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Overview of Management Strategy Worksheet Responses

CWGT Hybrid Meeting | June 22nd, 2026

Background

- Workgroup and Outcome leads were asked to develop initial thoughts on the Outcome-level sections of the Management Strategy
- Worksheets were received in early June.
- Consider these the thoughts of workgroup leadership, as some groups have not been able to solicit feedback from their full workgroup yet.
- This will continue to be an iterative process, with continued feedback between Goal Team and workgroups.

Worksheet Questions

- How would you summarize or describe the **current situation** for your outcome? I.e., what's the message of where we are right now?
- How would you summarize or describe **past accomplishments** or effort towards your outcome? I.e., what's the message of where we've been and/or how far we've come?
- Do you have initial thoughts on new **indicators** that may be needed for your outcome under the revised CBWA? Do you have ideas or suggestions on how we may more effectively utilize any of our existing indicators?
- What are your key **gaps or challenges**?
- Do you have specific **tasks, needs or priorities** that are already on your radar for the upcoming months or years?
- Consider the outcome and targets stated in the CBWA, and the gaps, challenges and other tasks/needs you described above. Please brainstorm **potential Management Approaches** that can guide the partnership

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Reducing Excess Nitrogen, Phosphorus and Sediment

Jeremy Hanson, CRC

RENPS Outcome and Targets

Implement and maintain practices and controls to reduce nitrogen, phosphorus and sediment. These reductions are necessary to achieve the applicable water quality standards, as described in the Bay TMDL. Those water quality standards support living resources and protect human health, as required by the Clean Water Act.

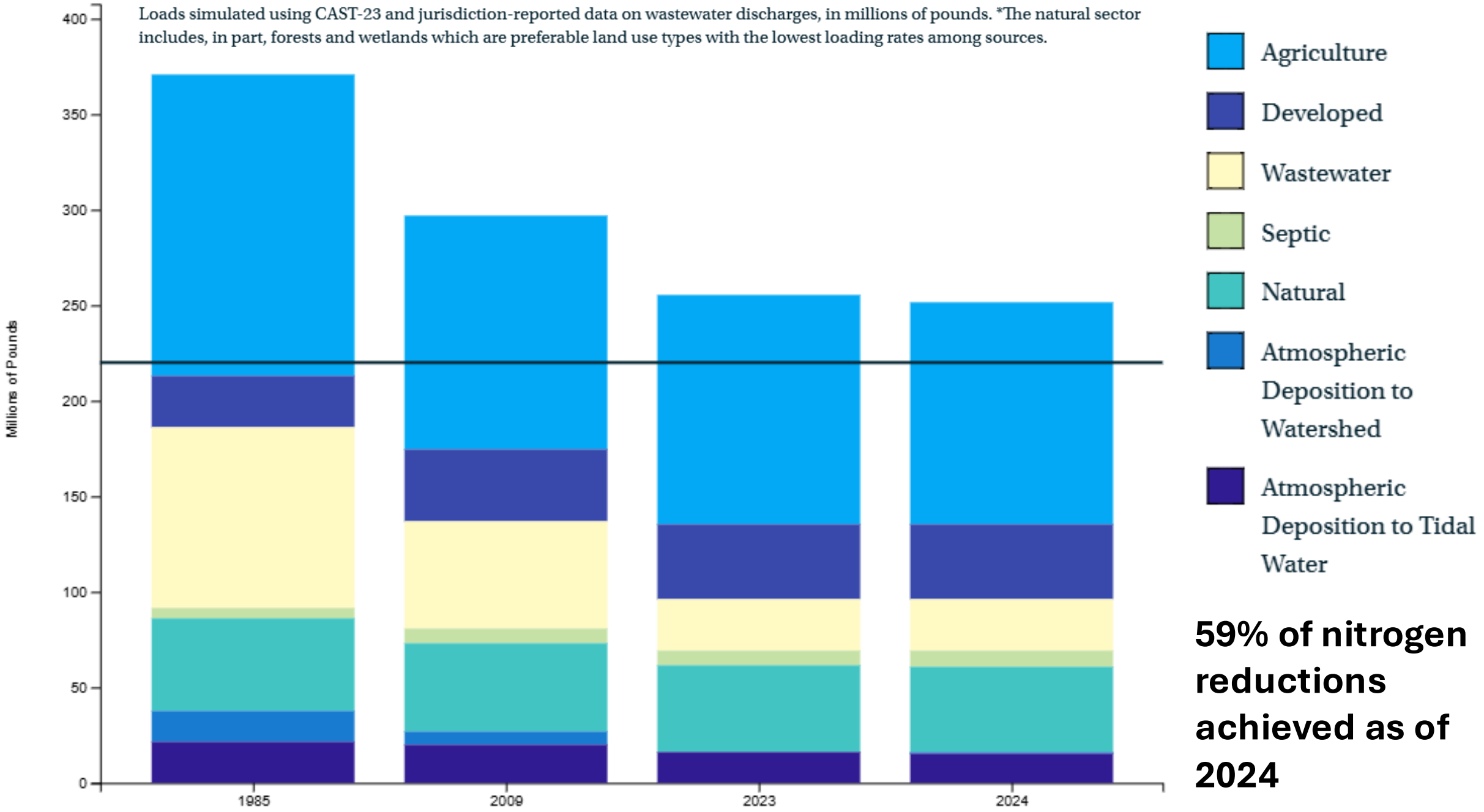
- Through 2030, signatories will continue to accelerate completion of all interim water quality planning targets through implementation of Chesapeake Bay Watershed Implementation Plans, two-year milestone commitments and other innovative strategies to achieve and maintain reduced levels of nitrogen, phosphorus and sediment.
- By December 31, 2030, revise the planning targets approved by the Principals' Staff Committee for nitrogen, phosphorus and sediment, incorporating the latest watershed modeling, monitoring data and research findings, and develop new or amended Watershed Implementation Plans to meet the updated targets by 2040.
- Demonstrate net reductions in nitrogen, phosphorus and sediment through multiple lines of evidence, including modeling and monitoring data.

