

COST-EFFECTIVE NON-POINT SOURCE POLLUTION REDUCTION GRANTS

CHESAPEAKE & ATLANTIC COASTAL BAYS TRUST FUND



Grant Summary

Maryland's Chesapeake & Atlantic Coastal Bays Trust Fund (Trust Fund) is seeking to fund the most cost-effective, efficient non-point nutrient and sediment reduction project proposals in geographic targeted areas of the State. The Trust Fund encourages multi-year, multi-partner projects that will achieve the greatest reduction per dollar invested.

Funding is available to local governments and non-governmental organizations, including bi-county agencies, counties, municipalities, forest conservancy district boards, soil/water conservation districts, resource conservation and development councils, academic institutions and nonprofit organizations having a demonstrated ability to implement non-point source pollution control projects.

Individual private or commercial landowners, consultants, contractors, and other for-profit entities with demonstrated restoration experience are encouraged to apply in partnership with an entity identified above.

Awards will be made by an inter-Agency review panel based on:

- geographic location
- cost-effectiveness, and
- ability and readiness to proceed

Please refer to full solicitation for detailed description of proposal requirements and submission guidelines.

http://dnr.maryland.gov/ccs/Pages/funding/trust-fund_grants.aspx

WHAT?

The solicitation will identify the most cost-effective non-point source pollution reduction projects for funding in state fiscal year 2019 in targeted areas of the state.

HOW MUCH?

There is no maximum request.
The minimum request is \$500,000.

WHEN?

Letter of Intent due January 19, 2018
Full proposal due by March 30, 2018
Awardees will be announced no later than July 1, 2018

HOW?

Submit letters of intent and proposals online through CCS's grants management service, at: <http://mesgis.com/GrantsOnLine/>

CONTACT

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Chesapeake & Coastal Service
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410.260.8753

The Chesapeake & Atlantic Coastal Bays Trust Fund Cost-effective Non-Point Source Pollution Reduction Grant

State Fiscal Year 2019 Project Solicitation

The Chesapeake and Atlantic Coastal Bays Trust Fund (Trust Fund) solicits and funds the most cost-effective, efficient non-point source nutrient and sediment reduction projects in geographic targeted areas of the state. Formed by the Maryland General Assembly in 2007, the Trust Fund is capitalized with revenue from Maryland motor fuel and rental car taxes. Between 2009 and 2018, the Fund invested nearly \$400 M to improve the health of the Chesapeake Bay, including projects that advance implementation of local and state Watershed Implementation Plans (WIPs).

The Trust Fund's explicit goal is to ensure the greatest environmental return on investment. To that end, the Trust Fund is advised by a Scientific Advisory Panel, which evaluates priorities and geographic targeting based on the latest scientific advancements. The Trust Fund targeting map was developed using the US Geological Survey SPARROW v4 model in order to apply the most current water quality data. The Panel guidance and updates to the targeting map allow the Trust Fund to prioritize investments in specific watersheds and watershed areas, using projects and practices that provide the most cost-effective water quality benefits to the Chesapeake and Coastal Bays via reductions in non-point source nutrient and sediment loadings.

To track whether projects are achieving anticipated goals, the Trust Fund works with Maryland Resource Assessment Service (RAS) to document baseline conditions and monitor and compare the effectiveness of various Best Management Practices (BMPs). Results are shared publicly via the [Trust Fund Monitoring](#) website.

The Trust Fund has quickly become one of the most innovative and important water quality financing programs in the region. Its singular focus on reducing non-point sources of nutrient and sediment pollution makes it one of the only programs of its kind. To optimize the state's investment in on-the-ground restoration and protection activities, the Trust Fund selects projects based on achieving the greatest environmental benefit for every Trust Fund dollar spent.

