Combined Worksheets: Outcome Starting Thoughts for CWGT Management Strategy

Outcome and Workgroup leads were asked to share initial situation analyses and management approaches for their respective Outcome via a series of questions in a worksheet. This is a compilation of their responses to aid CWGT discussion at their June 23rd, 2026 meeting. These should be considered draft and preliminary, with continued work to draft Management Strategies continuing through Summer 2026 through collaboration with CWGT and workgroups.

The language for each Outcome and its associated Targets in the Clean Water Goal of the revised *Watershed Agreement* can be viewed here.

Water Quality, Standards Attainment and Monitoring

Input submitted by: CBPO, MDE, VADEQ, CMC, WVDEP

Situation Analysis & Challenges

How would you summarize or describe the current situation for your outcome? I.e., what's the message of where we are right now?

1. Core monitoring networks within the Chesapeake Bay Program are stronger than ever. Rapid advances in sensor technology, data analysis, and scientific integration have expanded access to high-resolution data and created new opportunities to better inform decision-making and meet partner needs.
    a. Since 2022, addressing recommendations provided to the Principals' Staff Committee (PSC) in response to their 2021 request to the Partnership (PSC 2022) for a plan to improve the status and capacity of CBP monitoring networks, enhancements were made to core monitoring networks.
    b. Most recently, within the Chesapeake Bay Program, short-term funding support from the Infrastructure Investment and Jobs Act has been critical for maintaining several long-term monitoring networks.
2. 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.
3. In 2012, the Partnership tasked the STAR Team with developing a method to assess and communicate progress toward water quality standards, resulting in the Estimated Achievement Indicator adopted in 2013. This indicator has been used by the Chesapeake

Bay Program to track and publicly report progress since 2014 and remains part of its commitments under the 2025 updated agreement (WQSAM target #3).

   a. The Estimated Achievement of Chesapeake Water Quality Standards Indicator shows 29% of tidal waters have met applicable standards in 2022 – 2024. Overall, the indicator shows a positive trend of 0.15% per year between 1985–1987 and 2022–2024, suggesting that Chesapeake Bay is on a recovery trajectory. However, this long-term trend slope is not statistically significant (p = 0.248). Our habitat recovery rate remains positive but is slowing down.

4. Nontidal, tidal, tidal benthic, submerged aquatic vegetation, and participatory science monitoring networks continue regular annual or biannual reporting of water quality status and trends (WQSAM target #4).

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?*

Over more than four decades, the Chesapeake Bay Program partnership has built and sustained one of the nation's strongest watershed and estuarine monitoring efforts, establishing core monitoring networks in the 1980s to support analyze bay health status and trends. The CBP maintained them through shared commitment, strategic reviews, and evolving science. These networks have been adapted over time to meet management needs and adapting to science-based recommendations, supported by advances in continuous monitoring, tributary assessments, and emerging tools such as four-dimensional interpolation and satellite imagery. Together, these innovations and ongoing improvements in data synthesis and communication provide more accessible, actionable insights to track change and guide restoration progress.

We do not need a summary or description of existing indicators. However, 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?

Suggestion for aligning/addressing the overlap of RENPS and WQ,SAM outcomes are to have indicators represented for both outcomes:

- Nitrogen, Phosphorous, and Suspended Sediment Loads to Bay Indicator
- Total Maximum Daily Load (TMDL Indicator)
- Monitored Nontidal Trends Indicator

Additional ways to show progress of targets through indicators:

- Target 1 -

    - Factsheet or video on each core monitoring network? (Idea raised by CBC when going through Outcome revisions); Factsheet or video on each core monitoring network? (Idea raised by CBC when going through Outcome revisions)
    - Map of stations/interactive to go to DataHub (including community science groups)
- Target 2 - Check box on Chesapeake Progress to showcase accomplishments.
- Target 3 -
    - Keep existing indicator because we have a commitment through the Watershed Agreement to report on progress with the existing indicator but emphasize that it is an estimate and clearer on what the CBP means by assessment. Assessment means something different for the partnership, scientists, and jurisdictions. Highlight through text or links what jurisdictions needs to report on for assessment.
    - Consider additional use of trends
- Target 4 -
    - Annual Bay-wide Tidal Trends
    - Biannual Nontidal Trends
    - Potential other ways to tell the story of bay status and trends: Hypoxia volume maximum/duration/frequency, attainment deficit/attainment buffer, nutrient limitation, Bay Benthic IBI, sturgeon habitat protection

What are your key gaps or challenges?

