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

*a.k.a. WQGIT

WQGIT Version: July 2024
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)**
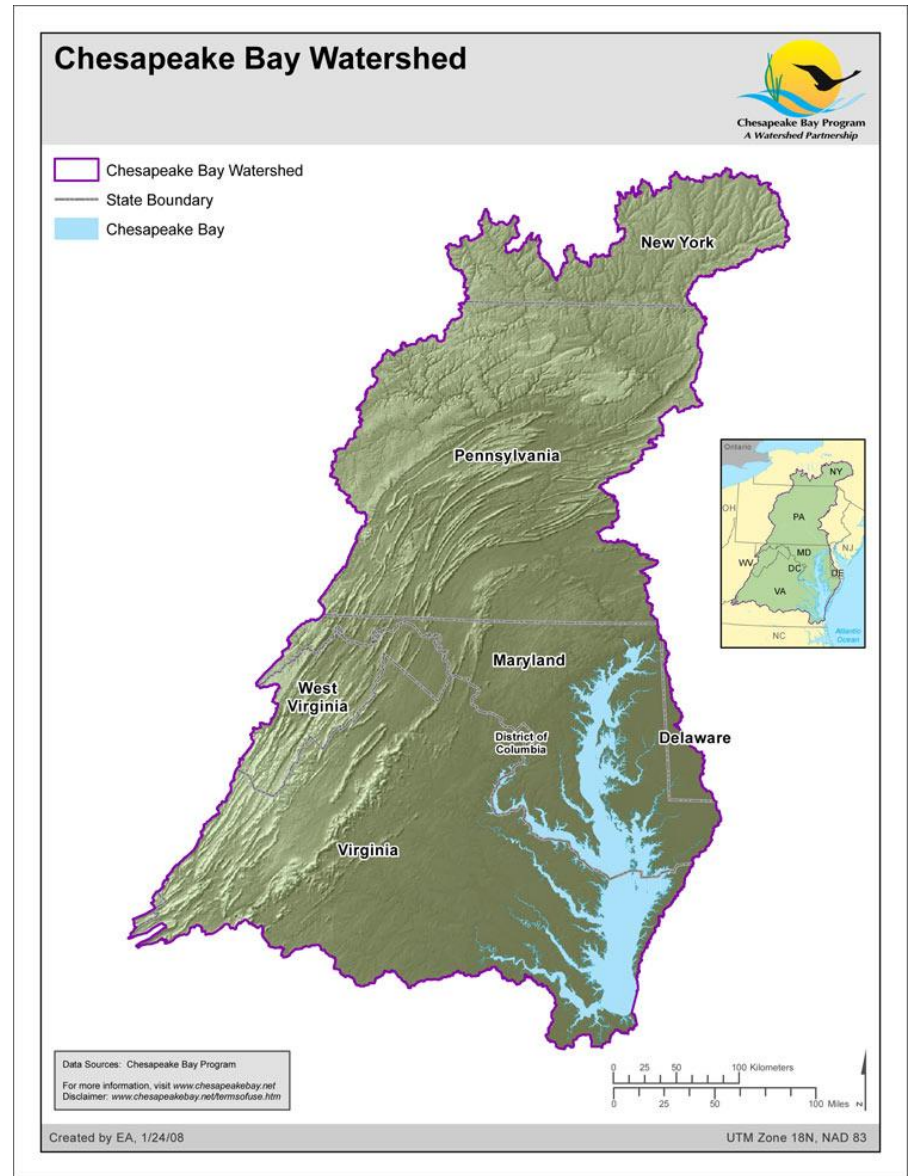- **Contacts**
- **Acknowledgements**

The Chesapeake Bay Program (CBP)

