper that provides recommendations and outlines next steps for developing TSP networks, addresses any potential needs for follow up Diversity, Equity and Inclusion training and provides guidance related to other findings. This paper will provide the roadmap for follow-up Chesapeake Bay Program actions to develop and enhance TSP networks.</p>
<b><u>QAPP Requirement</u></b>	A QAPP will not be required for this Scope.
<b><u>Qualifications of Bidder</u></b>	<ul style="list-style-type: none"> <li>• Bidder should demonstrate knowledge and experience working with a broad range of environmentally focused technical service providers to achieve collaborative solutions for watershed scale habitat and water quality restoration and conservation improvements.</li> <li>• Bidder should demonstrate capacity to plan and execute collaborative workshops that generate actionable implementation strategies. Bidder should provide two examples of collaborative workshops generating actionable strategies that have been convened over the past ten years.</li> <li>• Bidder should demonstrate expertise in creating transferability packages that aid other organizations in the deployment of cross-training and coordinated technical service delivery resulting from workshop results. Bidder should provide two examples of transferability packages that have been developed over the past ten years. It is preferable that examples have an environmental focus.</li> </ul>

**Scope of Work 2: Building a Bay-Wide Scorecard to Track Climate Resilience for Watershed Communities (Maximum Bid: \$75,000)**

<p><b><u>Goal Implementation Team (GIT)</u></b></p>	<p>Scientific, Technical Assessment and Reporting (STAR) - Climate Resiliency Workgroup</p>
<p><b><u>Maximum Bid Amount</u></b></p>	<p>\$75,000</p>
<p><b><u>Purpose and Outcomes</u></b></p>	<p>The Scorecard will provide a comparable method to track climate resilient conditions across the Chesapeake Bay watershed, including both inland and coastal communities. The Scorecard will allow watershed communities (inland and coastal) to compare progress toward implementing climate adaption efforts, the success of those efforts, as well as to bring awareness of management actions to implement in the future. The overall outcome of this project would include developing a recommended Chesapeake Bay-Wide Scorecard adapted from the existing Resilience Adaptation Feasibility Tool (RAFT) scorecard for coastal communities in Virginia (VA). Other, specific outcomes include identification of climate resilience actions; ability to track climate resiliency over time and compare between communities; identification of opportunities to improve resilience in communities; potential future local policies that could incorporate resilient measures. Climate resiliency will be tracked as a result of a Scorecard which we propose to be updated every 3 to 5 years.</p>
<p><b><u>Project Steps and Timeline</u></b></p>	<p><b>Step 1: 3/2/2020 to 8/7/2020</b>  The Contractor will:</p> <ul style="list-style-type: none"> <li>• <u>create a new project steering committee</u>;</li> <li>• <u>conduct a literature review</u> and lead the committee in defining principles of climate resilient adaptation for the purpose of the project based upon available literature and existing partnership documents when possible; provide a summary of the literature review results;</li> <li>• <u>define the targeted audience and conduct audience research</u>; and</li> <li>• <u>develop and implement a work plan</u> to identify potential and viable indexes for climate resilient adaptation, building from the framework recommended by ERG, Inc. (2018) and CBP goals such as aligning climate adaptation strategies with the WIPs and capitalizing on “co-benefits” of management practices.</li> </ul> <p>The new steering committee will be formed with Jurisdictional and Bay Program representation, scientists and engineers, managers, and other active stakeholders. Candidates for the steering committee include the CBP creative team members. Additional candidates may include RAFT team members, members from the Scientific and Technical Advisory Committee (STAC) workshop “Monitoring and Assessing Impacts of Changes in Weather Patterns and Extreme Events on Best Management Plan (BMP) siting and design,” along with individuals from the steering committees of the Chesapeake Bay Landscape Professionals, the Urban Stormwater Stakeholder Group, and leaders from Local Government Advisory Committee or steering committees from Local Leadership Work Group.</p> <p>The Steering Committee will:</p> <ul style="list-style-type: none"> <li>• work along with the contractor to define inland and coastal localities for the targeted audience whose perceptions and insight could significantly impact the adoption of the scorecard.</li> <li>• direct the contractor to conduct audience research to understand the users’ demographic characteristics, perceptions, and priorities for measuring resilience and identify existing resources to support development of potential set of indexes.</li> </ul>

This information will be used as background for a workshop with the ultimate project goal of designing an attainable scorecard, a methodology for use, and implementation (about \$40K).

**Step 2: 8/8/2020 to 11/4/2020**

In consultation with the new Steering Committee, the Contractor will:

- Conduct targeted stakeholder engagement to recruit a diverse set of workshop participants (from both coastal and noncoastal communities) including elected officials, community leaders, and citizens who will collaborate to develop the scorecard.
- Create the workshop agenda and materials based on the audience research to develop potential indexes related to jurisdictional actions (policies, standards, practices) that could increase the climate resiliency and that can be measured.
- Plan for and coordinate a two-day workshop focused on creating an outline for an attainable scorecard and associated component indexes.
- The workshop will take place in the second half of 2020 or early 2021 (approximately 5 to 9 months after the award), will be led by a qualified facilitator and will include the following:
  - The workshop will consider and recommend appropriate geographic scale(s) for scoring policies or practices that improve climate resiliency at a local scale.
  - Workshop participants will identify and discuss potential climate resilient restoration index options and associated weight of each index. They will consider how to approach the scoring of management actions, programmatic elements or policies that could be factored into the scoring methodology with a focused mindset on climate resiliency.
  - The indexes will not be based solely on the location of one community so that the scorecard may be comparable among localities. Examples of potential indexes the steering committee and workshop participants might choose for the scorecard include identified climate resilient leaders with determined roles, installation of stormwater BMPs, encouragement of private property owners to install management actions, green infrastructure plans, implementation of native trees/living shorelines/rain gardens, and many other options.
  - As stated by the Climate Resiliency Workgroup and approved by the Management Board, there is not enough science to understand BMP effectiveness on climate change and this will be addressed by the future multi-year prototype science and technical program which runs until 2025. For the purpose of this project, the prototype should be mentioned as a potential index during the workshop and a method for easy inclusion into the scorecard should be identified (when the science is available).
  - A summary of notes and important discussions that occurred during the workshop are required.
  - An outcome of the workshop will be to develop a master plan or a road map that describes recommendations on how to implement the scorecard to localities throughout the watershed. This plan will require distinct steps to reach different jurisdictions, such as identifying trusted sources to bring forth the outlined scorecard to their elected officials. The desired recommendations will include specific priorities and methods that can be readily acted upon by the CBPO or its partners following completion of this project. Over the longer term, the metric data and scorecard could be analyzed by interested partners to understand the effectiveness of their efforts to promote climate resilience over time. (about \$10k)

**Step 3: 11/5/2020 to 3/4/2021**

The Contractor will:



	<ul style="list-style-type: none"> <li>• Continue engagement with workshop participants and the new steering committee to address outstanding questions and concerns through follow-up discussion and partnership feedback.</li> <li>• Based on the workshop results, subsequent research on needs identified at the workshop, and results of follow-up discussions with stakeholders, the contractor will <u>produce a final project report</u>. The final report should include the following: (1) recommendation of a scorecard with associated component metrics, and (2) description of a roadmap for implementation of the proposed scorecard and methodology (3) a summary of efforts from the project steering committee and survey, workshop summary and additional materials as supplemental information.</li> <li>• <u>Provide a list of contact information for participating localities</u> interested in implementing the use of the scorecard in the future, outside this project.</li> </ul> <p>The report and subsequent revisions will be produced in partnership with steering committee members, workshop participants, and other key stakeholders. (about \$25K)</p>
<p><b><u>Stakeholder Participants</u></b></p>	<p>Phase 1: A new steering committee will be created, including representation from all seven jurisdictions of the Chesapeake Bay watershed (DC, DE, MD, NY, PA, VA, WV) along with Chesapeake Bay Program representation, scientists and engineers, managers, and other active stakeholders. The steering committee will include CBP creative team members to help guide end or future product development. The National Oceanic and Atmospheric Administration (NOAA) Chesapeake Bay Office Climate Coordinator for the CBP will also be an important stakeholder participant for this Scope. Additional steering committee candidates may include members from the STAC workshop “Monitoring and Assessing Impacts of Changes in Weather Patterns and Extreme Events on BMP siting and design,” along with individuals from the steering committees of the Chesapeake Bay Landscape Professionals and the Urban Stormwater Stakeholder Group, and leaders from the Local Government Advisory Committee or steering committees from Local Leadership Work Group. Members of the RAFT team are potential participants of the new steering committee, including members from the University of Virginia Institute for Environmental Negotiation (IEN), the Virginia Coastal Policy Center (VCPC) at William &amp; Mary Law School, and Old Dominion University/Virginia Sea Grant (ODU).</p> <p>Phase 2: elected officials, community leaders, and citizens from both coastal and inland communities along with members from the steering committee will collaborate to develop the scorecard and participate in the workshop.</p> <p>Phase 3: CRWG members, continued engagement with workshop participants and the new steering committee, when needed.</p>
<p><b><u>Deliverables</u></b></p>	<ol style="list-style-type: none"> <li>1. Create a new project steering committee (provide a list of participants).</li> <li>2. Conduct a literature review and lead the committee in defining principles of climate resilient adaptation for the purpose of the project based upon available literature and existing partnership documents when possible; provide a summary of the literature review results (lead the committee in defining principles of climate resilient adaptation for the purpose of the project based upon available literature and existing documents)</li> <li>3. Define the targeted audience and conduct audience research (work with the steering committee to define inland and coastal communities for the targeted audience).</li> <li>4. Develop and implement a work plan to identify potential and viable indexes for climate resilient adaptation, building from the framework recommended by ERG, Inc. (2018) and Chesapeake Bay Program goals such as aligning climate adaptation strategies with the WIPs and capitalizing on “co-benefits” of management practices.</li> <li>5. Conduct targeted stakeholder engagement to recruit a diverse set of workshop participants (from both coastal and noncoastal communities) including elected officials, community leaders, and citizens who will collaborate to develop the scorecard.</li> <li>6. Create the workshop agenda and materials based on the audience research to develop</li> </ol>

	<p>potential indexes related to jurisdictional actions (policies, standards, practices) that could increase the climate resiliency and that are feasible to measure.</p> <ol style="list-style-type: none"> <li>7. Coordinate a workshop to work with participants to establish potential indexes related to jurisdictional actions that could increase the climate resiliency and that are feasible to measure. The categories and indexes chosen within those categories will be chosen by the steering committee with the help of the bidder. The indexes will not be based solely on the location of one community so that the scorecard may be comparable among localities. Examples of potential indexes the steering committee and workshop participants might choose for the scorecard include identified climate resilient leaders with determined roles, installation of stormwater BMPs, encouragement of private property owners to install management actions, green infrastructure plans, implementation of native trees/living shorelines/rain gardens, and many other options.</li> <li>8. The 2-day workshop will create an outline for the scorecard, including creating the agenda and all materials based on user research conducted by the Contractor (through the direction of the steering committee). A summary of notes and important discussions that occurred during the workshop are required.</li> <li>9. An approach for an inland community scorecard and a coastal community scorecard with consistent methodology is required; the contractor must establish consistent methodology between both approaches. The Scorecard methodology will include recommended geographic scope, metrics, and methods implementation including potential weighting of metrics.</li> <li>10. The Final Report should include a recommended Chesapeake Bay-Wide scorecard adapted from RAFT scorecard of VA coastal communities. The RAFT scorecard will serve as an example: <a href="https://raft.iem.virginia.edu/">https://raft.iem.virginia.edu/</a>. Another deliverable is the associated methodology to track relevant indexes of improved climate resilience resulting from implementation of policies or management actions for inland and coastal communities, and master plan (a word document providing guidelines) for implementation and distribution across the Chesapeake Bay Watershed. The Final Report (a master word document) that (1) recommends a scorecard with its component metrics, and (2) lays out a roadmap (steps and guidelines through a word document) for implementation of the proposed scorecard and methodology (3) includes summary of efforts from the project steering committee and survey, workshop report and additional materials as supplemental information. The contractor must also provide a list of contact information for participating localities interested in implementing the use of the scorecard in the future, outside this project.</li> </ol>
<p><b><u>QAPP Requirement</u></b></p>	<p>A QAPP will not be required for this Scope.</p>
<p><b><u>Qualifications of Bidder</u></b></p>	<ul style="list-style-type: none"> <li>• Experience in engaging diverse community stakeholder groups on climate resiliency</li> <li>• Experiences in scorecard, index, or metric development, including comparing or weighting different factors</li> <li>• Experience working with local and regional stakeholders, including local officials and/or senior staff.</li> <li>• Experience in reviewing state and local government policy.</li> <li>• Experience in convening diverse stakeholder groups during meetings or workshops; Experience across jurisdictions.</li> <li>• Experience of state and local level of adoption of climate resilient actions and implementation of climate adaptation planning principles.</li> </ul>