Given that the restoration goal is to reduce pollutant loadings, the Trust Fund's level of efficiency must be measured in those terms, i.e. Trust Fund dollars per pound of pollutant

reduced. This cost per pound metric guides decision-making now and into the future. In preparing a response to this solicitation, it is important to consider that in the fiscal year 2018 project selection, the Trust Fund invested in a fifteen-year lifespan average of **\$149 to reduce a pound of nitrogen, \$800 to reduce a pound of phosphorus and \$1.55 to reduce a pound of sediment**. Though the efficiency equation itself is basic in structure - Trust Fund dollars per pound of pollution reduced – selection also considers the risk of the state’s investment. Additional elements that impact project efficiency, including the Applicants’ ability to deliver desired results, the expected performance of the project and the readiness to proceed are also taken into account.

In consideration of submitting a proposal, please ensure to follow all guidelines and requirements as detailed in the sections below. **Incomplete submissions will not be reviewed.**

SECTION 1 SOLICITATION INFORMATION

BACKGROUND

Funding is made possible through the Chesapeake and Atlantic Coastal Bays Trust Fund (Trust Fund). The Trust Fund is one of the region’s most important funding tools targeting water quality and watershed restoration and protection to reduce non-point source pollution from entering the Chesapeake and Atlantic Coastal Bays. Established in 2007, the Trust Fund allows Maryland to accelerate Bay restoration by focusing limited financial resources on the most effective non-point source pollution control projects. For more information about the Trust Fund, please visit <http://dnr.maryland.gov/ccs/Pages/funding/trust-fund.aspx>.

AWARDS

Funding will be made available on a competitive basis to projects in fiscal year 2019 for funding available July 1, 2018. Grants will be subject to the Trust Fund Grant Agreement conditions. **Unless otherwise authorized by the Department of Natural Resources (DNR), all payments to grantees under this Grant will be made on a reimbursable basis.** For more information about Trust Fund grants, please review the [Grantee Introductory Packet](#) and [sample agreement](#) available on the grant website: http://dnr.maryland.gov/ccs/Pages/funding/trust-fund_grants.aspx.

TIMELINE:

Letter of Intent Due:	January 19, 2018
Final Proposals Due:	March 30, 2018
Awards Announced:	by July 1, 2018

FUNDING LEVEL

There is no maximum request. The minimum request is \$500,000. If you have a project proposal that is less than \$500,000, please contact the issuing officer to discuss.

ELIGIBILITY

Through this solicitation, the Trust Fund is seeking proposals from local governments and non-governmental organizations, including bi-county agencies, counties, municipalities, forest conservancy district boards, soil/water conservation districts, resource conservation and development councils, academic institutions and nonprofit organizations having a demonstrated ability to implement non-point source pollution control projects (collectively, "Applicants"). Individual private or commercial landowners, consultants, contractors, and other for-profit entities with demonstrated restoration experience are encouraged to apply in partnership with an eligible entity identified above.

TECHNICAL ASSISTANCE

Maryland's state agencies, the Chesapeake Bay Trust, University of Maryland, the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA) have joined together to form the Watershed Assistance Collaborative (WAC), which provides services and technical assistance to Applicants preparing to undertake restoration projects. From planning and design grants to on-the-ground project development, this partnership is helping local partners prepare for state, federal and nonprofit funding opportunities. By leveraging available resources, the WAC is helping to ensure that the restoration dollars are directed to on-the-ground implementation to the maximum extent practicable. To learn more about the services available through the WAC, including planning and design grants, please visit http://dnr.maryland.gov/ccs/Pages/healthy_waters/wac.aspx.

WAC specialists are available to provide assistance throughout the state. Please refer to the table below to find the contact information for the specialist in your region.

<p>Central Maryland (Frederick, Montgomery, Howard and northern Anne Arundel and Prince George's counties)</p> <p>Amanda Rockler arockler@umd.edu</p>	<p>Upper and Central Eastern Shore (Caroline, Cecil, Kent, Queen Anne, and Talbot Counties)</p> <p>Eric Buehl ebuehl@umd.edu</p>	<p>Southern Maryland (Charles, Calvert, St. Mary's, and southern Anne Arundel and Prince George's counties)</p> <p>Jackie Takacs takacs@mdsg.umd.edu</p>
<p>Northern Maryland (Baltimore City, Baltimore, Harford, and Carroll Counties)</p> <p>Kelsey Brooks kebrooks@umd.edu</p>	<p>Lower Eastern Shore (Dorchester, Somerset, Wicomico, Worcester Counties)</p> <p>Jennifer Dindinger jdinding@umd.edu</p>	<p>Western Maryland (Allegany, Washington Counties)</p> <p>Phillip Stafford phillip.stafford@maryland.gov</p>