Current situation and context

2025 Progress results are still forthcoming

Modeled Nitrogen Loads to the Chesapeake Bay (1985-2024)

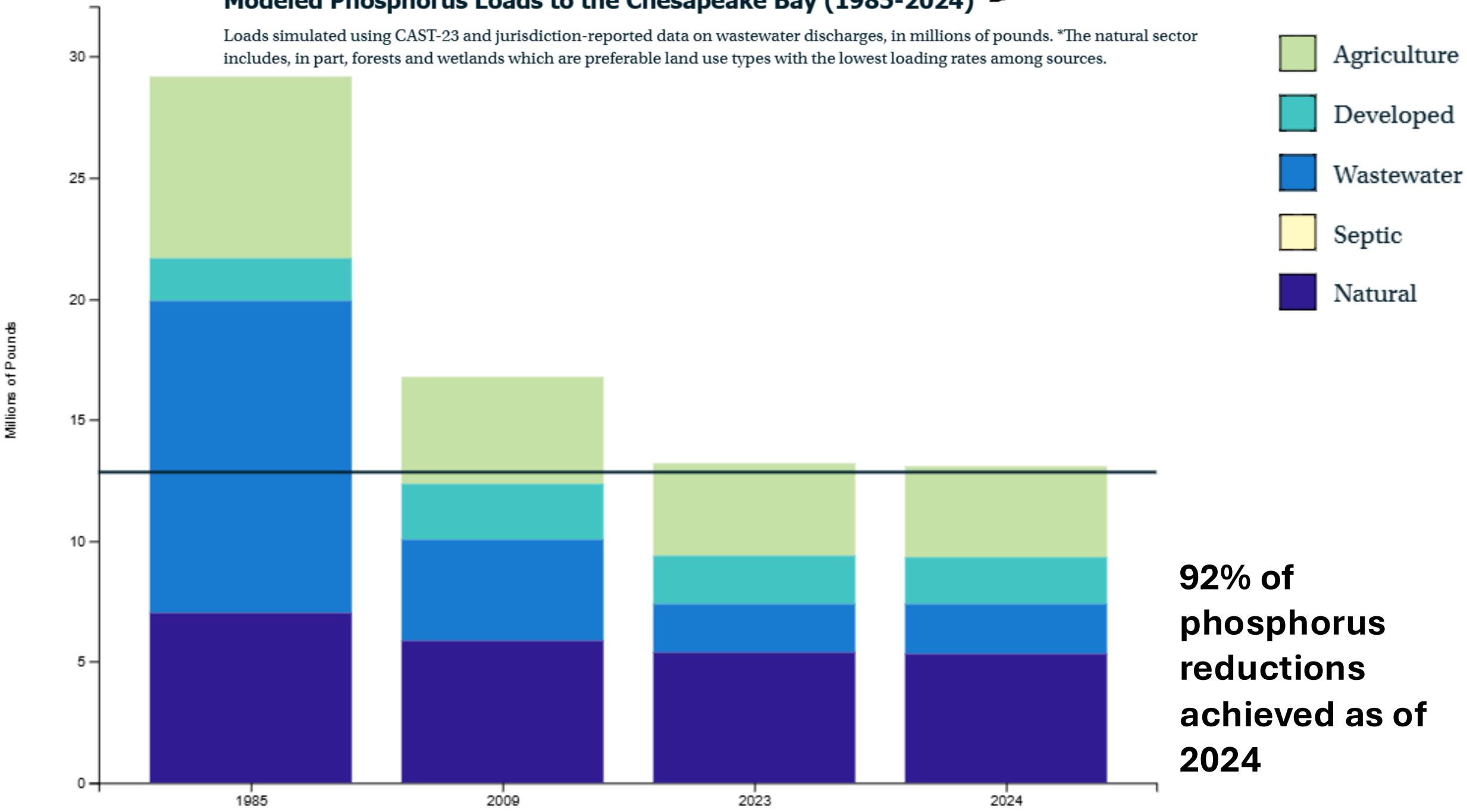
Loads simulated using CAST-23 and jurisdiction-reported data on wastewater discharges, in millions of pounds. *The natural sector includes, in part, forests and wetlands which are preferable land use types with the lowest loading rates among sources.



