Chesapeake Bay Program
Science. Restoration. Partnership.

Agriculture Workgroup

February 2025 – Office Hours

Agenda

1. Background
2. Oct 2024 – The AgWG in Context
3. Nov 2024 – Unpacking CESR
4. Dec 2024 – Deeper Dive into Beyond 2025
5. Jan 2025 – Advisory Committee Overview

1

Background

What are we doing, and why?

- Going through process of deciding how AgWG members want to spend their time
  - What topics do we want to learn more about?
  - What actions do we want to take? What decisions do we want to make?
  - *What do we want to do*?

- We've heard from members that a change in course is desired

Proposed planning process

October	November	December	January	February
What is the purpose and role of the AgWG moving forward?				
Brainstorm areas of interest, future deliverables	CESR Report	Beyond 2025	Agriculture Advisory Cmte and other CBP entities	Prioritization of interests, focus areas, at in-person meeting
What would you like to see the AgWG accomplish in the next two years?	How should findings presented in the CESR report influence the direction of the AgWG?	How might Beyond 2025 influence the direction of the AgWG?	How do we engage with the AAC, STAC, other workgroups, to best support our purpose and goals?	

2

Oct 2024 – The AgWG in Context

AgWG Scope and Purpose

The charge of the Agriculture Workgroup is to provide expertise and leadership on **development and implementation of policies, programs and research** to reduce pollutant loads delivered from agricultural lands and animal operations to upstream waters and the Chesapeake Bay. The workgroup reports to the Water Quality Goal Implementation Team.

Functions include: (see next slides)

AgWG Functions

- Provide a **forum for discussion, exchange of information and evaluation** between federal, state and local agencies, conservation districts, universities, agri-business and the corporate sector on **sustainable and/or cost-effective agricultural production systems** that benefit water and air quality.

- Provide recommendations on the **prioritization of federal and state technical and financial resources** on specific practices in priority watersheds.

AgWG Functions

- Provide technical expertise and leadership to **support the development and implementation of agricultural elements within the Chesapeake Bay TMDL, Watershed Implementation Plans, two-year milestones, and tracking and reporting mechanisms** that support an adaptive management approach towards Bay restoration.

- Coordinate with WQGIT Watershed Technical Workgroup to **identify, define, quantify and incorporate pollutant reduction and conservation practices on agricultural lands and animal operations** into the Chesapeake Bay Program decision support system. **Provide data and support** for the Water Quality Goal Implementation Team and Technical and Support Services.

What have we done previously?

- ~2014-2017
  - Leading up to the finalization of Phase 6 of the model, the AgWG functioned differently than it does now
  - At least quarterly day-long in-person meetings
  - Monthly 2-hour conference calls, with hour-long meetings in between (often 2+ meetings per month)
    - Heavy focus on BMP development for P6: expert panels
    - Guidance documents, pilot projects
    - Ag land uses, among other topics
    - Informational webinars

What have we done previously?

- ~2018-2023
  - Post P6 adoption, *temporary* shift away from model focus
  - Workgroup “areas of focus” developed in 2018
  - Resourcing/technical assistance; implementation (what works well, and what doesn’t?); soil health; STAC workshop opportunities
- Ag Modeling Team established in 2022
  - “Provide agricultural modeling assistance to support the AgWG through the development of the Phase 7 (WSM) inputs.”

Workgroup Areas of Focus				
Accounting & Reporting	Implementation	Innovation	Data & Modeling	CBP Assignments

What have we done previously?

- Past year (Oct 2023 – Sept 2024)
  - Only decisions related to Agroforestry EPEG
    - Ongoing projects will require decisions
  - Primarily informational presentations:

Research	CBP Updates	Partner-led Projects	Data Discussions	Funding Opportunities
USGS small ag watersheds/monitoring study	Beyond 2025 overview	PADEP, VADCR accounting and data-sharing pilots	Ag Census	NFWF Chesapeake Bay Stewardship Fund
“Remote sensing day”	Ag Advisory Committee overview	PADEP remote sensing pilot	Poultry industry data	
Thriving Ag				

What we've heard

The AgWG is too model-focused; we could be doing more.

Interested in talking about: strategies for accelerating implementation; monitoring; "success stories", ongoing ag-related projects/research.

Informational presentations should emphasize how the work being presented ties into the work of the various members of the partnership represented on the AgWG.

There is an imbalance in understanding of past decisions among members; there is no place to go to easily figure out what the group did in the past.

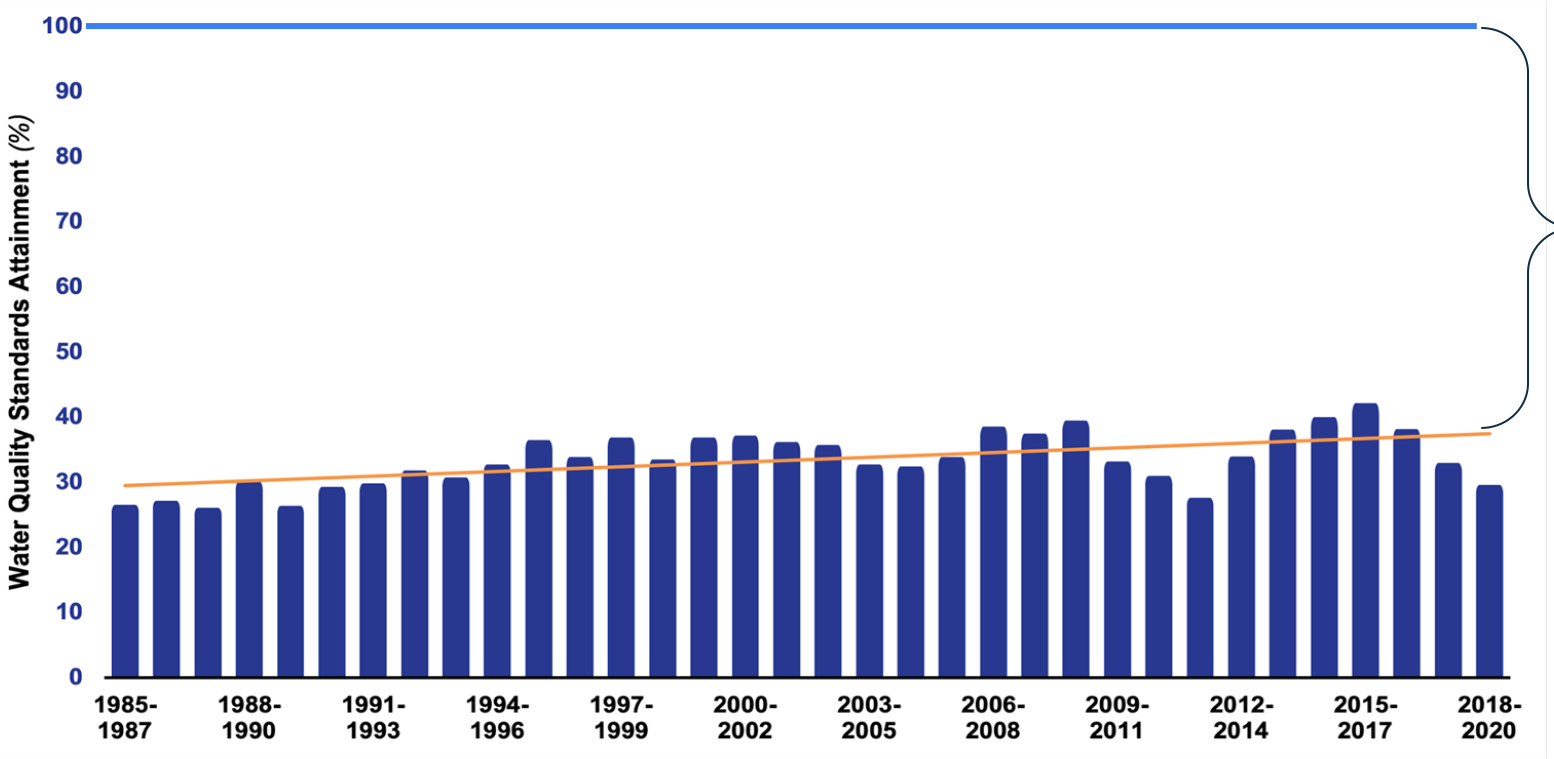
Model talk is overwhelming, but there is a time and place for it.

