

Chesapeake Bay Program Water Quality Goal Implementation Team* Welcome and Introduction Training

*a.k.a. WQGIT



WQGIT Version: January 2022

***Adapted from materials originally developed by the
Watershed Technical Workgroup (WTWG) in November 2021***

Abbreviations

AgWG – Agriculture Workgroup

BMP – Best Management Practice

BMPVAHAT – BMP Verification Ad Hoc Action Team

CAST – Chesapeake Assessment Scenario Tool (user interface for the CBP Watershed Model)

CBP – Chesapeake Bay Program

CBW – Chesapeake Bay Watershed

CRC – Chesapeake Research Consortium

CWA – Clean Water Act

CWIP: Conowingo WIP Steering Committee

EPA – Environmental Protection Agency

FFWG – Federal Facilities Workgroup

GIT – Goal Implementation Team

LUWG – Land Use Workgroup

MB – Management Board

MSWG – Milestones Workgroup

NEIEN – National Environmental Information Exchange Network

NRCS – Natural Resources Conservation Service

PSC – Principals' Staff Committee

QAPP – Quality Assurance Project Plans

SRS – Strategy Review System

TCW – Toxic Contaminants Workgroup

TOWG – Trading and Offsets Workgroup

TMDL – Total Maximum Daily Load

USWG – Urban Stormwater Workgroup

WIP – Watershed Implementation Plan

WQGIT – Water Quality Goal Implementation Team

WTWG – Watershed Technical Workgroup

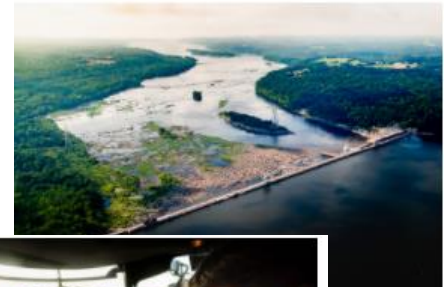
WWTWG – Wastewater Treatment Workgroup

Overview

- **Chesapeake Bay Program Background**
 - The Chesapeake Bay Program (CBP)
 - Chesapeake Bay Watershed
 - Water Quality Issues and Responses Timeline
 - Guiding Principles of the CBP and WQGIT
 - Partners
- **Water Quality Goal Implementation Team**
 - Organization of CBP
 - Organization of WQGIT
 - WQGIT Voting Membership
 - WQGIT Roles and Responsibilities
 - What makes an effective member?
 - CBP ethical behavior guidelines
 - Consensus Procedures and Decision- making
- **Basics about some common subjects**
 - CAST/Chesapeake Bay Modeling
 - CAST Reports
 - Resources available on CAST website
 - NEIEN
 - Annual Progress Submission
 - BMP Verification
 - Examples of Recent Discussions/Decisions
- **2014 Watershed Agreement and the Strategy Review System (SRS)**
- **Contacts**
- **Acknowledgements**

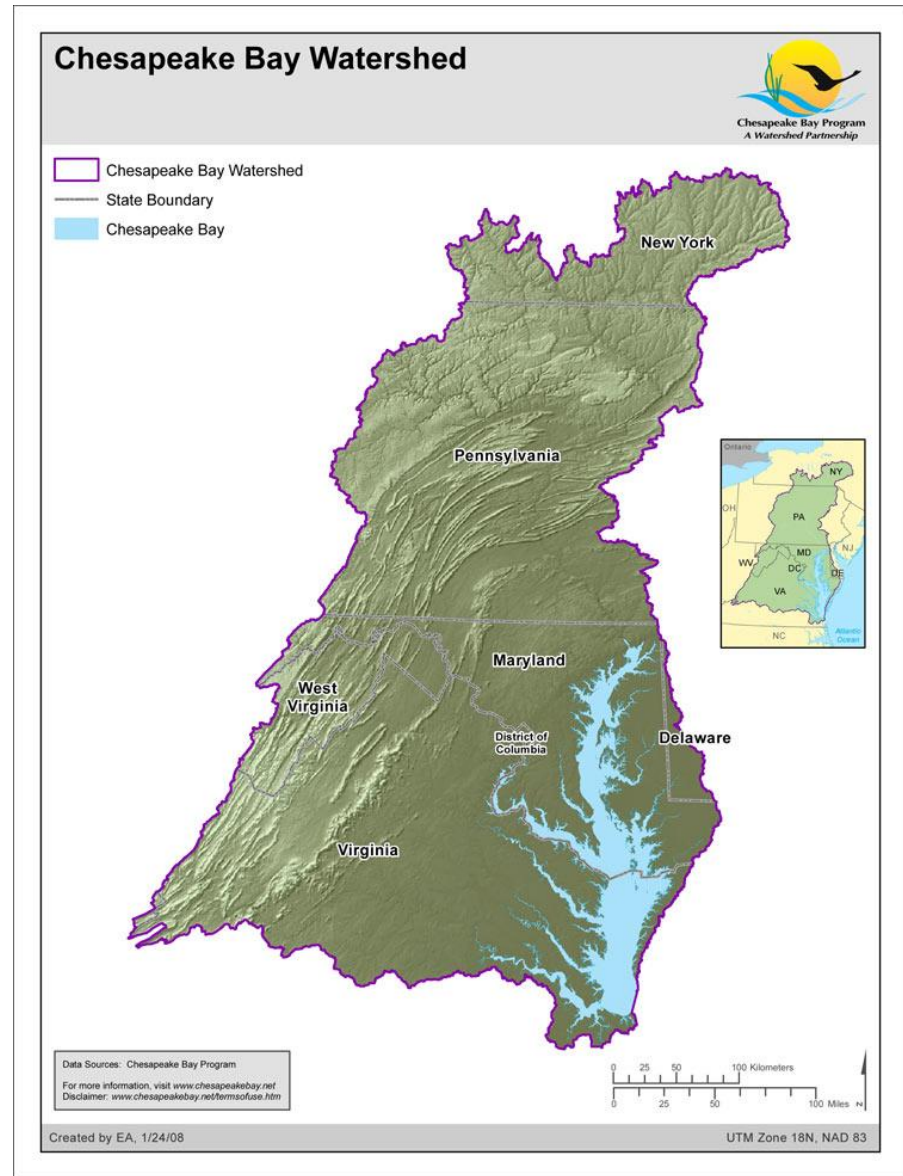
The Chesapeake Bay Program (CBP)