**Scope of Work 3: Chesapeake Bay Striped Bass Nursery Habitat Assessment (Maximum Bid: \$85,000)**

<b><u>Goal Implementation Team (GIT)</u></b>	Sustainable Fisheries Goal Implementation Team (GIT 1)
<b><u>Maximum Bid Amount</u></b>	\$85,000
<b><u>Project Outcomes</u></b>	<p>This Scope will develop an assessment of juvenile striped bass habitat for the Maryland and Virginia tidal waters of the Chesapeake Bay to identify habitat drivers of juvenile striped bass survival and carrying capacity. The motivation for this study stems from work done by the Maryland Sea Grant Ecosystem-Based Fisheries Management (EBFM) project for the Chesapeake Bay. The EBFM Striped Bass Species (SBS) team worked collectively to identify the vital ecosystem stressors and their impacts on nursery habitats listed in the Ecosystem Based Fisheries Management for Chesapeake Bay: Striped Bass Background and Issues Brief: <a href="https://www.mdsg.umd.edu/sites/default/files/files/EBFM-Striped-Bass-Briefs-1.pdf">https://www.mdsg.umd.edu/sites/default/files/files/EBFM-Striped-Bass-Briefs-1.pdf</a></p> <p>This Scope will synthesize existing data from striped bass surveys, water quality monitoring, and habitat surveys to identify prime juvenile striped bass nursery habitats (located throughout the Chesapeake Bay and all tributaries) and quantify the condition, which will be used to inform indicator development. The final product of this Scope will include a Bay-Wide map and Geographic Information System (GIS) data layer(s) that characterizes the quality of striped bass nursery habitat. These data will ultimately be used to inform fishery management decisions and will be integrated into existing decision support tools. The results of this project will assist in the conservation of existing healthy striped bass nursery habitat, while also informing locations of degraded areas with future restoration potential.</p> <p>To better inform the Contractor, a new project steering committee will be formed with representatives from National Oceanic and Atmospheric Administration (NOAA), Maryland Department of Natural Resources (MDNR), Atlantic States Marine Fisheries Commission (ASMFC) Striped Bass, and the Potomac River Fisheries Commission (PRFC).</p> <p><b><u>Project Outputs:</u></b></p> <ul style="list-style-type: none"> <li>-Bay-Wide evaluation of current juvenile striped bass nursery habitat area (locations and size), condition (health of each area based on selected indicators), and historical trends (changes in area health over time).</li> <li>-The above will inform the production of GIS data layer(s) displaying striped bass nursery habitat location, condition, and predicted impacts of environmental changes in the Chesapeake Bay and its tributaries for integration in existing decision support tools.</li> <li>-Development of indicators or an index of nursery habitat suitability and resilience.</li> <li>-Estimates of “high quality” nursery habitat area (the two-dimensional space within the Chesapeake bay and each tributary) and volume (depth of suitable habitat with the water column).</li> </ul> <p>Generation of a scoring system or index based on the most influential habitat factors; determine score for tributary-specific nursery habitat.</p> <p><b><u>Project Outcomes:</u></b></p> <ul style="list-style-type: none"> <li>-Improved understanding of the role of nursery habitats in supporting juvenile striped bass survival and recruitment to the adult population.</li> <li>-Using estimates in the outputs from above, identify “high quality” nursery habitat areas in tributaries most important for juvenile striped bass.</li> </ul>

<p><b><u>Project Steps and Timeline</u></b></p>	<p><b>Step 1: 1/1/2020 to 3/31/2020</b>  The contractor will work with NOAA Chesapeake Bay Office (NCBO) and the Chesapeake Bay Program staffers as needed throughout the duration of the award. To better serve the contractor with details specific to the project results, a new project steering committee with representatives from NOAA, MDNR, ASMFC Striped Bass, and PRFC will be formed. A monthly progress report will be written and submitted to the project steering committee. In addition, contractors will meet with the project steering committee at the close of each quarter. It is preferred that the contractor has at least one individual present in person at every meeting.</p> <p>First 3 months (January - March)-Conceptual modeling, scoping and data gathering</p> <p>January 2020 (or within 2 weeks of contract award)- Kick off meeting will be held with the successful contractor and the project steering committee. During this initial meeting, details of the work plan and specific needs will be discussed. A timeline for quarterly meetings with the project steering committee will be set to monitor the progress of the contractor.</p> <p>At this meeting, the contractor and project steering committee will review the existing conceptual model that displays the habitat, forage, and stressor relationships to striped bass to prioritize the most important variables to include in the nursery assessment analysis and products. The conceptual model (<a href="https://www.chesapeakebay.net/channel_files/37472/stripedbass_cm_updatedsept2019.pdf">https://www.chesapeakebay.net/channel_files/37472/stripedbass_cm_updatedsept2019.pdf</a>) was developed by an intern at NCBO, through collaboration with scientific experts and resource managers.</p> <p>The Contractor will begin by discovering available datasets containing striped bass information. The contractor will then evaluate all datasets that contain information related to striped bass, biology, life history, habitat, environmental parameters, and more. The Contractor will utilize and document spatial data on habitat types and physical data working with multiple Chesapeake Bay Program partners, including but not limited to NOAA, U.S. Forestry Service, U.S. Fish and Wildlife Service; U.S. Department of Transportation, U.S. Geological Survey, EPA (for WQ monitoring and SAV surveys), etc.</p> <p><u>Suggested datasets that might be applied to this effort include, but are not limited to:</u></p> <ul style="list-style-type: none"> <li>-Chesapeake Bay Multispecies Monitoring Program (ChesMMAP; Virginia Institute of Marine Science, VIMS)</li> <li>-Submerged Aquatic Vegetation in the Chesapeake Bay (VIMS)</li> <li>-Juvenile Striped Bass Survey (MDNR)</li> <li>-Juvenile Striped Bass Survey (VIMS)</li> <li>-Spawning stock biomass (MDNR)</li> <li>-Egg presence/absence index (MDNR)</li> </ul> <p><b>Step 2: 4/1/2020 to 6/30/2020</b>  Second 3 months (April - June): Data analysis</p> <p>The Contractor will examine patterns and relationships in striped bass population trends correlated to habitat parameters using quantitative approaches and spatial analysis (GIS). The Contractor will begin to model changes in environmental variables over time. Development of suitable models (i.e., generalized additive model, generalized linear mixed model, and/or generalized additive mixed model) that predict the abundance, presence, and absence of striped bass juveniles as environmental stressors change is required. Using all pertinent Chesapeake Bay striped bass datasets, the contractor can utilize R packages such as, but not limited to ‘mgcv’ (<a href="https://cran.r-">https://cran.r-</a></p>
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	<p><a href="https://cran.r-project.org/web/packages/mgcv/mgcv.pdf">project.org/web/packages/mgcv/mgcv.pdf</a>) or ‘baytrends’ (<a href="https://cran.r-project.org/web/packages/baytrends/baytrends.pdf">https://cran.r-project.org/web/packages/baytrends/baytrends.pdf</a>) to examine the change in response variable by location/site within the Bay. Response variable (y): putative priority indicators (i.e., temperature, salinity, dissolved oxygen; use factors displayed on the conceptual model) by day of year; month; season; year. The Contractor will develop the draft indicators and/or scoring approach.</p> <p><b>Step 3: 7/1/2020 to 9/30/2020</b>  Third 3 months (July - September): Data synthesis Contractor will assemble results from chosen models to evaluate all changes in environmental variables by tributary throughout time.  Examine historical patterns and relationships in striped bass population correlated to habitat parameters. Generation of maps identifying all striped bass nursery areas in the Chesapeake Bay. Generation of maps predicting “high quality” nursery habitat similar (but not limited) to those presented in Rubec et al. 2019 (<a href="https://www.researchgate.net/publication/335353823_Modeling_and_Mapping_to_Assess_Spatial_Distributions_and_Population_Numbers_of_Fish_and_Invertebrate_Species_in_the_Lower_Peace_River_and_Charlotte_Harbor_Florida">https://www.researchgate.net/publication/335353823_Modeling_and_Mapping_to_Assess_Spatial_Distributions_and_Population_Numbers_of_Fish_and_Invertebrate_Species_in_the_Lower_Peace_River_and_Charlotte_Harbor_Florida</a>).</p> <p><b>Step 4: 10/1/2020 to 12/31/2020</b>  Fourth 3 months (October - December): Develop recommendations Contractor will work with project steering committee to process results and develop recommendations.   Begin preparation of the final report to share with the steering committee and project lead. The final report should include all indicators used to assess nursery condition, approach to the generation of the scoring metric of indicators, and maps of current nursery area and condition.</p> <p><b>Step 5: 1/1/2021 to 3/31/2021</b>  Final 3 months (January - March 2021): Delivery of final products   The Contractor will work with NCBO and the Chesapeake Bay Program communications team/workgroup to create communications products aimed toward the Bay Program, fishery managers, commercial and recreational anglers, and the general public. At the conclusion of this study the contractor must present all results and maps to the Sustainable Fisheries GIT and/or Executive Committee, as well as any other relevant stakeholders. Submission of the following deliverables: Final report to the project lead and steering committee; GIS data layer(s) and associated Maps; Final Indicators and/or scoring approach; Communication products for the Bay Program.</p>
<p><b><u>Stakeholder Participants</u></b></p>	<p>Chesapeake Bay Program (Sustainable Fisheries Goal Implementation Team)  Commercial and recreational fishing organizations and advisory teams (Coastal Conservation Association, Sport Fish Advisory Committee)  Atlantic States Marine Fishery Commission (Striped bass technical committee)  Mid-Atlantic and Northeast Fishery Management Councils  Virginia Marine Resources Commission (VMRC)  MDNR and Habitat and Water Quality Goal Implementation Teams  The newly formed project steering committee that may include representatives from NOAA, MDNR, ASMFC Striped Bass, and PRFC.</p>
<p><b><u>Deliverables</u></b></p>	<ol style="list-style-type: none"> <li>1. A Final Report that includes an executive summary, methods, procedures, results, and key findings sections. methods section should include the detailed source code for all models generated; the source code for the models will be made available to the public via an open source site such as GitHub.</li> <li>2. Model results that present a thorough evaluation of Bay-wide nursery habitat areas, historical trends, condition, and presence/absence of juvenile striped bass.</li> </ol>

	<ol style="list-style-type: none"> <li>3. Indicators or an index of nursery habitat suitability and resilience.</li> <li>4. Evaluation of data needed to generate estimates of juvenile striped bass carrying capacity in the Chesapeake Bay.</li> <li>5. Production of GIS data layer(s) and associated maps displaying striped bass nursery habitat location, condition, and predicted impacts of environmental changes in the Chesapeake Bay and its tributaries for integration in existing decision support tools.</li> <li>6. Estimates of available nursery habitat area and volume.</li> <li>7. Generation of a scoring system based on top influencing factors (indicators selected based on all model runs); determine score for tributary-specific nursery habitat.</li> <li>8. Collaboration with stakeholders to develop communication products.</li> <li>9. Monthly progress reports prepared and submitted to the project lead.</li> </ol>
<b><u>QAPP Requirement</u></b>	Yes, a QAPP will be required for this Scope because secondary data will be used, requiring a plan for ensuring data quality. Guidance for developing a QAPP for secondary data can be found at <a href="https://www.epa.gov/quality/quality-assurance-project-plan-requirements-secondary-data-research-projects">https://www.epa.gov/quality/quality-assurance-project-plan-requirements-secondary-data-research-projects</a> . If data originates from sources other than federal reports and peer reviewed journals, a statement on data quality suitability will be required in the final report.
<b><u>Qualifications of Bidder</u></b>	<ul style="list-style-type: none"> <li>• Familiarity with striped bass biology and habitat assessments preferred</li> <li>• Strong written and verbal communication skills</li> <li>• Knowledge of R programming language</li> <li>• Knowledge of environmental models, including Generalized Additive Models (GAM), Generalized Linear Mixed Models (GLMM), and Generalized Mixed Models (GMM)</li> <li>• Ability to synthesize results, including Microsoft Excel and/or database software proficiency</li> <li>• Ability to listen well to various audiences and derive requirements meaningful for habitat assessments</li> </ul>

**Scope of Work 4: Piloting the Development of Probabilistic Intensity Duration Frequency (IDF) Curves for the Chesapeake Bay Watershed (Maximum Bid: \$150,000)**

<b><u>Goal Implementation Team (GIT)</u></b>	Water Quality Goal Implementation Team (GIT 3)
<b><u>Maximum Bid Amount</u></b>	\$150,000
<b><u>Purpose and Outcomes</u></b>	<p>Primary objectives of this Scope include: 1) evaluation of downscaling methods and climate model combinations to assess their ability to replicate historical precipitation extremes, 2) downscaling of projected precipitation extremes for future periods, 3) quantification of methodological and climate model uncertainties for the projected precipitation extremes for future periods, 4) development of probabilistic intensity duration frequency (IDF) curves for the Virginia portion of the Chesapeake Bay Watershed as well as the District of Columbia (DC), and 5) development of web-based tools and appropriate outreach to make results accessible to end-users.</p> <p>These projections will ultimately be incorporated into climate change adaptation planning for watershed management. It is expected that the end-user (audience) for this Scope will have varied knowledge of the subject matter and will likely include local and state governments (City and County employees) as well as engineering consultants/practitioners that design stormwater best management practices.</p>
<b><u>Project Steps and Timeline</u></b>	<p><b>Step 1: 3/1/2020 to 4/30/2020</b></p> <p>Meet with Urban Stormwater Workgroup and project leads to understand project needs and identify similar efforts that are either ongoing or recently completed. Develop and</p>

submit a Draft Quality Assurance Project Plan (QAPP); address comments to the draft QAPP and submit Final QAPP.

**Step 2: 5/1/2020 to 10/31/2020**

Evaluate National Weather Service (NWS) Cooperative Observer Program (COOP) Network with long-term daily precipitation data for qualification (see attached Table 1.) Based on information gathered, evaluate downscaling method–climate model combinations (RCP 8.5, RCP 4.5) to assess their ability to replicate historical precipitation extremes. Potential time frames envisioned are: 2010-2029; 2030-2049; 2050-2069.

Downscaling of projected precipitation extremes for future periods and development of IDF curves for a series of counties in the metro-Washington region (see below). Downscaling Procedures to be evaluated include: Dynamical Downscaling, Delta Method, and the Analog Method.