It's easy for us to get stuck in the weeds.

3

Nov 2024 – Unpacking CESR

Motivation for the report



Why?

CESR (comprehensive evaluation of system response) Themes

Many accomplishments and successes,
but goals more difficult to achieve than expected

Opportunities to improve outcomes,
but requires policy change

Acknowledge & address uncertainty

CESR highlights for this group

Findings

Meeting the TMDL depends on nonpoint sources, but current policies have not generated the scale of reductions needed

Actionable Ideas

1. Accounting for Outcomes
2. Mass Balance
3. Target Investments
4. Pay for Success/performance
5. Tiered Implementation of the TMDL

Findings

Meeting the TMDL depends on nonpoint sources, but current policies have not generated the scale of reductions needed

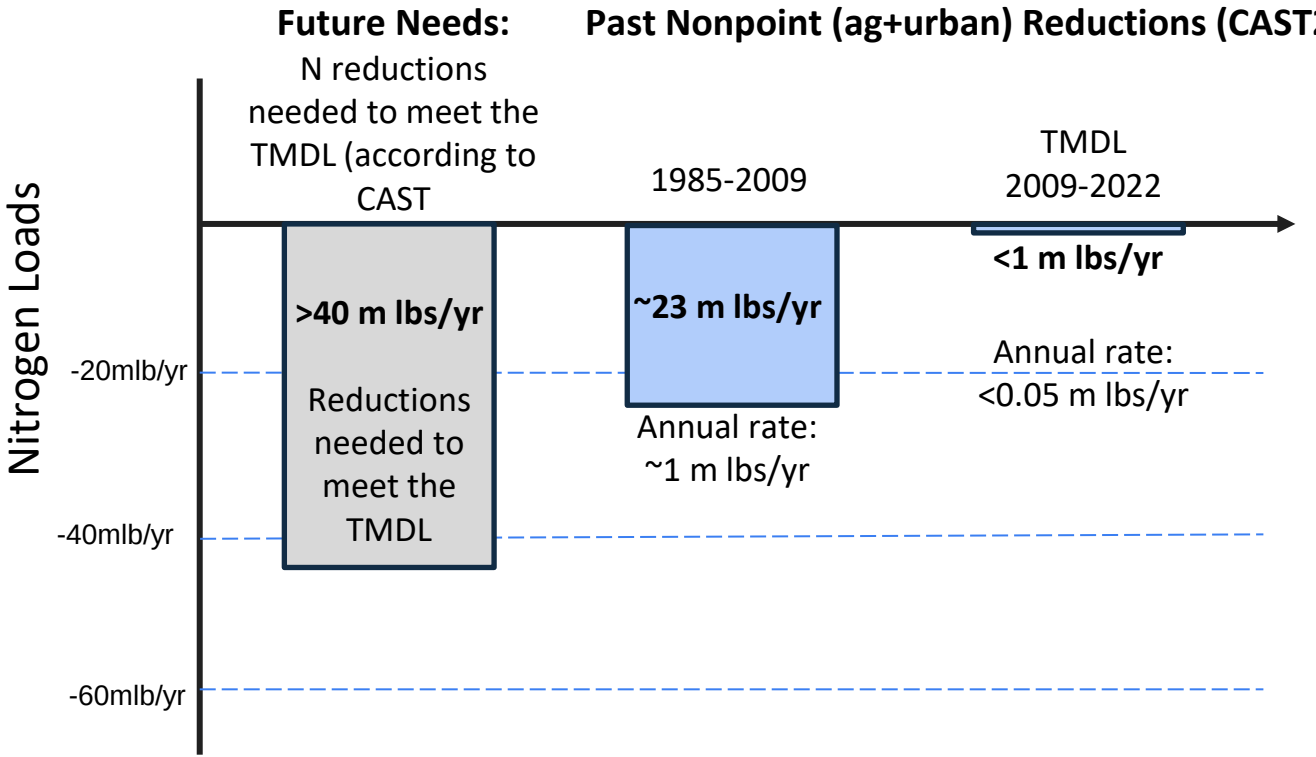
Implementation Gap

Response Gap

Uncertainty

Implementation Gap

Nitrogen



Response Gap

Nonpoint source load reductions may not be occurring at the levels predicted

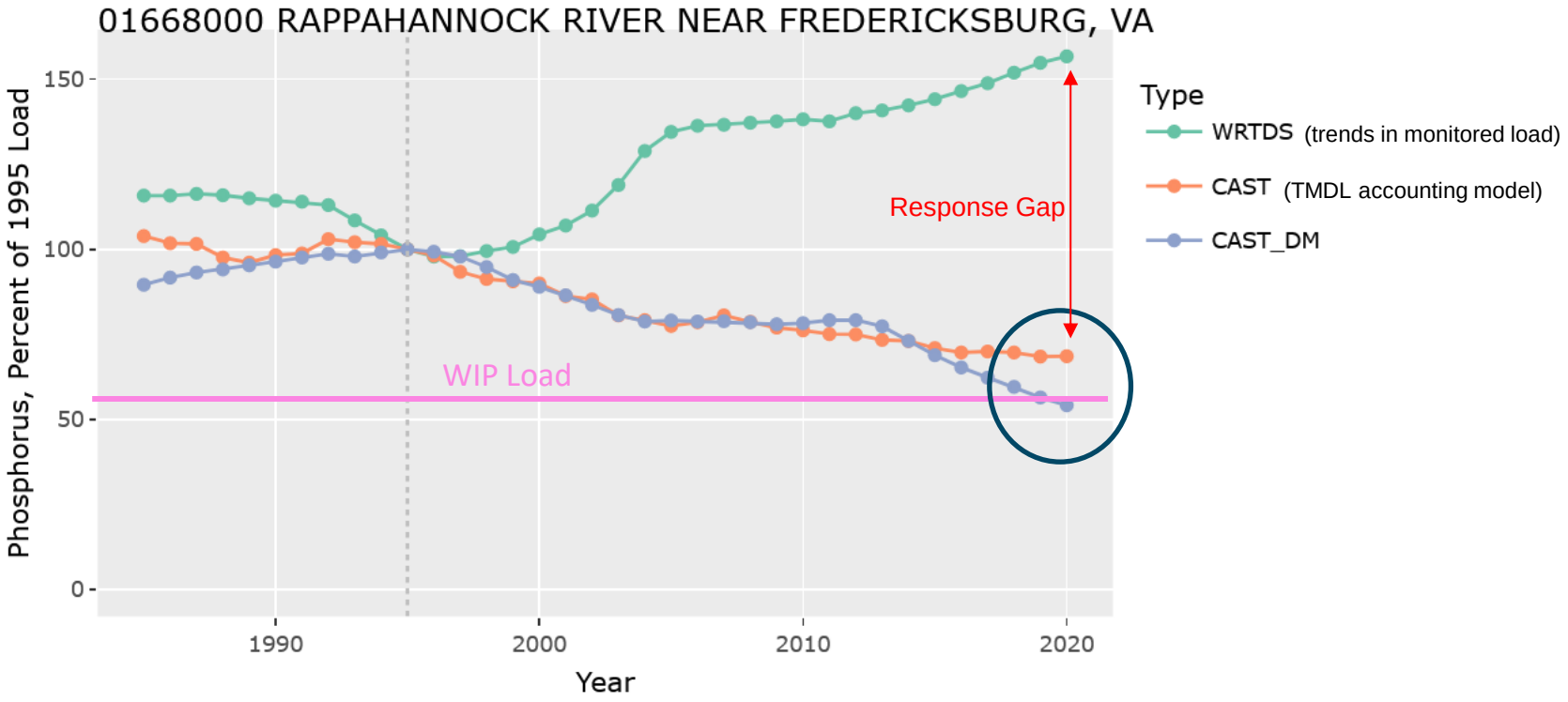
Response Gap:
Phosphorus

Long term Trends in Total Phosphorus Loads

River	Monitoring Observations	CAST Model
Susquehanna	–	↓
Potomac	↓	↓
Choptank	↑	↓
Patuxent	↓	↓
Rappahannock	↑	↓
Mattaponi	–	↑
Pamunkey	↑	↓
James	↓	↓
Appomattox	↑	↓