Simply put: We are a regional partnership **working together to meet the goals of the Chesapeake Bay Watershed Agreement.**

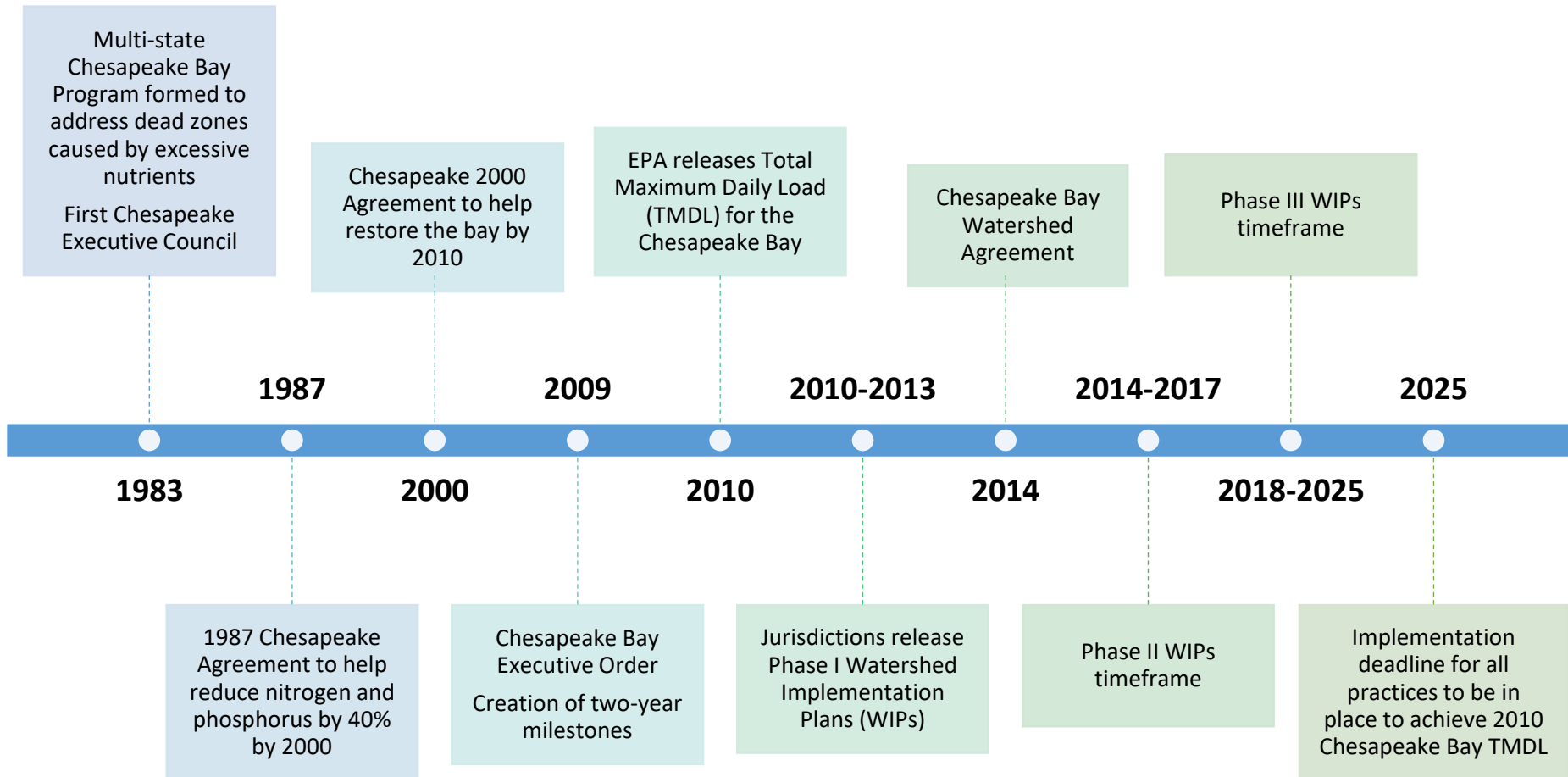


Chesapeake Bay Watershed

- The watershed is 64,000 square miles and includes 7 jurisdictions:
 - Delaware
 - District of Columbia
 - Maryland
 - New York
 - Pennsylvania
 - Virginia
 - West Virginia
- Chesapeake Bay Program was formed in 1983 due to rapid loss of aquatic life and wildlife due to excess nitrogen and phosphorus



Timeline of Chesapeake Bay Water Quality Issues and Responses



[Additional Bay Program History](#)

Guiding Principles of the Chesapeake Bay Program and Water Quality Goal Implementation Team

[CBP Governance Protocols](#)

[WQGIT Governance Protocols](#)

[2014 Chesapeake Watershed Agreement](#) (*amended January 24, 2020*)

- Established goals and outcomes for the restoration of the Bay

[Clean Water Act \(CWA\)](#)

[Executive Order 13508](#)

[Chesapeake Bay Total Maximum Daily Load](#) (TMDL)

- “Pollution diet” established by EPA in 2010 for nitrogen, phosphorus, and sediment.