**Regions of interest for development of IDF Curves:**

- District of Columbia
- Northern Virginia Regional Commission
- Rappahannock-Rapidan Regional Commission
- Richmond Regional Planning District Commission
- Thomas Jefferson Planning District Commission
- Hampton Roads Planning District Commission

**Step 3: 11/1/2020 to 12/30/2020**

Quantification of methodological and climate model uncertainties. Write-up describing uncertainties and recommended application of projected IDF curves. Development of the web-based products (usable by a wide audience of varying knowledge as defined in the Project Outcomes section above) that will include Station-Specific IDF Curves, Statewide Maps of Projected Changes, 30-year Exceedance Probabilities, and an instructional video/webinar. The web page developed should be compatible with a wide range of web hosting platforms.

**Step 4: 12/1/2020 to 12/15/2020**

Submit Draft Report document and present results as a webinar or in-person presentation to the Urban Stormwater Workgroup for peer review to gather feedback and understand any additional needs for the web-based tool development. Address comments to draft documents and submit Final Report to the CBP.

**Step 5: 1/15/2021 to 2/26/2021**

Respond to stakeholder feedback, as appropriate. Outreach and final development of web-based tools to make results accessible to potential end-users.

<b><u>Stakeholder Participants</u></b>	CBP Urban Stormwater Workgroup Local Governments and Practitioners Virginia Planning District Commissions Virginia Department of Environmental Quality District Department of Energy and Environment
<b><u>Deliverables</u></b>	Final project deliverables include: 1. Draft and Final QAPP 2. Draft Report document and presentation of draft results as a webinar or in-person presentation to the Urban Stormwater Workgroup 3. Response to Comments Document (from Draft report) 4. Historical and future 2-, 5-, 10-, 25-, 50-, and 100-year recurrence interval precipitation amounts computed for 1-, 2-, 3-, 6-, 12-, 18-, and 24-hour durations



	<ol style="list-style-type: none"> <li>5. Historical and future IDF curves for the Virginia portion of the Chesapeake Bay Watershed as well as DC.</li> <li>6. The raw data used in the analysis and associated reports explaining the data and how the analyses were completed (i.e., data and metadata).</li> <li>7. An interactive webpage allowing the end-users to navigate final research products using the following as a guide: <a href="http://ny-idf-projections.nrc.cornell.edu/">http://ny-idf-projections.nrc.cornell.edu/</a></li> <li>8. Instructional video/webinar explaining the project need, results, and how to use the IDF curves and other final products, data, and reports.</li> <li>9. Final report document which will include describing uncertainties and recommended application of the projected IDF curves</li> </ol>
<b><u>QAPP Requirement</u></b>	Yes, a QAPP will be required for this Scope.
<b><u>Qualifications of Bidder</u></b>	<ul style="list-style-type: none"> <li>• Experience with National Oceanic and Atmospheric Administration (NOAA) Atlas 14 data and experience with NWS COOP data</li> <li>• Experience with precipitation downscaling methodologies and statistical techniques.</li> <li>• Experience with webpage and interactive graphics development</li> </ul>

**Scope of Work 5: Development of the “Maryland Stream Crossing Design Guidance: A Fish-Friendly Stream Crossing Design Handbook” (Maximum Bid: \$84,000)**

<b><u>Goal Implementation Team (GIT)</u></b>	Habitat Goal Implementation Team (GIT 2)
<b><u>Maximum Bid Amount</u></b>	\$84,000
<b><u>Project Outcomes</u></b>	<p>The project outcomes for this Scope includes:</p> <ul style="list-style-type: none"> <li>• Increased fish passage at road stream crossings in Maryland and throughout the Chesapeake Bay region</li> <li>• Additional access to hundreds of miles of historic habitat for target (and forage) fish species (river herring, shad and brook trout) upstream of fish friendly road-stream crossings</li> <li>• Greater knowledge at local and state government level about how to design new and replacement road-stream crossings that both improve fish passage and increase flood resiliency.</li> <li>• Increase knowledge of road-stream crossing guidelines and standards used by other states to determine the best guidelines for Maryland.</li> </ul> <p><i>The guidance document requested under this Scope will not include the consideration of retrofitting existing culverts; this guidance document will be focused on design criteria for building new and replacement fish-friendly road-stream crossings.</i></p>
<b><u>Project Steps and Timeline</u></b>	<p><b>Step 1: 3/1/2020 to 6/1/2020</b></p> <p>Review existing road-stream crossing guidance, regulations and standards documents developed by other states and compiled by U.S. Fish and Wildlife Service in the state comparison spreadsheet (available upon request from GIT Lead). Determine which components of these documents could be used in a Maryland specific guidance document. Cross-reference the information collected and present most commonly used parameters to the existing Stakeholder Group, which is comprised of relevant stakeholders and members of the existing Fish Passage Workgroup who work in Maryland. Additional members can be added as needed. Conduct a review of existing literature concerning cost comparisons and case studies of Aquatic Organism Passage (AOP) design and communicate sources found to the Stakeholder Group. (80 hours, 1 meeting)</p>



	<p><b>Step 2: 6/1/2020 to 9/1/2020</b>  Develop a draft stream crossing standards language, case studies and overall guidance document specific to Maryland (example guidance document can be found here: <a href="https://www.mass.gov/files/documents/2018/08/23/Stream%20Crossings%20booklet%20Web.pdf">https://www.mass.gov/files/documents/2018/08/23/Stream%20Crossings%20booklet%20Web.pdf</a>) – there will be no engineering designs (plan views) included in the guidance document but pictures or conceptual designs for new, or replacement crossings would be included. Using available literature and reference materials, the document will include cost comparisons of designing and building fish-friendly and flood resilient crossings to replacing and maintaining undersized crossings. The proposed stream crossing design guidance should be a word document up to 20 pages in length and include up to 6 case studies of successful fish-friendly road-stream crossings that exist in both Maryland and other states (240 hours).</p> <p><b>Step 3: 9/1/2020 to 12/1/2020</b>  Through emails, conference calls, and in-person meetings with the review team, review and agree upon edits to the draft guidance document for Maryland (120 hours, 4 meetings).</p> <p><b>Step 4: 12/1/2020 to 3/1/2021</b>  Finalize the Maryland Stream Crossings Guidance Document and present it to the Fish Passage Work Group, Habitat GIT and other relevant partners. (120 hours, 2 meetings).</p>
<p><b><u>Stakeholder Participants</u></b></p>	<p>U.S Fish and Wildlife Service (USFWS)  National Oceanic and Atmospheric Administration (NOAA) Fisheries  Maryland Department of Natural Resources  American Rivers  Trout Unlimited  Maryland Department of the Environment  Maryland State Highway Administration  Fish Passage Work Group</p>
<p><b><u>Deliverables</u></b></p>	<ol style="list-style-type: none"> <li>1. Draft stream crossing standards language for review by stakeholder work group</li> <li>2. Final stream crossing standards language for inclusion in final stream crossing design guidance</li> <li>3. Draft Example Case Studies specific to the Maryland or (less preferred) Chesapeake Bay region</li> <li>4. Draft "Maryland Stream Crossing Design Guidance: A Fish-Friendly Stream Crossing Design Handbook" for review by stakeholder work group</li> <li>5. Final "Maryland Stream Crossing Design Guidance: A Fish-Friendly Stream Crossing Design Handbook"</li> </ol>
<p><b><u>QAPP Requirement</u></b></p>	<p>A QAPP will not be required for this Scope.</p>
<p><b><u>Qualifications of Bidder</u></b></p>	<ul style="list-style-type: none"> <li>• Knowledge of current road-stream crossing standards for Maryland</li> <li>• Knowledge of fish friendly road-stream crossing methods being used in new and replacement crossings in other locations around the country</li> <li>• Knowledge of how regulators in Maryland (Maryland Department of the Environment, U.S. Army Corps of Engineers, Maryland Department of Natural Resources, USFWS, etc.) review road-stream crossings</li> <li>• Experience working with multiple agencies to gather information through workshops, phone calls and email</li> <li>• Experience developing documents and incorporating edits from multiple reviewers</li> </ul>

**Scope of Work 6: Development of Technical Guidance Manual and Outreach Materials for Small-scale Submerged Aquatic Vegetation Restoration in Chesapeake Bay and its Tidal Tributaries (Maximum Bid: \$50,000)**

<p><b><u>Goal Implementation Team (GIT)</u></b></p>	<p>Habitat Goal Implementation Team (GIT 2)</p>
<p><b><u>Maximum Bid Amount</u></b></p>	<p>\$50,000</p>
<p><b><u>Project Outcomes</u></b></p>	<p>Submerged Aquatic Vegetation (SAV) is a vital habitat of the Chesapeake Bay, and achieving and sustaining historical abundance and distribution is an important restoration goal of the Chesapeake Bay Watershed Agreement. To accelerate SAV recovery in the Chesapeake Bay and its tidal tributaries, it is necessary to supplement natural recovery with direct restoration efforts in which seeds or mature plants are planted in areas where water quality is sufficient for growth and expansion, but where a seed bank or persistent population is not currently present.</p> <p>The goal of this project is to develop a technical guidance manual and outreach materials for small-scale (less than one acre) SAV restoration projects. The intended audience for Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual will be federal and state agencies, local jurisdictions, and non-government organizations, such as Riverkeeper and other watershed organizations. The goal of this Scope is to get closer to meeting the Chesapeake Bay Program SAV restoration goal attainment by directly restoring SAV in appropriate areas of their tributaries and waterways while simultaneously providing outreach and educational opportunities for their constituents and volunteers.</p> <p>Development of an SAV restoration protocol and guidance manual for small-scale projects will promote and facilitate more frequent, effective, and efficient SAV restoration efforts in areas where SAV is not naturally recovering or where SAV diversity is limited due to long-term SAV absence or seed-bank depletion. Increasing the frequency and effectiveness of direct SAV restoration efforts will accelerate the timeline in which the Chesapeake Bay Program’s SAV restoration target is met compared to relying solely on improvements in water quality to passively promote recovery.</p>
<p><b><u>Project Steps and Timeline</u></b></p>	<p><b>Step 1: 3/1/2020 to 5/31/2020</b></p> <p>Months 1-3: First quarterly meeting; Conduct literature review and interviews.</p> <p>Task 1.1 - Meet in-person with GIT lead and members of the SAV Workgroup (as determined and invited by GIT lead) at project initiation to discuss full suite of project deliverables and timeline. GIT lead will initiate contact and schedule meeting.</p> <p>Task 1.2 - Conduct literature review of SAV restoration (primary focus) and monitoring protocols (secondary focus) and technical guidance documents (up to 50 existing documents will be reviewed). The review should include all available guides, manuals or protocols for the four salinity regimes of the Chesapeake Bay region (tidal fresh, oligohaline, mesohaline and polyhaline) and include documents or products developed for waters outside of the Chesapeake Bay region. The literature review should include a list of references and an annotated bibliography with hyperlinks to materials when possible.</p> <p><u>Deliverable 1: A final literature review will be due to the GIT lead by the end of Month 3 and should be delivered as both an editable electronic file and PDF.</u></p> <p>Task 1.3 - Interview SAV restoration practitioners in the Chesapeake Bay watershed, including but not limited to the Maryland Department of Natural Resources, Anne Arundel Community College, Chesapeake Bay Foundation, Anacostia Watershed Association, Environmental Concern, Inc., the Virginia Institute of Marine Science, and The Nature Conservancy. Contact information for each organization will be provided by the GIT lead at the first meeting. The contractor will contact and interview current and/or past SAV</p>

restoration practitioners to discuss their: 1. site selection criteria, 2. SAV plant and/or seed collection and methodologies, 3. SAV plant and/or seed processing, storage and grow-out methodologies, 4. planting and/or seed dispersal methods, 5. monitoring methodologies, 6. success criteria and rates, 7. lessons learned, and 8. any other information, such as if they use volunteers, if activity is used as an outreach or research opportunity, if the project was externally funded, etc.

Deliverable 2: A list of organizations and restoration practitioners contacted and interviewed including a summary outline of meeting results will be due to the GIT lead by the end of Month 3 and should be delivered as both an editable electronic file and PDF. The literature review and interview results will be discussed at the following in-person quarterly meeting.

**Step 2: 6/1/2020 to 8/31/2020**

Months 4-6: Meet in person with GIT lead; develop SAV restoration protocols.

Task 2.1 - Meet in-person with GIT lead at beginning during month 4 to discuss literature review and interviews, development of SAV restoration protocols, and definition of “restoration project success”. Contractor is responsible for initiating contact and scheduling meeting.

Task 2.2 - Develop SAV restoration protocols. Draw from the literature review and interviews conducted to develop an SAV restoration protocol for each salinity regime (1. tidal fresh and oligohaline, 2. mesohaline, and 3. polyhaline). A protocol for long-term monitoring of restoration sites and restoration success criteria will also be developed at this time and included so that future organizations can determine and report project success or failure. Specific SAV restoration guidance will be developed for each salinity regime and will include: 1. appropriate SAV species to use for restoration (one species for polyhaline, at least three species each for the mesohaline and oligohaline/tidal fresh), 2. restoration site selection criteria, 3. plant and/or seed collection permit requirements and directions, 4. methods for plant and/or seed collection, processing, storage, and in-tank grow-out, 5. seed dispersal and adult plant restoration protocols, and 6. monitoring protocols and success criteria to follow after project completion. Note: The restoration site criteria should include habitat requirements and water quality thresholds necessary for SAV survival. It does not need to include specific locations or identify areas with high restoration potential.

Deliverable 3: An editable electronic draft restoration protocol for each salinity regime will be provided to the GIT lead by the end of Month 6. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.

