Citizen Science and Nontraditional Partner Monitoring: Memorandum of Understanding

Peter Tango – USGS@CBPO

Liz Chudoba – Alliance for the Chesapeake Bay

October 12, 2018

CBP PSC Meeting

Chesapeake Bay Program
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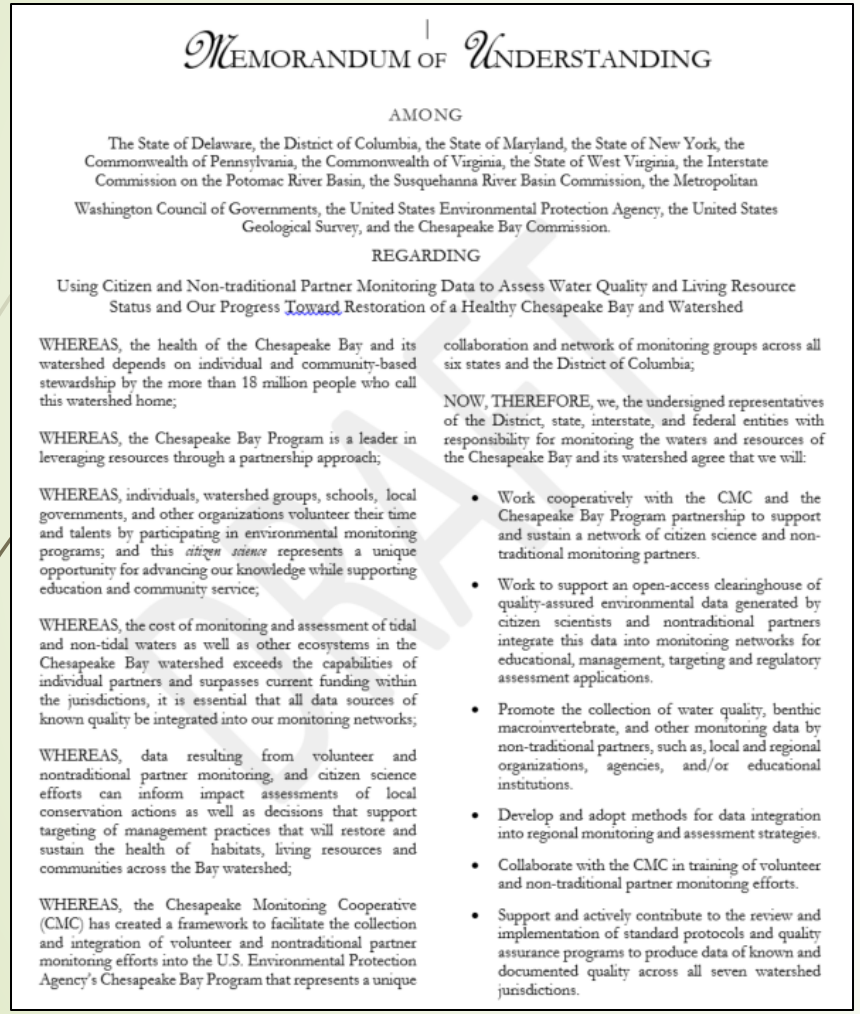
Memorandum of Understanding



MEMORANDUM OF UNDERSTANDING

AMONG

The State of Delaware, the District of Columbia, the State of Maryland, the State of New York, the Commonwealth of Pennsylvania, the Commonwealth of Virginia, the State of West Virginia, the Interstate Commission on the Potomac River Basin, the Susquehanna River Basin Commission, the Metropolitan Washington Council of Governments, the United States Environmental Protection Agency, the United States Geological Survey, and the Chesapeake Bay Commission.

REGARDING

Using Citizen and Non-traditional Partner Monitoring Data to Assess Water Quality and Living Resource Status and Our Progress Toward Restoration of a Healthy Chesapeake Bay and Watershed

WHEREAS, the health of the Chesapeake Bay and its watershed depends on individual and community-based stewardship by the more than 18 million people who call this watershed home;

WHEREAS, the Chesapeake Bay Program is a leader in leveraging resources through a partnership approach;

WHEREAS, individuals, watershed groups, schools, local governments, and other organizations volunteer their time and talents by participating in environmental monitoring programs; and this *citizen science* represents a unique opportunity for advancing our knowledge while supporting education and community service;

WHEREAS, the cost of monitoring and assessment of tidal and non-tidal waters as well as other ecosystems in the Chesapeake Bay watershed exceeds the capabilities of individual partners and surpasses current funding within the jurisdictions, it is essential that all data sources of known quality be integrated into our monitoring networks;

WHEREAS, data resulting from volunteer and nontraditional partner monitoring, and citizen science efforts can inform impact assessments of local conservation actions as well as decisions that support targeting of management practices that will restore and sustain the health of habitats, living resources and communities across the Bay watershed;

WHEREAS, the Chesapeake Monitoring Cooperative (CMC) has created a framework to facilitate the collection and integration of volunteer and nontraditional partner monitoring efforts into the U.S. Environmental Protection Agency's Chesapeake Bay Program that represents a unique collaboration and network of monitoring groups across all six states and the District of Columbia;