Monitoring capacity gaps:

- Not all segments require high-frequency vertical water-column measurements, but some do
- Limited instruments can be a challenge and future technologies still far off
- Small watershed gaps limit our understanding of direct implementation effects.
- Suggestion to focus to direct implementation effects, this is a gap, example of effort help is Small Ag watershed work

Assessment decision rules:

- Partnership does not yet have formalized decision rules for each dissolved oxygen criteria, such as minimum sample sizes, defining duration of instantaneous, etc
- Primary right now is DO, thinking in the future with SAV, light, and chl-a assessment

Funding limitations:

- Despite strong support, flat or declining federal/state investments, match requirements, and inflation reduce monitoring output per dollar, even as current programs remain fully funded and future needs are being planned for
- Vulnerabilities due to rising costs to collection and analyze data

Monitoring data use:

- Improving the use of monitoring data in our partnership models, noting that we must use models informed (and calibrated) by monitoring data to plan
- Better integration of continuous data

Communication of monitoring results:

- Monitoring data remain underutilized compared to modeled loads in planning, and conveying progress, timelines, and drivers of change to the public is challenging
- Different analyses (i.e., loads vs. concentrations) can yield different results
- Inconsistent release years across entities also complicate communication of trends

Changing Environmental Conditions:

- Seasonal and habitat-specific differences in responses make it difficult to set expectations and interpret progress consistently

Do you have specific tasks, needs or priorities that are already on your radar for the upcoming months or years? *Consider these in terms of short- (1-2 years), mid- (2 – 4) or long-term (3 – 6) tasks as we discussed at the CWGT meeting on April 27*.

CAP Short-term – reference .ppt/brainstorming document for assessment method decision points to be presented on June 23, 2026.

Did not receive much feedback on this question, but it can be addressed more when working on the workplans.

<u>Potential Management Approaches</u>

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 (specifically the CWGT and its workgroups).

- 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
- Ensure that Partnership decisions are 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

General

Do you have any key talking points, bottom line messages, or take-away that for the overall narrative or story you wish to tell for your outcome? Optional!

- The partnership possesses a world-class monitoring and science infrastructure, adaptive monitoring continues to strategically grow capacities through modernization (e.g., vertical water quality monitoring arrays, continuous sensors, 4-D interpolation, satellite integration, machine learning algorithm-based image interpretation) to meet revised Agreement expectations.
- Communicating that implementing 2026-2040 practices ≠ 2040 full attainment of water quality standards for DO, SAV/clarity and CHLA is essential; trends in water quality will help reflect progress more accurately and transparently.
- Strengthening connections between monitoring and implementation is imperative to accelerate progress, particularly in shallow and open waters important for living resources and local engagement.
- Co-benefits should be embedded in targeting strategies, using community science integration and multi-outcome optimization to broaden participation and improve watershed-wide returns.
- Work towards a high-level over-all message for how the watershed and Bay are doing.
- Shallow vs. deep water attainment. Deeper waters drive our indicator. Shallows show near 70% attainment.

Agriculture Workgroup

Input submitted by: Caitlin Grady, Jenn Fetter, Eric Hughes, Caroline Kleis (AgWG)

Situation Analysis & Challenges

How would you summarize or describe the current situation for your outcome? I.e., what's the message of where we are right now?

The agriculture sector is responsible for 89% of the future nitrogen reductions needed to meet WIP III targets (based on 2024 progress). As nitrogen, phosphorus and sediment attributable to the agriculture sector is largely nonpoint-source pollution, we rely primarily on voluntary adoption of conservation practices to drive ag-based load reductions. The model for achieving nutrient and sediment load reductions in the ag sector is fundamentally different than that of the developed and wastewater sectors.