59% of nitrogen reductions achieved as of 2024

Modeled Phosphorus Loads to the Chesapeake Bay (1985-2024)

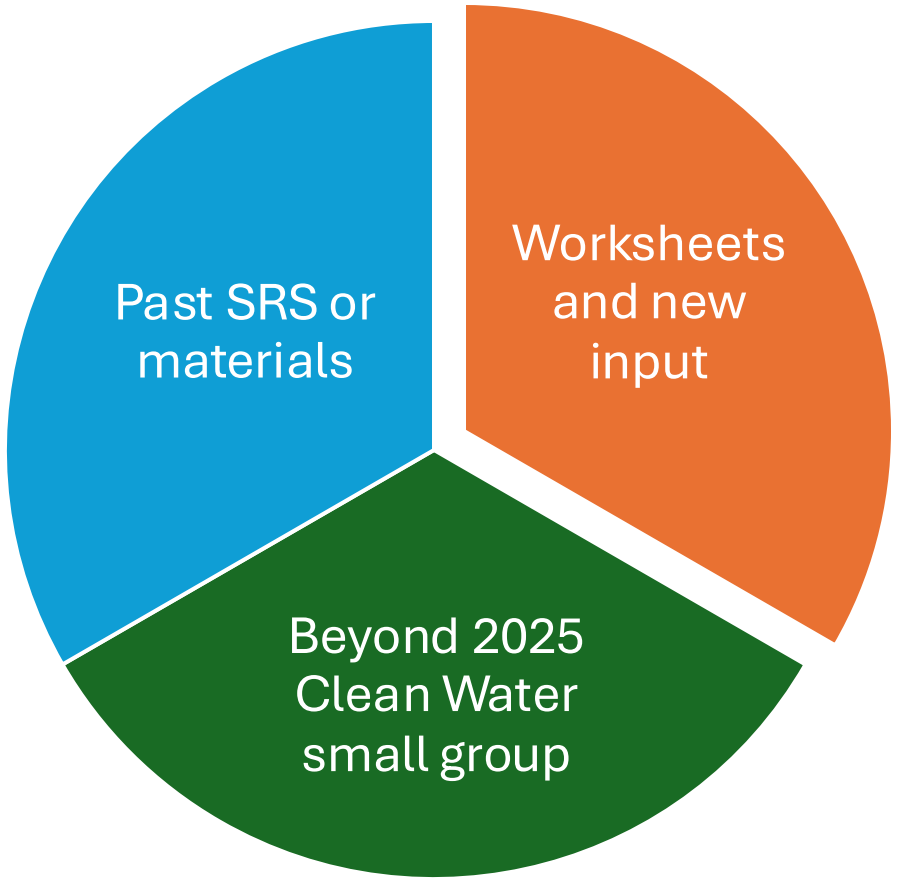
Loads simulated using CAST-23 and jurisdiction-reported data on wastewater discharges, in millions of pounds. *The natural sector includes, in part, forests and wetlands which are preferable land use types with the lowest loading rates among sources.



92% of phosphorus reductions achieved as of 2024

We’re not starting from scratch…

- Worksheets are great recent info from our workgroup leads
- We have tons to borrow or build from, such as:
  - Past SRS materials;
  - the Beyond 2025 Clean Water small group;
  - CESR report, STAC workshops and more!