**Step 3: 9/1/2020 to 12/31/2020**

Months 7-10: Meet in person with GIT lead; Develop Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual.

Task 3.1 - Meet in-person with GIT lead during month 7 to discuss development of SAV restoration protocols and development of the technical guidance manual. Contractor is responsible for initiating contact and scheduling meeting.

Task 3.2 - Develop Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual. The manual should be aesthetically and graphically compelling and will include an introductory chapter (research necessary for this introductory chapter can be done in conjunction with the literature review or at this time) on the basics of SAV and SAV restoration history in Chesapeake Bay and additional chapters on technical guidance for each salinity regime. The technical guidance manual, including any appendices and reference lists, should not exceed 250 pages and will have incorporated comments and edits provided by the GIT lead for deliverable 3.

Deliverable 4: An editable electronic draft Protocol and Technical Guidance Manual will be provided to the GIT lead by the end of Month 10. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.

**Step 4: 1/1/2021 to 3/31/2021**

Months 11-13: Meet in person with GIT lead; Develop educational and outreach materials. Task 4.1 - Meet in-person with GIT lead during month 11 to discuss development of the technical guidance manual and educational and outreach material. Contractor is responsible for initiating contact and scheduling meeting. Meeting will include a presentation of ideas and recommendations by the contractor to the GIT lead for appropriate educational and outreach materials. Three products (i.e., an easy start guide or pamphlet describing the benefits of SAV and SAV restoration) will be decided on at the meeting and inform Task 2.

Task 4.2 - Use existing research and experience with outreach material development to inform development of educational and outreach materials/products decided on during quarterly meeting.

Deliverable 5: An editable electronic draft of three educational and outreach products will be submitted to the GIT lead by the end of Month 13. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.

**Step 5: 4/1/2021 to 6/30/2021**

Months 14-16: Meet in person with GIT lead; Incorporate edits received from GIT lead into final products; Present products and deliverables to SAV Workgroup and Habitat Goal Implementation Team.

Task 5.1 - Meet in-person with GIT lead during month 14 to discuss educational and outreach materials, final drafts of all products, presentations to SAV Workgroup, and plans for project completion. Contractor is responsible for initiating contact and scheduling meeting.

Task 5.2 – Incorporate edits received for the protocol and technical guidance manual into final draft of Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual.

Deliverable 6: An editable electronic draft of SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual will be submitted to the GIT lead by the end of month 16. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.

Task 5.3 – Incorporate edits received for the educational and outreach materials into final drafts of all three products.

Deliverable 7: An editable electronic draft of each outreach product will be submitted to the GIT lead by the end of month 16. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.

Task 5.4 - Present Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual and outreach materials to the Habitat GIT (HGIT) and SAV Workgroup during month 15 or 16. Depending on timing, the presentation may be either at the semi-annual SAV Workgroup and HGIT meetings or during a specially scheduled webinar. The contractor will work with the GIT lead to schedule presentation. Deliverable 8: An editable electronic copy of the presentation will be submitted to the GIT lead at the time of the SAV Workgroup, HGIT meeting, or specially scheduled webinar. The presentation along with the draft materials will be shared with the SAV Workgroup for final review. The contractor will receive one consolidated set of final comments from the GIT lead within 30 days of the presentation/s.

**Step 6: 7/1/2021 to 8/31/2021**

Months 17-18. Meet in person with GIT lead; Incorporate final edits received from GIT lead and SAV Workgroup into final products; Print and bind materials; Create final package for project close-out.

Task 6.1 - Meet in-person with GIT lead during month 17 for final project meeting. Discuss all final tasks necessary for project completion and close-out. Contractor is responsible for initiating contact and scheduling meeting.

	<p>Task 6.22 – Incorporate any final recommendations received from HGIT and SAV Workgroup into final products.</p> <p>Task 6.33 – Print and bind all materials. 50 copies each of the three outreach products and Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual will be due at project close-out.</p> <p>Task 6.4 – Create final project package. The final project package will be delivered to the GIT lead and at the end of month 18 and include editable and PDF copies of all documents and 50 printed and bound copies of all documents.</p> <p><u>Final Deliverable: The final project package will be delivered to the GIT lead at the end of Month 18 and include the following:</u></p> <ol style="list-style-type: none"> <li>1. Editable electronic copies and PDFs of the literature review, list and summary of interviews, and the presentation to the SAV Workgroup and HGIT if any edits or additions were made following original submittal of these materials (i.e., if additional references were added to the literature review during subsequent research).</li> <li>2. An editable electronic copy and PDF of Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual.</li> <li>3. An editable electronic copy and PDFs of all three outreach products.</li> <li>4. Fifty printed and bound copies of Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual.</li> <li>6. Fifty printed copies each of all three outreach products.</li> </ol> <p>The contractor/successful bidder must check-in by phone with the GIT lead monthly, meet with the GIT lead in person as indicated in the timeline, and provide reports as required by the Chesapeake Bay Trust. The contractor is responsible for initiating, organizing, and scheduling all required meetings with the GIT lead and/or other identified stakeholders.</p> <p><b>Step 7: 9/1/2021 to 11/30/2021</b> Present technical guidance manual and outreach materials to the HGIT and SAV Workgroup. Make drafts available to SAV Workgroup for review eight weeks prior to final deadline. The SAV Workgroup will review all content and offer edits, comments, and recommendations which will be incorporated prior to the project’s final deadline.</p> <p><b>Step 8: 12/1/2021 to 1/31/2022</b> Incorporate edits received from SAV Workgroup members into final draft of technical guidance manual and outreach materials.</p> <p><b>Step 9:</b> Submit final draft of technical guidance manual and outreach materials to the GIT Lead for this project. Final deliverable will include 1. an editable version of all materials, 2. a PDF of all materials, 3. 50 printed and soft-bound copies each of the technical guidance manual and all outreach materials.</p> <p>The contractor/successful bidder must check-in by phone with the GIT lead monthly, meet with the GIT lead in person quarterly, and provide reports as required by the CBT.</p>
<b><u>Stakeholder Participants</u></b>	<p>Brooke Landry and Becky Golden at MDNR The SAV Workgroup The Habitat Goal Implementation Team (HGIT) Chesapeake Bay SAV Restoration Practitioners</p>
<b><u>Deliverables</u></b>	<ol style="list-style-type: none"> <li>1. Deliverable 1: A final literature review will be due to the GIT lead by the end of Month 3 and should be delivered as both an editable electronic file and PDF.</li> <li>2. Deliverable 2: A list of organizations contacted and interviewed including a summary outline of meeting results will be due to the GIT lead by the end of Month 3 and should be delivered as both an editable electronic file and PDF. The literature review and</li> </ol>

	<p>interview results will be discussed at the following in-person quarterly meeting.</p> <ol style="list-style-type: none"> <li>3. Deliverable 3: An editable electronic draft restoration protocol for each salinity regime will be provided to the GIT lead by the end of Month 6. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.</li> <li>4. Deliverable 4: An editable electronic draft Protocol and Technical Guidance Manual will be provided to the GIT lead by the end of Month 10. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.</li> <li>5. Deliverable 5: An editable electronic draft of three educational and outreach products will be submitted to the GIT lead by the end of Month 13. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.</li> <li>6. Deliverable 6: An editable electronic draft of SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual will be submitted to the GIT lead by the end of month 16. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.</li> <li>7. Deliverable 7: An editable electronic draft of each outreach product will be submitted to the GIT lead by the end of month 16. The contractor will receive one consolidated set of comments from the GIT lead within 30 days of submittal.</li> <li>8. Deliverable 8: An editable electronic copy of the presentation will be submitted to the GIT lead at the time of the SAV Workgroup, HGIT meeting, or specially scheduled webinar. The presentation along with the draft materials will be shared with the SAV Workgroup for final review. The contractor will receive one consolidated set of final comments from the GIT lead within 30 days of the presentation/s.</li> <li>9. Final Deliverable: The final project package will include the following: <ul style="list-style-type: none"> <li>• Editable electronic copies and PDFs of the literature review, list and summary of interviews, and the presentation to the SAV Workgroup and HGIT if any edits or additions were made following original submittal of these materials (i.e., if additional references were added to the literature review during subsequent research).</li> <li>• An editable electronic copy and PDF of Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual.</li> <li>• An editable electronic copy and PDFs of all three outreach products.</li> <li>• Fifty printed and bound copies of Small-scale SAV Restoration in Chesapeake Bay: A Protocol and Technical Guidance Manual.</li> <li>• Fifty printed copies each of all three outreach products.</li> </ul> </li> </ol>
<b><u>QAPP Requirement</u></b>	A QAPP will not be required for this Scope.
<b><u>Qualifications of Bidder</u></b>	<p>Required bidder qualifications include the following:</p> <ul style="list-style-type: none"> <li>• Extensive and proven knowledge of SAV in Chesapeake Bay</li> <li>• Knowledge and understanding of SAV restoration practices and techniques</li> <li>• Expertise/Experience in technical guidance and manual development</li> <li>• Expertise/Experience in outreach and education material development for conservation and restoration purposes</li> <li>• Expertise/Experience in graphic design and the capacity to develop aesthetically and graphically compelling documents and outreach materials</li> <li>• Bidder should provide at least one example of technical guidance manuals and/or educational and outreach materials with an environmental focus that have been developed by the bidder in the past seven years.</li> </ul>

**Scope of Work 7: Targeted Local Outreach for Green Infrastructure in Vulnerable Areas**  
**(Maximum Bid: \$65,000)**

<b>Goal Implementation Team (GIT)</b>	Habitat Goal Implementation Team (GIT 2)
<b>Maximum Bid Amount</b>	\$65,000
<b>Project Outcomes</b>	<p>This Scope will result in locally elected officials, planning/zoning staff, and Phase III Watershed Implementation Plan (WIP) writers in targeted areas being better- equipped to make decisions that address climate vulnerabilities with techniques that will also help meet habitat and Total Maximum Daily Load (TMDL) outcomes. Techniques to be considered to meet TMDL goals include the implementation of green infrastructure restoration practices (marsh restoration, riparian buffers, tree planting, living shorelines, green riprap, open space protection) that benefit habitat for wildlife and people. For example, many green infrastructure restoration practices already receive credit toward the Chesapeake Bay TMDL for reducing nutrient and sediment, including non-tidal wetland restoration, creation and rehabilitation, tree and forest planting, riparian buffers, and living shorelines (which can include tidal/marsh restoration). However, these practices have additional co-benefits beyond improvements to water quality in high priority areas.</p> <p>This Scope focuses on equipping local decision makers in underserved and underrepresented communities with green infrastructure options tailored to provide co-benefits. Communities can address climate vulnerabilities while also meeting TMDL goals by reducing nutrient/sediment loads and improving habitat for wildlife. Specifically, these local decision-makers will gain:</p> <ul style="list-style-type: none"> <li>• Knowledge about which types of green infrastructure restoration projects can best meet their community needs</li> <li>• Ideas on project placement, preliminary design considerations and load reduction estimates that strengthen their chances of applying successfully for competitive grants</li> <li>• List of best-matched funding sources to apply to for green infrastructure project design and implementation.</li> </ul> <p>This Scope will focus in three pilot areas that include the Delmarva, Virginia (VA), and Pennsylvania (PA). The pilot areas will be identified prior to the selection of the contractor by the Chesapeake Bay Program’s Habitat Goal Implementation Team (HGIT) , Local Government Advisory Committee (LGAC), Climate Resiliency Workgroup, and Diversity Workgroup, with assistance from the Geographical Information Systems (GIS) Team and in consultation with stakeholders identified below.</p> <p>Ultimate success of this project could be measured in subsequent years by an increase in the number of applications applying for Federal cost-share assistance programs to implement projects in the pilot areas for this Scope, including the Conservation Reserve Enhancement Program (CREP), North American Wetland Conservation Act (NAWCA) and National Coastal Wetland grants, and the Department of Housing and Urban Development (HUD) Community Development block grants. Program options for matching funds may include the National Fish and Wildlife Foundation’s (NFWF) Chesapeake Stewardship Program Small Watershed Grants, and Maryland and Virginia’s respective Coastal Resiliency programs. Any such measurement is not included in this Scope.</p> <p>The audience for this Scope includes local decision makers, and differs from the intent of a similar Scope in this RFP, “Improved Technical Service Delivery to Landowners:</p>