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?*

The agriculture sector is responsible for reducing the overall modeled nitrogen load to the Bay by 39.6 million pounds since 1985. Of that 39.6 million, 4.5 million was reduced between 2009 and 2024. There is positive momentum: between 2023 and 2024, 76% of modeled nitrogen load reduction came from the agriculture sector, likely a result of significant investments made by partners in ag conservation programs. There are also headwinds: producers face tight margins due to global trade, agriculture is intensifying, population throughout the region is straining land use, and all of these pressures lead to challenges in adoption and implementation of changes within the ag sector.

We do not need a summary or description of existing indicators. However, 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?

This should be a topic of further discussion at Clean Water Goal Team meetings, including the June in-person.

What are your key gaps or challenges?

- Inorganic nitrogen fertilizer application and opportunities for manure management and animal population management within the CBW

- Understanding economic impacts (e.g., ROI) of conservation actions on farmers
- Staff capacity and conservation/technical workforce shortages
- Intensification of agricultural production
- Streamlining conservation funding and mode of delivery
- BMP verification; specifically, reverification of NRCS-/FSA-funded practices

Do you have specific tasks, needs or priorities that are already on your radar for the upcoming months or years?

- *Long Term*
    - Assess options for innovative BMP implementation programs
    - Regularly evaluate BMPs currently receiving credit in partnership's suite of modeling tools
    - Develop methods for verifying BMPs not implemented through traditional channels (traditional channels being cost-share, etc.)
    - Enhance understanding of, and explore crediting options for, BMP co-benefits (benefits beyond N, P, S reduction)
- *Mid Term*
    - Develop methods for remote sensing-based tracking and verification of BMPs
    - Track and understand agricultural industry trends and their implications for agricultural nonpoint-source pollution (feed efficiency; intensification)
    - Identify strategies to accelerate BMP implementation across the watershed
    - Expanding monitoring networks in ag-dominated watersheds
    - Revisit NRCS-EPA Crediting Task Force recommendations to determine solutions to reverification of USDA-funded BMPs
    - As a partnership, explore soil health and implications it may have for water quality in the Chesapeake Bay watershed
    - Identify strategies for better integrating economics into ag conservation discussions
    - Develop an ag conservation technical assistance gap analysis across the Chesapeake Bay Program Partnership.
- *Short Term*
    - E3 and No-Action Scenario Development
    - Review of the P7 Model (through/in collaboration with the AMT?)
    - Cross-partnership collaboration on target-setting for protected lands outcome and workforce outcome
    - Understand and evaluate ag-sector WIP progress
    - Enhance cross-partner communication/idea-sharing
    - Evaluate credits for BMPs not currently incorporated into the CBP's suite of modeling tools and provide CWGT with list of practices in need of updates

Potential Management Approaches

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 (specifically the CWGT and its workgroups).

Sector workgroups are involved in the development of the next iteration of Watershed Implementation Plans

- Each sector under RENPS should be charged to conduct a review of state-specific sector progress in WIP III. The jurisdictional leads on each sector workgroup would be responsible for bringing forward their own analysis of the WIP targets that were hit and those that were missed. This will enable us to identify commonalities in successes and challenges across states; celebrating the successes is important, and identifying shared challenges will enable us to focus our efforts where they really matter as we continue to press ahead to WIP III targets and may help lead to better future iterations of the WIP.

Develop workplan on timeline identified by Clean Water Goal Team outlining how tasks listed above will be completed.

CWGT finalizes and delivers updated methodology for crediting new BMPs and updating existing BMPs in the CBP suite of modeling tools.

CWGT defines how to structure engagement across workgroups and goal teams (thinking specifically about *workforce and protected lands)*.

- Need to be cognizant of leadership team/membership time

CWGT/PSC clearly articulates the roles of and relationship between the AAC and AgWG with regard to setting priorities and acting on said priorities on behalf of the partnership.

CWGT defines strategy for handling ag-based modeling discussions and decisions.

- Confirm the AMT's status as a renewable Action Team

General

Do you have any key talking points, bottom line messages, or take-away that for the overall narrative or story you wish to tell for your outcome?