[Watershed Implementation Plans](#) (WIPs)

- Jurisdictions developed plans to reduce pollution from specific sources (e.g., wastewater treatment plants, urban stormwater, agriculture)

Chesapeake Bay Program Partners

EPA (Represents U.S. Government)

Jurisdictions (DE, D.C., MD, NY, PA, VA, WV)

Chesapeake Bay Commission

Federal agencies

- E.g., USDA-NRCS

Academic institutions

- E.g., University of Maryland, Penn State University

Non-governmental organizations

- E.g., Chesapeake Bay Foundation, Nature Conservancy

Advisory Committees

- E.g., Scientific and Technical, Local Government, Citizens



**9 Watershed
Agreement
Signatories**

Organization of the Chesapeake Bay Program



There are 6 goal implementation teams (GITs), and sometimes they are referred to by their number (e.g., GIT3, GIT6).

Organization of the WQGIT

Water Quality GIT ([WQGIT](#))

Workgroups (WGs)

Agriculture Workgroup ([AgWG](#))

*Forestry Workgroup ([FWG](#))

Urban Stormwater Workgroup ([USWG](#))

Wastewater Treatment Workgroup ([WWTWG](#))

Watershed Technical Workgroup ([WTWG](#))

Land Use Workgroup ([LUWG](#))

BMP Verification Ad Hoc Action Team
([BMPVAHAT](#))

Toxic Contaminants Workgroup ([TCW](#))

*Federal Facilities Workgroup ([FFWG](#))

Milestones Workgroup ([MSWG](#))

Trading and Offsets Workgroup ([TOWG](#))

Related non-WQGIT groups

Modeling Workgroup ([Modeling Team](#))

**Conowingo WIP Steering Committee ([CWIP](#))

Source
Sector
WGs

Membership

Chair(s) & Vice Chair(s)

Coordinator

Staffer(s)

Signatory Members

At-large Members

Interested Parties

*Although part of the WQGIT, these are
staffed by GIT 4 (Healthy Watersheds)

**Technically falls under the PSC, but
staffed by WQGIT

Water Quality Goal Implementation Team Voting Members

The voting body of the GIT consists of members from each signatory (one each (9 total) with an alternate identified), at-large members (up to 6 with option to identify an alternate), and the WQGIT leadership (chair and vice- chair).

Last updated 02.03.2022

Chair(s) and Vice- Chair

<u>Role</u>	<u>Name</u>	<u>Term</u>
Chair	Ed Dunne (DOEE)	2022-2023
Vice- chair	Suzanne Trevena (EPA)	2022-2023

At- large Members

<u>Affiliation</u>	<u>Name</u>	<u>Term</u>
At-large	KC Filippino (HRPDC)	2021-2022
At-large	Joe Wood (CBF)	2021-2022
At-large	Emily Dekar (USC)	2021-2022
At-large	Kevin Du Bois (DoD)	2022-2023
At-large	Mike LaSala (LandStudies)	2022-2023
At-large	Jeff Cornwell (UMCES)	2022-2023

At-large membership is reserved for NGOs, quasi-governmental organizations, federal agencies, academic institutions, and other local practitioners.

Signatory Members

<u>Affiliation</u>	<u>Primary</u>	<u>Secondary</u>
Delaware	Jennifer Walls (DNREC)	Chris Brosch (DDA)
District of Columbia	George Onyullo (DOEE)	Ed Dunne (DOEE)
Maryland	Dinorah Dalmasy (MDE)	Greg Sandi (MDE)
New York	Lauren Townley (NYSDEC)	Cassandra Davis (NYSDEC)
Pennsylvania	Jill Whitcomb (PA DEP)	Ted Tesler & Lisa Beatty (PA DEP)
Virginia	Bryant Thomas (VA DEQ)	James Martin (VA DCR)
West Virginia	Teresa Koon (WV DEP)	Dave Montali (Tetra Tech)
CBC	Marel King (CBC)	Adrienne Kotula (CBC)
EPA	Lucinda Power (EPA)	Pat Gleason (EPA)

WQGIT Roles and Responsibilities

[WQGIT Homepage](#)

Purpose

- Evaluate, focus, and accelerate the implementation of practices, policies, programs that will restore water quality in the Chesapeake Bay and its tributaries to conditions that support living resources and protect human health. The Team reports to the Management Board and Principals' Staff Committee.

WQGIT Roles and Responsibilities Cont.

[WQGIT Homepage](#)

Main Tasks

- Provide a forum for discussion, exchange of information, and evaluation among federal, state, and local agencies, river basin commissions, industry groups, universities, and other interested parties on water quality goals, data, modeling, authorities, and restoration efforts.
- Evaluate and promote strategies to reduce nutrient, sediment, and chemical contaminant loads from municipal, industrial and onsite wastewater; agricultural lands and animal operations; urban and suburban stormwater; forested lands; tidal and in-stream sediment; and air emissions.
- Promote consistent, uniform and transparent processes to model, track, report, and verify water quality restoration efforts.
- Identify, define, quantify, and incorporate pollutant reduction and conservation practices into the Chesapeake Bay Program decision support system.
- Provide technical expertise and leadership to support the development, implementation, and tracking of the Chesapeake Bay TMDL, Watershed Implementation Plans, and two-year milestones that support long-term Bay restoration goals.

WQGIT Roles and Responsibilities Cont.

[WQGIT Homepage](#)

Member Roles

- In all matters, be respectful of others and act with professionalism that reflects you and your organization.
- Review and consider materials presented or distributed to the WQGIT for subsequent requests for decision.
- Weigh-in on items raised to the WQGIT from source-sector workgroups or other subsidiary groups, evaluating cross-sector differences or equity as appropriate.
- Add your unique perspective or experiences to WQGIT discussions, ask questions, offer constructive feedback for improvement.

What makes an effective member?