	Achieving Multiple CBP Outcomes (Scope #1),” which aims to provide integrated delivery of technical and financial services to private landowners through the development of coordinated Technical Service Provider networks.
<b>Project Steps and Timeline</b>	<p><b>Step 1: 1/1/2020 to 3/31/2020</b>  The HGIT and LGAC will jointly convene a steering committee of experts who are already working to engage local partners. Local partners include the Chesapeake Bay Landscape Professions steering committee, technical service providers, Riverkeepers, Circuit Riders, Watershed Restoration Specialists, state representatives, and other trusted community members including community members with the ability to convene and facilitate meetings/trainings. The Contractor will work with this steering committee to: (1) identify trusted sources and key decision makers in the three previously identified pilot areas (one each in Delmarva, VA, and PA) to invite and (2) articulate deliverables and outcomes for the round-table listening sessions and discussions proposed in Step 2 below.</p> <p><b>Step 2: 4/1/2020 to 9/30/2020</b>  The Contractor, in close coordination with the Technical Project Lead and local representatives from the pilot areas, will plan and host three roundtable listening sessions and discussions in the pilot areas. These sessions should build on and be guided by lessons learned through the Delmarva Restoration Conservation Network initiative, the Chesapeake Bay Program’s Local Engagement Strategy, the Watershed Academy, and Pennsylvania’s Round Table discussions. The Contractor will not be responsible for booking or paying for a space.</p> <p><b>Step 3: 10/1/2020 to 5/31/2021</b>  The Contractor, in close coordination with networks of trusted source Technical Service Providers, will facilitate a series of workshops on Green Infrastructure restoration practices tailored to local area needs. Such sessions should include easy-to-digest information on project siting, conceptual designs, and applicable financing options and timelines. An agenda for one of the workshops might include articulating a problem statement for a local need, discussing case studies, and outlining Green Infrastructure solutions to solve that local problem. City planners, engineers, subject matter experts, land trusts, funders as well as other non-governmental organizations (NGOs) will be invited in addition to local officials. The Contractor will not be responsible for paying for meeting space.</p> <p><b>Step 4: 6/1/2021 to 11/30/2021</b>  The final deliverable by the contractor for this Scope will include a culmination of information gathered as part of this Scope in the form of a Final Report and a presentation to the full LGAC and HGIT in partnership with local representatives from each of the three pilot areas. The presentation should showcase a list of Green Infrastructure options, including preliminary conceptual designs and potential funding/financing options that resulted from the workshops held by the contractor .</p>
<b>Stakeholder Participants</b>	<p><u>Step 1 (Convene a Steering Committee):</u>  Dan Murphy – USFWS  Jennifer Greiner - USFWS  Emily Trentacoste – USEPA, CBPO  John Wolf – USGS  Sean Corson – NOAA CBPO  Kristin Saunders – UMCES  Francesca King – USEPA  Bill Jenkins – USEPA  Christina Ryder – USFWS  Jennifer Starr – Alliance for the Chesapeake Bay  Breck Sullivan – Chesapeake Research Consortium, CBPO</p>



	<p><u>Step 2 (Planning for Local Listening Sessions):</u>  Erik Meyers – The Conservation Fund  Jennifer Miller Herzog – Land Trust Alliance  Jim McGowan – TNC VA Coast Reserve  Kate Patton – Lower Shore Land Trust  David Curson – Audubon MD/DC  Steve Strano – NRCS Maryland  Amy Jacobs – The Nature Conservancy MD/DE  Hali Plourde-Rogers – VA Eastern Shore Land Trust  Jake McPherson – Ducks Unlimited  Tom Leigh – CBF  Kelly Leo – The Nature Conservancy MD/DE  Lewis Lawrence, Middle Peninsula Planning District Commission  Abbi Huntzinger, Alliance for the Chesapeake Bay  Neely Law, Center for Watershed Protection  David Hirschman, Hirschman Water  Matt Pennington, West Virginia  Waterkeeper’s Alliance</p> <p><u>Steps 2 and 3 (Listening and Working Sessions, locals identified above, plus):</u>  Jennifer Dindinger  University of Maryland/Dorchester County Office  Phone: (240) 393-7915  Email: jdinding@umd.edu</p> <p>Danny Lapin (LGAC unofficial NY Member)  Otsego County Conservation Association (NY)  Danny is a circuit rider and a local elected official  planner@occainfo.org</p> <p>Chelsey N. Ergler  cergler@blairconservationdistrict.org  Stormwater Coordinator  MS4 Program Development &amp; Education &amp; Outreach</p>
<b>Deliverables</b>	<ol style="list-style-type: none"> <li>1. Three total roundtable listening sessions and discussions (one in each of Delmarva, VA and PA pilot areas), that include the following: invitees list; agendas with outcomes; facilitation guide with key questions to create conversation; list of key local priorities and decision-makers</li> <li>2. Three total “Green Infrastructure” Workshops, (one in each of Delmarva, VA and PA pilot areas), that include the following: sample menus of potential project types, example preliminary project design(s) and siting options; suggested funding sources and next steps, such as stakeholder outreach, applying for necessary permits, and grants to cover project design and engineering costs.</li> <li>3. A written Final Report and a presentation to the LGAC and HGIT (possibly jointly)</li> </ol>
<b>QAPP Requirement</b>	A QAPP will not be required for this Scope
<b>Qualifications of Bidder</b>	<ul style="list-style-type: none"> <li>• Skilled facilitator and coordinator; ability to work with key community leaders to host listening sessions and foster productive dialogue among diverse groups of people.</li> <li>• Experience in underserved areas and connecting community issues to watersheds.</li> <li>• Knowledge of climate resiliency and habitat-related Best Management Practices (BMP).</li> <li>• Knowledge of grant opportunities related to Chesapeake Bay restoration.</li> <li>• Skilled facilitator and coordinator; ability to work with key community leaders to host listening sessions and foster productive dialogue among diverse groups of people.</li> </ul>

**Scope of Work 8: Increasing Diversity in the Chesapeake Bay Program Partnership through Cultural Competency Training: \$15,000)**

<b><u>Goal Implementation Team (GIT)</u></b>	Fostering Chesapeake Stewardship Goal Implementation Team (GIT 5)
<b><u>Maximum Bid Amount</u></b>	\$15,000
<b><u>Project Outcomes</u></b>	<p>This project will allow a total of 60 CBP partnership members and staff<sup>1</sup> to participate in a full-day Cultural Competency Training that would increase their capacity to understand, respect and embrace cultural diversity. Enhanced capacity is key to meeting the Diversity Outcome in the Chesapeake Bay Watershed Agreement , which is to “Identify stakeholder groups that are not currently represented in the leadership, decision making and implementation of current conservation and restoration activities and create meaningful opportunities and programs to recruit and engage them in the Partnership’s efforts.”</p> <p>These two trainings of 30 participants each will be specific to the needs of the Partnership, as informed by the Diversity, Equity and Inclusion (DEI) Strategy<sup>2</sup>. The training will help participants uncover any unconscious biases, and articulate personal points of view about DEIJ (Diversity, Equity, Inclusion, and Justice) in their lives and work, all while building skills to connect productively across differences to achieve organizational goals and foster a more inclusive environment. Enhanced capacity and an inclusive environment to meet the CBP Diversity Indicator target of increasing racial and ethnic diversity representation in the partnership to 25%, with 15% in leadership positions, by 2025.</p> <p><sup>1</sup>Members and staff to include those who actively work for or participate in the CBP, including members of the Management Board, Principal’s Staff Committee, GIT Chairs, Staffers and Coordinators, and other members of workgroups and the partnership. The Diversity Workgroup’s staff will work with the contractor to identify participants.</p> <p><sup>2</sup>The CBP Diversity, Equity, and Inclusion (DEI) Strategy will be completed and available by late 2019 and will help inform this training.</p>
<b><u>Project Steps and Timeline</u></b>	<p><b>Step 1: 10/1/2019 to 12/31/2019</b></p> <ul style="list-style-type: none"> <li>• Diversity Workgroup staff to review CBP DEI Strategy and outcomes of the initial cultural competency training held in Fall 2019 and communicate results with Contractor for this Scope.</li> <li>• Diversity Workgroup staff will strategically identify members of the partnership who should participate in the upcoming 2020 trainings and provide to Contractor for this Scope.</li> </ul> <p><b>Step 2: 3/1/2020 to 3/13/2020</b></p> <ul style="list-style-type: none"> <li>• Participate in a 1-hour phone call with Diversity Workgroup staff to gain familiarity with the DEI Strategy and products and assessments of the previous GIT Funding project.</li> </ul> <p><b>Step 3: 3/16/2020 to 4/3/2020</b></p> <ul style="list-style-type: none"> <li>• Work with Diversity Workgroup staff to tailor training curriculum to CBP audience, based on the DEI Strategy and previous assessments (from Fall 2019).</li> <li>• The Diversity Workgroup will identify training date options and location(s), and will provide funds to pay for the training space.</li> </ul> <p><b>Step 4: 4/6/2020 to 6/30/2020</b></p> <ul style="list-style-type: none"> <li>• Contractor will administer a pre-training assessment of the DEI views of participants as they relate to their work, and to identify perceived and actual barriers (i.e., one barrier raised by many is the lack of control over hiring practices).</li> <li>• Contractor will create materials for workshop (i.e., handouts and a presentation) and</li> </ul>

	<p>submit to the Diversity Workgroup staff prior to the training.</p> <ul style="list-style-type: none"> <li>• Contractor will conduct two, full-day in-person trainings of 30 participants each, to train a total of 60 participants.</li> </ul> <p><b>Step 5: 6/30/2020 to 7/30/2020</b></p> <ul style="list-style-type: none"> <li>• Contractor will administer a follow-up assessment to determine how participants’ views, actions, and decisions change as a result of the trainings and materials.</li> <li>• Compare the post-training assessment with the pre-training assessment to analyze how participant views and actions changed as a result of the trainings and materials.</li> <li>• Contractor will create a transferability package (in PDF format) for participants: <ul style="list-style-type: none"> <li>○ The transferability package should enable participants and other members of the partnership to replicate the training or conduct a similar one, to reach a wider audience and achieve organizational goals related to DEIJ.</li> <li>○ The package should include presentation slides, if given during the training.</li> <li>○ The package should be sent to participants no more than two weeks after each training.</li> </ul> </li> </ul> <p><b>Step 6: 7/30/2020 to 8/31/2020</b></p> <ul style="list-style-type: none"> <li>• Contractor will provide an evaluation and final report that summarizes findings from the trainings. The report should be a 2 to 5-page PDF that includes information on the total number of people engaged, description of goals and outcomes that were met, how they contributed to the CBP DEI strategy, and next step recommendations for the partnership.</li> </ul>
<b><u>Stakeholder Participants</u></b>	<p>Chesapeake Bay Program staff and partners:  Management Board, Principals’ Staff Committee  GIT Chairs, Coordinators and Staffers  Diversity Workgroup  Communications Workgroup  CBP Creative/Web Team  Members of other GITs and workgroups, strategically chosen to achieve greatest reach. (i.e., particularly engaged members of GITs/workgroups)</p>
<b><u>Deliverables</u></b>	<ol style="list-style-type: none"> <li>1. Develop a training curriculum tailored to the CBP audience, by incorporating input from products and assessments of previous project (e.g., CBP DEI Strategy, DEI Readiness Assessment) and input from Diversity Workgroup staff.</li> <li>2. Create and administer a pre-training assessment of the DEIJ views of participants.</li> <li>3. Create materials for workshop (i.e., handouts and a presentation) and submit to the Diversity Workgroup staff prior to the training.</li> <li>4. Conduct two full-day and in-person trainings for 30 participants each, in line with the goals of the CBP DEI Strategy that will be available in late 2019 (60 total participants will be trained).</li> <li>5. Create and administer a post-training assessment of the DEIJ views of the participants;</li> <li>6. Compare the post-training assessment with the pre-training assessment to analyze how participant views and actions changed as a result of the trainings and materials.</li> <li>7. Develop a transferability package of the trainings to conduct similar, future trainings.</li> <li>8. Provide a final report to summarize the results (2 to 5 pages, PDF) as described in the project timeline and steps section.</li> </ol>
<b><u>QAPP Requirement</u></b>	<p>A QAPP will not be required for this Scope.</p>
<b><u>Qualifications of Bidder</u></b>	<ul style="list-style-type: none"> <li>• Expertise in diversity, equity, inclusion, and justice awareness; background and experience in social science (required).</li> <li>• Ability to communicate effectively with diverse populations; strong verbal and written communication skills; ability to create reports, summaries, and resources (required).</li> <li>• Experience providing DEIJ skill development training to at least three clients over the past three years; experience providing DEIJ trainings to environmental organizations (preferred).</li> </ul>

**Scope of Work 9: Developing a Regional Outdoor Learning Network to Support MWEE Implementation (Maximum Bid: \$50,000)**

<b><u>Goal Implementation Team (GIT)</u></b>	Fostering Chesapeake Stewardship Goal Implementation Team (GIT 5)
<b><u>Maximum Bid Amount</u></b>	\$50,000
<b><u>Project Outcomes</u></b>	<p>This Scope seeks to establish a “Regional Outdoor Learning Network” to build the capacity of school district and nonprofit partners to embed Meaningful Watershed Educational Experiences (MWEEs) into school district curriculum. Since the early 2000s, the National Oceanic and Atmospheric Administration (NOAA), the Chesapeake Bay Trust (CBT), and other funders have supported the development of MWEEs and related environmental literacy programming. Many of these programs are strong models that partners can draw on for examples and lessons learned, but the information is not being adequately communicated because partnerships are often limited to project partners working in a specific geography. The CBP Education Workgroup has been working to develop “MWEE Ambassadors,” who are trained to support school districts in their development of MWEEs. However, there is currently no formal mechanism to match these MWEE Ambassadors to interested school districts or to encourage new school districts to undertake the rewarding, but often difficult body of work related to developing curriculum-embedded MWEEs.</p> <p>Under this Scope, the Contractor will establish a peer engagement/learning network of local school districts and their partners to share information, coordinate efforts to overcome barriers to systemic implementation, and connect with existing regional and state networks. This network will be nested under the CBP Education Workgroup. This Scope will also develop a methodology for identifying school districts interested in developing MWEEs and connecting them with existing “MWEE Ambassadors” or other appropriate local partners to expand MWEEs into new geographic areas. The criteria to identify these new areas should ensure that districts with the highest need (including economically disadvantaged and disenfranchised communities) will be meaningfully included and supported.</p> <p>The outcomes of this work are as follows:</p> <ul style="list-style-type: none"> <li>• Increased communication across partners/local implementation networks to support more and better designed MWEEs (e.g. strengthen community of practice)</li> <li>• Increased number of teacher-supported systemic environmental literacy programs occurring in priority school districts</li> </ul>
<b><u>Project Steps and Timeline</u></b>	<p><b>Step 1: 1/1/2020 to 6/30/2020</b></p> <p>Task 1: Evaluate the existing and potential Community of Practice around MWEEs (January-June 2020)</p> <p>1.1 Interview MWEE practitioners and advisors at various levels to better understand their communication pathways, learning communities, networks, and relationships/partnerships, including representatives from: the CBP Education Workgroup, state science networks, state environmental education working groups, the Mid-Atlantic Marine Educators Association, and the North American Association of Environmental Education affiliate groups.</p> <p>1.2 Survey school district personnel and their environmental education partners to better understand existing communication pathways, learning communities, networks, and relationships/partnerships, including enough economically disadvantaged and disenfranchised communities to inform future work with these communities. Results from the following sources/documents should be used to identify a representative sample of school districts with existing systemic environmental literacy programming and districts with no systemic programs in targeted areas:</p>

**Project Steps and Timeline**

the 2019 the Chesapeake Bay Watershed Environmental Literacy Indicator Tool (ELIT) survey, the Environmental Justice (EJ) Screen, the National Center for Education Statistics, and the environmental literacy/sustainable schools Geographic Information System (GIS) tool currently in development (which includes diversity, equity, inclusion, and justice data)

1.3 Produce an initial network/relationship map and discussion paper that details existing connections among school district personnel and their partners related to environmental literacy/MWEEs, and identifies existing networks where environmental literacy/MWEEs could be introduced and/or opportunities to expand and/or deepen the MWEE community of practice (gap analysis). The Contractor will convene a meeting with the project team and stakeholders to present and discuss initial results and refine approach.