ISSUING OFFICER ON BEHALF OF THE STATE OF MARYLAND

Gabe Cohee
Chesapeake and Coastal Service
Maryland Department of Natural Resources
580 Taylor Avenue, E-2
Annapolis, MD 21401
(p) 410.260.8753
gabe.cohee@maryland.gov

The sole point of contact in the state for the purpose of this solicitation is the Issuing Officer.

**SECTION 2
PROPOSAL CRITERIA**

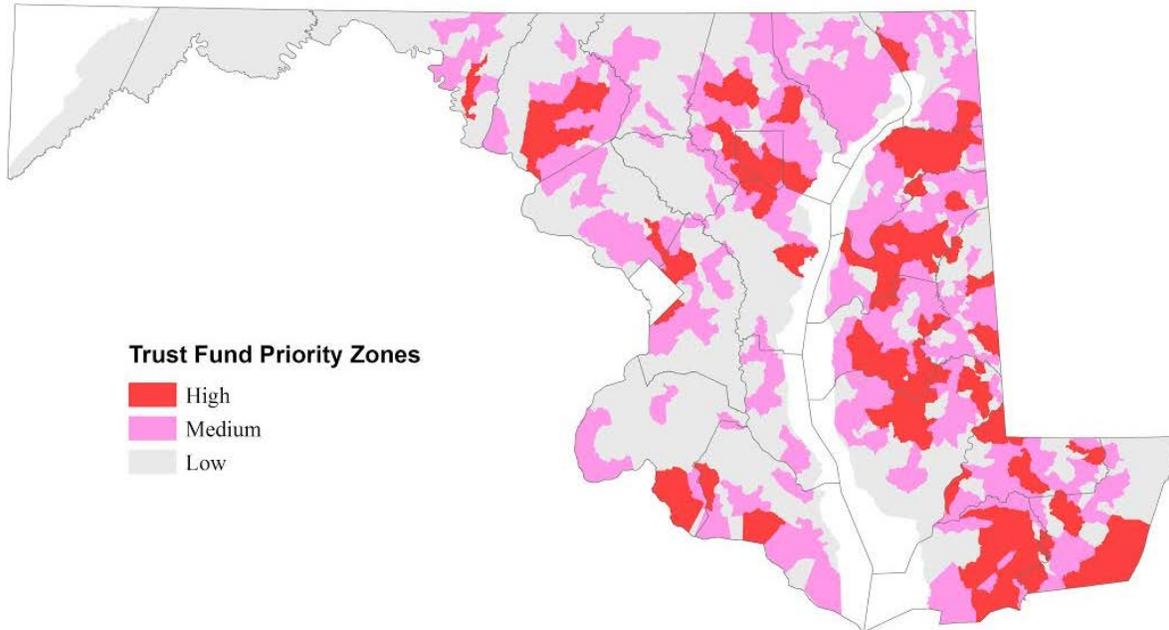
Proposals will be primarily evaluated based on the following three criteria:

1. project location
2. cost-effectiveness, and
3. readiness and ability to proceed.

1. PROJECT LOCATION

This solicitation is seeking non-point source pollution reduction projects in the High (red) and Medium (pink) priority areas indicated on the targeting map below (interactive version available [here](#)). The state has partnered with US Geological Survey (USGS) to apply the most updated models and monitoring information to develop the geographic targeting map. Coastal Bay

watersheds are prioritized based on the expertise of scientists in that region.



2. COST-EFFECTIVENESS

Proposals will be evaluated on the reduction of nitrogen, phosphorus and sediment to be achieved per Trust Fund dollar invested.

Calculating BMP Reductions: To accurately reflect nitrogen, phosphorus and sediment load reductions from proposed BMPs, applicants will provide information on the location of the proposed implementation and give details on the practice design. When BMP engineering specifications are not available, default specifications will be used.