- 1. Attends meetings regularly**

If a member cannot attend, it is appreciated if they notify us ahead of time and have someone on the line to represent them (signatory members have alternates; alternates are optional for at-large members).

- 2. An active participant in meetings**

Participates in discussions and provides feedback to the WQGIT leadership or presenters when requested.

- 3. Communicates with WQGIT leadership ahead of a meeting regarding concerns or objections over a certain decisional or agenda item.**

An open line of communication enables us to be proactive in addressing concerns or issues ahead of a meeting in order to bring forward the most appropriate and accurate information and/or proposals.

- 4. Conducts themselves in a professional, ethical, and respectful manner.**

CBP Ethical Behavior Guidelines

1. No participant in a Chesapeake Bay Program discussion shall seek to influence consensus or action by the group in such a way as to derive any direct or indirect personal profit or gain. (Applies also the member's business, affiliations, or close associates).
2. Any participant in a discussion with a conflict of interest is expected to announce that they may have a potential conflict of interest and shall refrain from further participation in any discussion or decision on such matter.
Chairs and Co-Chairs of meetings shall remind all participants of this policy before decisional discussions begin.
3. Suspected violations of this policy will be reported to the Chair of the Management Board (MB) for further review or elevated to the Chair of the Principals' Staff Committee (PSC) where appropriate.

All participants in the Chesapeake Bay Program partnership should be familiar with these ethical behavior guidelines, conduct themselves in a manner that places the highest priority on allowing consensus to occur and be respectful of all opinions, including balancing the priorities of the members' respective organization/jurisdiction with the priorities of the partnership.

What makes an effective member? Cont.

“...conduct themselves in a manner that places the highest priority on allowing consensus to occur and be respectful of all opinions, including balancing the priorities of the members’ respective organization/jurisdiction with the priorities of the partnership.”

In other words:

Engage

Voice your perspective

Be respectful

*If you disagree, suggest an alternative or compromise**

**this is a key part of our consensus process
(further explained in subsequent slides)*

WQGIT

Consensus Procedures

1 Discussion of the Item
The item is discussed with the goal of identifying opinions and information on the topic at hand.

2 Formation of a Proposal
Based on the discussion a formal decision proposal on the issue is presented to the group.

3 Call for Consensus
The facilitator of the decision-making body calls for consensus on the proposal. Each member of the group usually states their level of agreement per the consensus continuum (see next slide) or through objection (ex. "Does any one object?").

4 Identification and Addressing of Concerns
If consensus is not achieved, each dissenter presents his or her concerns on the proposal, potentially starting another round of discussion. The dissenting party/parties will supply an alternative proposal or a process for generating one, so any concerns can be addressed.

5 Modification of the Proposal
The proposal is amended to address the concerns of the decision makers. The process then returns to the call for consensus. If consensus cannot be reached and time doesn't allow for reconsidering/ revising the proposal, the decision will be elevated to the next level.

If someone “objects” to a proposal, that equates to a “stop” or “hold” on the continuum. The objector will be asked to explain their position and state an alternative proposal (#4 on the previous slide).



CENTER FOR **LEADERSHIP & ORGANIZATIONAL CHANGE**
PARTNERING FOR RESULTS

Consensus Continuum



Stop

"I do not agree and feel the need to stand in the way of this decision"



Hold

"I believe more work is needed before we make a decision"



Stand Aside

"I trust the group and will not block this decision but need to register my disagreement"



Agreement with Reservations

"I can live with it"



Endorsement

"I like it"

WQGIT Voting Procedures for New Membership

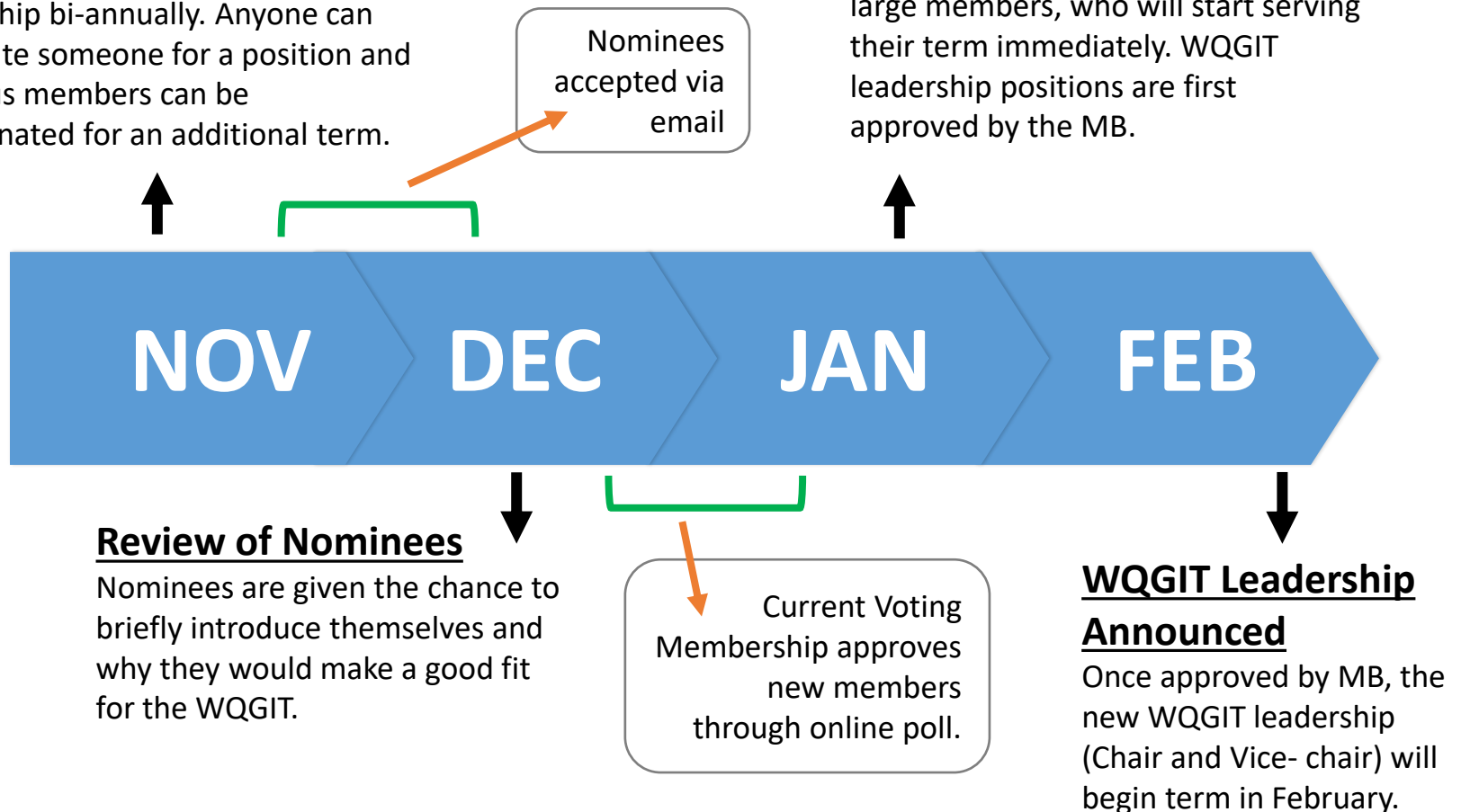
The WQGIT and WQGIT Workgroups strive to maintain a membership that is representative of the signatories to the [2014 Chesapeake Bay Watershed Agreement](#) and those that take leadership roles in the Chesapeake Bay Program structure, while empowering Advisory Committees and non-signatories.