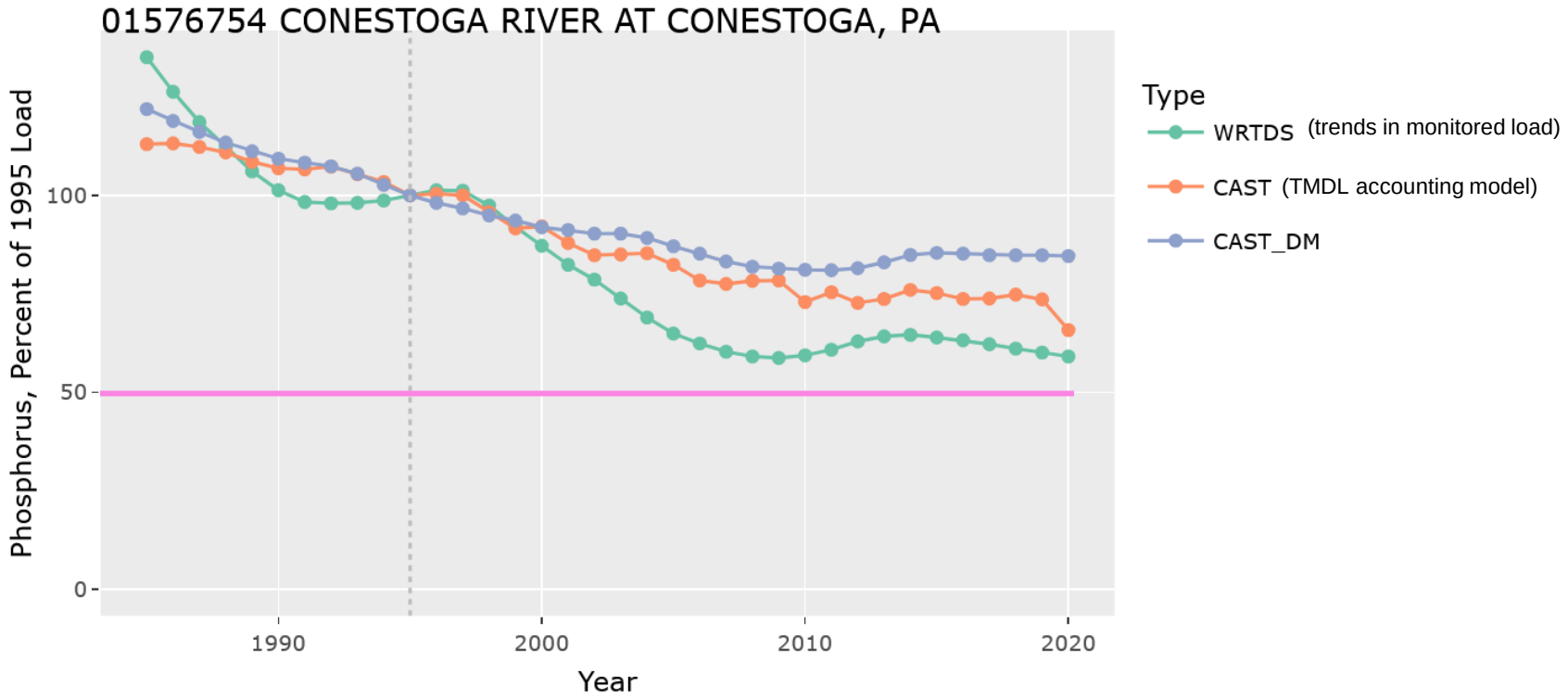
Increasing Loads	Decreasing Loads

Response gap
Ex P trends Rappahannock



Source: https://zhangqian0324.shinyapps.io/CBNTN_TMDL_Indicator/

Response gaps aren't everywhere!
P Trends Conestoga, PA



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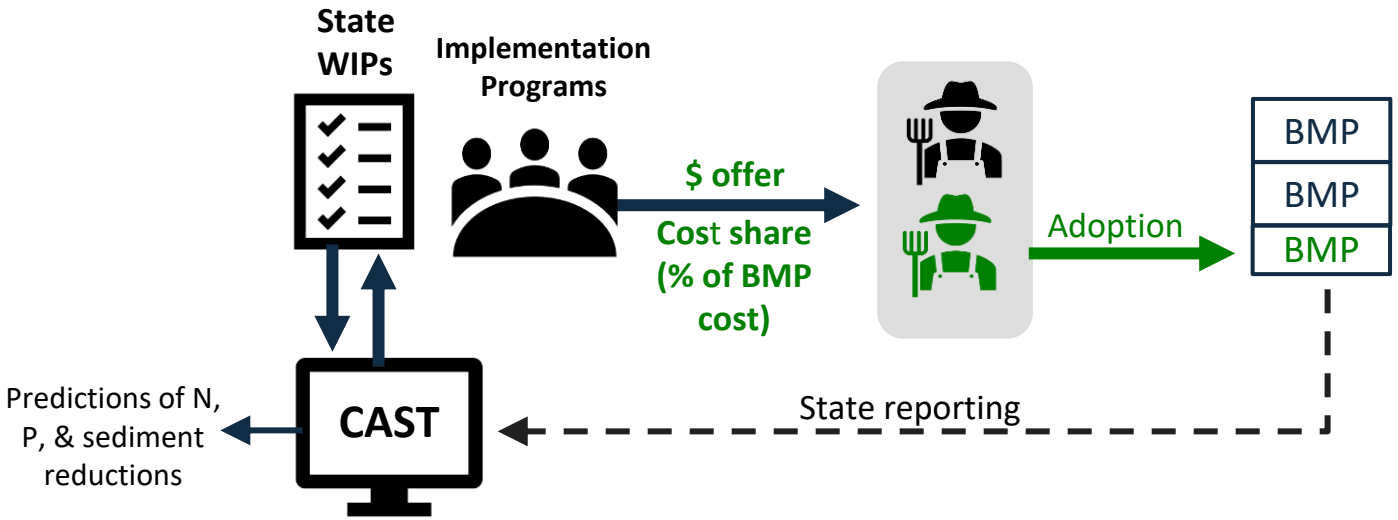
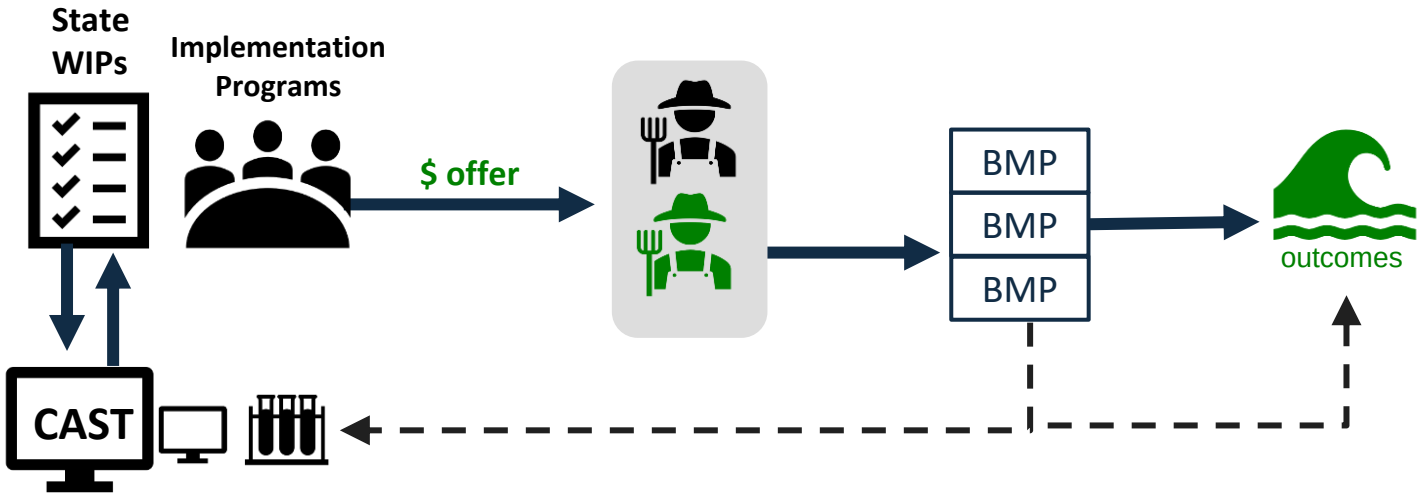
Nonpoint Source Policy