1.4 Use feedback from the project team and additional input from partners (as needed) to produce a landscape organizational assessment outlining existing capacities within the existing networks (identified in 1.1), identifying issues or gaps related to MWEE coordination, and recommending specific actions that could be taken within existing capacity, with limited additional capacity, and with significant ongoing support from funders (including the associated costs/time requirements for each recommendation). This work will include reaching out to the existing networks (identified in 1.1) to determine if their mission, capacity, and interest will allow for deep collaboration. The assessment will clearly delineate the role/capacity of existing networks (identified in 1.1) to lead a peer engagement/learning network, including the CBP Education Workgroup, state science networks, state environmental education working groups, the Mid-Atlantic Marine Educators Association, and the North American Association of Environmental Education affiliate groups.

**Step 2: 1/1/2020 to 6/30/2020**

Task 2: Develop a methodology for identifying school districts interested in developing MWEEs (January-June 2020)

Work with the CBP Education Workgroup representatives to evaluate existing data sets in the context of the data gathered in Task 1 to develop specific criteria and strategies for reaching new school districts for MWEE development and implementation. Existing data includes but is not limited to the 2019 ELIT survey, EJ Screen, National Center for Education Statistics, and environmental literacy/sustainable schools GIS tool (which includes diversity, equity, inclusion, and justice data).

**Step 3: 5/1/2020 to 9/30/2020**

Task 3: Develop recommendations for a peer engagement/learning community around MWEEs (May-September 2020)

Provide recommendations to increase and strengthen in person collaboration, facilitate online sharing of best practices and model environmental literacy program examples, and increase the frequency of communication to and among network members.

**Step 4: 9/1/2020 to 12/30/2020**

Task 4: Establish peer engagement/learning community (September-December 2020)

4.1 Establish initial structure, participants, and plan for interactions of recommended peer engagement/learning network with special focus on the needs of economically disadvantaged and disenfranchised communities. Specific actions will depend on recommendations generated by Contractor, but examples include convening partners to establish the foundation of the network, setting up schedule and structure for regular webinars, and establishing communication platforms.

4.2 Develop a summary paper and visual products that outline initial structure, participants, and plan for interactions of proposed peer engagement/learning community around MWEEs.

4.3 Establishment of communication platform(s) to support the peer engagement/learning community, which could include one or more of the following: website, listserves, webinar hosting sites, google drive, etc.

<b><u>Stakeholder Participants</u></b>	Shannon Sprague and Elise Trelegan, NOAA Tom Ackerman and Karen Mullen, Chesapeake Bay Foundation (CBF) Kacey Wetzel and Tara Drennan, CBT Wendy O’Sullivan, GIT 5 chair (Fostering Chesapeake Bay Stewardship GIT) Francesca King, GIT 5 staffer The Chesapeake Bay Program (CBP) Education Workgroup The State Science Networks The State Environmental Education Working Groups The Mid-Atlantic Marine Educators Association The North American Association of Environmental Education affiliate groups
<b><u>Deliverables</u></b>	Bidder will develop and deliver the following: 1. A network/relationship map and discussion paper for MWEE implementation, including a gap analysis 2. A landscape organizational assessment for MWEE implementation 3. Develop criteria and strategies for reaching new school districts for MWEE development and implementation 4. Provide recommendations for a peer engagement/learning community around MWEEs 5. Develop a summary paper and visual products that outline initial structure, participants, and plan for interactions of proposed peer engagement/learning community around MWEEs 6. Establishment of communication platform(s) to support the peer engagement/learning community, which could include one or more of the following: website, listserves, webinar hosting sites, google drive, etc.
<b><u>QAPP Requirement</u></b>	A QAPP will not be required for this Scope.
<b><u>Qualifications of Bidder</u></b>	<ul style="list-style-type: none"> <li>• Bidder should demonstrate expertise in the area of network development. Bidder should provide three examples of network maps and/or related tools that have been developed by bidder in past seven years. It is preferable that at least one submitted example has an education or community engagement focus.</li> <li>• Bidder should demonstrate expertise in supporting peer engagement/learning strategy. Bidder should provide two to three examples of planning and or implementation documents related to this work conducted in the past seven year. It is preferable that at least one submitted example has an education or community engagement focus.</li> </ul>

**Scope of Work 10: Correctional Conservation Collaborative: Achieving Pennsylvania Forestry Goals through Workforce Development (Maximum Bid: \$75,000)**

<b><u>Goal Implementation Team (GIT)</u></b>	Water Quality Goal Implementation Team (GIT 3)
<b><u>Maximum Bid Amount</u></b>	\$75,000
<b><u>Project Outcomes</u></b>	<p>In Pennsylvania’s (PA’s) Chesapeake Bay (Bay) Watershed, meeting the Riparian Forest Buffer (RFB) goals are a cornerstone of PA’s Phase III Watershed Implementation Plan (WIP). Urban Forestry Practices, including Tree Canopy and Urban Forest Planting goals, are important contributors for pollution reductions and result in some of the most publicly visible projects with numerous co-benefits. However, as PA begins to implement these riparian forestry practices, there appears to be a shortage of contractors (and skilled professionals) that can complete the installation and maintenance of these RFB plantings, urban forest expansions, and community tree projects.</p> <p>An overlooked potential source of skilled professionals may be inmates at correctional facilities. By training individuals in need of work (including soon-to-be-released, low-risk</p>

	<p>incarcerated individuals) for highly demanded jobs in riparian forestry, we can meet both workforce development goals and societal goals, while at the same achieving Chesapeake Bay Restoration goals. We can meet these goals simultaneously through this project by: 1) assessing need and best locations for new contractor workers, 2) assessing institutions with interest in/need for programming, 3) developing a standard training program, 4) developing a “how to” manual for replicating this work, 5.) providing suggestions on funding sources for implementing training programs, and 6.) developing a pipeline to connect program graduates with well-paying jobs after their release, while also increasing diversity in the conservation field. Correctional education has been proven to reduce rates of recidivism. Developing skills for employment and finding meaningful work that pays living wages post-release and carrying out rehabilitative outdoor work in natural settings could significantly reduce recidivism rates and increase post-release employment rates.</p> <p>The primary goal of this Scope is to develop a curriculum and manual for conducting successful trainings hosted at correctional facilities to increase the number of professional, skilled professionals able to implement and maintain RFBs and urban forestry best management practices (BMPs). A secondary goal of this Scope is to reduce recidivism rates and help reentrants overcome barriers to employment after their release.</p> <p>Outcomes of this project will be applicable and transferable across all Bay Watershed jurisdictions. Ultimately, states beyond PA and associated County correctional institutes could utilize the results of this Scope. The outcomes of this Scope are as follows:</p> <ol style="list-style-type: none"> <li>1. Increase the number of skilled professionals (and thus stewards) that can install and maintain RFB plantings, urban forest expansions, and community tree projects in the Bay Watershed.</li> <li>2. Increase the number of individuals trained in the arboriculture (trees and shrubs) industry and in the tree nursery industry to help with pruning, planting, and tree maintenance goals.</li> <li>3. Faster implementation of RFBs and urban forestry BMPs, as well as improved long-term success of implemented forest BMPs through adequate maintenance.</li> </ol>
<p><b><u>Project Steps and Timeline</u></b></p>	<p><b>Step 1: 3/1/2020 to 3/15/2020</b> Meet with Technical Project Lead and Lead Preparer from Pennsylvania (PA) Department of Conservation and Natural Resources (DCNR) to better understand their recent workforce development efforts with PA Department of Corrections (DOC).</p> <p><b>Step 2: 3/15/2020 to 4/30/2020</b> Interview (through calls or meetings) other groups that have conducted similar work in the Bay Watershed and beyond, including: Earth Conservation Corps in D.C, Middle Susquehanna Riverkeeper, Lori Lilly at Howard EcoWorks ‘Seeds of Change’ and ‘Landscapes for Life’, Carol Parenzan in PA, Bill Ferrell and Bill Charles of Riversmart D.C., Sustainable Prison Project in Washington, Chesapeake Bay Program Local Government Advisory Committee (LGAC), and the GIT Team currently developing the <i>Targeted Local Outreach for Green Infrastructure in Vulnerable Areas</i> Scope. Develop the following deliverables:</p> <ul style="list-style-type: none"> <li>• A list of “lessons learned” and relevant findings from previously conducted trainings in PA by interviewing (through calls or meetings) PA DCNR and other organizations operating similar programs (as noted above).</li> <li>• Complete an assessment of other states and organizations conducting similar programs.</li> </ul> <p><b>Step 3: 5/1/2021 to 10/31/2021</b> Meet with Technical Project Lead &amp; Lead Preparer from PA DCNR to connect with appropriate partners for data-gathering. After partners have been determined and introductions made, gather/congregate data to develop the following deliverables:</p> <ul style="list-style-type: none"> <li>• A table or summary in the form of a list of organizations (i.e. non-profits, social enterprises, private companies, etc.) in the Bay watershed, with a heightened focus on PA-based</li> </ul>

organizations doing work in natural resources/conservation/ watersheds/forestry field(s), that work with incarcerated individuals and reentrant populations.

- A list (with contact info, headquarters location, and geographic range they cover) of businesses /LLCs that perform riparian forest buffer work including installation and/or maintenance in the Bay Watershed with a heightened focus on PA companies.
- An extensive list (with contact info, headquarters location, and geographic range they cover) of companies that perform arboriculture/urban forestry work in PA and surrounding mid-Atlantic state metro areas (i.e. Baltimore, MD, Camden, NJ, Wilmington, DE, Washington D.C, Cumberland, MD etc.). Note: Similar lists exist that can be congregated.
- Written suggestions of at least two to four potential sites on or near correctional properties willing to establish demonstration projects with a focus on urban forestry, tree nursery, and/or RFBs.
- A list of professionals/experts and their accompanying contact information that are willing to teach at corrections-based trainings across the Bay watershed in topics pre-determined with Technical Lead and Lead Preparer.
- An assessment and accompanying table (spreadsheet) of correctional institutions (primary: state correctional institutions, secondary: county correctional institutions) across PA and a breakdown of their infrastructure and land cover. Include the following: total acreage of land under each institution's jurisdiction, acreage of woodland, farmland, pavement/grey infrastructure, and turf, and whether there are any streams (including intermittent and ephemeral) on the property or bordering waterways, and presence of greenhouse(s) and whether they are in operation or just have a structure present.
- An assessment/review and written summary of the potential new reentrant workforce within the Bay watershed (i.e. number of currently incarcerated, low-risk, non-violent offenders that could participate in riparian forest buffer or arboriculture/urban forestry trainings).
- An assessment of any potential connections to businesses/areas that are noted in the work associated with Project 11 (Targeted Local Outreach for Green Infrastructure in Vulnerable Areas).

**Step 4: 9/1/2020 to 2/28/2021**

Meet with Technical Project Lead & Lead Preparer from PA DCNR and identified partners to develop the following deliverables related to a standardized, scalable, transferable curriculum for both RFB and urban forestry training programs. Develop the following deliverables:

- Manual for conducting riparian forest buffer and urban forestry trainings with currently incarcerated individuals that contain curriculum, lessons learned, and start-to-finish guides to instituting a vocational training program at a new institution (one manual for buffers, one manual for urban forestry).
- A competency checklist of skills participants must demonstrate upon completion of training programs.
- A high-quality, professional, peer-reviewed written evaluation for dissemination to inmates (both pre- and post- trainings) to gauge knowledge gained and inform program success.
- A list of potential funding sources, including private foundations, that donate to programs that align issues, including federal and state programs that can be utilized to fund individual programs at correctional institutions.
- An equipment list needed to conduct adequate training for each program (i.e. technical equipment such as projectors and screens, as well as landscaping equipment such as weed trimmers, shovels, etc.) and their associated costs.
- Develop a standardized method/procedure with Pennsylvania Department of Agriculture (PDA) for program participants to get their pesticide applicator's license pre-release.