Call for Nominations

WQGIT selects 3 at- large members on an annual basis and new leadership bi-annually. Anyone can nominate someone for a position and previous members can be renominated for an additional term.

Announcing New Members

The WQGIT announces the new at-large members, who will start serving their term immediately. WQGIT leadership positions are first approved by the MB.



Basics about some common subjects

What are...the Watershed Model and CAST; NEIEN; Annual progress; BMP Verification?

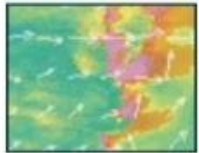
Chesapeake Bay Model Inputs and Outputs

Data and Model Inputs

Pollution Control Data
Land Use Data
Point Sources Data
Septic Data
U.S. Census Data
Agricultural Data



Land Use
Change
Model



Airshed
Model

Precipitation Data
Meteorological Data
Elevation Data
Soil Data

Phase 6 Watershed Model/CAST



Estuary Model

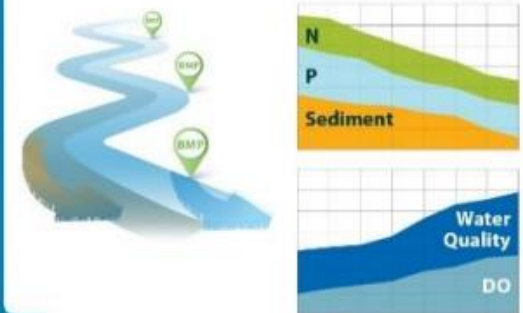


Model Outputs

Prediction of Impacts



BMP Implementation Results





- [Chesapeake Assessment Scenario Tool](#) (CAST) is a web-based nutrient and sediment load estimator tool that allows users to access EPA's Chesapeake Bay Program Office Watershed Model.
- Users specify a geographical area, and then select Best Management Practices (BMPs) to apply on that area. CAST builds the scenario and provides estimates of nitrogen, phosphorus, and sediment load reductions.
- Public scenarios, annual progress and official Watershed Implementation Plans (WIPs), are available for users to review.
- WTWG and source sector workgroups review updates to CAST as they occur; the WQGIT may weigh in on larger issues and consider cumulative changes.

CAST Reports Available

Atmospheric Deposition

- Air deposition loads for nitrogen and phosphorus at the land-river segment scale

Base Conditions

- Base conditions utilized for the selected scenario before BMPs are credited, including land use acres, septic systems, and animal counts. Acres and septs after BMPs are credited are provided for reference.

BMP Input Files

- BMP Input Files download. Generates up to 4 text files (Land, Policy, Animal and Manure Transport) depending on the BMPs included in the selected scenario.

BMP Submitted vs Credited Report

- BMPs submitted and the BMPs credited for the selected scenario. Cost results per BMP are also provided for reference.

BMP Summary Report

- Summary of BMPs credited in measurement units and percentages

Loads per Unit

- Nitrogen, phosphorus and sediment loads per unit estimated by CAST

Loads Report

- Nitrogen, phosphorus and sediment loads estimated by CAST

Nutrients Applied

- The nutrients applied report includes the nitrogen and phosphorus nutrients available to be applied to the land and the amount that is applied to each load source. The amount that runs off into waterways is in the Loads Report.