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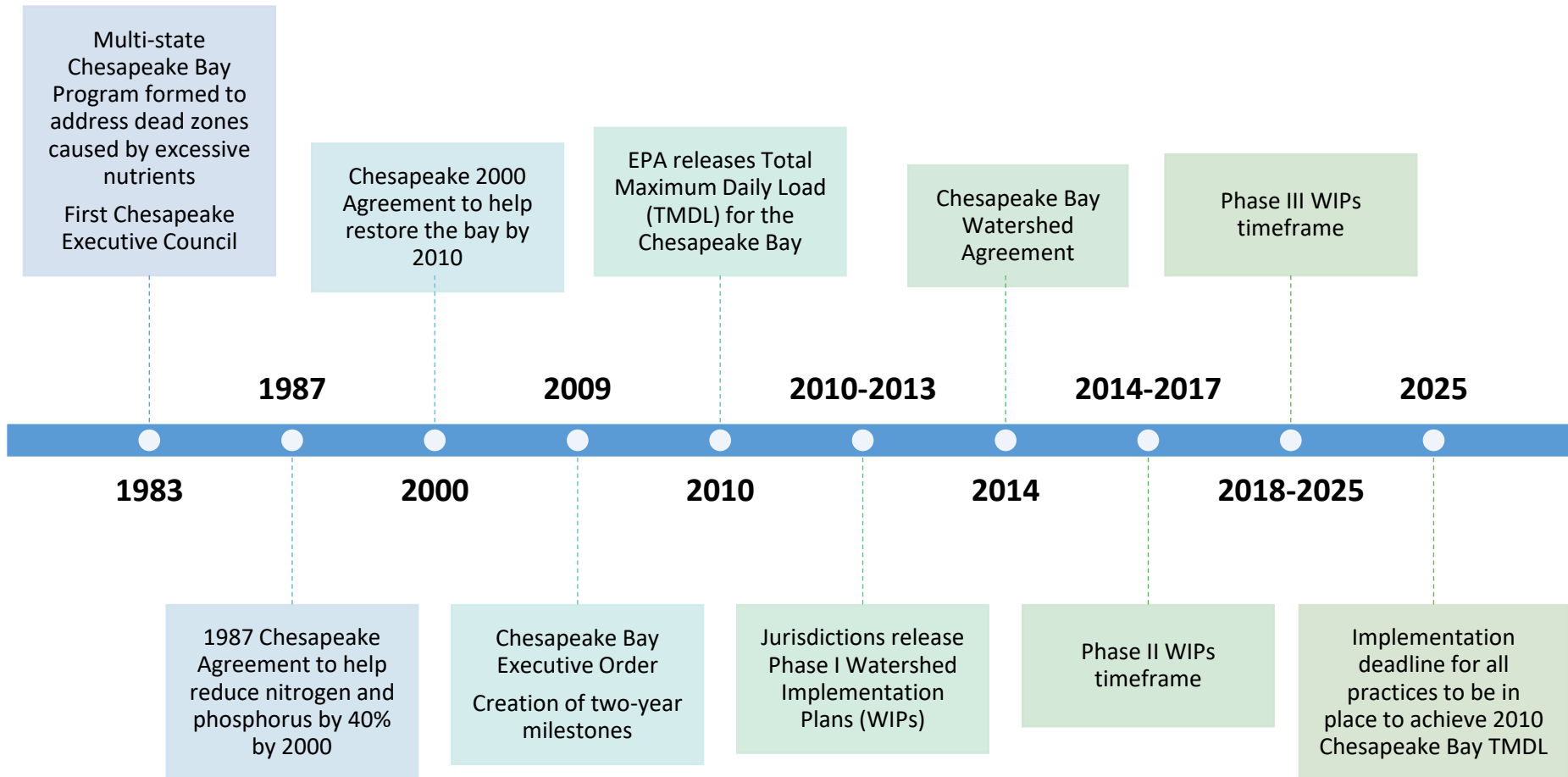
Chesapeake Bay Watershed

- 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

Multi-state Chesapeake Bay Program formed to address dead zones caused by excessive nutrients

First Chesapeake Executive Council

Chesapeake 2000 Agreement to help restore the bay by 2010

EPA releases Total Maximum Daily Load (TMDL) for the Chesapeake Bay

Chesapeake Bay Watershed Agreement

Phase III WIPs timeframe

1987   **2009**   **2010-2013**   **2014-2017**   **2025**

1983   **2000**   **2010**   **2014**   **2018-2025**

1987 Chesapeake Agreement to help reduce nitrogen and phosphorus by 40% by 2000

Chesapeake Bay Executive Order

Creation of two-year milestones

Jurisdictions release Phase I Watershed Implementation Plans (WIPs)

Phase II WIPs timeframe

Implementation deadline for all practices to be in place to achieve 2010 Chesapeake Bay TMDL

Additional Bay Program History   Chesapeake Bay Program 40th Anniversary (2023)