Because all sector workgroups will be working together to support the CWGT on the same outcome, we request CWGT identify opportunities to standardize requests to, and as appropriate, the work of, the Ag, US, and FWGs.

Urban Stormwater Workgroup

Input submitted by: David Wood, with support from Norm Goulet, KC Filippino, and Petra Baldwin (USWG)

Situation Analysis & Challenges

How would you summarize or describe the current situation for your outcome? I.e., what's the message of where we are right now? The stormwater sector benefits from a relatively robust regulatory framework that provides strong incentives for clean water implementation that has resulted in steady progress over recent years in the regulated developed areas. The stormwater sector also has a well-developed network of watershed managers with support from training and technical assistance providers, as well as avenues to regularly convene and share best practices to advance implementation. However, steady growth, combined with changing environmental conditions related to more frequent and intense storm events and an increasing inventory of aging infrastructure assets creates an uphill battle to implement and maintain cost-effective solutions. Furthermore, the unregulated developed sector faces a challenge related to the continued growing footprint of non-MS4 developed lands, where high costs and a lack of that same regulatory framework hinders progress.

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?* The stormwater sector has been effective in developing and evaluating a combination of practices and programs that fit within the existing constraints of the states stormwater programs, while targeting additional nutrient and sediment reductions. This includes a robust system for developing BMP specifications, BMP verification, and tracking and reporting. Progress toward Phosphorus and Sediment reduction targets has been substantial, while Nitrogen progress lags, largely due to the physical and chemical constraints that limit the effectiveness of traditional stormwater practices for reducing Nitrogen. The Urban Stormwater Workgroup has been effective at leveraging a network model to share best practices, impact modeling decisions to improve accuracy and accountability, and make progress toward bridging common challenges.

We do not need a summary or description of existing indicators. However, 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?

No comments.

What are your key gaps or challenges?

- Continued growth throughout the watershed
- Growing footprint of "un-regulated" developed land that is not covered under MS4 permits
- Increasing precipitation intensity ,frequency, and duration
- Workforce – lack of skilled labor and limited consulting services
- Funding – limitations for implementation, staffing and long-term project maintenance
- Funding – competition for limited resources being split between quantity and quality protections
- Physical constraints – infrastructure conflicts, completion of "low-hanging fruit", high-groundwater tables, flooding
- Regulatory uncertainty – changing permits, BMP Design Manual delays, Bay model updates
- Lack of applied monitoring of BMP effectiveness, and runoff characteristics from representative developed lands
- Diverse pollutant accounting systems and struggle with inconsistent state approval/adoption of nontraditional or innovative stormwater BMPs
- approval of innovative approaches
- Incentives for voluntary implementation of practices
- Policy drivers for smart growth and development

Do you have specific tasks, needs or priorities that are already on your radar for the upcoming months or years?

Short Term – Phase 7 model development tasks: 2040 LU Forecast; E3 scenario Development; P7 review; Evaluation of loading rates post-calibration

Mid-Term – Evaluate developed sector soil health to guide development of soil restoration BMPs, and improve post-construction soil management; Track new data from VT solar study to better characterize runoff characteristics and best practices for utility-scale solar; explore resilient BMP design adaptations in the context of existing, approved stormwater BMPs when Atlas 15 Volume 2 is available; evaluate research from toxicity studies of stormwater related to emerging contaminants; Track the National Municipal Stormwater Association's Clean Streets = Cleaner Waters Initiative for incorporation into the Street Sweeping BMP

Long-term – Evaluate leaf litter contributions to Tree Canopy Over Impervious loads, and evaluate potential leaf-management BMP opportunities; Consider opportunities to improve use of machine learning and remote sensing technologies to improve stormwater practice monitoring, evaluation and verification; Develop strategies and approaches for increasing implementation rates in unregulated developed; Identify policies for stormwater design standards that can be shared across the watershed

Potential Management Approaches

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 (specifically the CWGT and its workgroups).