Quick Results Report

- Load, BMP and cost results for a single scenario summarized for the entire scenario and at the land-river segment scale

Wastewater Report

- Wastewater, CSO, Monitored Septic, and Rapid Infiltration Basin permit numbers, facility names, MGD, nitrogen, phosphorus, and sediment loads at the land-river segment scale for each source at edge of stream and edge of tide scale

Resources Available on CAST Website

[Phase 6 Model Source Data](#)

[Model Documentation](#)

[BMP Calculations](#)

[Map Tools & Spatial Data](#)

[Cost Effectiveness of BMPs and Cost Profiles](#)

[Track Progress](#)

- Phase III WIP BMP information
- Trends over Time from 1985 through 2025
- Tributary Summaries for 12 major tributaries
- Submerged Aquatic Vegetation Reports
- River Trends
- Progress Reporting to National Environmental Exchange Network (NEIEN)
- Verification & Quality Assurance Project Plans
- Information for Federal Agencies

National Environmental Exchange Network (NEIEN)

- Jurisdictions submit annual BMP implementation and verification using [XML files to NEIEN](#).
- Each jurisdiction has their own database(s) to export XML files based on [NEIEN Schema](#).
- CAST pulls jurisdictions' NEIEN submissions and creates error reports available to jurisdictions. Error reports and uploaded NEIEN submissions are available on CAST to certain users with access.

CAST versus NEIEN

NEIEN

NEIEN Uses:

- Accepts BMP data submissions from jurisdictions. Processes the data for errors, including active and expired credit durations. Links reported practices to CAST BMPs. Submits BMPs to CAST for further processing.

NEIEN Outputs:

- Validation Reports

CAST

CAST Uses:

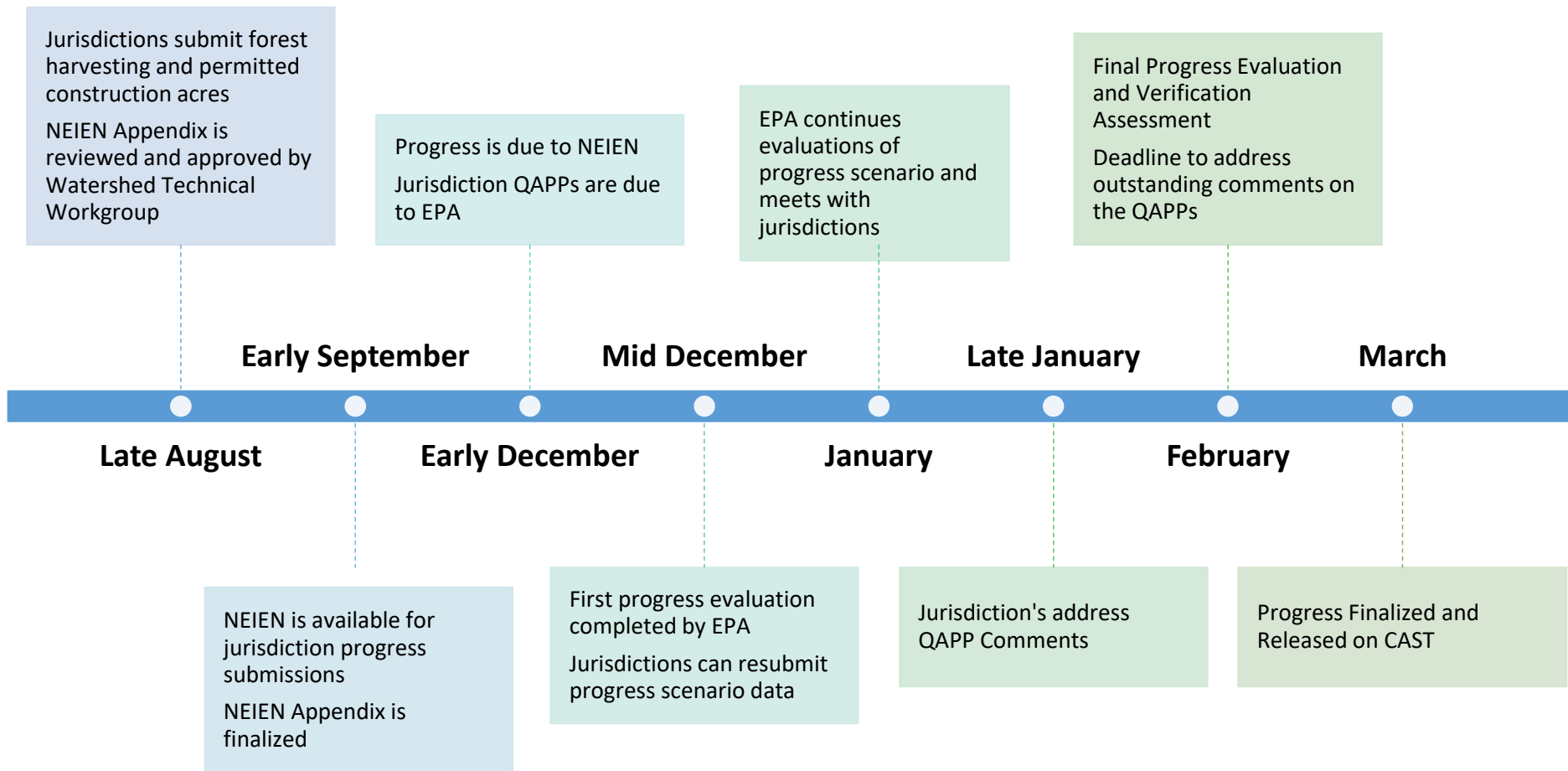
- To develop loading goals, explain trends in monitoring data, plan management actions, combine the effects of different management actions, Bay Program accountability system, provides a common currency

CAST Outputs:

- Nutrient and sediment loads, BMP implementation, nutrient applications, land use areas, etc. – **changes through time**

Annual Progress Reporting Estimated Timeline

Progress Year is June 1 to July 30



All dates on timeline are estimations. Exact dates for annual progress reporting is available in EPA Chesapeake Bay Grant Guidance for that year.

Why Model Annual Progress?

Purpose of Annual Progress

- One mechanism to track progress towards nutrient and sediment load reduction targets established by the program to achieve water quality standards.
- Annual progress summarizes the implementation of BMPs to date.

Which factors impact annual progress?