RENPS Challenges

From worksheets	From past discussions or SRS…
Funding and resources Technical workforce shortages	Funding, People, Capacity
Increase to both ag production and urban growth Changing Environmental Conditions (especially increased precipitation)	Growth in loads continues to challenge/counter some successes
BMP verification	Remote sensing for BMP verification
Estimating and linking multiple outcomes or benefits	Multiple outcomes or benefits
Focus on non-point sources now and need for incentives for voluntary implementation of practices	Nonpoint source management and nutrient imbalances More effective or innovative approaches to help accelerate implementation (pay for performance or outcomes)

Beyond 2025 Clean Water small group (2024): 5 considerations and 31 strategies provided

1. Revise the Accountability Framework associated with the CB TMDL to improve our management effectiveness (6 strategies listed)
2. Adopt a tiered approach to the CB TMDL which prioritizes living resources response, near term benefits, and climate resiliency. (5)
3. Enhance coordination and use of monitoring and assessment results with an emphasis on guiding implementation through documenting performance. (6)
4. Increase and incentivize nonpoint source management implementation and identify, track, and address nutrient mass imbalances. (4)
5. Expand support for local government capacity. (10)

Sector Challenges

Please check the worksheets for much more detailed and thoughtful insights than the heavily abridged summary here

Developed areas (stormwater, wastewater)

- Capacity and workforce
- Unmanaged or legacy stormwater inside and outside of regulated areas
  - How far have we come with retrofits or re-development in/out of regulated areas?
- Continued growth of impervious in less regulated areas (suburban or exurban)
- Age of infrastructure

Agriculture

- Inorganic nitrogen fertilizer application and opportunities for manure management and animal population management within the CBW
- Capacity and conservation/technical workforce
- Intensification of production
- Verification

RENPS Potential Management Approaches (rough draft)

Target 1 (through 2030 accelerating implementation toward interim targets through current WIPs, milestones and innovative strategies)

- Incentivize innovative practices and programs
- Identifying strategies to accelerate BMP implementation

Target 2 (by end of 2030, update planning targets and develop new or amended WIPs to meet those targets by 2040)

- Development and review of Phase 7 suite of models
- Our Day 1 agenda

Target 3 (Demonstrate net reductions)

- Analysis of sector progress from 2009-2025
- See WQSAM

Multi-outcome or multi-target

- Improved collaboration across CBP
- Explore remote sensing
- Explore soil health
- Technical assistance and workforce development

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Water Quality, Standards Attainment, and Monitoring Outcome:

Changes, Discussion Topics, and Management Approaches

Clean Water Goal Team 6/23/26
Breck Sullivan, USGS@CBP
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Kaylyn Gootman, EPA@CBP

Introduction and Outline

Need for Outcome Revision

Earlier outcome lacked quantitative clarity and did not clearly define water quality attainment goals.

Linking Agreement to Strategy

How outcome translates to the Management Strategy based on past work and recent partner feedback.

Gaining Partner Feedback

What other topics and messages need to be addressed in the Management Strategy.

Why the Outcome needed revisions

2014 Agreement -> 2025 Agreement

Why the Outcome Needed Revisions

Lack of Measurable Criteria

The original outcome lacked SMART criteria, making progress tracking and reporting unclear and difficult.

Ambiguous Outcome Goals

The outcome did not clearly emphasize water quality standards attainment as a primary objective.

Enhanced Monitoring Needs

Partners emphasized improving monitoring capacity including tidal and nontidal insights and broader water quality stressors when monitoring is available.

Insights on Trends

Include insights from both tidal and nontidal data to better understand water quality patterns.

WQ,SAM Outcome

Measure changing water quality conditions by maintaining monitoring networks and tracking our collective progress toward achieving clean water throughout the Chesapeake Bay and its watershed.

1. Maintain full core monitoring network operations (i.e., nontidal water quality, SAV, tidal water quality, benthic and community science) annually to support analysis and communication of water quality loads, trends and criteria attainment.

2. Develop and expand partnership-approved approaches for assessing whether water quality criteria are being met for all designated uses. For dissolved oxygen criteria, establish an approved method by 2028 and apply the method for data analysis and reporting by the end of 2030.

3. Maintain or exceed the rate of improvement in the water quality standards attainment indicator relative to the 1985-2022 baseline.