- Provide cross-GT support to the Workforce Development WG to evaluate stormwater sector workforce gaps and needs and develop stormwater career maps.
- Review science and case studies to provide guidance and best practices for post-construction soil protection and restoration
- Guide development of a menu of resilient design adaptations for key stormwater best management practices
- Lead review of developed sector components of the P7 model development.
- Conduct training and outreach to local MS4 managers through CSN's network

General

Do you have any key talking points, bottom line messages, or take-away that for the overall narrative or story you wish to tell for your outcome?

The Urban Stormwater Workgroup will continue to provide state-of-the-art, cross-cutting research, tools, training, and best practices to support stormwater implementation across the Bay watershed. Progress toward restoration goals will depend on pairing innovative stormwater practices with planning and development policies that improve local implementation and protect watershed health in the face of a changing climate.

Wastewater Treatment Workgroup

Input submitted by: *Jamie Heisig-Mitchell, Justin Carl, Jeremy Hanson, Petra Baldwin (WWTWG)*

Situation Analysis & Challenges

How would you summarize or describe the current situation for your outcome? I.e., what's the message of where we are right now?

The WWTWG's focus after forming again in 2024 was on supporting the accurate representation of wastewater-related load allocations to the Watershed Model and to utilize the group's technical expertise to inform effective management practices. This focused on assessing CSOs, the boat discharge BMP report and sanitary sewer exfiltration for inclusion in the Phase 7 model.

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?*

As a source sector, nutrient reductions from wastewater treatment plants since the 1980s has been a major success story across the watershed, resulting from federal and jurisdictional investments and policies. As a workgroup we have been mostly inactive from 2018 – 2024. Wastewater treatment plants have historically been a reliable source of nutrient reductions as the treatment technologies have improved and been implemented through permits, combined with consistent revenue and funding.

We do not need a summary or description of existing indicators. However, 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?

N/A for new indicator needs.

What are your key gaps or challenges?

- The original ENR facilities are starting to age. There is likely a need to consider strategies to support ENR maintenance and asset renewal (see priorities on radar in next question).

Do you have specific tasks, needs or priorities that are already on your radar for the upcoming months or years?

- Having completed the assessment of key inputs WWTWG was asked to assess for inclusion (or not) in the Phase 7 model, the focus of the workgroup remains reviewing model outputs and other points through to the end of the development of the Phase 7 suite of models as needed.
- The WWTWG provides forum for jurisdictions to share their strategies for meeting the affordability needs of communities and increasing demand on wastewater infrastructure. With continued growth and aging ENR infrastructure, jurisdictions can share ideas for funding approaches or other cost-effective approaches for achieving load reductions. Some jurisdictions, for example, have grant funding or cost-share programs, nutrient credit trading programs, and voluntary annual incentives to achieve temporary load reductions.

Potential Management Approaches

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 (specifically the CWGT and its workgroups).

[bold = a potential draft management approach]

Once the Phase 7 modeling tools are complete, the workgroup can **continue to discuss and share innovative solutions to ongoing or future wastewater challenges**, such as aging infrastructure. The contribution of septic systems has been considered through Phase 6 BMP panels, as well as improved methods and data for Phase 7, but there may be a need to more **critically examine septic loads in collaboration with other workgroups to understand the change over time and into the future.**

General

Do you have any key talking points, bottom line messages, or take-away that for the overall narrative or story you wish to tell for your outcome? *This is optional, but can help us as we get started.*

None.

Watershed Technical Workgroup

Input submitted by: *Sushanth Gupta, Christina Lyerly, Auston Smith, and Caroline Kleis (WTWG)*

Situation Analysis & Challenges

How would you summarize or describe the current situation for your outcome? I.e., what's the message of where we are right now?

For RENPS, Progress is dictated by the Watershed's achievement towards applicable water quality standards. It is the focus of this Workgroup to discuss all matters related to the tracking and reporting of data associated with annual Progress tracking. At present, progress toward achieving the phosphorous and sediment targets is further along than nitrogen and it has been acknowledged by the partnership that nitrogen will remain a key concern for the Bay's health moving forward. WTWG has been successful in its role supporting the achievement of these targets.