NOW, THEREFORE, we, the undersigned representatives of the District, state, interstate, and federal entities with responsibility for monitoring the waters and resources of the Chesapeake Bay and its watershed agree that we will:

- Work cooperatively with the CMC and the Chesapeake Bay Program partnership to support and sustain a network of citizen science and non-traditional monitoring partners.
- Work to support an open-access clearinghouse of quality-assured environmental data generated by citizen scientists and nontraditional partners integrate this data into monitoring networks for educational, management, targeting and regulatory assessment applications.
- Promote the collection of water quality, benthic macroinvertebrate, and other monitoring data by non-traditional partners, such as, local and regional organizations, agencies, and/or educational institutions.
- Develop and adopt methods for data integration into regional monitoring and assessment strategies.
- Collaborate with the CMC in training of volunteer and non-traditional partner monitoring efforts.
- Support and actively contribute to the review and implementation of standard protocols and quality assurance programs to produce data of known and documented quality across all seven watershed jurisdictions.

Goal

- Community use of data having a known quality available through the Chesapeake Data Explorer database helping with information needs in decision-support

Tools in the tool box of support

- Tiered framework of data quality
- Standardized QAPPs and monitoring protocols
- Training

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Chesapeake Monitoring Cooperative

A partnership that aims to provide technical, logistical, and outreach support for the integration of volunteer-based and nontraditional water quality and benthic macroinvertebrate monitoring data into the Chesapeake Bay Program (CBP) partnership.

Cooperative Agreement:

ALLIANCE for the Chesapeake Bay

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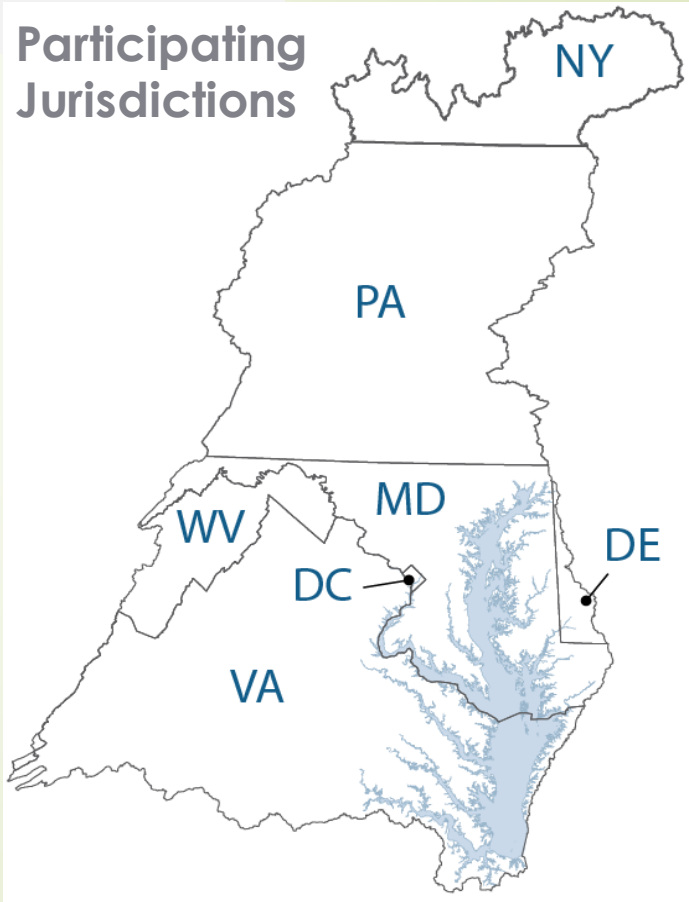
CMC development team partners & service providers

The Izaak Walton League of America — Defenders of Soil, Air, Woods, Waters and Wildlife

ALLARM — Alliance for Aquatic Resource Monitoring — est. 1986

University of Maryland
Center for Environmental Science



Path to CBP Approval of the MOU

- **MOU Drafted in 2017**
- Fall 2017-spring 2018: Chesapeake Monitoring Cooperative presented MOU to, and reviewed by, STAR Workgroups, STAR, Advisory Committees and WQGIT
- May 2018: WQGIT Outcomes. SRS Review Request to Management Board for support of the MOU
- June 2018: Management Board MOU presentation and initial comments
- July 2018: Updated MOU shared with Management Board for final comment period leading to August approval request
- August 2018: Final comments received and MOU updated for approval copy
- Summer 2018: Presentations and requests to advisory committees for letters of support to the PSC
- **August 2018: Management Board approved content**
- **September 2018: CAC, LGAC, STAC support letters received**
- October 12, 2018. PSC approval