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

9 Watershed Agreement Signatories

Federal agencies

- E.g., USDA-NRCS

Academic institutions

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

Non-governmental organizations

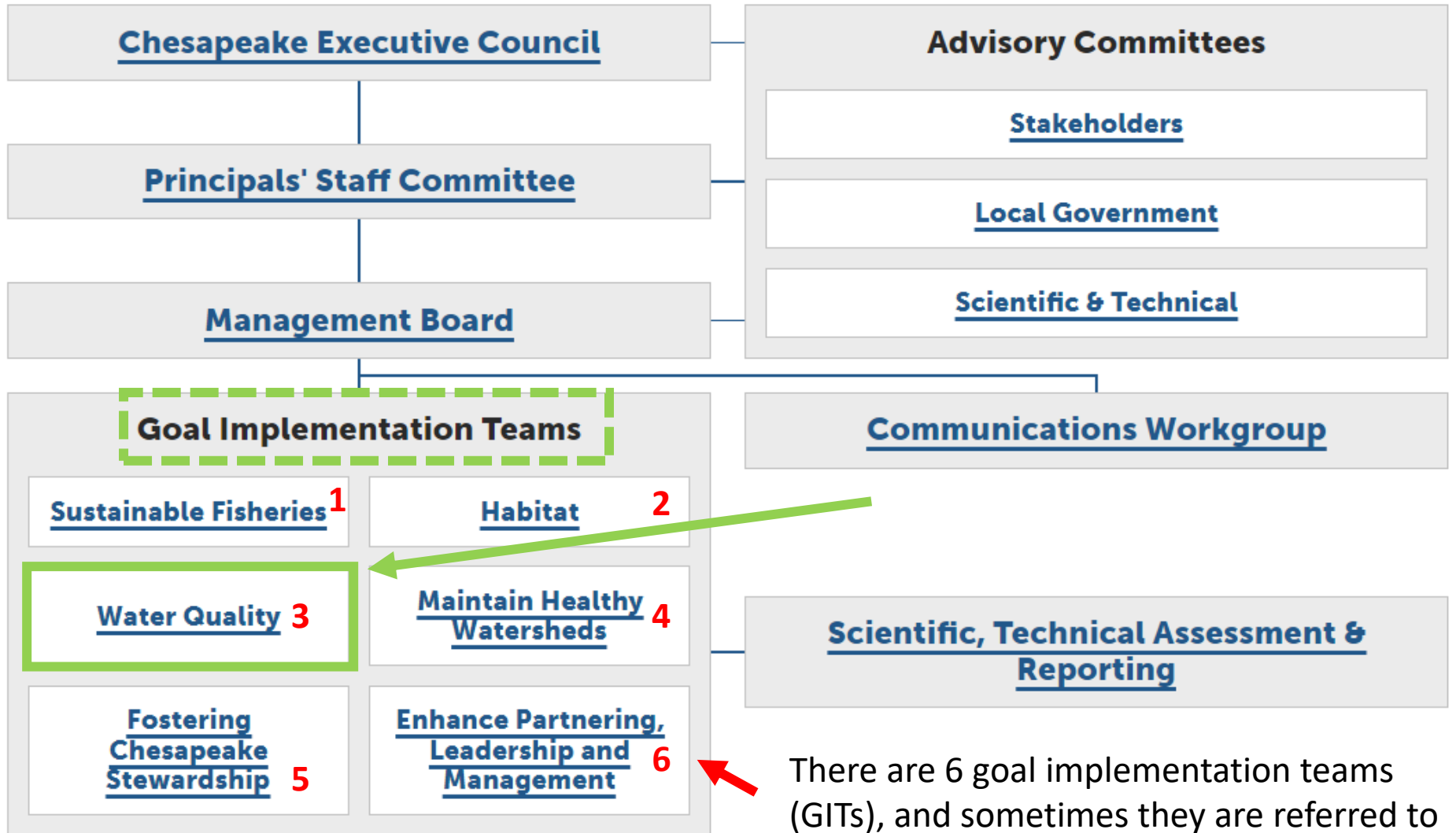- E.g., Chesapeake Bay Foundation, Nature Conservancy

Advisory Committees

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

Organization of the Chesapeake Bay Program

Chesapeake Executive Council

Advisory Committees

Stakeholders

Principals' Staff Committee

Local Government

Scientific & Technical

Management Board

Goal Implementation Teams

Communications Workgroup

Sustainable Fisheries 1

Habitat 2

Water Quality 3

Maintain Healthy Watersheds 4

Scientific, Technical Assessment & Reporting

Fostering Chesapeake Stewardship 5

Enhance Partnering, Leadership and Management 6

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)

Source Sector WGs

Workgroups (WGs)
Agriculture Workgroup (AgWG)
*Forestry Workgroup (FWG)
Urban Stormwater Workgroup (USWG)
Wastewater Treatment Workgroup (WWTWG)
Watershed Technical Workgroup (WTWG)
Land Use Workgroup (LUWG)
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)

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).

Water Quality Goal Implementation Team Members

Last updated by SHG on 07.11.2024

Chair(s) and Vice- Chair

Affiliation	Name
Chair	Suzanne Trevena (EPA)
Vice- chair	Bryant Thomas (VA DEQ)

At- large Members

Affiliation	Name
At-large	KC Filippino (HRPDC)
At-large	Joe Wood (CBF)
At-large	Emily Dekar (USC)
At-large	Kevin DuBois (DoD)
At-large	Mike LaSala (LandStudies)
At-large	

Signatory Members

Affiliation	Primary
Delaware	Holly Walker (DNREC)
District of Columbia	George Onyullo (DOEE)
Maryland	Dinorah Dalmasy (MDE)
New York	Lauren Townley (NYSDEC)
Pennsylvania	Jill Whitcomb (PA DEP)
Virginia	Bryant Thomas (VA DEQ)
West Virginia	Dave Montali (Tetra Tech)
CBC	Marel King (CBC)
EPA	Bo Williams (EPA)