- Model Inputs
- Model Updates
- Model Processes

BMP Verification: How the Partnership ensures reported practices are present on the ground and functioning as expected

- What is the purpose of verification?
 - To provide regulatory **oversight to and accountability for** practices to ensure that *practices, treatments, and technologies resulting in reductions of nitrogen, phosphorus, and/or sediment pollutant loads are implemented and operating correctly.*
- Each jurisdiction has implemented a [verification program](#) to verify and report practices on an annual basis.
- **Where can I find details about the Verification Program?**

The Basin-Wide [BMP Verification Framework](#) (published October 2014)

BMP Verification: How does the model (NEIEN) apply verification to practices reported to NEIEN by jurisdictions?

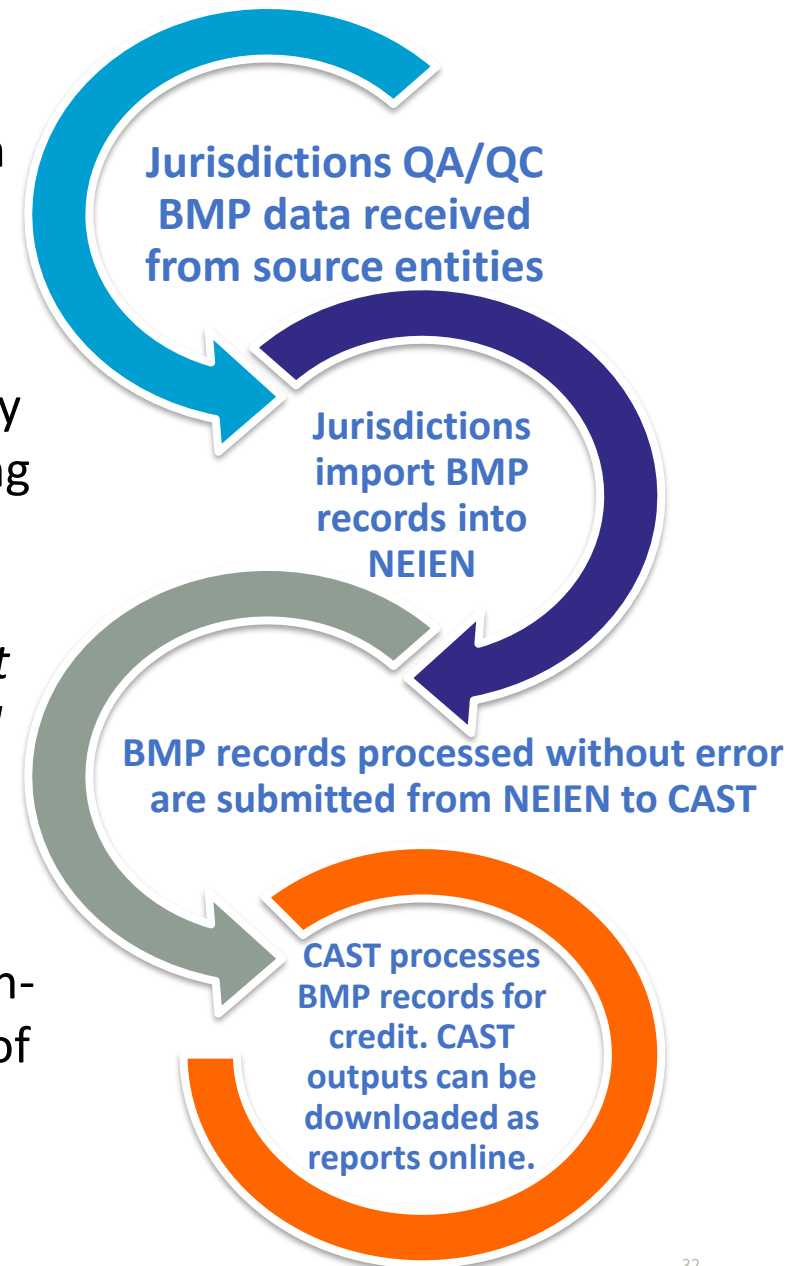
There is a system for flagging BMPs in NEIEN that have not been reinspected

- This system consists of each BMP being assigned an expiration date in the model.
- Expiration Date = Credit Duration.
 - For example, the credit duration of animal waste management systems (AWMS) is 15 years.
 - This means an AWMS can remain credited in the model for a maximum of 15-years until an inspection date needs to be reported.
- Where can I view the Credit Durations for all Practices? [The P6 NEIEN Appendix.](#)

Annual Progress Evaluation and Verification

[Appendix V](#) outlines the Bay Program evaluation and verification of annual progress:

- The purpose of the progress evaluation is to monitor the progress jurisdictions and the Bay Partnership are making towards 2025 planning targets put in place by the establishment of the TMDL in 2010.
 - *The 2009 Progress Scenario was the most recent progress scenario and will be used as the starting point for evaluating progress to date.*
- The purpose of the verification assessment is to ensure that submitted data reflects real, on-the-ground implementation and verification of best management practices to ensure that reported practices are being maintained and functioning as intended.