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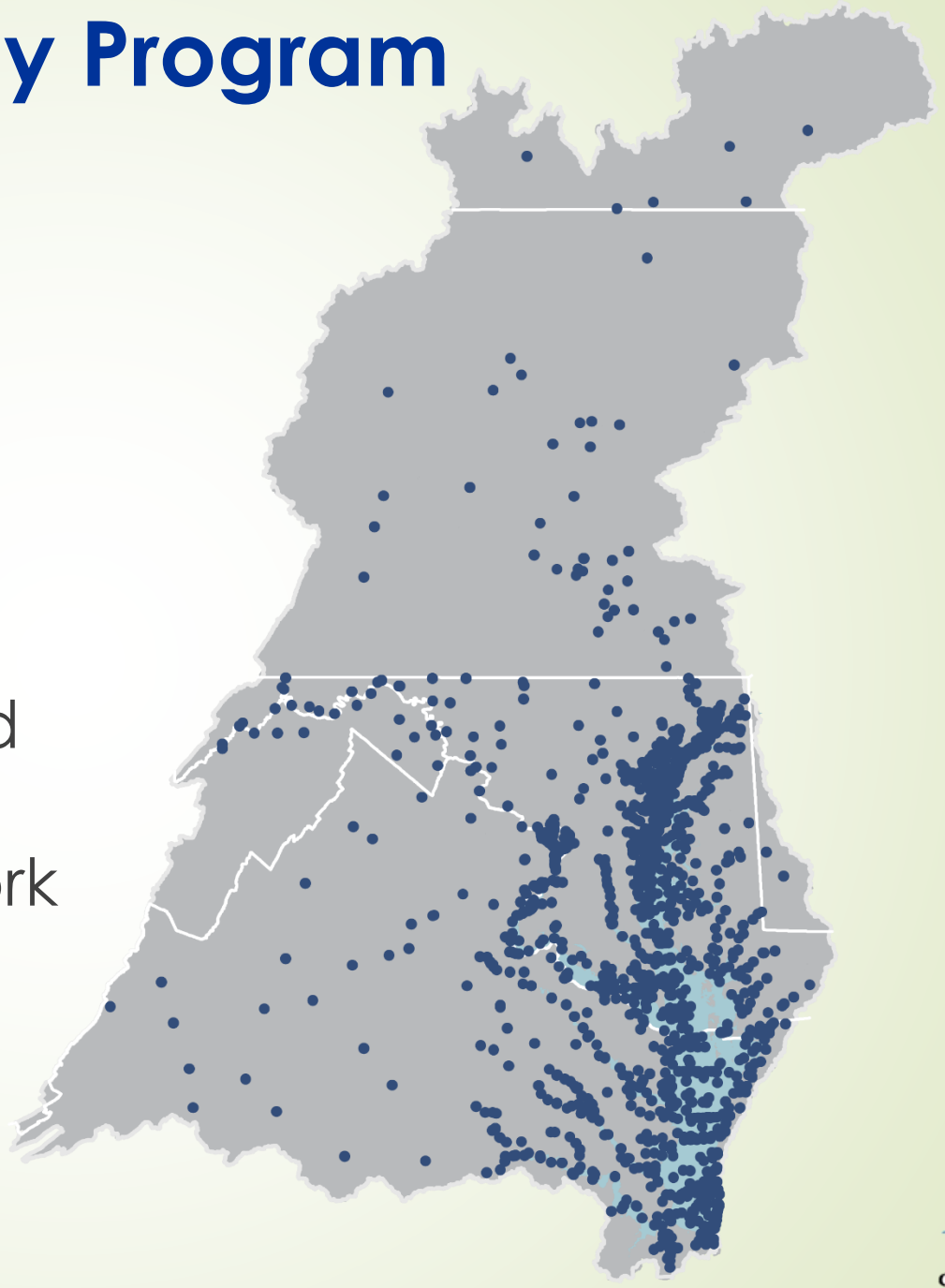
Chesapeake Bay Program Monitoring Sites

Traditional monitoring program coverage includes:

- Tidal habitat status and trends
  - water quality network
  - benthic macroinvertebrates
- Non-tidal network watershed loads and trends