An online tool, FieldDoc.org is available to estimate nitrogen, phosphorus and sediment reductions. The landuse loading rates and BMP effectiveness estimates within FieldDoc are consistent with Bay Program protocols and MS4 calculations and must be used to calculate reductions for your proposal submission. Any proposal that does not include calculations from FieldDoc will not be considered. After letters of intent are submitted, DNR staff can provide assistance to applicants to help calculate their load reductions. For applicants proposing pond retrofits or stream restoration protocols 2 and 3 follow the instructions provided in the RFP accessory document.

FieldDoc Information and Access

All users will need to set up an account to access the online calculator. The help documentation for FieldDoc is available here: help.fielddoc.org

Go to Fielddoc.org

Leveraged Funds (Match): The Trust Fund encourages Applicants to leverage additional funding to the greatest extent possible. Demonstrated ability to leverage funding will increase the cost-effectiveness by dedicating existing funds to specific project outcomes and limiting the state investment. The Trust Fund dollars are intended for implementation of projects that result in non-point source pollution reduction; therefore, **demonstrating organizational capacity for successful implementation and the ability to leverage funding for personnel and other administrative needs is desired.**

3. READINESS AND ABILITY TO PROCEED

The Trust Fund seeks projects that can demonstrate the ability to mobilize and carry out implementation in a timely and effective manner. Priority funding will be awarded to proposals that involve shovel-ready projects and the technical expertise to move through proposal milestones. Readiness to proceed will be evaluated on status of design and applicable permits.

The best proposals will have achieved 100% design and have permits in hand.

If an Applicant has a conceptual idea that needs funding for design work to become shovel-ready, DNR has partnered with the Chesapeake Bay Trust, Maryland Department of the Environment (MDE) and the EPA in issuing the [Watershed Assistance Grant Program](#) (WAGP). This is a viable fund source for the planning, design, and permitting of water quality projects. The solicitation for proposals through WAGP is typically released in late summer.

SECTION 3 PROPOSAL REQUIREMENTS

PROPOSAL ELEMENTS

The Trust Fund seeks proposals that reduce non-point source pollution through the **most efficient and cost-effective** restoration projects. All proposals must have the following

characteristics:

- 1) Projects must reduce nutrient and sediment loads to the mainstem of the Chesapeake Bay or to the Atlantic Coastal Bays.
- 2) Projects should directly support state and/or local Bay restoration milestones and [Watershed Implementation Plan](#) goals while helping to promote management strategies associated with the 2014 [Chesapeake Bay Watershed Agreement](#).
- 3) Proposals should include a detailed timeline to include important deadlines and partner responsibilities. Multi-year proposals will be accepted; **however, proposals are not to exceed three years and should bid to construction within 12 months of grant execution.** Most grants are complete between 18 and 36 months.
- 4) The proposed BMPs to be implemented must either be:
 - a. approved by the Chesapeake Bay Program and therefore have nutrient and sediment reduction efficiencies available; OR
 - b. accompanied by robust peer reviewed scientific literature supporting the validity and efficiency of the practice. This peer reviewed literature may be reviewed for scientific validity by the Bay Cabinet's Scientific Advisory Panel.
- 5) The state is seeking project sites with protection and maintenance of the achieved nutrient and sediment reductions for a minimum of ten (10) years. **A maintenance and long-term protection plan to demonstrate reduction efficiency for at least ten years must be included.**
- 6) Proposed projects may occur on any type of land ownership (private, commercial private, community- owned, non-profit, and government-owned). However, the project sites must be currently protected under a long-term agreement or the land must be owned by an individual or entity that will agree to long-term protection. Evidence of permission to do the projects from the landowner must be provided via a Landowner Agreement. If you are a non-governmental organization working on County or City-owned land, landowner agreements with the appropriate government office is required (a letter of support does not suffice). Sample agreement can be viewed at http://dnr.maryland.gov/ccs/Pages/funding/trust-fund_grants.aspx.
- 7) Proposals that have permits in hand or have initiated the permit process with

Maryland Department of the Environment (MDE) through a pre-application meeting will be reviewed favorably. **Please include any associated AI (Agency ID) number provided for the BMP from MDE.** To schedule a pre-application meeting, contact MDE. More information can be found [here](#).