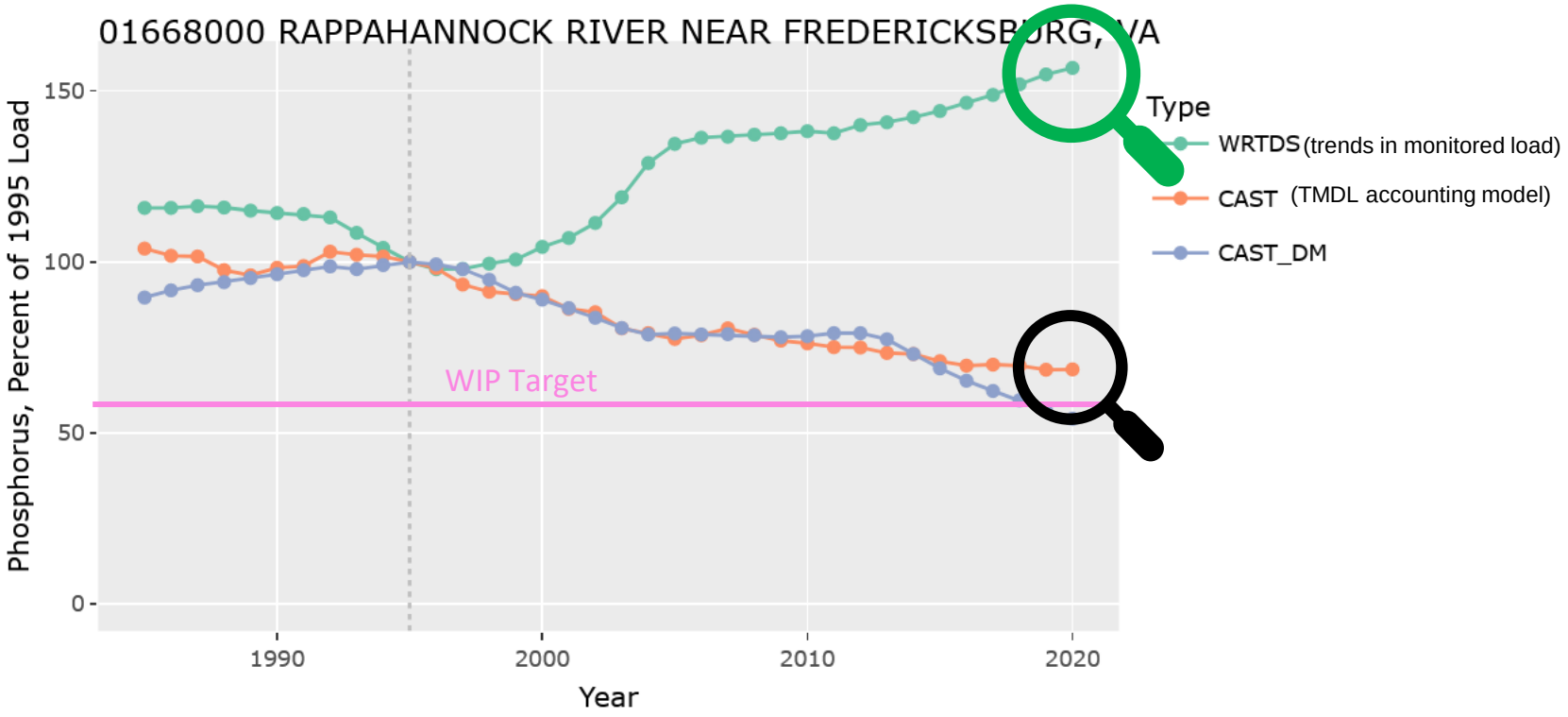
CESR Actionable Items

1. Accounting for Outcomes

Nonpoint Source Accounting and Accountability



Response gap
Ex P trends Rappahannock



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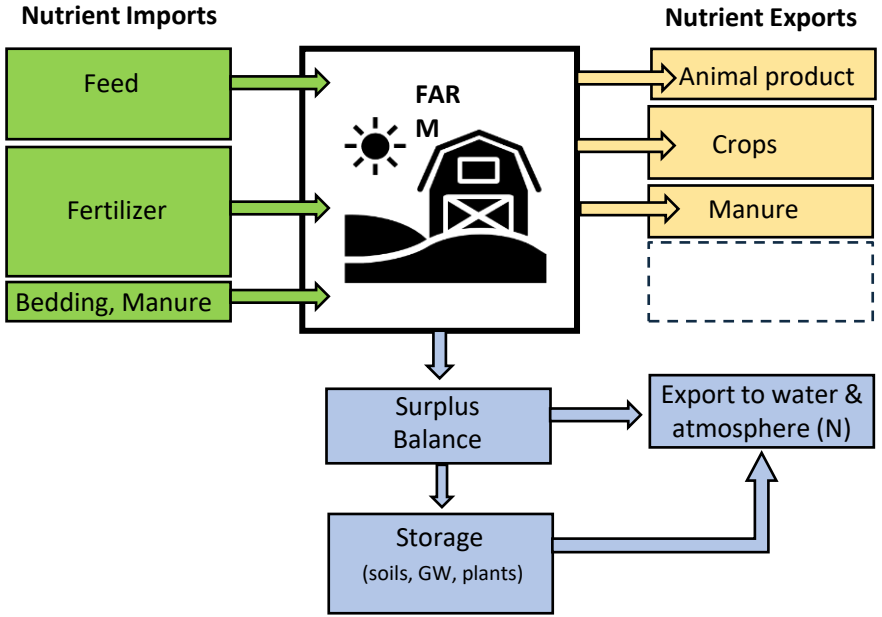
CESR Actionable Items

1. Accounting for Outcomes
2. Mass Balance

Nutrient Mass Balance



Inputs = Outputs ± Storage

Showcase Watershed: Smith Creek VA

Over past 3 decades, the number of animal units increasing

Over past 3 decades, 4x increase in # of BMPs installed in watershed

Pictured: riparian buffer at headwater spring

Result:

TN and TP loads increasing over time

Source: Webber et al, 2024, Evaluating Water-quality Trends in Agricultural Watersheds prioritized for best management practice implementation, *J of the Amer. Water Resources Association.*