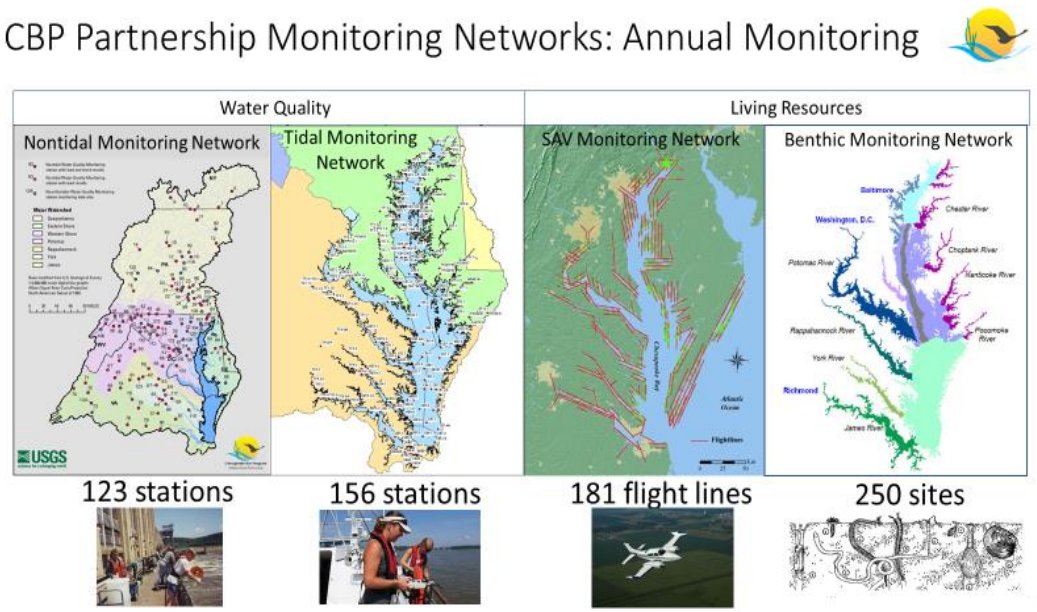
4. Analyze and report status/loads, trends and factors affecting those trends for nontidal and tidal water quality

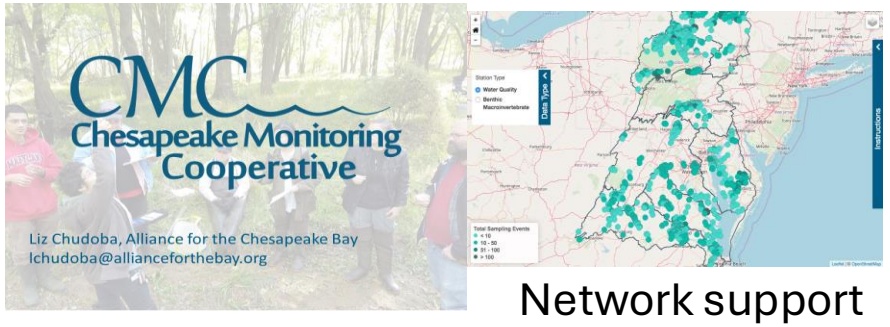
Linking Agreement to Strategy

Current Situation of the Outcome

Progress: Core monitoring networks are stronger than ever! Supported by advances in sensors, data processing, and analysis. Infrastructure Investment and Jobs Act funding has been essential to maintaining long-term networks (Targets 1, 2, 4).

Challenge: Monitoring capacity still has gaps and need more discussion on how to meet them. The partnership need monitoring strategies to support core monitoring. There is a CBP team charged by the PSC to develop monitoring strategies for the short- and long-term.





Network support

Current Situation of the Outcome

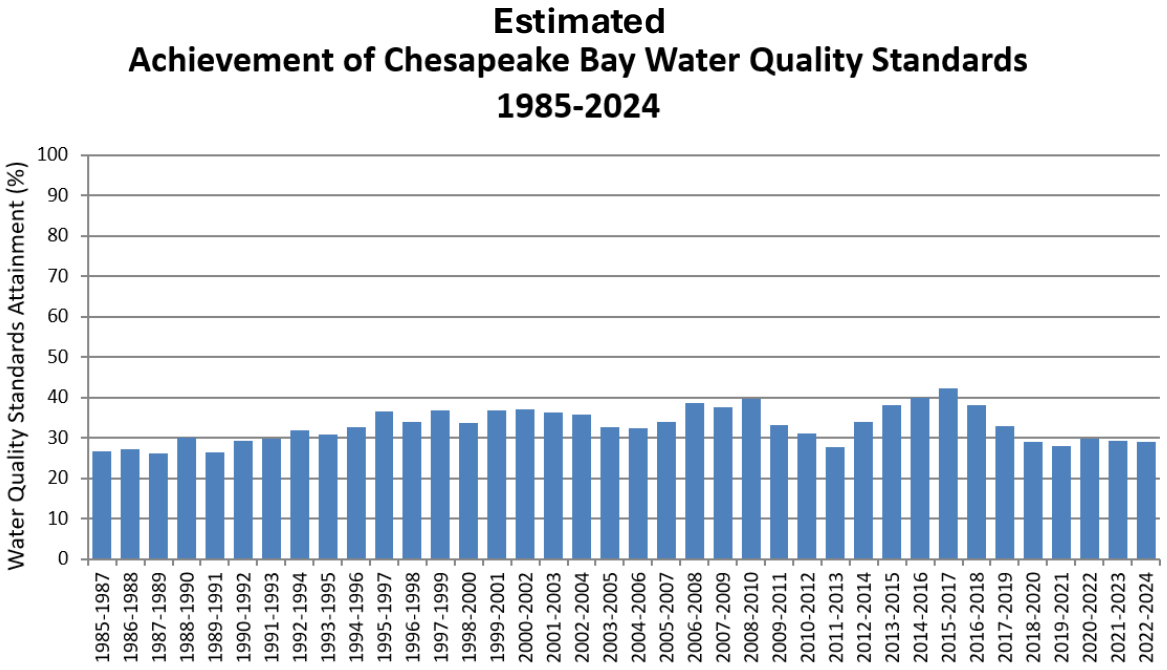
Progress: Methods for assessing all dissolved oxygen criteria and designated uses, including those needed by the jurisdictions for 305(b)/303(d) regulatory requirements, are being developed and will be shared with the Partnership to support tidal criteria-attainment tools, with overall Partnership approval of dissolved oxygen assessment methods targeted for 2028 (Target 2).