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?*

In addition to supporting the annual Progress data submission work as described above, the major efforts by the WTWG have been to support the development and finalization of the Phase 7 Suite of Modeling Tools. In particular, the Workgroup has provided input to incorporate the latest methodologies and practices to best represent the Watershed's landscape in a modeled environment.

We do not need a summary or description of existing indicators. However, 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?

No. The RENPS outcome has a robust set of indicators that rely on both the Phase 7 Suite of Modeling tools (as mentioned in the prior response) and CBP and Partners' comprehensive monitoring network. While WTWG leadership does not believe new indicators are necessary to support RENPS, the Watershed Technical Workgroup, among other workgroups, has heard the call from the partnership to better incorporate monitoring data into modeled results and the annual Progress process.

What are your key gaps or challenges?

- BMP credit lifespans and verification resources
- Data sharing agreement limitations
- Expert Panel Processes
    - Length of process, time between model updates, lack of standardization or room for innovation.
- Information sharing and communications across GITs and Workgroups

Do you have specific tasks, needs or priorities that are already on your radar for the upcoming months or years?

Short Term

- Scenario Development
- Assist other workgroups with E3/no action/others identified by the CWGT members
    - Review at CWGT in July/August timeframe
    - Approval in September 2026
- Review of the P7 Model as it becomes available
- Explore and develop options for including "new" and innovative BMPs in the model
    - Consider improvements and efficiencies for reporting/verification including but not limited to increased innovation for the verification of BMPs, incorporation of implementation scale monitoring, and increased access to aggregated BMP implementation data.
    - Consider how to more efficiently encourage the development of innovative new BMPs, incorporation of BMPs without historical record, and draft BMPs.

Mid Term

- Continue to coordinate, collaborate, and communicate with other partnership groups. Enhance communication between the Clean Water Goal Team and WTWG as needed, including support for the CWGT's post WIP III planning and targets.
- Continue to explore areas of specific technical interest to WTWG members and interested parties.
- BMPs from space/remote sensing verification enhancements

Long Term

- Increased coordination with federal partners to help improve BMP reporting and verification for numeric progress.

<u>Potential Management Approaches</u>

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 (specifically the CWGT and its workgroups).

The Watershed Technical Workgroup will further the RENPS outcome by supporting partnership efforts to integrate methodologies and practices into the Phase 7 suite of modeling tools. This will include enhanced cooperative actions between jurisdictions, federal agencies, and Partnership stakeholders, convening expert panels to support the integration and analysis of new science, and discussing the improvements to the annual progress process, among other items as brought forward by workgroup membership. Workgroup meetings and associated minutes will be the backbone of how these topics are disseminated to the partnership in addition to the coordination and information sharing conducted by workgroup leadership and voting members.

General

Do you have any key talking points, bottom line messages, or take-away that for the overall narrative or story you wish to tell for your outcome?

- The WTWG has served a crucial role in ensuring progress towards and verification of the RENPS outcome.
- WTWG members have been and are consistently engaged both in the deeply technical issues that cross our WG, but also throughout the CWGT and partnership to foster collaboration.
- WTWG will play an important part in getting the P7 Suite across the finish line.

Toxic Contaminants Workgroup

Input submitted by: *Tony Timpano, Keith Bollt, Petra Baldwin with support from Sushanth Gupta (TCW)*

Situation Analysis & Challenges

How would you summarize or describe the current situation for your outcome? I.e., what's the message of where we are right now?

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.

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?*

- Prior to 2025, TCW has functioned as a convener for information sharing, particularly on research, in addition to projects of interest to members and aligned with the prior two toxics outcomes.
- In light of the complexities of multi-jurisdictional implementation requirements and constraints, the Executive Council saw a need with its 2025 revisions to the Chesapeake Bay Watershed Agreement to narrow and hone the mission of the toxic contaminants portion of the Chesapeake Bay Program to focus on value added to its signatory members. The Toxic and Emerging Contaminants Outcome is a consolidation of scope and mission between two previous outcomes, one that focused on policy and the other on research. By honing in on convening and information sharing through a value-added and strategic engagement of signatory and at-large members and interested parties, TCW's ultimate goal is supporting its members in their efforts to reduce the risk of toxic contaminants to human health and the environment in the Chesapeake Bay watershed.