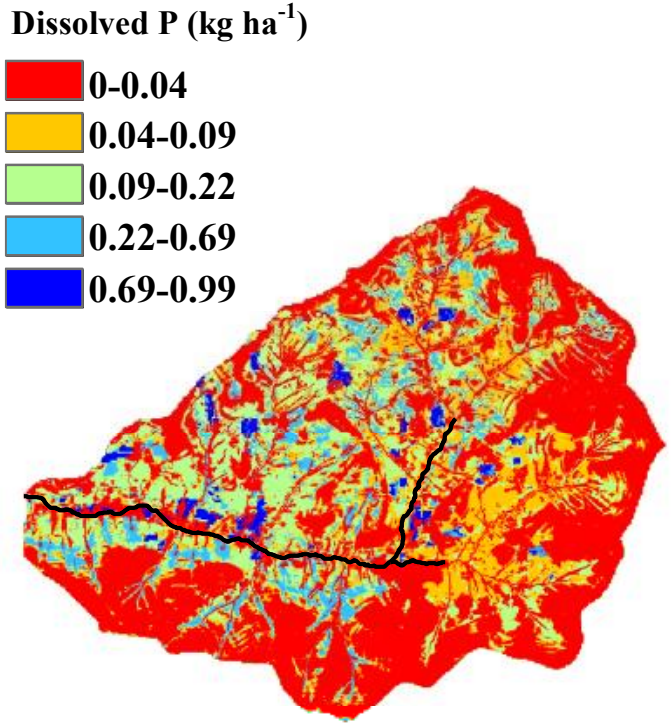
CESR Actionable Items

1. Accounting for Outcomes
2. Mass Balance
3. Target Investments

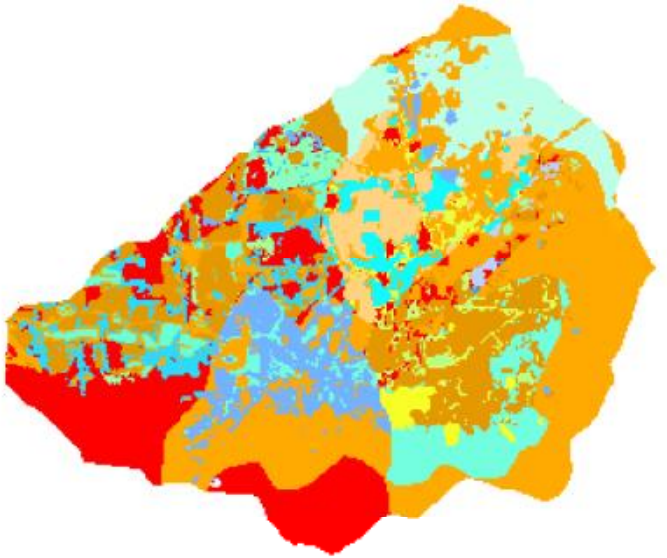
Phosphorus loads under different assumptions

Both have the same aggregate P load

Would you manage any differently if you assumed one or the other?



Loads under site specific conditions



Loads under average conditions

CESR Actionable Items

1. Accounting for Outcomes
2. Mass Balance
3. Target Investments
4. **Pay for outcomes/performance**

Incentivize Outcomes

Cover crops

Livestock Exclusion Fencing

Bioreactor

Low upfront installation costs
Some private benefits

High up front installation costs
No private benefits

Partially compensate for cost => a pattern of participation and adoption

Compensate for outcomes => different pattern of participation and adoption?

CESR Actionable Items

1. Accounting for Outcomes
2. Mass Balance
3. Target Investments
4. Pay for Success/performance
5. **Tiered Implementation of the TMDL**

CESR Suggestion: Tiered Implementation of TMDL

Maintain bay water quality goals and TMDL,

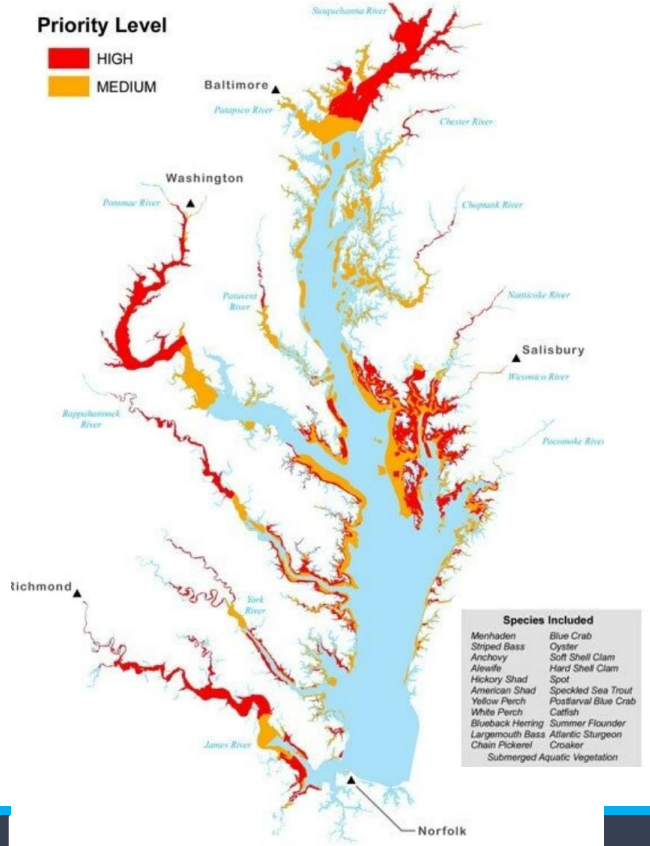
but “tier” implementation based on:

- Staggered timelines