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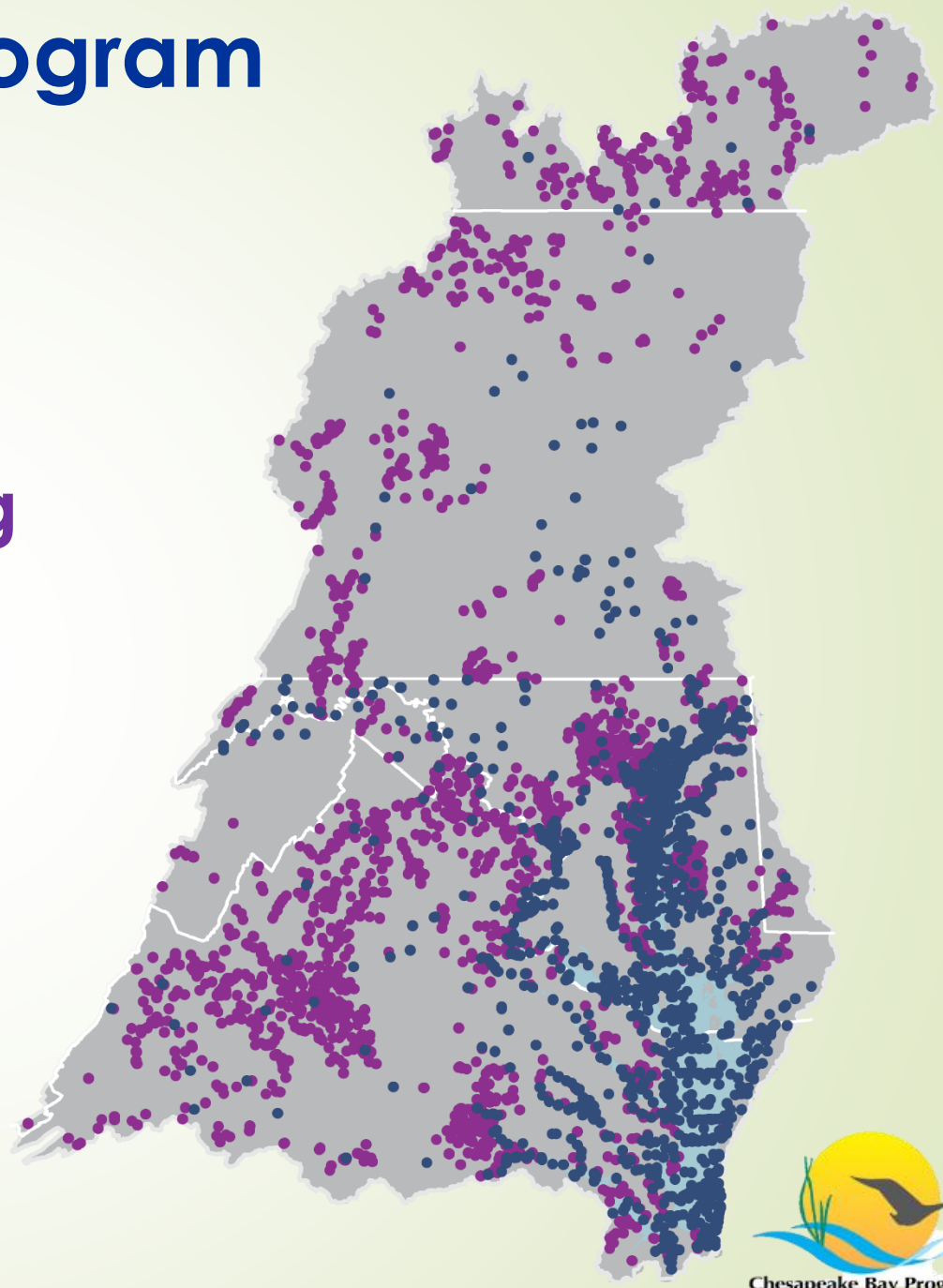
Chesapeake Bay Program Monitoring Sites

Chesapeake Bay Volunteer and Nontraditional Monitoring Sites

- Educational curricula support (Tier 1)
- Management targeting (Tier 2)
- Regulatory assessment (Tier 3)



CMC 2016 Prioritization Report

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Direct connection of the MOU to 2014 Chesapeake Bay Agreement Goals

Bay Agreement Goal	Outcomes
Stewardship Goal	Citizen Stewardship Outcome
Water Quality Goal	• 2017 WIP Outcome • 2025 WIP Outcome • Water Quality Standards Attainment and Monitoring Outcome
Healthy Watersheds Goal	Healthy Watersheds Outcome
Vital Habitats Goal	Stream Health Outcome