- 8) The Trust Fund is explicitly interested in the reduction of nitrogen, phosphorus, and sediment through cost-effective restorative practices; however, the projects funded often have many co-benefits, including habitat, flood mitigation, carbon and greenhouse sequestration, biological and benthic impacts, increasing local resiliency, among others. **For this reason, the Trust Fund managers encourage Applicants to fully maximize opportunities to enhance habitat, reconnect to floodplains, and increase resiliency by employing techniques that will most fully optimize the restoration site.**
- 9) The proposal submitted must be complete including a detailed budget with a breakdown of anticipated expenditures (see instructions in Section 4).

BMP Monitoring: Although not required, a well-designed monitoring plan can add value to a proposed project. As this is an implementation grant, the state encourages that the Applicants consider implementing monitoring efforts using leveraged funds. The state, with your partnership, is interested in collecting data from the proposed BMP(s) if a monitoring effort is being planned. Monitoring for innovative projects is particularly useful in verifying claimed results. To ensure that data can be shared and analyzed to the greatest benefit, the state offers protocols to be used when monitoring sites sponsored by the Trust Fund. The protocols are strongly recommended if monitoring is to be undertaken as a minimum level of effort for projects funded with Trust Fund dollars. At minimum, monitoring should include a control and/or upstream and downstream stations, and pre and post implementation monitoring; with a focus on calculating measured total nitrogen, total phosphorus, and total suspended sediment loads. Additional parameters, as well as more precise or more intensive monitoring, are also welcome. Monitoring data will allow managers to compare various BMPs so that in the future, funds can be invested in those that are most effective. If monitoring is performed, the state will work with awarded Applicants in collecting status reports that describe monitoring frequency and locations and any problems encountered, as well as an annual report that includes monitoring results along with interpretation and descriptions of any calculations and analyses performed to generate results.

Information on protocols, including manuals and annual training information can be found here: <http://dnr.maryland.gov/streams/Pages/trustfund.aspx>. For more information and to discuss project monitoring related to your proposal, please contact:

Sara Weglein Resource Assessment Service 410.260.8621 sara.weglein@maryland.gov

ELIGIBLE AND INELIGIBLE PROPOSAL COSTS

Funding is allowable for design, construction costs, survey, legal, and management of the proposed projects. **All grants have an administrative cap of 1.5% of the direct charges proposed. This administrative charge is in lieu of indirect charges.**

Ineligible Project Types: Projects that must be completed for mitigation purposes or to otherwise offset habitat or water quality losses will not be supported by this program.

Trust Fund grants are intended for implementation of non-point source reduction projects and not for programmatic development or building organizational capacity. **All costs proposed must be directly tied to the implementation of the proposed project.** All proposed expenditures will be evaluated and approved at the discretion of the review team and Issuing Officer.

The following are considered programmatic fees, and can be covered by the allowed 1.5% administrative fee. Additional Trust Fund dollars will not be allocated for the following items, including but not limited to:

- Communication items (tablets, cell phones, computers, data plans, software, etc.)
- Rental fees associated with office space, office equipment and/ or vehicles
- Lodging, per diem, conference registration, etc.

Ineligible project expenditures: This funding will not fund any of the following:

- Food, refreshments and T-shirts.
- Promotional collateral, ex. pens, key chains, etc.

- Endowments, deficit financing, building campaigns, annual giving, research, fund raising or venture capital.
- Political lobbying.
- Reimbursement for a project that has been completed or materials that have been purchased prior to the award or project period.

SECTION 4 SUBMITTING A PROPOSAL

PROPOSAL DEADLINES

Proposals should be straightforward, with a concise description of the Applicants' plan to meet the requirements of this solicitation. There are two deadlines associated with this solicitation:

- **Letter of Intent due Friday January 19, 2018**
- **Full Project Proposal due Friday March 30, 2018**

Letter of Intent (LOI)

The Trust Fund is requiring interested organizations to submit Letter of Intent by **January 19, 2018**. This is intended to provide technical and grant assistance to Applicants ahead of submitting a full proposal. Letters of Intent are to be submitted through the [CCS Grants Online System](#) by **5:00 pm on Friday January 19, 2018**. If you are interested in applying and missed the Letter of Intent window, please contact the Issuing Officer to discuss your project idea.