- Intermediate nutrient goals that achieve WQ improvements in areas that have largest living resources impact.

(CESR, p 82-83)

Tiered Approach to Implementation

Example of Prioritization based on potential living resource impact (Source: Chesapeake Bay Program, 2009)



Timeline

Intermediate goal: ex. 10-15 years

Approach

Intermediate nutrient targets based on living resource potential, while acknowledging:

- interdependence across areas (including progress in main channel);
- importance of local, non-WQ living resource factors/stressors.

4

Dec 2024 – Beyond 2025

Beyond 2025 Recap

- CBP Watershed Agreement defines 31 outcomes that contribute to the achievement of its 10 goals
  - Several of these outcomes will not be achieved by their 2025 “deadline”
- October 2022 – Executive Council charged Principals’ Staff Committee with recommending path forward prioritizing and outlining next steps for meeting Watershed Agreement goals and outcomes
- June 2023 – Beyond 2025 Steering Committee first convened
- July 2024 – Steering Committee Report first released, detailing recommendations to be elevated to the EC
- December 2024 – EC approved charge with ‘next steps’ in B25 process

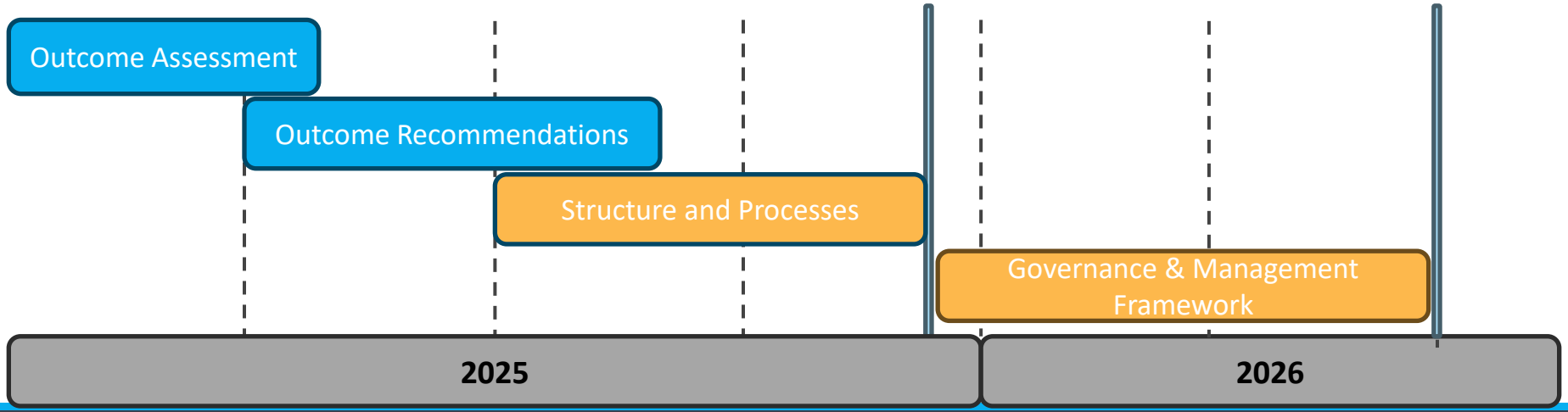
Outcome Review and Priority Projects – Prep for Phase 2