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Commitments

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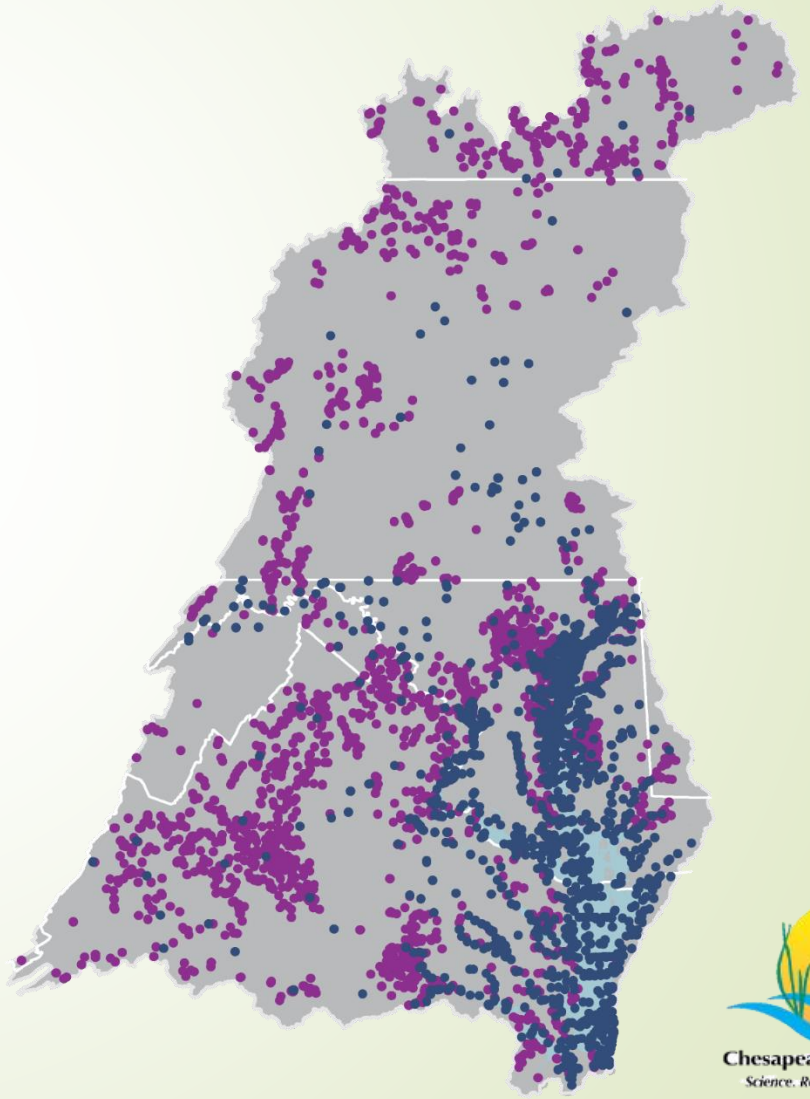

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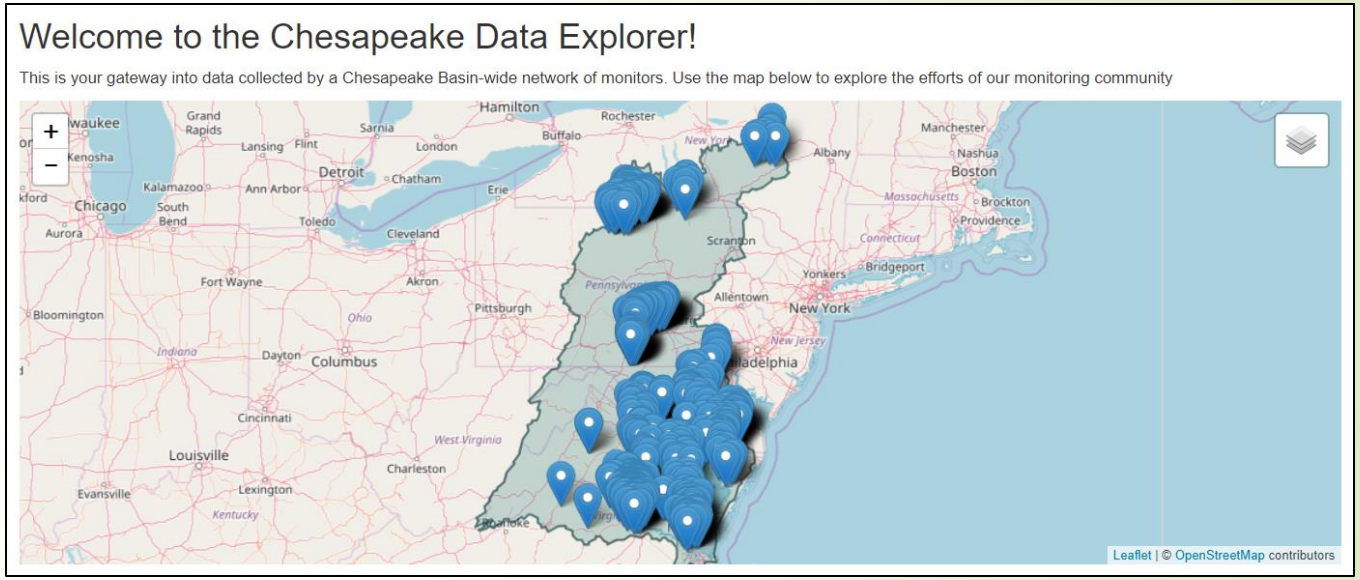
Commitments

- Support an open-access clearinghouse of quality-assured environmental data generated by citizen scientists and non-traditional partners and integrate this data into monitoring networks for educational, management, targeting and regulatory assessment applications.