After logging in Grants Online, please use the menu to choose "Submit a Proposal" and select "**TRUST FUND Letter of Intent**". Templates for the Letter of Intent can be downloaded under "STEP 1b", while the budget template can be downloaded in "STEP 2". These are intended to be preliminary budgets based on current project estimates. No additional attachments are needed during this LOI process.

Full Project Proposals

Full proposals must be submitted through the [CCS Grants Online System](#) by **5:00 pm on Friday March 30, 2018**. Full project proposals cannot be submitted through the Grants Online system until after the Letter of Intent period closes on January 19, 2018. CCS Grants Online

instructions and support can be found here: http://dnr.maryland.gov/ccs/Pages/funding/trust-fund_grants.aspx

**Full proposals submitted by fax or email will not be accepted.
Incomplete proposals will not be reviewed.**

SUBMITTING A PROPOSAL

After logging into [CCS Grants Online System](#), please use the menu to choose “Submit a Proposal” and select “**Chesapeake & Atlantic Coastal Bays Trust Fund**”. General Proposal information will be provided through the grants system, including applicant information, project locations, and funding request. Along with the information requested on the portal, **please prepare the following documents:**

Application Required Documents (must be in pdf, word, or excel)	
Please follow these guidelines for a complete application. Incomplete proposals will not be reviewed.	Included?
<p>Transmittal Letter One-page letter signed by an individual who is authorized to commit the Applicant to the services and requirements as stated in this solicitation.</p>	<input type="checkbox"/>
<p>Proposal Narrative (maximum length 7 pages, 1 inch margins, 12 point font)</p> <ol style="list-style-type: none"> 1. Please describe all BMPs to be implemented, partners’ roles, and procedures to occur during the proposed project term. This should also include description of the land, current land use, property ownership, etc. 2. How will the project accelerate water quality improvements? Include how the resulting non-point source pollution reduction will be accounted toward state and/or local Bay restoration goals, and how this project relates to the 2014 Chesapeake Watershed Agreement. 3. Explain the BMP methodology including determination of practice, degree of degradation and how the design will improve current conditions and address non-point source pollution and other co-benefits. Include a description of upland controls already in place and/or the local plan for implementation of bmps above the proposed site. Please also include how this BMP design and implementation will maximize the restoration 	<input type="checkbox"/>

<p>opportunity at the site.</p> <p>4. Detail the timeline of implementation including current status of design and permit, anticipated major milestones, and statement of potential barriers.</p> <p>5. Describe the monitoring plan and protocols if applicable (see BMP Monitoring in Section 3).</p> <p style="padding-left: 40px;"><i>a. For projects proposing BMPs without proven efficiencies or claiming reduction efficiencies higher than the Bay Program model, you must submit scientific literature in support of the practice with your proposal for review.</i></p> <p>6. What is the long-term protection and maintenance plan for the sites including responsible entity along with duration and frequency of activities? The state is seeking project sites with protection and maintenance of the achieved nutrient and sediment reductions for a minimum of ten (10) years.</p> <p>7. Describe the capacity, experience, and expertise of the Applicant and subcontractors, if already selected, to complete all phases of the project, including design, permitting, landowner permission, land protection, construction management, and maintenance.</p>	
<p>Detailed Budget Use the provided Budget guidance and template</p>	<input type="checkbox"/>
<p>Latitude and Longitude of each project site in Decimal degrees e.g. 38.8896, -77.0353 rather than 38°53'22"N, 77°02'07"W</p>	<input type="checkbox"/>
<p>Current Design Documents Pdf document of engineered designs</p>	<input type="checkbox"/>
<p>Vicinity Map(s) If multiple, combine into a single pdf. Multiple files will not be reviewed</p>	<input type="checkbox"/>
<p>Landowner Agreements If multiple, combine into a single pdf. Multiple files will not be reviewed.</p>	<input type="checkbox"/>
<p>BMP Reduction Calculations Include the FieldDoc pdf</p>	<input type="checkbox"/>
<p>Letters of Support If multiple, combine into a single pdf. Multiple files will not be reviewed. Letters of Support should specifically detail the assistance or partnership being provided (in kind, match, etc.)</p>	<input type="checkbox"/>