- Two ongoing processes for phase 2
  - Outcome review
    - Determining what to do with each of the 31 outcomes in current WA (consolidate, reduce, update, remove, replace); add new outcomes?
    - Reminder: the AgWG currently supports the Water Quality Goal Implementation Team in achieving the 2025 WIP outcome
  - Identifying priority projects
    - **Management Board requests that the Phase 1 recommendations be broken into discrete projects to be considered and potentially assigned to goal teams and workgroups.**

Phase II Charge

"…direct the Principals' Staff Committee to complete the following by December 1, 2025:

1. Revisions to the 2014 Chesapeake Bay Watershed Agreement with modifications to the existing vision, principles, preamble, goals, and **outcomes…"**
2. …Recommending this simplified and streamlined **partnership structure and processes** to the Executive Council in as much detail as possible…"
3. Subsequent changes which incorporate this revised structure and processes into the **Governance and Management Framework** for the Chesapeake Bay Program do not need to occur until June 2026.



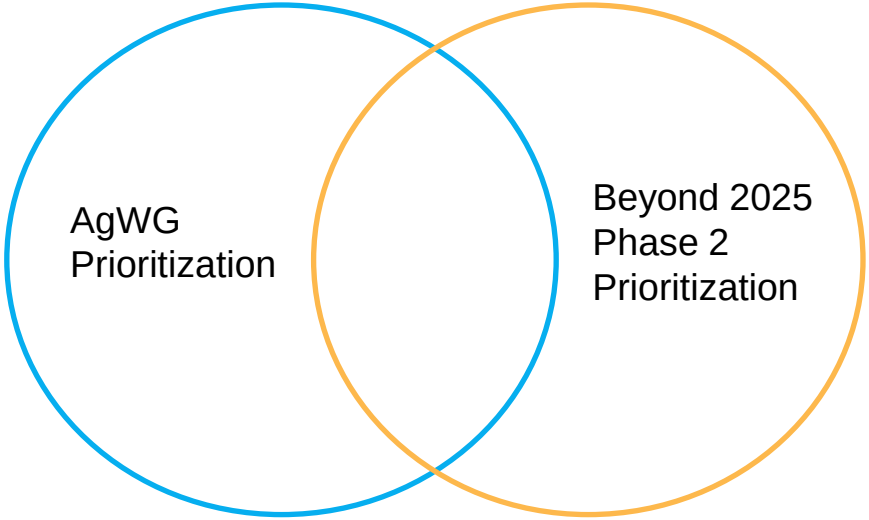
What does this mean for us?

Outcome Review

- Potential changes to WQGIT outcomes
- Possible introduction of new outcomes

Identifying Priority Projects

- Evaluate list being discussed at GIT level
- Determine what, if anything, the workgroup would like to contribute



Small Group Recommendations and Priority Assignments

Small Group Recommendations	Priority Assignments
CW3 – Enhance use of monitoring/assessment HW1 – Data, Tools and Monitoring	Water quality monitoring data incorporation (p.11) Monitoring Network – Funding the Future (p.21)
CW4 – Increase nonpoint source management implementation; address mass imbalance	**BMP Verification – Remote Sensing (p.5)** Geographic targeting: BMP implementation (p.20) **NPS incentivization-tracking-communicating (p.8)**
CW5 – Expand support for local government capacity HW3 – Local Engagement P2 – Connect CBP priorities to the needs of people P4 – Create intentional partnerships	**Network strategy for capacity building (p.14)** Social science incorporation (p.15)
C3 – Promote carbon stewardship actions	
C5 – Promote regenerative agricultural production	
HW5 – Outcomes-based approach	
CW1 – Revise Accountability Framework	*Future planning efforts – WIPs/Milestones (p.6)*
CW2 – Adopt tiered approach to TMDL	*Tiered implementation targets (p.9)*

Small Group Recommendations

Clean Water Small Group Recommendation #4

- Increase and incentivize nonpoint source management implementation and identify, track, and address nutrient mass imbalances.
  - How-to strategies (phase 2 actions):
    - Incentivize actions and approaches to small-scale watershed restoration and identify nonpoint source BMPs that are most important to water quality improvement through providing funding and staff resources, targeted and enhanced water quality monitoring, and communicating importance of these efforts through the social science lens through use of demonstration sites, workshops, etc.
    - Dedicate federal and state staff time and resources to connect CWA 319(h) and CBP. Develop state-supported recommendations to integrate the programs.
    - Identify and support partnership-endorsed approach to tracking mass imbalances.

Small Group Recommendations

Clean Water Small Group Recommendation #5

- Expand support for local government capacity.
  - Identify opportunities to expand on existing local liaisons programs that connect, empower, and inform the federal, state, and local partners to grow awareness, educate, provide administrative and technical assistance, and increase implementation efforts across the watershed.
  - How-to strategies:
    - Identify existing networks within and outside of the CBP partnership
    - Co-produce assistance tools to maximize local utility and application complementing regional management needs
    - Develop/expand on a network of networks to connect small watershed groups throughout the CBW and share best practices
    - Identify successful small watershed groups, what's working, what's not, and how successful programs can be replicated throughout the watershed

Small Group Recommendations

Climate Small Group Recommendation #5

- Promote regenerative agricultural production and regionally based food systems in the Chesapeake Bay Watershed.
  - This is a long-term recommendation that, to fully realize, would require a systems-based, sustained approach. However, incremental steps to lay the groundwork will also benefit the partnership's current water quality and watershed restoration efforts.
  - How-to strategies:
    - Identify specific stakeholders to engage who are currently involved with efforts to develop regenerative and regional based food systems across multiple sectors
    - Evaluate the potential to develop a soil health outcome and new indicators to measure success that take carbon storage, sequestration, emissions reductions and other benefits into account.
    - Determine how the partnership's various groups and work products could be more strategically utilized to support regenerative and regional food systems.