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

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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?").
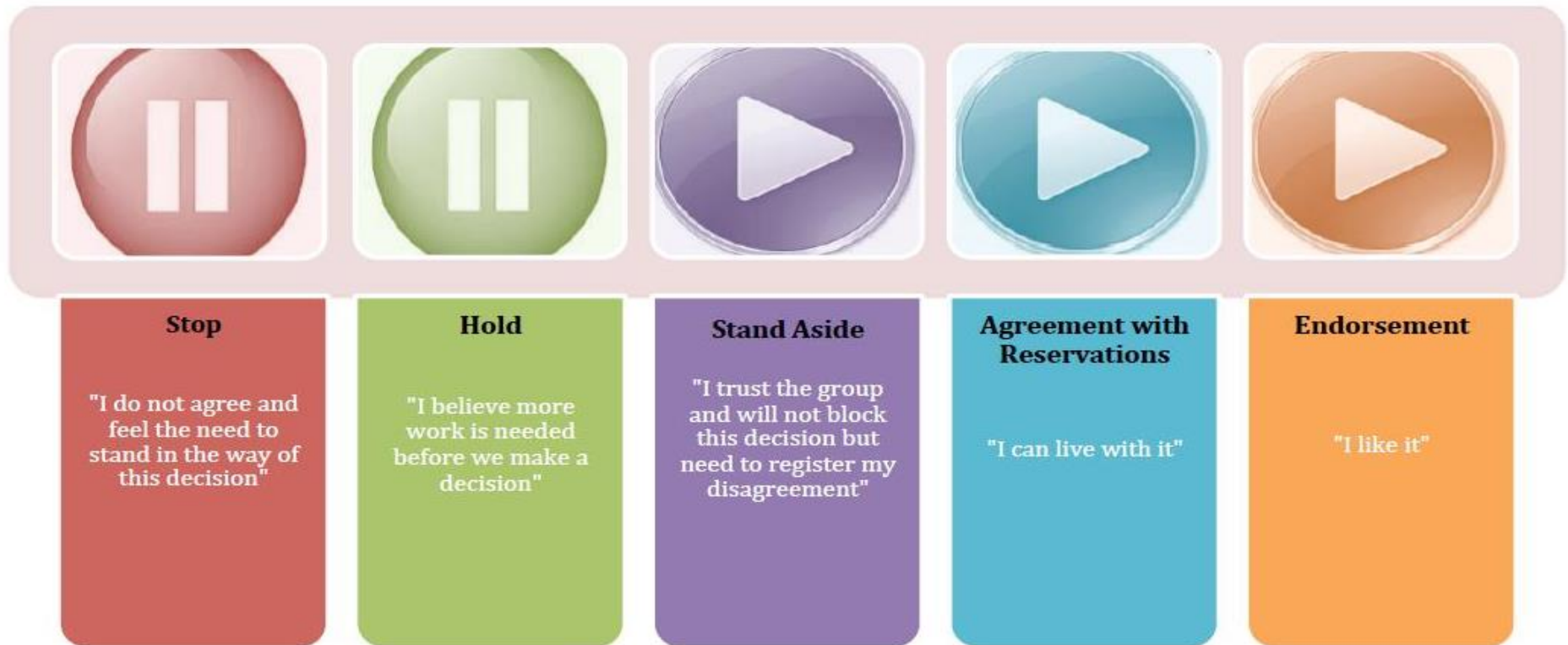
4 Identification and Addressing of Concerns

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.

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Adapted from the WQGIT Governance Protocols

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).

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CENTER FOR LEADERSHIP & ORGANIZATIONAL CHANGE
PARTNERING FOR RESULTS

Consensus Continuum

Stop	**Hold**	**Stand Aside**	**Agreement with Reservations**	**Endorsement**
"I do not agree and feel the need to stand in the way of this decision"	"I believe more work is needed before we make a decision"	"I trust the group and will not block this decision but need to register my disagreement"	"I can live with it"	"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.

Nominees accepted via email

NOV **DEC** **JAN** **FEB**

Review of Nominees

Nominees are given the chance to briefly introduce themselves and why they would make a good fit for the WQGIT.

Current Voting Membership approves new members through online poll.

WQGIT Leadership Announced

Once approved by MB, the new WQGIT leadership (Chair and Vice-chair) will begin term in February.
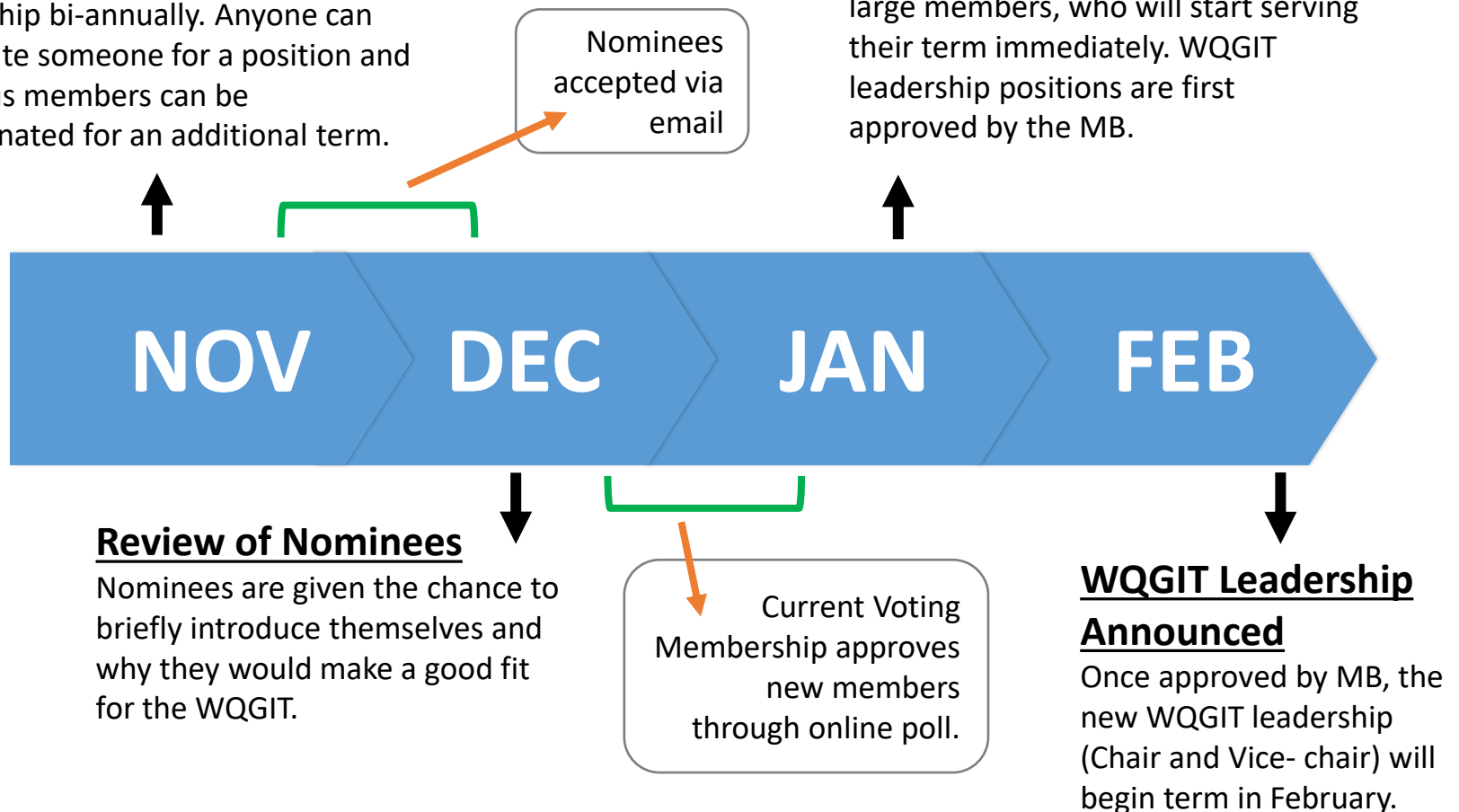
Basics about some common subjects