We do not need a summary or description of existing indicators. However, 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?

- The prior Toxic Contaminants Policy and Prevention (TCPP) indicator is a distillation of the toxics-relevant portions of Integrated Reports developed by the tidal jurisdictions (VA, MD, DC). This synthesis is traditionally performed by the TCW staffer, with review by 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 to determine how to provide a holistic narrative on progress.

What are your key gaps or 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
- Resource constraints, including capacity within CBP, minimal funding opportunities, relative emphasis on nutrients and sediment limit opportunities focused on toxic contaminants
- 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
- 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

Do you have specific tasks, needs or priorities that are already on your radar for the upcoming months or years?

- 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

<u>Potential Management Approaches</u>

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 (specifically the CWGT and its workgroups).

- 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 Habitat Goal Team
- Synthesize and share information on source tracking studies from across the watershed
- Synthesize and share success stories from jurisdictions on management practices on a regular basis
- 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.

General

Do you have any key talking points, bottom line messages, or take-away that for the overall narrative or story you wish to tell for your outcome?

- TCW is still looking for its hook/mission/value-added and is optimistic for the future.
- TCW recognizes the challenges remaining including network connectivity, information sharing, and capacity, and this updated Management Strategy reflects that.
- Continued collaboration and internal discussion will be necessary to sharpen the details of our approach.

Plastic Pollution Workgroup

Input submitted by: *Plastic Pollution Action Team*

Situation Analysis & Challenges

How would you summarize or describe the current situation for your outcome? I.e., what's the message of where we are right now?

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.

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?*

The PPAT has been working to research the effects of plastics on the Bay watershed and its resources and develop strategies to monitor and manage plastic pollution. The team 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.

We do not need a summary or description of existing indicators. However, 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?

These indicators would need to be discussed and vetted by the full PPAT team but just thinking broadly and preliminarily, here are some potential indicators that could be supported

1. Pilot monitoring programs in three or more tributaries to the bay by 2030.
2. Development of two additional ecological risk assessments by 2030 looking at impacts of plastic pollution on bay outcomes (e.g. oysters, crabs, water quality).
3. Successfully adopt and implement a source reduction strategy and conduct bi-annual progress reviews on implementation.

What are your key gaps or challenges?

1. Lack of studies from the organismal to ecosystem studies showing the impacts of plastic pollution on the Bay and watershed.
2. Funding and support to conduct research; develop/revise ecological risk assessments; and implement source reduction strategies.

Do you have specific tasks, needs or priorities that are already on your radar for the upcoming months or years?

1. Support scientific research to look at impacts of plastic pollution on the Bay, from the organismal to ecosystem levels
2. Pilot a monitoring program for plastic pollution
3. Update and revise Ecological Risk Assessments based on research and monitoring results
4. Develop, implement, and periodically revise a source reduction strategy for the Bay and watershed.

Potential Management Approaches

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 (specifically the CWGT and its workgroups).

1. Support the piloting of integrating microplastic monitoring into existing CB monitoring programs supported through 117(e) funding.
2. Continue to develop and refine ecological risk assessments to understand threats to resources
3. Adopt a source reduction strategy for the bay and revise the strategy periodically based on results from monitoring and other scientific research.

General

Do you have any key talking points, bottom line messages, or take-away that for the overall narrative or story you wish to tell for your outcome?

- Plastic pollution is a widespread concern that has the potential to impact valuable and vulnerable resources of the CB Watershed, including human health.
- Studies have shown plastic pollution to be widespread in the Bay and watershed, including presence in fish, oysters, and other species.
- Research conducted by VIMS has shown that microplastic pollution can alter bacterial communities and disrupt nitrogen cycling saltmarsh sediments.
- A modeling study conducted by Penn State and VIMS has shown that very few microplastics are exported to from the Bay to the ocean suggesting the Bay acts as a giant microplastic sink.

- Research and monitoring are critical to better understand and mitigate the potential impacts of plastic pollution on the ecosystem.