INCURRED COSTS

The state is not responsible for any costs incurred by an Applicant in preparing and submitting a proposal, in providing additional information, in making an oral presentation, or in performing any other activities relative to this solicitation. Proposals, once opened, shall become the joint property of the state. The state is available to assist Applicants in the development of their proposals.

SECTION 5 SELECTION PROCEDURE

PROPOSAL REVIEW

State agency partners will be responsible for reviewing and making recommendations on all proposals in accordance with the project criteria identified in Section 2 (cost-effectiveness, project location, and readiness and ability to proceed). In addition, state agency partners will consider the Applicants' ability to achieve stated outcomes in the allowable timeframe to make the final determination of funding.

319 ELIGIBILITY

Maryland uses federal grants made available by the Federal Clean Water Act Section 319 (h) to help fund state non-point source management and to provide grants for non-point source control projects that help eliminate water quality impairments. In partnership with the MDE, proposals that fall within priority watersheds for the 319 grant program will be also considered for funding through the 319 program. More information can be found [here](#).

SELECTION AND AWARD SCHEDULE

After the review process is complete, the state and its partners will contact all Applicants by formal letter by July 1, 2018. The schedule for selecting and awarding proposals is as follows:

Letter of Intent Due	January 19, 2018
Final Proposals Due	March 30, 2018
Awards Announced	by July 1, 2018

CANCELLATION OF THE SOLICITATION

The state reserves the right to cancel this solicitation at any time.

Cost-Effective Non-Point Source Pollution Reduction Grants – Chesapeake & Atlantic Coastal Bays Trust Fund

ACCESSORY DOCUMENT – STREAM RESTORATION AND POND RETROFIT CALCULATION REQUIREMENTS

Stream Restoration Protocols 2 and 3

As the inputs for enhanced stream restoration require engineered specifications, only those proposals that are at least 90% designed can use Protocols 2 and 3. If you are less than 90% designed you will be prompted to input the length of your restoration and answer questions regarding your proposed future design. In accordance with the stream restoration expert panel recommendation for general watershed planning purposes, FieldDoc will calculate your edge-of-stream removal rate based on the revised default rate.

In the “Design Status” field, enter the current percent design of your stream restoration project.

Depending on your design status you will be directed to the appropriate calculations.

In addition to providing reduction calculations, please answer the four questions regarding your stream restoration design:

1) Why have you selected this site for stream restoration?

2) Is the stream restoration implementation in-conjunction with any current upland watershed BMP implementation? If so, will that upland implementation impact runoff entering the proposed stream restoration? If not, is there a watershed assessment or watershed plan underway that identifies load sources to the stream or recommends upland BMPs that would influence delivery of water or pollutants to the proposed stream restoration?

3) Which protocols of stream restoration are you using? The protocols are additive and an individual stream restoration project may qualify for credit under one or more of the protocols depending on its design and overall restoration approach. Check all that apply:

Protocol 1: Credit for Prevented Sediment during Storm Flow -- This protocol provides an annual mass nutrient and sediment reduction credit for qualifying stream restoration practices that prevent channel or bank erosion that would otherwise be delivered downstream from an actively enlarging or incising urban stream. Pollutants reduced are sediment, nitrogen and phosphorus. This protocol is titled “Bank Stabilization” in FieldDoc

Protocol 2: Credit for Instream and Riparian Nutrient Processing during Base Flow -- This protocol provides an annual mass nitrogen reduction credit for qualifying projects that include design features to promote denitrification during base flow within the stream channel through hyporheic exchange within the riparian corridor. Nitrogen is the only pollutant reduced under this protocol. This protocols is titled “Enhanced Stream Restoration” in FieldDoc