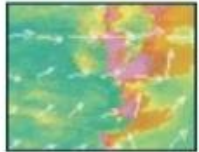What are…the Watershed Model and CAST; NEIEN; Annual progress; BMP Verification?

Chesapeake Bay Model Inputs and Outputs
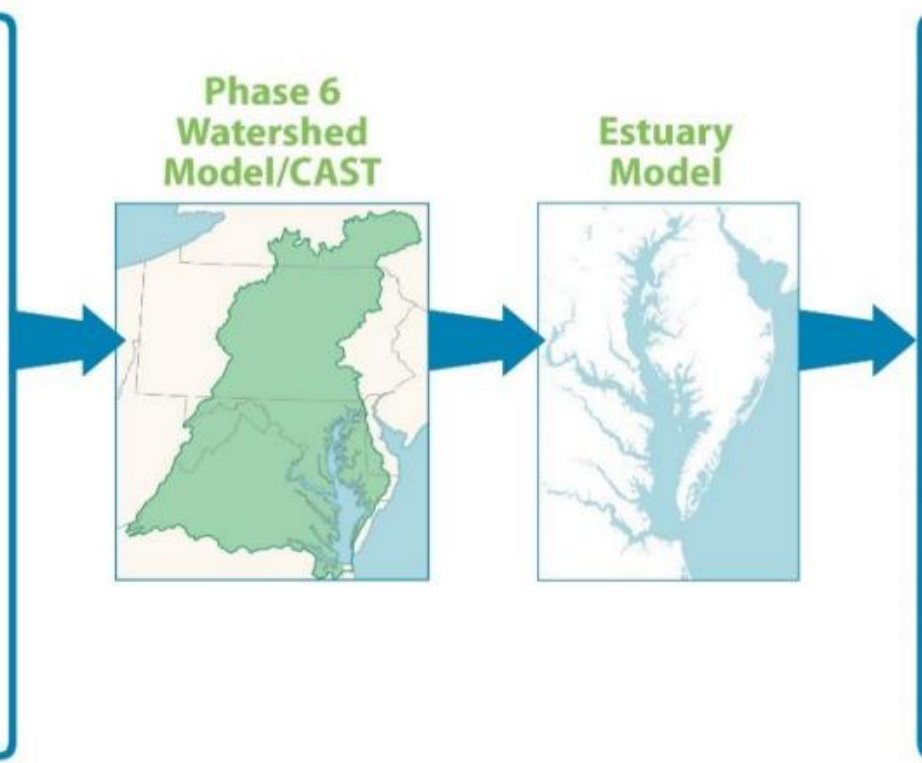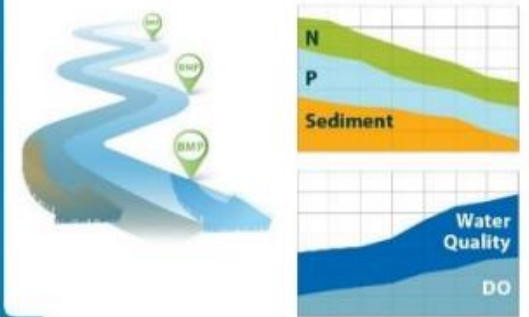
- [Chesapeake Assessment Scenario Tool](#) (CAST) is a web-based nutrient and sediment load estimator tool that allows users to access EPA's Chesapeake Bay Program Office Watershed Model.