https://cmc.vims.edu

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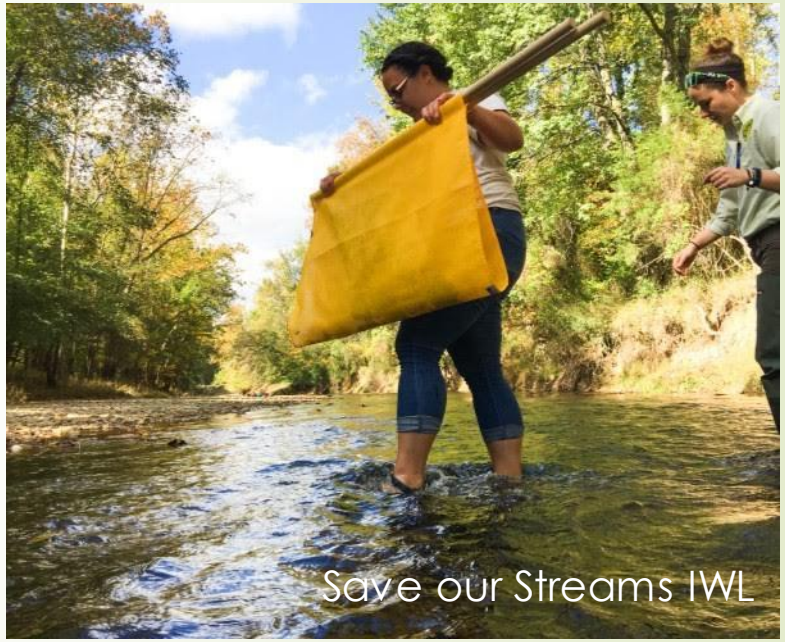
Commitments

- Promote the collection of water quality, benthic macroinvertebrate, and other monitoring data that can inform the Bay Program to adaptively manage and track progress toward the Watershed Agreement by non-traditional partners, such as, local and regional organizations, agencies, and/or educational institutions.


Save our Streams IWL

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Commitments

- Develop and adopt methods for data integration into regional monitoring and assessment strategies.

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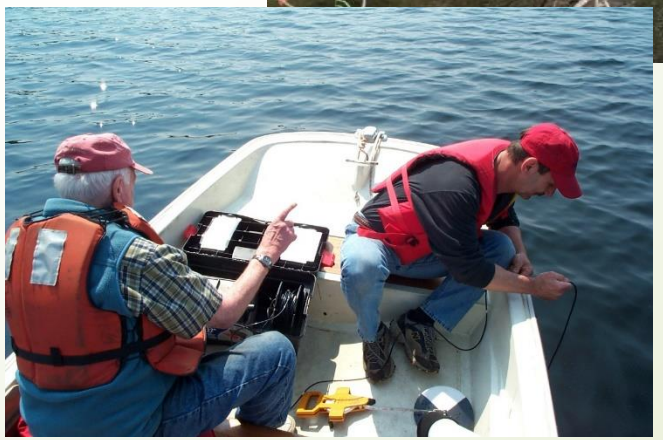
- Collaborate with the CMC in training with diverse, equitable and inclusive volunteer and non-traditional partner base for monitoring efforts.



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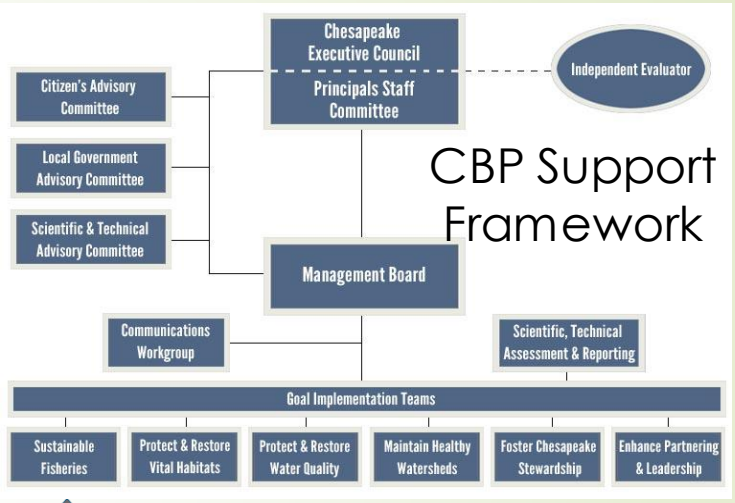