**Step 5: 11/1/2020 to 3/1/2021**

Work with the Technical Project Lead & Lead Preparer from PA DCNR and identified



	<p>partners to begin development of a registered apprenticeship program with PA Department of Labor and Industry (L&amp;I) and to develop a scholarship fund for graduates of the Correctional Conservation Collaborative (CCC) program that have been released. Develop the following deliverables:</p> <ul style="list-style-type: none"> <li>• A work process schedule (a competency and time-based checklist for registered apprenticeships) for a potential conservation, or forestry, or watershed specialist registered apprenticeship program; the work process schedule and other accompanying documents will be made available to other states for adoption.</li> <li>• A list of potential businesses or sponsors willing to host a registered apprenticeship program and hiring CCC graduates</li> <li>• A plan to establish a registered conservation, forestry, or watershed specialist apprenticeship with L&amp;I, or the completion of a registered apprenticeship program with L&amp;I.</li> <li>• An outlined process for the establishment of a scholarship fund with pre-determined non-profit for re-entrants who completed the Correctional Conservation Collaborative program.</li> </ul> <p><b>Step 6: 10/1/2020 to 3/1/2021</b>  Work Technical Project Lead &amp; Lead Preparer from PA DCNR and identified partners to outline a plan for tracking reentrant program graduates and ensuring their success in the riparian forest buffer and forestry industries. Develop the following deliverables:</p> <ul style="list-style-type: none"> <li>• A written plan to place two out of every twenty CCC program participants into jobs upon release (within 30 to 90 days of re-entry).</li> <li>• An outlined plan to achieve 30% continued communication with participants once released (i.e. did they reach out once released for help with jobs?, etc.)</li> <li>• Written guidelines or steps or suggestions that reentrants can follow to establish or incorporate new businesses (i.e. a method to follow for reentrants interested in entrepreneurship related to forest buffers or urban forestry).</li> <li>• Suggestions (i.e. spreadsheet) that can be used to track CCC program statistics (i.e. 3 to 5 year follow-up research with DOC/L&amp;I, reach, success rates, staff hours; instructor hours).</li> </ul> <p><b>Step 7: 1/1/2021 to 3/31/2021</b>  Compile all data collected in the Steps above, including tables, reports, etc. into one Draft Report. Thoroughly explain and share the Draft Report with the Technical Lead and Lead Preparer at PA DCNR. Allow time for the sharing and editing of at least three revisions by PA DCNR staff and identified partners. Respond to comments on Draft Report and develop the Final Report. Time should be included in the schedule to make requested revisions. Develop the following deliverables:</p> <ul style="list-style-type: none"> <li>• Editable, raw versions of a Draft Report and Final report</li> <li>• Provide all collected data shared with Technical Lead and Lead Preparer at PA DCNR to be used in the future.</li> <li>• Final report containing all of the above information, including the collective analysis of data collected during the course of the project and conclusion.</li> </ul> <p><i>Note: The contractor is responsible for initiating, organizing, and scheduling all required meetings with the GIT Lead and/or other identified stakeholders.</i></p> <p><b>Step 8: 1/1/2022 to 3/31/2022</b>  Present results of this Scope at applicable meetings: CBP Forestry Workgroup Meeting, PA Riparian Forest Buffer Advisory Committee Meeting, Chesapeake Watershed Forum, etc.</p>
<b><u>Stakeholder Participants</u></b>	GIT Lead/Preparers Teddi Stark and Shea Zwerver at PA DCNR Workgroup staffers and coordinators The PA DCNR, Bureau of Forestry and any other identified partners.
<b><u>Deliverables</u></b>	The following Deliverables (detailed in the Steps above) will be developed for this Scope: 1. A list of “lessons learned” and relevant findings from previously conducted trainings in PA by interviewing PA DCNR and other organizations that are currently operating similar programs.

2. An assessment of other states and organizations conducting similar programs.
  3. A table or summary in the form of a list of organizations in the Bay Watershed, with a heightened focus on PA-based organizations that work with incarcerated individuals and reentrant populations.
  4. An extensive list (with contact info, headquarters location, and geographic range they cover) of companies that perform arboriculture/urban forestry work in PA and surrounding mid-Atlantic state metro areas (i.e. Baltimore, MD, Camden, NJ, Wilmington, DE, Washington D.C, Cumberland, MD etc.). Note: Similar lists exist that can be congregated.
  5. Written suggestions of at least two to four potential sites on or near correctional properties willing to establish demonstration projects
  6. A list of professionals/experts willing to instruct at corrections-based trainings across the Bay Watershed
  7. An assessment and accompanying table (spreadsheet) of correctional institutions across PA and a breakdown of their infrastructure and land cover.
  8. An assessment/review and written summary of the potential new reentrant workforce within the Bay watershed.
  9. An assessment of any potential connections to businesses/areas that are noted in the work associated with Project 11 (Targeted Local Outreach for Green Infrastructure in Vulnerable Areas).
  10. A Manual for conducting riparian forest buffer and urban forestry trainings with currently incarcerated individuals
  11. A competency checklist of skills participants must demonstrate upon completion of training programs.
  12. A high-quality, professional, peer-reviewed written evaluation for inmates to gauge knowledge gained and inform program success.
  13. A list of potential funding sources, including private foundations that give to aligning issues and federal and state monies that can be utilized to fund individual programs at correctional institutions.
  14. An equipment list needed to conduct adequate training for each program (i.e. technical equipment such as projector, screen as well as landscaping equipment such as weed trimmers, shovels, etc.) and their associated costs.
  15. A developed and standardized method/procedure with PDA for program participants to get their pesticide applicator's license pre-release.
  16. A work process schedule (a competency and time-based checklist for registered apprenticeships) for a potential conservation, or forestry, or watershed specialist registered apprenticeship program. The work process schedule and other accompanying documents will be made available to other states for adoption.
  17. A list of potential businesses or sponsors willing to host a registered apprenticeship program and hiring CCC graduates
  18. A plan to establish a registered conservation, or forestry, or watershed specialist apprenticeship with L&I, or the completion of a registered apprenticeship program with L&I.
  19. An outlined process for the establishment of a scholarship fund with pre-determined non-profit. for re-entrants who have completed a Correctional Conservation Collaborative program.
  20. A written plan to place CCC program participants into jobs upon release
  21. An outlined plan to achieve continued communication with participants
  22. Written guidelines or steps or suggestions that reentrants can follow to establish or incorporate new businesses.
  23. Suggestions (i.e. spreadsheet) that can be used to track CCC program statistics
  24. An editable, raw versions of the Draft Report
  25. One Final Report containing all the above information, including the collective analysis of data collected during the project and conclusion.
- Note: The contractor is responsible for initiating, organizing, and scheduling all required*

	<i>meetings with the GIT Lead and/or other identified stakeholders.</i>
<b><u>QAPP Requirement</u></b>	A QAPP is not required for this Scope.
<b><u>Qualifications of Bidder</u></b>	<ul style="list-style-type: none"> <li>• Bidder should be familiar with vernacular used in the environmental arena, especially in the urban forestry and riparian forest buffer fields; bidder should be familiar with environmental issues affecting PA and the Bay Watershed.</li> <li>• Bidder should be familiar with, or willing to learn about, PA’s Phase III WIP goals and implementation strategies.</li> <li>• Bidder should have experience with Microsoft Office, Google Drive, and other similar software for report generation purposes.</li> <li>• Bidder should be able to collect data from various methods, analyze data, interpret data to be easily understood by a diversity of audiences, and organize data into clear and concise results/reports and visually appealing reports and/or graphics</li> <li>• Bidder should have experience and demonstrate current ability to compile and produce well-written reports, lesson plans, etc.</li> <li>• Bidders should be able to pass background checks required to work with State Correctional Facilities.</li> <li>• Bidders should have experience developing projects with transferable results.</li> <li>• Bidder should demonstrate good communication practices and be accessible daily by phone and/or email for GIT Technical Lead</li> </ul>

**Scope of Work 11: Implementation of Chesapeake Healthy Watersheds Assessment in Maryland’s Tier II Watersheds (Maximum Bid: \$55,000)**

<b>Goal Implementation Team (GIT)</b>	Maintain Healthy Watersheds Goal Implementation Team (GIT 4)
<b>Maximum Bid Amount</b>	\$55,000
<b>Project Outcomes</b>	<p>This project will build upon the Chesapeake Bay Healthy Watersheds Assessment (CHWA) Framework to develop an approach for refining the characterization of Maryland watershed health and vulnerability to support the Maintain Healthy Watersheds Goal Implementation Team (HWGIT) in tracking progress towards the Healthy Watersheds Outcome in the Chesapeake Bay Watershed Agreement (that 100% of the State-Identified Healthy Waters and Watersheds remain healthy). This project will create a Maryland Healthy Watershed Assessment (MDHWA) that establishes relative Tier II watershed health and vulnerability indicators.</p> <p>The MDHWA and its vulnerability indices will fill gaps related to understanding existing threats within Maryland. This analysis will increase State capacity to better understand the spectrum of health and vulnerability to conduct assessments on existing healthy watersheds and create innovative web-based map and information delivery platforms that will be hosted by Maryland Department of the Environment (MDE). The MDHWA will provide information on watersheds, not on the direct condition of streams, and therefore it will be a value-added product that complements the Maryland Biological Stream Survey (MBSS) program. In addition, it will enable the indirect tracking of watershed health. The MDHWA will benefit the overall CHWA effort by exploring the statistical relationship between CHWA metrics and diagnostic measures of stream health.</p> <p>The successful contractor will coordinate with the EPA, HWGIT jurisdictional representatives, Maryland Department of the Environment (MDE), Maryland Department of Natural Resources (DNR), CBP Geographical Information Systems (GIS) team, and others as necessary during project development. The contractor will use MD iMAP, local data, and</p>

	<p>CHWA metrics to: (1) create a Quality Assurance Plan (QAP), (2) develop a MDHWA geodatabase; (3) develop a strategy to update the MDHWA and track watershed health over time; (4) identify watershed health vulnerabilities, (5) identify statistically significant CHWA metrics that can be used as indicators of and track watershed health, (6) generate a final report, manual and tutorial and (7) identify and resolve technical challenges. The contractor must also ensure that this project serves as a template for adapting the CHWA to other Bay jurisdictions, and as a training mechanism for HWGIT staff and State leads to independently maintain and update the CHWA and MDHWA products.</p> <p><u>The project outcomes include:</u></p> <ul style="list-style-type: none"> <li>• Refine and customize the Chesapeake Bay Healthy Watershed Assessment (CHWA) for application in Maryland.</li> <li>• Like other jurisdictions, Maryland defines healthy watersheds as the contributing areas draining to healthy streams. Each jurisdiction has somewhat unique criteria used to define stream health. Maryland uses an Index of Biotic Integrity (IBI) based on data from the Maryland Biological Stream Survey. High quality streams in Maryland are classed as Tier II waters. To develop indicators of stream and watershed health that are useful in Maryland, the CHWA metrics need to be statistically related to IBI scores and other diagnostic measures of stream health. Because other jurisdictions also characterize healthy watersheds by the health of streams, the process for updating and applying more refined state-level data can be replicated in those states.</li> <li>• Aid in future tracking of Tier II watershed health status</li> <li>• Relate the results of the CHWA to diagnostic measures of stream health using the appropriate statistical methods. The measures should include but not be limited to the IBI, stream flow, and stream temperature.</li> <li>• Identify potential indicators or metrics for future goal and outcome tracking capacity</li> <li>• Provide HWGIT Staff and Leadership training on modifying, maintaining, and updating the database to ensure transferability and maintenance moving forward.</li> <li>• Provide MD with a scientific assessment to improve Tier II watershed management decisions, outreach, and communication (for example: apply the vulnerability assessment to better match mitigation to known stressors of a stream)</li> <li>• Provide further demonstration and application of the CHWA.</li> </ul>
<p><b>Project Steps and Timeline</b></p>	<p><b>Step 1: 4/1/2020 to 5/30/2020</b>  Kick off meeting and QAPP Development</p> <ul style="list-style-type: none"> <li>• Hold kick off meeting with MDE and HWGIT staff to review contract, timeline, and deliverables</li> <li>• Identify areas of greatest need and preliminary data source identification</li> <li>• Develop draft QAPP</li> <li>• Final QAPP within 2 weeks receipt of comments on draft</li> </ul> <p><b>Step 2: 6/1/2020 to 6/30/2020</b>  Technical Project Team meeting</p> <ul style="list-style-type: none"> <li>• Meeting with contractor to refine deliverables, methodology, and review QAPP</li> <li>• Review CHWA indicators and geospatial data</li> <li>• Refine framework and timeline</li> </ul> <p><b>Step 3: 7/1/2020 to 4/30/2021</b>  Apply CHWA framework to develop relative MD Tier II watershed health baseline condition</p> <ul style="list-style-type: none"> <li>• Data compilation, review, and analysis</li> <li>• Begin building the geodatabase</li> <li>• Monthly meetings with contractor and MDE for updates</li> <li>• Reach out to MD iMap and MD state agencies for any data updates</li> </ul>