- 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 septics 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
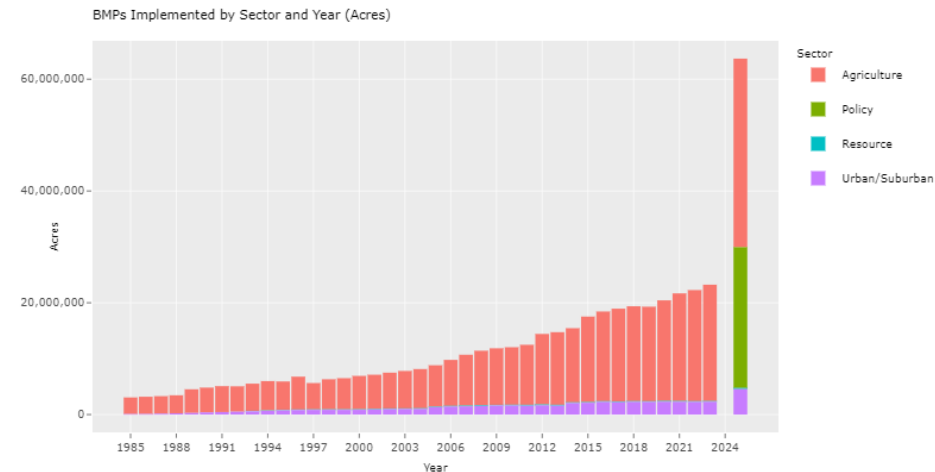
Phase 6 Model Source Data

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

BMPs Implemented by Sector and Year (Acres)

https://cast.chesapeakebay.net/Home/TMDLTracking#trendsOverTimeSection

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:
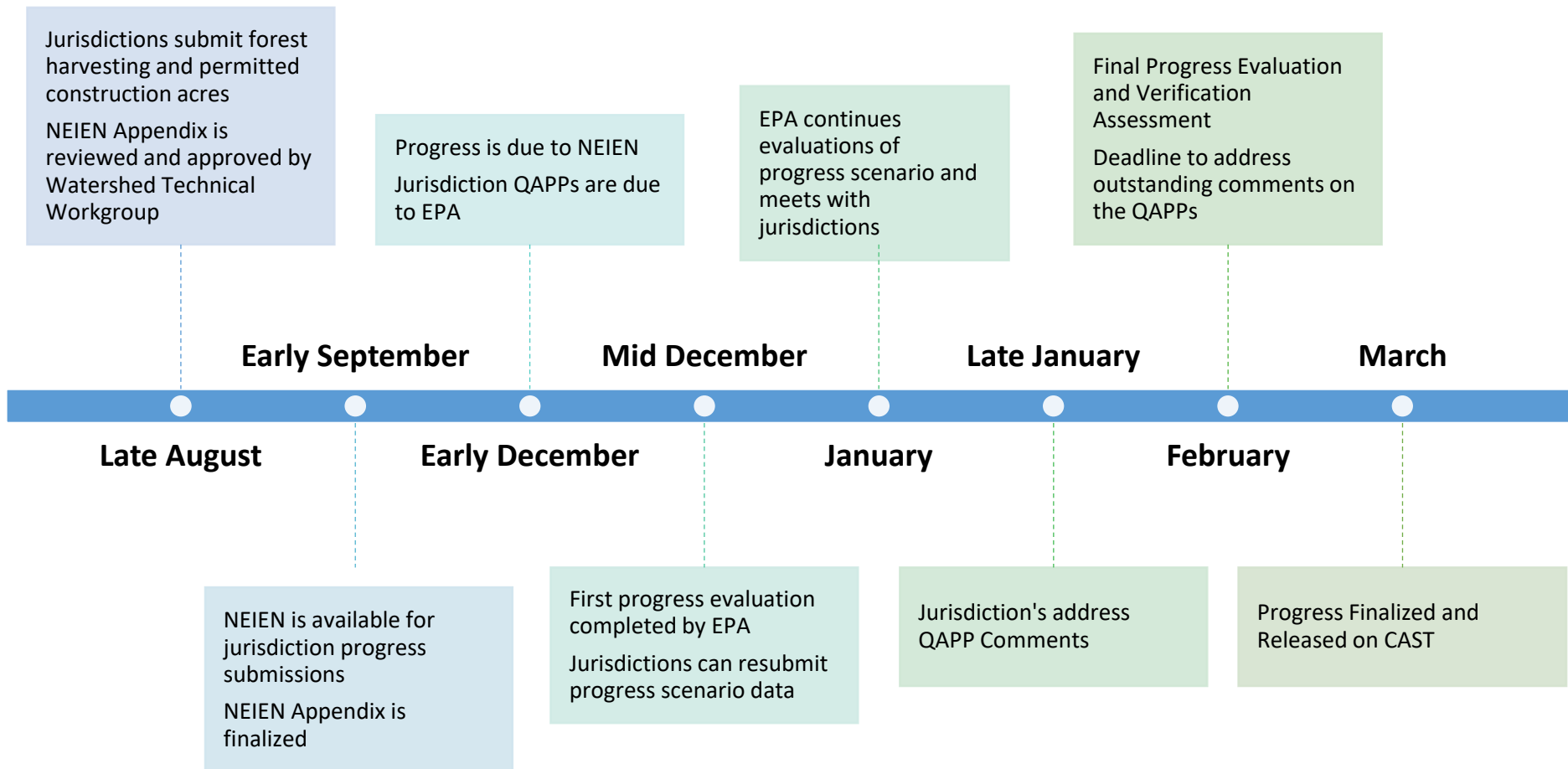- Validation Reports