Challenge: Partnership does not yet have formalized decision rules for each dissolved oxygen criteria, such as minimum sample sizes, defining duration of instantaneous. How the partnership and jurisdictions use different methods to assess.

Current Situation of the Outcome

Progress: The WQSAM indicator continues to track progress; current data shows an estimated 29% of tidal waters meeting standards and a positive but slowing long-term recovery trend (Target 1, 3, 4).

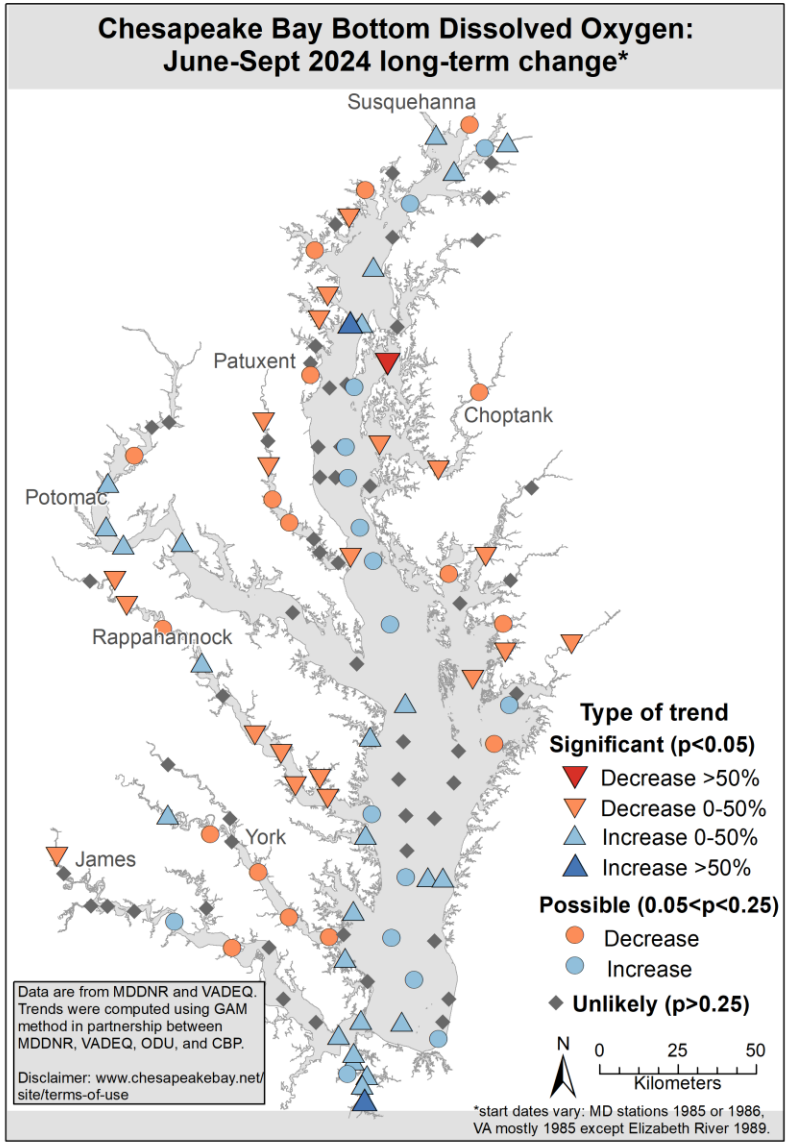
Challenge: Patterns and analysis for WQ data is separate from assessments that states are required to complete; Being clearer on what the word assessment means and that the partnership indicator is an estimate. Future discussions needed on how to best showcase this information on Chesapeake Progress.