Protocol 3: Credit for Floodplain Reconnection Volume-- This protocol provides an annual mass sediment and nutrient reduction credit for qualifying projects that reconnect stream channels to their floodplain over a wide range of storm events. Sediment, nitrogen and phosphorus are reduced. This protocols is titled "Enhanced Stream Restoration" in FieldDoc

Protocol 4: Credit for Dry Channel Regenerative Stormwater Conveyance (RSC) as an Upland Stormwater Retrofit-- This protocol provides an annual nutrient and sediment reduction rate for the contributing drainage area to a qualifying dry channel RSC project. The rate is determined by the degree of stormwater treatment provided in the upland area using the retrofit rate adjustor curves developed by the Stormwater Retrofit Expert Panel and is not considered a stream restoration BMP. Sediment, nitrogen and phosphorus are reduced. Use the urban stormwater retrofit curve for Runoff Reduction in FieldDoc

4) What experience do you have designing and constructing stream restoration projects employing these same protocols? How do the watershed characteristics (soils, hydrology, loading rates, landuse and cover, etc.) from your previous projects compare to the watershed characteristics in the proposed stream restoration watershed?

Pond Retrofits

Note: If the existing stormwater pond provides no nutrient or sediment reduction then please explicitly state that in your proposal.

The protocols for crediting existing BMP retrofits are provided in the BMP expert panel report on stormwater retrofits:

http://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2012/10/Final-CBP-Approved-Expert-Panel-Report-on-Stormwater-Retrofits-long_012015.pdf

First, determine the class of retrofit you are proposing by consulting page 8 of the expert panel report. The report lists three existing BMP retrofit options: conversion, enhancement and restoration. Only BMP conversion and enhancement is eligible under the Trust Fund; BMP restoration is considered ineligible. **In order to be eligible for funding, retrofits of existing facilities must be for environmental benefits and not to treat runoff from new development.** Environmental benefits include:

- Conveying additional acres of existing development to the retrofitted facility
- Increasing either the runoff reduction capacity of the retrofitted facility, or increase the nutrient and/or sediment reduction capabilities of the retrofitted facility

For *BMP Conversions*: Nutrient and sediment removal rates are either calculated as an incremental credit, or the credit reflects the full benefit of the conversion.

- If the BMP being converted is a dry detention pond or flood control structure that currently is providing no effective water quality treatment, then the existing BMP will have a **zero removal rate**. Run the "Stormwater Management" BMP in FieldDoc with the proposed design parameters to estimate the reductions from your project.

- If the BMP being converted involves a significant increase in runoff capture volume and/or an increase in runoff reduction, than an **incremental rate** is used. The removal rate for the existing BMP should be determined by providing the existing conditions of the pond into the Stormwater Management BMP in FieldDoc. You will then run FieldDoc again using the planned restoration conditions. A higher removal for the converted BMP will reflect the higher degree of runoff treatment and/or runoff reduction associated with the retrofit, as determined from the retrofit removal adjustor curves. The difference between the existing removal rate and the restored removal rate is your estimated project reduction. This method will generally be the most applicable to the majority of conversion retrofits.

For *BMP Enhancements*: Nutrient and sediment removal rates for enhancements are expressed as an **incremental removal rate**, where the different between the existing credit and the new enhanced credit.

- The rate for the existing BMP is defined based on its combination of runoff treatment and runoff reduction using the retrofit removal adjustor curves. Designers may reduce the actual amount of runoff treatment in the existing BMP that is not effective (e.g., treatment volume that is ineffective because of shortcircuiting or other design problems that reduce the hydraulic retention time).
- The enhanced BMP will have either a greater runoff treatment volume and/or achieve a better runoff reduction rate. Designers can determine the higher rate for the enhanced BMP using the retrofit removal adjustor curves.
- The removal rate for the BMP enhancement is then defined as the difference between the enhanced rate and the existing rate.

References from the expert panel report:

Page 32 (Table A-5) presents the effectiveness estimates to use to determine the reduction from your existing BMP.

Page 17 provides the justification for this methodology.