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

Jurisdictions submit forest harvesting and permitted construction acres

NEIEN Appendix is reviewed and approved by Watershed Technical Workgroup

Progress is due to NEIEN

Jurisdiction QAPPs are due to EPA

EPA continues evaluations of progress scenario and meets with jurisdictions

Final Progress Evaluation and Verification Assessment

Deadline to address outstanding comments on the QAPPs

Early September   **Mid December**   **Late January**   **March**

Late August   **Early December**   **January**   **February**

NEIEN is available for jurisdiction progress submissions

NEIEN Appendix is finalized

First progress evaluation completed by EPA

Jurisdictions can resubmit progress scenario data

Jurisdiction's address QAPP Comments

Progress Finalized and Released on CAST

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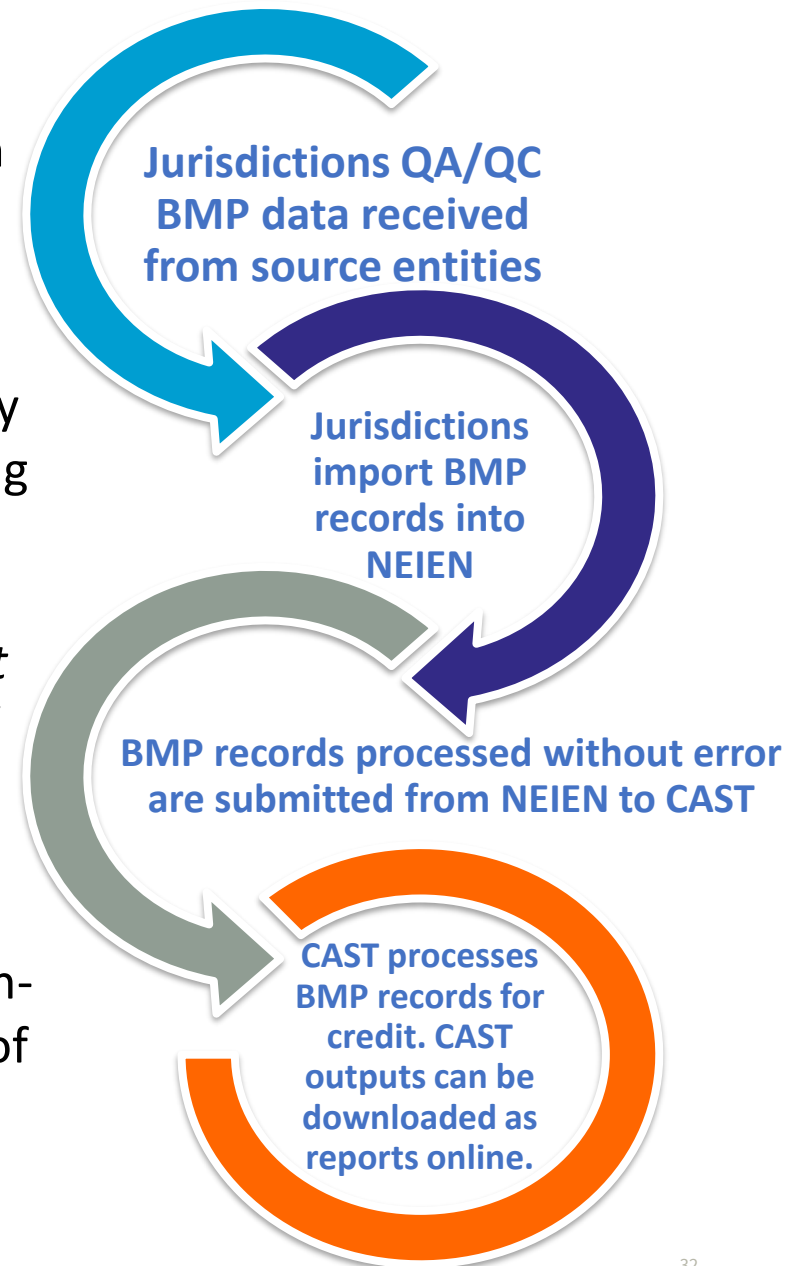
There is a system for flagging BMPs in NEIEN that have not been reinspected

- 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.

Jurisdictions QA/QC BMP data received from source entities

Jurisdictions import BMP records into NEIEN

BMP records processed without error are submitted from NEIEN to CAST

CAST processes BMP records for credit. CAST outputs can be downloaded as reports online.