Current Situation of the Outcome

Progress: Nontidal, tidal, tidal benthic, submerged aquatic vegetation, and participatory science monitoring networks continue regular annual or biannual reporting of water quality status and trends (Target 1 and 4)

Challenge: Potential to look more into trends as appropriate indicators



Management Approaches

- Maintain core water quality monitoring and produce quality data. Prioritize enhanced monitoring where needed as resources allow.
- Report and account for changes in attainment of water quality standards.
- Further explain and communicate the factors affecting trends and better understand response to management practices on small and large scales.
- Developing and documenting assessment rules for assessing all tidal DO criteria

Management Approaches

- Ensure that Partnership decisions and products make use of all available high quality (at least Tier 3) data.
- Contribute to better understanding and communication of multiple benefits of water-quality restoration and other partnership outcomes.

Gaining Partner Feedback

Future Discussion

- Feedback today and in the coming months!
- Aligning with RENPS Outcome:
  - It seems understanding the targets and distribution of loads are needed to have an informed discussion on WQ,SAM Outcome – strengthening connections between monitoring and implementation
  - Indicators (measure of progress) can support both WQ,SAM and RENPS Outcomes so how is that best represented and communicated
  - Communicating that all practices in place ≠ full attainment at the same time is essential

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Toxic and Emerging Contaminants Outcome

Management Strategy Worksheet Overview

Keith Bollt, EPA

Clean Water Goal Team | June 23, 2026

Toxic and Emerging Contaminants Outcome & Target

Reduce the amount and effect of toxic contaminants, such as PCBs, plastics, mercury and PFAS, on the waters, lands, fisheries, wildlife and communities of the Chesapeake Bay watershed through an increased understanding of their impacts and mitigation options.

- Promote information sharing between researchers, program managers and policymakers on the lessons learned, best practices and most up-to-date science, policy and communications around the toxic contaminants impacting the Chesapeake Bay watershed.

Current Situation

- The Toxic and Emerging Contaminants Outcome is a **consolidation of scope and mission between two** previous outcomes, to focus on **convening and information sharing**, and being **value added to its signatory members**.
- Recognizing where federal and jurisdictional signatories are working on toxic contaminants reduction **outside of CBP** and the resources and capacity within the Bay Program, work within the partnership is in a period of transition towards more targeted information sharing and creating of useful tools and communications pieces to help disseminate that information and **connect researchers and practitioners**.
- TCW has a longstanding history of convening, but with **priorities and engagement underfunded and under-implemented**. We are not starting from scratch with information sharing as a partnership, but we are shifting to more **strategic ways to spend our time** and engage partners meaningfully to add value.

Indicator

- The prior Toxic Contaminants Policy and Prevention (TCPP) indicator is a distillation of the toxics-relevant portions of EPA's Clean Water Act biennial "**Integrated Reports**" developed by the tidal jurisdictions (VA, MD, DC). This synthesis is traditionally **performed by the TCW staffer**, with review by TCW membership.
- A substantial consideration for TCW is whether to measure progress via an Indicator for our Outcome or our Target. Given the indirect, delayed impact of information sharing on actual reduction of toxic contaminants, an Indicator of information sharing will more directly reflect the work CBP is actually doing and put progress under the control of the CBP. The current Indicator shows a **flat trend in toxic contaminant levels since 2014, a measure which is beyond the reach of TCW's direct influence.** However, continuing to have a watershed-wide synthesis of contaminant status with an established time series is **valuable**.
- After multiple discussions at TCW meetings and meeting with the CBP indicators coordinator, TCW's leading suggestion for now is to **primarily track progress via an Indicator for our Target on information sharing** through collecting metrics on presentations, people engaged, etc. This aspect requires further discussion.

Gaps and Challenges

- Lack of a consistent approach and comparable data on the occurrence and trends of toxic contaminants across jurisdictions, which inhibits a watershed-wide assessment of toxics and inhibits ability to integrate into local programs
  - Toxic contaminants tend to be **localized challenges**, rather than watershed wide
  - Distinguishing the opportunity for collaboration and partnership influence for localized challenges and working within the **constraints of TCW's scope and authority**
- Limited up-to-date information on the practices to mitigate contaminants, and their potential co-benefits with nutrients and sediment reductions
- Lack of understanding of sources of contamination leading to fish consumption advisories
- Fast pace of change and limited knowledge on emerging contaminant issues

Gaps and Challenges

- **Resource constraints**, including capacity within CBP, minimal funding opportunities, relative emphasis on nutrients and sediment limit opportunities focused on toxic contaminants
- Limited connectivity among groups hinders technical information transfer within the partnership and beyond
- Messaging the **role of TCW versus outside toxics programs** to internal and external partners
- **Hesitancy of CBP signatories to partner on toxic contaminant issues** due to uncertainty of **value added**