Draft Priority Assignments

- **BMP Verification – Remote Sensing** (page 5 of priority assignments document)
  - Assigned to WQGIT and its workgroups
  - “Develop methods to remotely sense as many BMPs as possible. Utilize remote sensing as the primary mechanism for all BMPs in the list so that future re-verification is completed by remote sensing.”
  - Assignments
    - Develop list of candidate BMPs for remote sensing-based verification
    - Develop rules for verification of remotely sensed BMPs

Draft Priority Assignments

- **NPS incentivization-tracking-communicating** (page 8)
  - Assigned to WQGIT and its workgroups
  - “Investigate methods to incentivize Non-point source (NPS) pollution reductions, track and highlight innovation, and develop communication materials that display all activity initiated since the TMDL or Mid-point assessment.”
  - Assignments
    - Strategize and develop new/innovative options for scaling up and incentivizing NPS pollution mitigation
    - Develop options for gathering information on NPS mitigation activities (new programs, new funding, scaled up implementation effort) from jurisdictional partners to highlight activities occurring throughout the watershed

Draft Priority Assignments

- **Network strategy for capacity building** (page 14)
  - Assigned to Stewardship GIT, STAC, SET *
  - “Create intentional partnerships with networks focused on issues related to Watershed Agreement goals.”
    - These organizations are already connected to and have trusted relationships with key demographics of people (e.g., farmers,) and can help to not only engage these audiences in the restoration effort more but serve as a feedback loop to the Partnership on their needs and concerns.
  - Assignments
    - Research the existing networks across the watershed, identifying their role, audience, operating area, and gaps in existing networks
    - Determine capacity needs of existing networks to support the work of the partnership and foster connections at the local level

5

Jan 2025 – Advisory Committee Overview

What is most relevant to us?

- Top priority: remaining aware of activities related to the Ag Advisory Committee
  - No updates since last meeting

- Three other CBP Advisory Committees: all potentially relevant to our work
  - *Local Government* Advisory Committee (1987)
  - *Scientific & Technical* Advisory Committee (1984)
  - *Stakeholders'* Advisory Committee (1984)

- Existing Advisory Committees have expressed interest in working closely with the AAC, particularly as it is getting started

Advisory Committees: background, and what they *all* do

- Three ACs established in 1980s to “provide independent perspectives from critical stakeholder groups and strengthen the natural and social science basis for Bay protection and restoration activities” and act as “the independent thinkers and advisors to the Executive Council (EC), Principals’ Staff Committee (PSC), and Management Board (MB).”

- Several responsibilities consistent across the three ACs (full list on p.21 of CBP governance document):
  - Make independent **recommendations** to the EC, PSC, and MB [annual report]
  - Participate in EC, PSC, and MB meetings as advisors; provide updates on AC activity
  - Participate in **development and implementation of Management Strategies** developed as part of the Watershed Agreement as appropriate
  - Establish annual **priorities that support CBP strategic priorities** and the progress of the Agreement Goals and Outcomes
  - **Advise the GITs** and the Action Teams as needed

Local Government Advisory Committee

- Purpose: advise the Executive Council on how to effectively implement projects and engage the support of local governments to achieve the goals of the Bay Agreement through 1*) sharing the views and insights of local elected officials with state and federal decision-makers* and 2) *enhancing the flow of information among local governments*.

- Goals (not an exhaustive list):
  - Promote ongoing communication and engagement between local govts and CBP
  - Promote local govt implementation of local water quality/quantity initiatives
  - Champion local govt priorities/needs within the CBP and with state, fed partners

Local Government Advisory Committee

Events

- Local Government Forums
  - Annual meetings hosted by LGAC, Alliance for the Chesapeake, NFWF
  - Identify issues that limit/strategies that support local implementation of watershed protection initiatives
  - Roundtable: Lancaster Clean Water Partners & Campbell Foundation

- Wandering Waterways Tour Series
  - Bringing local elected officials to *see* conservation in practice
  - Wandering Delmarva's Waterways – benefits of BMPs; impacts of saltwater intrusion; value of ag land preservation

Local Government Advisory Committee

Resources

- Protect Local Waterways Website
  - Bay restoration resources tailored to the communication needs of leaders in local government; Learning Library: Understanding and Supporting Ag Allies

- Watershed Currents Newsletter
  - Bimonthly distribution of local case studies and informational resources

Scientific & Technical Advisory Committee (STAC)

- Purpose: provide scientific and technical advice and guidance to the CBP Partnership on measures to restore and protect the Bay and its watershed.

- Functions:
  - Publish technical reports and white papers
  - Conduct reviews of CBP products
  - Host technical workshops
  - Serve as liaison between the scientific community and CBP

Scientific & Technical Advisory Committee (STAC)

- Workshops – forum for developing recommendations from scientific/technical community on information needs, opportunities for collaborations, and further management actions.
  - Using carbon to achieve CBW water quality goals and climate resiliency (biochar workshop; 2024)
  - Identifying knowledge gaps to support market-based approaches to CBW restoration (2025)
- Programmatic workshops – outcomes provide Partnership with actionable recommendations assessing where, when, who and how science can be implemented

- State of the Science workshops – gather stakeholders to assess gaps in knowledge and science needs around a specific topic, producing research recommendations and strategies to address gaps

Stakeholders' Advisory Committee

- Purpose: advise the EC, PSC, and MB on policies and programs impacting residents in the Chesapeake Bay watershed.

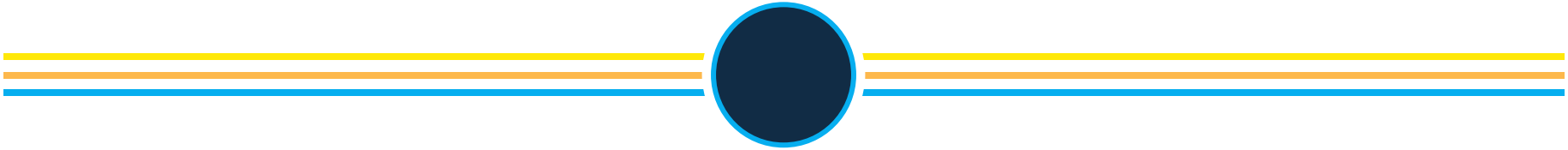
- Priorities (not an exhaustive list):
  - Monitoring progress toward achieving TMDL water quality goals, outcomes in Watershed Agreement; accountability, transparency in restoration process
  - Agricultural challenges and opportunities
  - Impacts of large-scale solar development

Stakeholders' Advisory Committee

- Few members interact directly with CBP workgroups – this may change

- Ag interest is represented on the AC, but it is one of many interests
  - Collective desire among group members to protect working lands and sustainable agriculture within context of accountable progress toward CBP water quality/living resources goals

- Engagement activities not presented online
  - Often informal engagement through members' networks
  - Hosted farmer panel to discuss efficacy of nutrient management plans
  - Hosted large-scale-solar development panel discussing pressures of solar on farmland and agrivoltaics potential



What Next?

Tune in on Thursday!