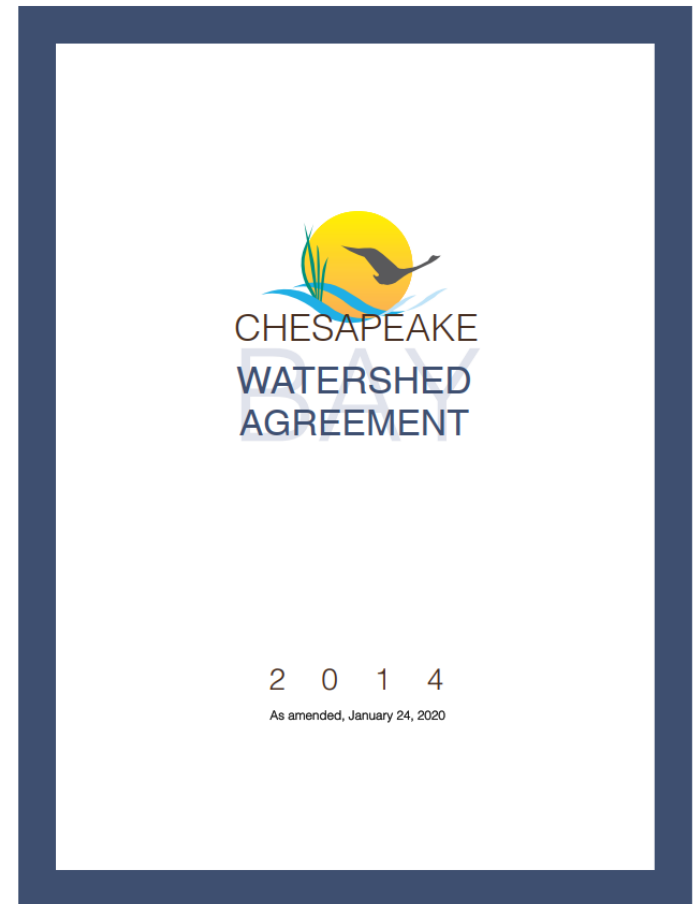# Examples of Recent Decisions and Discussions

- **Ex. 1: Adding an Integrated Watershed TMDL indicator to Chesapeake Progress**
  - Decision: Approval of addition, with the caveat that associated communication products will be published at the same time

- **Ex. 2: Review and approve BMP Expert Panel Reports (following source sector WG and Watershed Technical WG decisions):**
  - Oyster BMP Technical Appendix

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

CHESAPEAKE WATERSHED AGREEMENT BAY

2 0 1 4

As amended, January 24, 2020

Learn more about the 2014 Watershed Agreement on the CBP website

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.

CHESAPEAKE
WATERSHED
AGREEMENT
BAY

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As amended, January 24, 2020
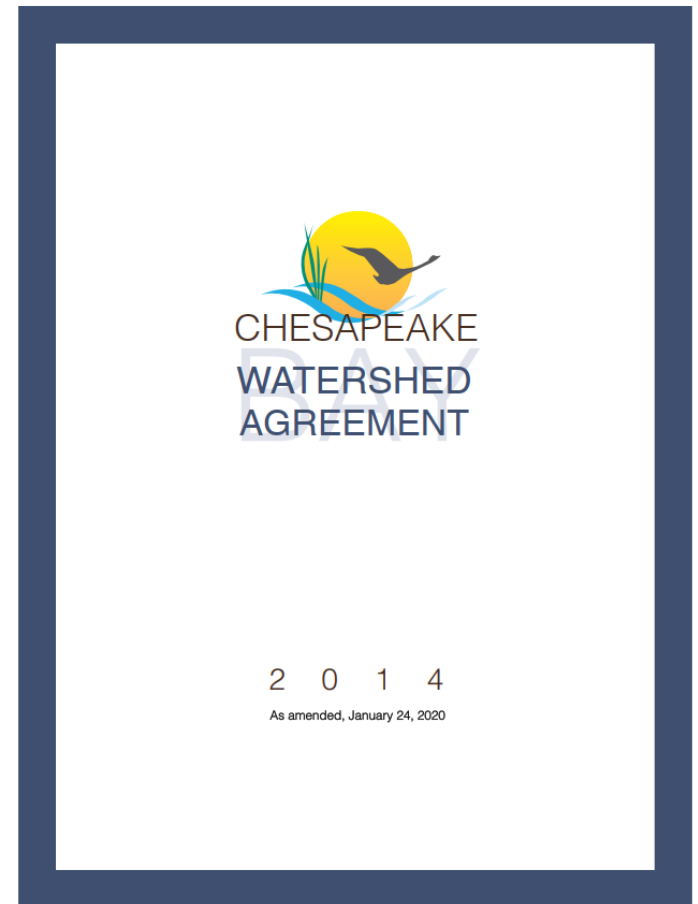
Goals & Outcomes

- 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. <u>Vital Habitats</u>
  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

<u>Underline</u> = 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:
  - Outcome Review Summary
  - Workplan
  - Presentation
- These documents inform Quarterly Progress Meetings (given to the Management Board) and summarize specific commitments, short-term actions and resources required for success.

Learn more about the Strategy Review System (SRS) process

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: November 2024

(Tree canopy is in the "local action" cohort)

You can view and filter cohorts on the Chesapeake Decisions webpage

WQGIT Leadership & Staff Contacts

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Bryant Thomas, VA DEQ/ WQGIT Vice Chair (bryant.thomas@deq.virginia.gov)

Sushanth Gupta, CRC / WQGIT Staffer* (Gupta.sushanth@epa.gov) *primary staffer for WQGIT, Watershed Technical, Urban Stormwater,, and Toxic Contaminants Workgroups

Caroline Kleis, CRC / WQGIT Staffer** (Kleis.caroline@epa.gov) **primary staffer for Agriculture Workgroup, Agriculture Modeling Team (Phase 7), Land Use Workgroup, Milestones Workgroup, and the Conowingo WIP Steering Committee

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.