Tasks and Priorities

- **Chart out future** focus, roles and responsibilities of TCW and establish expectations from and relationship with CWGT
- **Find co-chair** and institutionalize plan of succession
- **Update the current TCPP Indicator** to account for the feedback received over the last few years on its limitations to make it more useful for practitioners and the public across the watershed. Potentially transition it to be a tool and not an official “Indicator”.
- Create a repository of recent research and resources on the TCW chesapeakebay.net page or other appropriate location
- Increase **collaborative agenda setting and presentations by signatory membership**
- Increase information sharing by TCW members **between meetings**

Potential Management Approaches

- Host **targeted topical meetings** to bring information to a broader group of partners across the CBP, especially with nutrients-focused source sector workgroups and the THFW Goal Team
- Synthesize and share information on source tracking studies from across the watershed
- Synthesize and share **success stories** from jurisdictions on management practices regularly
- Establish **expectations for convening and information** sharing among members, including collaborative agenda setting and snowballing information between meetings
- Reach out to researchers and partners not currently engaged in TCW to build a **broader list of participants**, and improve variety of engagement pathways for those with different capacity (e.g. sharing resources by email, repository on website, etc.)
- Expand the Partnership's role in cross-jurisdictional coordination on interstate pollutant loads of toxic contaminants (e.g., PCBs). For example, continue to facilitate and promote learning from the Alternative Restoration Plan (ARP) pilot project in the CB watershed, by identifying and facilitating opportunities to implement elsewhere.
- Revisit and update or adapt Toxic Contaminants in the Chesapeake Bay and its Watershed: Extent and Severity of Occurrence and Potential Biological Effects (2012) to guide establishment of future toxic contaminant priorities.

PPoW-specific Considerations

- Plastic pollution is a **widespread concern** that has the potential to impact valuable and vulnerable resources of the CB Watershed, including **human health**. Research and monitoring are critical to better understand and mitigate the potential impacts of plastic pollution on the ecosystem.
- PPAT has provided input on a **framework for plastic monitoring strategies** in the Bay, a monitoring strategy document for microplastics in the Bay, and an ecological risk assessment conceptual model for microplastics in the Potomac River--two projects led by Tetra Tech and funded by EPA.
- Plastic pollution continues to garner public support. The Save our Seas Act 2.0 brought the issues of plastics to the forefront. The Plastic Pollution Action Team has been leading the way in plastics research, mitigation and implementation by researching its impacts into living resources and developing important research and monitoring strategies. Currently, the team is supporting an effort to develop a **source reduction strategy**.

PPoW-specific Considerations

- Gaps and Challenges:
  - **Lack of studies** from the organismal to ecosystem studies showing the impacts of plastic pollution on the Bay and watershed.
  - **Funding** and support to conduct research; develop/revise ecological risk assessments; and implement source reduction strategies.
- Tasks and Potential Management Approaches:
  - Support scientific research to look at impacts of plastic pollution on the Bay, from the organismal to ecosystem levels
  - Support the piloting of integrating microplastic monitoring into existing CB monitoring programs supported through CWA 117(e) funding.
  - Update and revise ecological risk assessments based on research and monitoring results
  - Adopt a source reduction strategy for the Bay and revise the strategy periodically based on results from monitoring and other scientific research.

Takeaways for TEC Outcome

- TCW is still **looking for its hook/mission/value-added** and is optimistic for the future.
- **Challenges**: Network connectivity, information sharing, capacity
- Continued **collaboration and internal discussion** will be necessary to sharpen the details of our approach.

Reference Slides

Key Themes

- Many workgroups are at a moment of change given the new agreement, so in the short term some are focused on group operations and governance to determine how to best function and fit new outcomes.
- Short-term priorities for many RENPS groups focused on Phase 7 model development and review.
- Challenges identified span from implementation to operation.
- Desire for greater collaboration across the partnership (with other Goal Teams and between workgroups with the CWGT).
- Desire to discuss Indicators at the Goal Team.

Potential Cross-Outcome Challenges

- Resource constraints and limited funding
- Communications, especially in terms of showing a bigger picture story than indicators and communicating the distinction between "practices in place" vs. water quality attainment
- Integrating monitoring data across the watershed
- Changing Environmental Conditions

and likely more!

Potential Cross-Outcome Management Approaches and Opportunities

- Fostering cross-Goal Team collaboration
- Emphasizing co-benefits
- Improving access to technical assistance
- Improving integration of monitoring and modeling

and likely more!