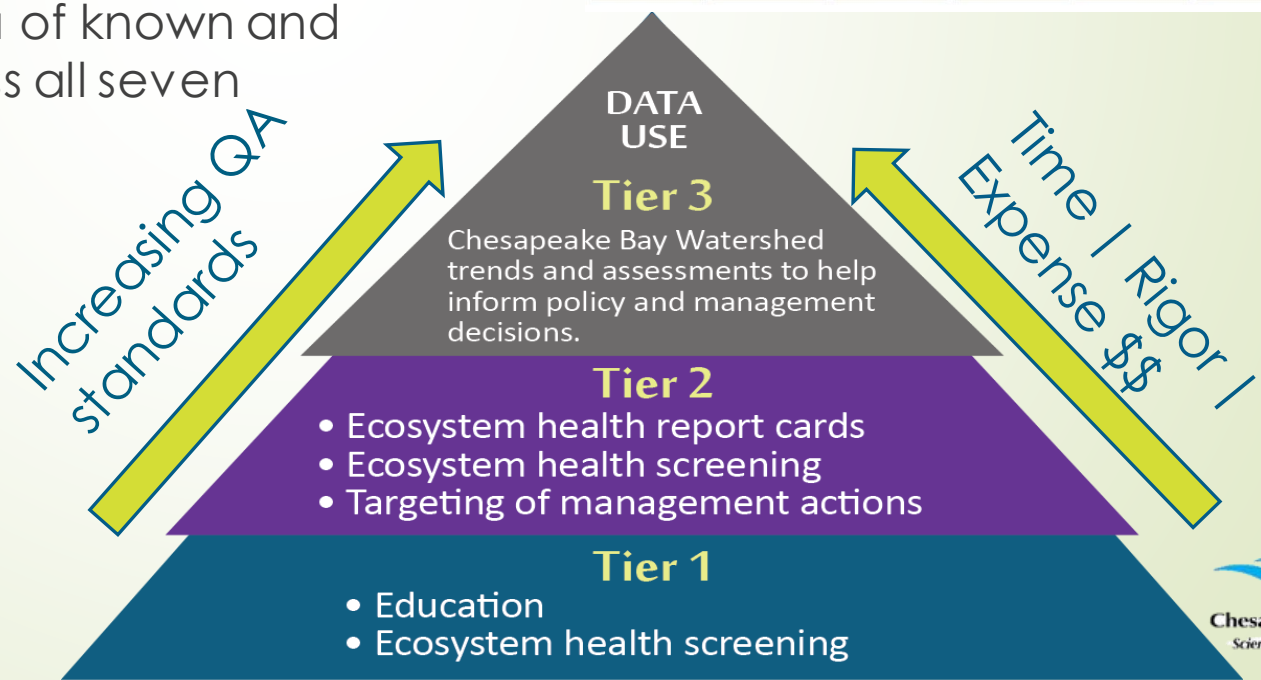

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What We Request

Accept and promote the Citizen science and nontraditional partner MOU that supports enhanced data collection and assessments promoting stewardship and benefitting capacity building in the partnership.

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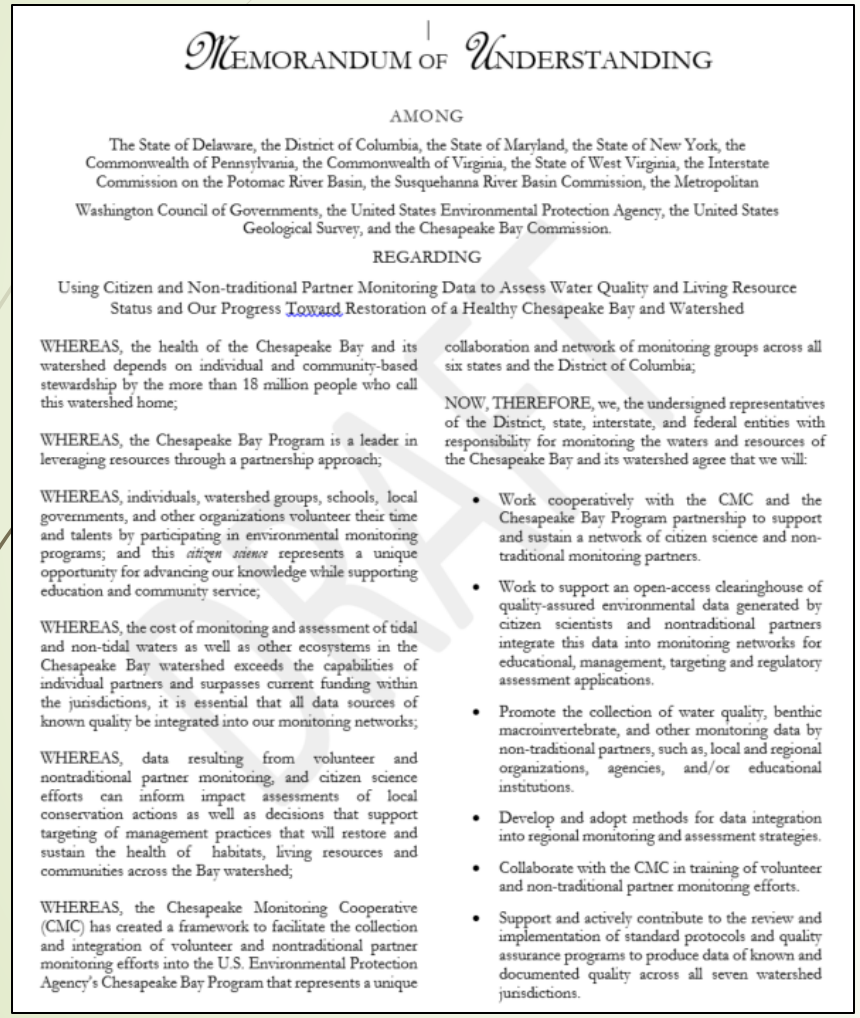

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- Recognizes the breadth of opportunity for enhanced data collection in space and time
- Supports monitoring capacity expansion
- Promotes availability and use of the data to fill gaps in the decision-support needs of our community

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Next steps

- **INDICATOR SUPPORT**: GITs/Workgroups continue efforts to define indicators and metrics where additional monitoring capacity will be needed and prioritization.