	<p><b>Step 4: 7/1/2020 to 4/30/2021</b> Apply CHWA framework to identify the vulnerability stressors of MD Tier II watersheds</p> <ul style="list-style-type: none"> <li>• Data compilation, review, and analysis</li> <li>• Update and add data to the geodatabase</li> <li>• Monthly meetings with contractor and MDE for updates</li> <li>• Reach out to MD iMap and MD state agencies for any data updates</li> </ul> <p><b>Step 5: 7/1/2020 to 10/31/2020</b> Work with MD iMap, MD state agencies and local jurisdictions to compile data</p> <ul style="list-style-type: none"> <li>• Reach out to MD iMap team, state agencies, and local jurisdictions for state healthy watershed data.</li> <li>• Compile data and incorporate it into the CHWA framework</li> </ul> <p><b>Step 6: 5/1/2021 to 6/30/2021</b> Propose training format and best method to transfer knowledge for updating datasets with the goal to get MD and HWGIT staff comfortable to make future refinements and updates.</p> <ul style="list-style-type: none"> <li>• Develop training format, manual, and video or webinar tutorial</li> <li>• Host training for MD and HWGIT staff (this can be the tutorial)</li> <li>• Open feedback on training from attendees</li> <li>• Update training format and manual after receiving comments</li> </ul> <p><b>Step 7: 7/1/2021 to 9/30/2021</b> Prepare draft deliverables and present to HWGIT</p> <ul style="list-style-type: none"> <li>• Draft deliverable review and comment period</li> <li>• Final report, Geodatabase, other data, manual, and video tutorial</li> <li>• Presentation to HWGIT</li> <li>• Presentation to MDGIT/WG Team, Agency, and Local partners</li> </ul>
<p><b>Stakeholder Participants</b></p>	<p>HWGIT (larger group and core technical team), MDE, DNR, other HWGIT jurisdictional representatives, select MD State Planners, EPA Healthy Watersheds Protection office. In addition, other CBP GITs and workgroups will be consulted including, but not limited to, the Habitat GIT and the following CBP Workgroups: Fisheries Habitat, Land Use, and Local Engagement.</p>
<p><b>Deliverables</b></p>	<ol style="list-style-type: none"> <li>1. Draft and Final QAPP.</li> <li>2. MD Healthy Watershed Assessment with relative watershed health indicators, and vulnerability metrics integrated into MD iMAP.</li> <li>3. Database of spatial data, outcomes, analysis, and coding that will include some of the metrics in the CHWA like percent of forest in riparian zone, population density, or percent impervious cover. (insert link to final report once available in October). The database will follow EPA's data standards and policies (QAP project officer can assist), and those required for data integration into MD iMAP.</li> <li>4. Final Report detailing the MDHWA outcomes, data used, metrics, key indicators, potential thresholds, methodology and approach for future status tracking, a list of easily obtainable, current and future data sources, and analytical support and rationale for decision-making protocols and include statistical analysis of the MBSS data and CHWA metrics to identify indicators of watershed healthy.</li> <li>5. Summary in-person presentation to the HWGIT and a presentation to MDE and interested parties ahead of the final report to gather feedback</li> <li>6. SOPs/Protocols to a) integrate new data into future updates, b) maintain database, and c) track watershed health status over time. These materials should include the following: <ul style="list-style-type: none"> <li>• Manual on how to navigate and visualize the maps layers. This example from</li> </ul> </li> </ol>

	<p>Wisconsin provides a good overview of a format that could be used.  <a href="https://dnr.wi.gov/topic/Watersheds/documents/HWA/HWInsForViewers.pdf">https://dnr.wi.gov/topic/Watersheds/documents/HWA/HWInsForViewers.pdf</a></p> <ul style="list-style-type: none"> <li>• Video or Archived recorded webinar “tutorial” that shows step by step instructions for using map layers. The manual and video together should also provide step by step instructions for updating and/or incorporating existing or new datasets into the assessment. This is a good example of the type of video product that could be used.  <a href="http://www.landscape.org/introduction/use/">http://www.landscape.org/introduction/use/</a></li> </ul> <p>7. Monthly updates to MDE and HWGIT technical team</p>
<b>QAPP Requirement</b>	Yes, a QAPP will be required for this project.
<b>Qualifications of Bidder</b>	<ul style="list-style-type: none"> <li>• GIS capability, including experience with Graphical User Interface (GUI) platforms for data sharing and analysis</li> <li>• Statistical analysis and coding experience in Python and R</li> <li>• Familiarity with the CHWA and EPA PHWA</li> <li>• Familiarity with MD specific Tier II waters and relevant assessment data</li> <li>• Ability to work with a variety of stakeholders, organize meetings, and effectively communicate complex work to non-technical audience</li> <li>• Ability to efficiently manage large multi-part projects, in an organized and timely manner to meet deadlines</li> <li>• Demonstrated products related to data update standards and methods as well as transferability guidance or reports.</li> </ul>

**Scope of Work 12: Cross-outcome Watershed Educational Materials for Local Governments (Maximum Bid: \$50,000)**

<b><u>Goal Implementation Team (GIT)</u></b>	Enhance Partnering, Leadership and Management Goal Implementation Team (GIT 6)
<b><u>Maximum Bid Amount</u></b>	\$50,000
<b><u>Project Outcomes</u></b>	<p>The Local Leadership Outcome seeks to continually increase the knowledge and capacity of local officials on issues related to water resources and in the implementation of economic and policy incentives that will support local conservation actions. Twenty-nine (29) of the 31 EPACBP Watershed Agreement Outcomes have identified local government engagement as one of their top needs or challenges in their respective management strategies, as well as logic and action plans.</p> <p>[<a href="https://www.epa.gov/sites/production/files/2016-01/documents/attachment1chesapeakebaywatershedagreement.pdf">https://www.epa.gov/sites/production/files/2016-01/documents/attachment1chesapeakebaywatershedagreement.pdf</a>;  <a href="https://www.chesapeakebay.net/what/what_guides_us/watershed_agreement">https://www.chesapeakebay.net/what/what_guides_us/watershed_agreement</a>],</p> <p>This Scope will result in better-informed local officials throughout the Chesapeake Bay Watershed who understand the multiple benefits environmental management practices can bring to their communities, and who can take action to implement those practices. This is the first step towards meeting the Local Leadership Outcome and addressing a key need of many of the other outcomes. As a whole, progress on the Local Leadership Outcome is measured through a survey of local elected officials from throughout the watershed. The baseline survey will be implemented by a previously awarded contractor in 2020, pending the Office of Management and Budget. This Scope will include developing a total of 5 to 9 modules (one module includes the Watershed 101 module and an additional 4 to 8 modules will also be developed as part of this Scope).</p>

<p><b><u>Project Steps and Timeline</u></b></p>	<p><b>Step 1: 3/1/2020 to 5/31/2020</b>  Compile content and identify local benefits of outcomes (March - May 2020)  1. With the help of Coordinators and Staffers (C/S), compile existing content and identify local benefits of meeting the 29 outcomes that have expressed a need to engage with local officials. GITs have already developed significant content and materials (example: co-benefit fact sheets  <a href="https://www.chesapeakebay.net/what/programs/watershed_implementation">https://www.chesapeakebay.net/what/programs/watershed_implementation</a>, Bay Backpack <a href="http://baybackpack.com">http://baybackpack.com</a>, website content, Estimation of BMP Impact on Chesapeake Bay Program Management Strategies <a href="https://cbtrust.org/wp-content/uploads/Scope-4-Quantify-BMP-Impact-on-each-Management-Strategy.pdf">https://cbtrust.org/wp-content/uploads/Scope-4-Quantify-BMP-Impact-on-each-Management-Strategy.pdf</a>, non-environmental benefits toolkit). The outcomes that require local engagement are listed in the CBP Local Engagement Strategy <a href="https://www.chesapeakebay.net/channel_files/37484/cbp_local_engagement_strategy.pdf">https://www.chesapeakebay.net/channel_files/37484/cbp_local_engagement_strategy.pdf</a>.  See the 2014 Chesapeake Bay Watershed Agreement <a href="https://www.epa.gov/sites/production/files/2016-01/documents/attachment1chesapeakebaywatershedagreement.pdf">https://www.epa.gov/sites/production/files/2016-01/documents/attachment1chesapeakebaywatershedagreement.pdf</a> for details on outcomes.  2. Compile table summarizing local benefits of each outcome. Table will be based on local priorities identified by the FY15 report <a href="https://www.chesapeakebay.net/documents/EcoLogix_Group_final_report_Strategic_Outreach_Education_Program_for_Local_Elected_Officials_8-17.pdf">https://www.chesapeakebay.net/documents/EcoLogix_Group_final_report_Strategic_Outreach_Education_Program_for_Local_Elected_Officials_8-17.pdf</a> (economic development, public health and safety, infrastructure maintenance and finance, and education) and will include detailed citations. Each outcome will likely have multiple benefits and therefore, may appear in more than one category (i.e. Urban tree canopy, UTC, improves air quality (public health and safety) and reduces runoff from infrastructure).  3. Share table and associated citations with C/S.</p> <p><b>Step 2: 5/1/2020 to 6/30/2020</b>  Develop 4 to 8 proposed educational module topics that incorporate multiple CBP outcomes in a way that resonates with local leaders (May - June 2020)  1. Based on the above table, cluster outcomes into 4 to 8 proposed modules that resonate with local priorities. Each module should include multiple outcomes.  2. Facilitate a discussion with C/S and representatives from the Local Leadership Workgroup (LLWG) to verify the appropriate connections are made between the outcomes and proposed modules.  3. Consult with LLWG, Local Government Advisory Committee (LGAC), and Communications Workgroup for review and feedback to ensure that proposed modules will resonate with local governments.  4. Adjust proposed modules based upon feedback.</p> <p><b>Step 3: 6/1/2020 to 8/31/2020</b>  Create curriculum outline and list of resources for full program content (June-August 2020)  1. Develop a document that identifies and describes each of the 4-8 proposed educational modules as well as an introduction and section on purpose and objectives. Each module description shall include: a title; description of the learning objectives; key topics covered including each outcome mentioned; and the resources being proposed for development, i.e. factsheets, handbook, presentations, info-graphics, case studies, videos, online resources).  2. Consult with C/S, LLWG, LGAC, and Communications Workgroup to ensure that proposed curriculum outline and list of resources reflect outcome objectives and frames issues through the lens of local priorities.  3. Receive final approval from LLWG to move forward with proposed modules, curriculum outline and list of materials.</p> <p><b>Step 4: 8/1/2020 to 12/31/2020</b>  Develop Module 1: Watershed 101 + 4 to 8 additional Modules (Sept.-Dec. 2020)  1. Expand curriculum outline and list of resources into an introductory Watershed 101</p>
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	<p>Module that helps local elected officials understand the basics of watersheds and local waterbodies, the importance and benefits of watersheds for local communities and their own impact on the Chesapeake Bay watershed and ecosystem. Each module may include: 1) a short handbook (less than 12 pages) that includes multiple graphics/info-graphics, 1-3 case studies and a list of resources, including contacts and tools 2) a summary power point presentation (10 – 20 slides), 3) webinars/web content, and 4) a video or other materials as appropriate. An Educator’s Guide to the Meaningful Watershed Educational Experience (MWEE) <a href="https://www.cbf.org/document-library/education/teachers-guide-to-meaningful-watershed-education-experience.pdf">https://www.cbf.org/document-library/education/teachers-guide-to-meaningful-watershed-education-experience.pdf</a> should be consulted as a reference document for developing these materials. All materials and resources should be suitable for print and/or electronic formats. Note that delivery of materials, either via printing of content or presenting materials is beyond the scope of this project.</p> <ol style="list-style-type: none"> <li>2. Expand outline and list of resources for one of the proposed modules. See text above for list of potential module components.</li> <li>3. After drafting the Watershed 101 module and one additional module, meet with C/S and LLWG to solicit feedback.</li> <li>4. Revise modules and approach as needed.</li> <li>5. Expand outline and list of resources for the remaining 4 - 8 proposed modules. See text above for list of potential module components.</li> <li>6. Consult with C/S, LLWG, LGAC and the Communications Workgroup to ensure that module reflects outcome objectives and frames issues through the lens of local priorities.</li> <li>7. Revise modules as needed and receive final approval from LLWG.</li> </ol>
<p><b><u>Stakeholder Participants</u></b></p>	<p>Local Leadership Workgroup (LLWG); Local Government Advisory Committee (LGAC) Communications Workgroup; EPA GIT 6; CBP Coordinators and Staffers (C/S)</p>
<p><b><u>Deliverables</u></b></p>	<p>This Scope would include developing a total of 5 to 9 modules (one module includes the Watershed 101 module and an additional 4 to 8 modules would also be developed as part of this Scope). The deliverables for this Scope include:</p> <ol style="list-style-type: none"> <li>1. Develop a table summarizing the local benefits (economic development, public health and safety, infrastructure maintenance and finance, and education) for each of the 29 CBP Watershed Agreement Outcomes identified above with detailed citations.</li> <li>2. Develop a Watershed 101 Module. This module could include: 1) a short handbook (less than 12 pages) that includes multiple graphics/info-graphics, 1-3 case studies and a list of resources, including contacts and tools 2) a summary power point presentation (10 – 20 slides) and 3) webinars/web content 4) a video or other materials as appropriate. All materials and resources should be suitable for print and/or electronic formats. Final module content should be based on stakeholder feedback. Note that delivery of materials, either via printing of content or presenting materials is beyond the scope of this project.</li> <li>3. Develop 4 to 8 additional modules that translate multiple outcome objectives into terms that are relevant to local elected officials. See text above for list of potential module components. Final module content should be based on stakeholder feedback.</li> </ol>
<p><b><u>QAPP Requirement</u></b></p>	<p>A QAPP will not be required for this Scope.</p>
<p><b><u>Qualifications of Bidder</u></b></p>	<ul style="list-style-type: none"> <li>• Local government experience, including experience communicating with local elected officials</li> <li>• Familiarity with the Chesapeake Bay Watershed Agreement and CBP Partnership</li> <li>• Understanding of prior phases of the watershed education effort.</li> <li>• Demonstrated experience facilitating collaborative efforts and meeting facilitation.</li> <li>• Familiarity with flood mitigation, stormwater mitigation, wetland restoration, fish habitat, and land use.</li> <li>• Experience developing content in various delivery methods; graphic design capabilities.</li> </ul>