Examples of Recent Decisions and Discussions

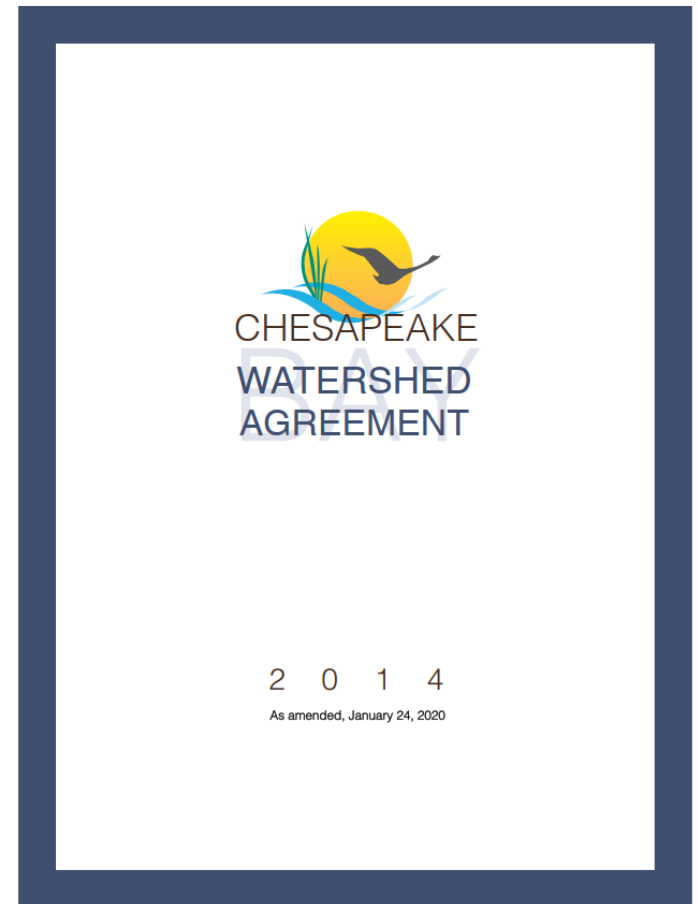
- **Ex. 1: Understanding how land use BMPs are backed-out of the model once they are picked up by updated land use model inputs**
 - Decision: Approval of 15-year backout and credit duration for Forestry BMPs
- **Ex. 2: Review and approve BMP Expert Panel Reports (following source sector WG and Watershed Technical WG decisions):**
 - Agriculture Ditch Management BMP

2014 Watershed Agreement and Strategy Review System (SRS)

Glance at relevant Goals/Outcomes, overview of the SRS process

Components of the Agreement

- Vision
- Preamble
- Principles
- Goals & Outcomes
 - 10 goals
 - 31 outcomes
- Management strategies
 - Led to SRS process



Vision

The Chesapeake Bay Program partners envision an environmentally and economically sustainable Chesapeake Bay watershed with clean water, abundant life, conserved lands and access to the water, a vibrant cultural heritage and a diversity of engaged citizens and stakeholders.



2 0 1 4

As amended, January 24, 2020

Goals & Outcomes

- Goals: high-level aspects of the partners' vision
 - Outcomes related to each Goal are specific, time-bound, measurable targets that contribute to achieving that Goal
- Ten Goals:
 1. Sustainable Fisheries
 2. Vital Habitats
 3. **Water Quality**
 4. **Toxic Contaminants**
 5. Healthy Watersheds
 6. Stewardship
 7. Land Conservation
 8. Public Access
 9. Environmental Literacy
 10. Climate Resiliency (Note: monitoring & assessment outcome is relevant for WQGIT)

Bold = directly WQGIT-relevant Goal and outcomes

Underline = WQGIT-relevant outcome(s) within the goal

WQGIT relevant outcomes

- **Toxic Contaminants Goal**
 - [Toxic Contaminants Research](#)
 - [Toxic Contaminants Policy and Prevention](#)
- **Vital Habitats Goal**
 - [Forest Buffers](#)
 - [Tree Canopy](#)
- **Water Quality Goal**
 - [Watershed Implementation Plans \(WIP\) - 2017](#)
 - [Watershed Implementation Plans \(WIP\) - 2025](#)
 - [Water Quality Standards Attainment and Monitoring](#)

How the SRS works...

- 2-year cycle
- Pre-defined cohorts (grouped outcomes), e.g., Clean Water
- SRS process relies on three documents:
 - Logic & Action Plan
 - Narrative Analysis
 - Presentation
- These documents inform Quarterly Progress Meetings (given to the Management Board) and summarize specific commitments, short-term actions and resources required for success.

Clean Water Cohort

- [Toxic Contaminants Research](#)
- [Toxic Contaminants Policy and Prevention](#)
- [Forest Buffers](#)
- [Watershed Implementation Plans \(WIP\) - 2017](#)
- [Watershed Implementation Plans \(WIP\) - 2025](#)
- [Water Quality Standards Attainment and Monitoring](#)

Next quarterly progress meeting for Clean Water Cohort:
August 2022

(Tree canopy is in the “local action” cohort)

[You can view and filter cohorts on the Chesapeake Decisions webpage](#)

WQGIT Leadership & Staff Contacts

Jeremy Hanson, Chesapeake Research Consortium (CRC) / WQGIT Coordinator (hansonj@chesapeake.org)

Ed Dunne, DC DOEE / WQGIT Chair (ed.dunne@dc.gov)

Suzanne Trevena, EPA Region 3 / WQGIT Vice-Chair (trevena.suzanne@epa.gov)

Hilary Swartwood, CRC / WQGIT Staffer* (swartwood.hilary@epa.gov)

*primary staffer for WQGIT, Watershed Technical, Urban Stormwater, Trading & Offsets, and Toxic Contaminants Workgroups

Jackie Pickford, CRC / WQGIT Staffer** (pickford.jacqueline@epa.gov)

**primary staffer for Agriculture Workgroup, Land Use Workgroup, Wastewater Treatment Workgroup, BMP Verification Ad-hoc Action Team, and the Conowingo WIP Steering Committee

A full-page background image showing a sunset over a body of water. The sky is filled with horizontal bands of orange, yellow, and pink clouds. The sun is a bright yellow orb just above the horizon. In the foreground, the water reflects the colors of the sky. A dark silhouette of a bird, possibly a heron or egret, stands in the water on the right side. The overall mood is peaceful and natural.

Acknowledgements

Special thanks to the Federal Facilities WG, Agriculture WG, and Watershed Technical WG who developed the original guides, which we used as a template to create this one.