- **PROJECT GUIDANCE**: STAR and its workgroups coordination with the CMC on implementing projects for directed, watershed-wide data collections.

- **PRODUCT GUIDANCE**: STAR working with STAC on cross-GIT integrated management questions to guide prioritization of information needs and development of data products from the *Chesapeake Data Explorer* database.

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Thank you for your support!

CMC

ALLIANCE for the Chesapeake Bay

University of Maryland Center for Environmental Science

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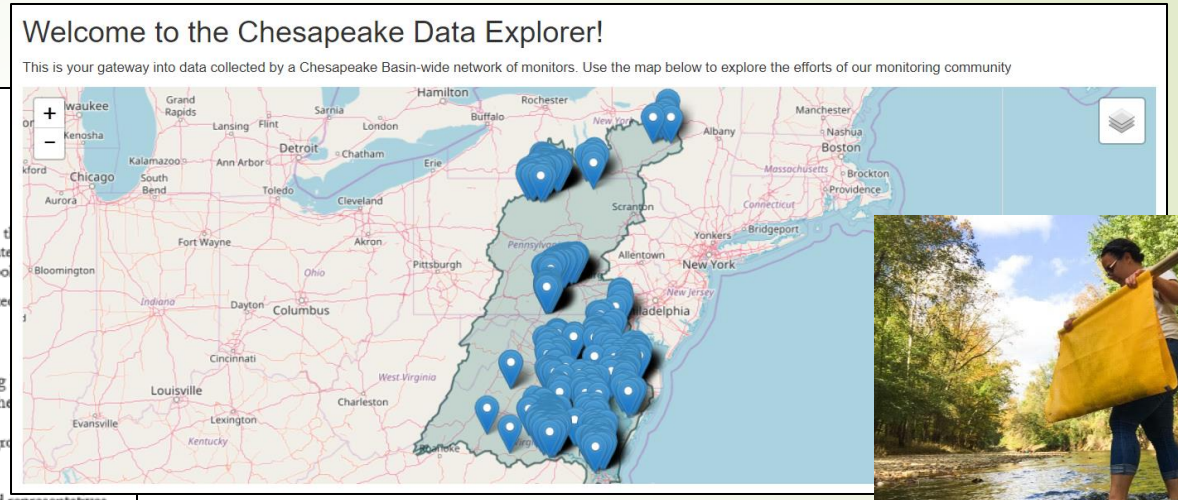

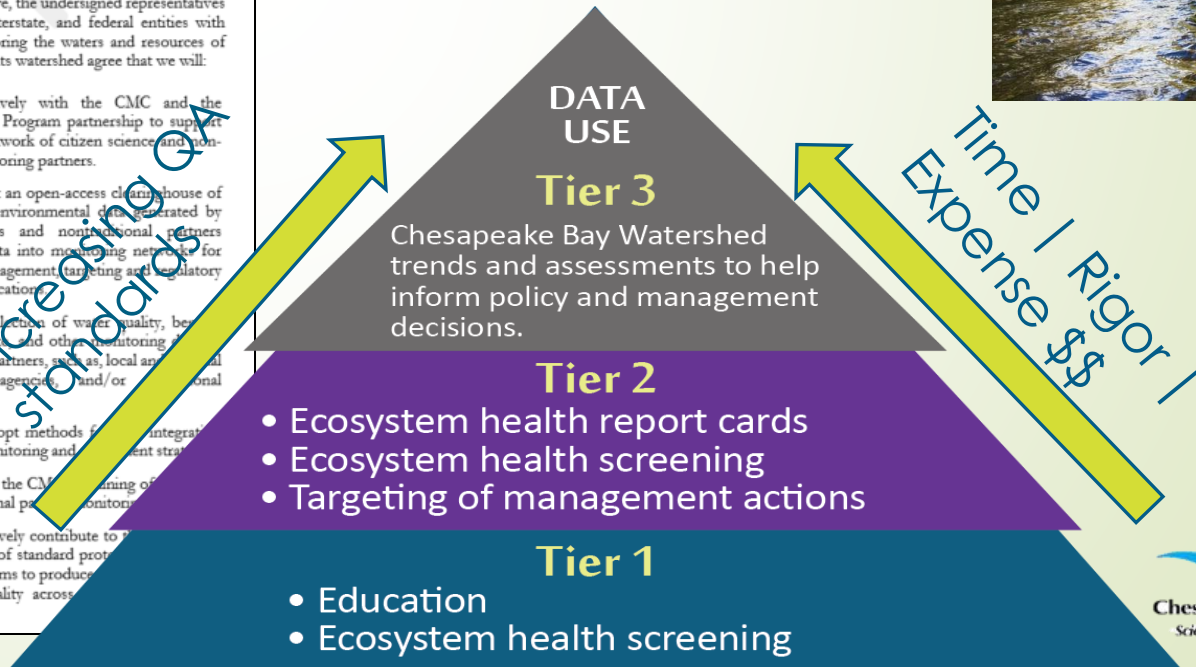

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