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A Critical Path Forward for the Chesapeake Bay Program Partnership Beyond 2025

Introduction

At its 2022 annual meeting, the Chesapeake Executive Council charged its Principals' Staff Committee to review progress toward achieving the 10 goals and 31 outcomes of the 2014 *Chesapeake Bay Watershed Agreement* and make recommendations for the future of the partnership, stating:

> *…this Executive Council charges the Principals' Staff Committee (PSC) in recommending a critical path forward that prioritizes and outlines the next steps for meeting the goals and outcomes of the Watershed Agreement leading up to and beyond 2025…At our 2024 annual meeting, the PSC is to prepare recommendations that continue to address new advances in science and restoration, along with a focus on our partnership for going beyond 2025.*

The Chesapeake Bay Program partnership formed a Steering Committee with representatives from the signatories to the 2014 *Chesapeake Bay Watershed Agreement,* Goal Implementation Teams, Advisory Committees, participating federal agencies and non-governmental organizations. Beginning in June 2023, the Steering Committee convened its 29 members monthly to review, discuss and determine recommendations for Management Board and Principals' Staff Committee consideration. These recommendations are focused on providing a scope of work, or next steps, for the Chesapeake Bay Program as it prepares for the next chapter in its partnership beyond 2025.

As with any partnership, listening to a variety of perspectives, seeking middle ground and reaching consensus were crucial to forming the recommendations below. The Steering Committee came together as colleagues and partners, representing a diversity of organizations, perspectives and people, led by the common idea of a healthy, accessible and sustainable Chesapeake Bay and watershed with clean water, abundant life and conserved lands for the benefit, and through the engagement, of its people.

The public was~~is~~ invited to provide feedback on this draft report prepared by the Beyond 2025 Steering Committee, which reflects not only their thoughts and expertise, but also that of the many people who volunteered their time to help develop these recommendations. The revised report~~, may be revised~~ based on the received public feedback, ~~prior to being~~will be presented to the Management Board and Principals' Staff Committee, as established in the Governance and Management Framework for the Chesapeake Bay Program. The revised report will aid the Principals' Staff Committee in providing recommendations to the Chesapeake Executive Council, fulfilling the charge established in October 2022.

In Part I of this report, the Steering Committee offers two overarching recommendations for consideration by the Management Board and the Principals' Staff Committee for elevation to the Chesapeake Executive Council. The Steering Committee concludes that the Chesapeake Bay Program partnership, under the guidance of the 2014 *Chesapeake Bay Watershed Agreement*, continues to deliver valuable progress, locally, throughout the watershed and for the Chesapeake Bay itself. To further progress while addressing the latest scientific data and emerging challenges, the Steering Committee has identified several additional recommendations for improving efforts in the areas of Science, Conservation and Restoration, and Partnership. These additional recommendations, found in Part II of this report, require more detail and, in the Steering Committee's view, merit further exploration by the partnership. Many of the recommendations proposed by the Steering Committee in

Part II can be pursued within the partnership's existing processes for prioritizing and strategizing efforts. The Steering Committee recommends consideration of all recommendations in this report.

Part I: Recommendations for Potential Consideration by the Chesapeake Executive Council

The Steering Committee offers the following potential Executive Council Actions for Management Board and Principals' Staff Committee review:

- **Executive Council Recommendation #1:** The Beyond 2025 Steering Committee recommends that the Chesapeake Executive Council affirm its continued commitment to meet the goals of the *Chesapeake Bay Watershed Agreement* and direct the Principals' Staff Committee to propose specific amendments necessary to effectively implement the *Watershed Agreement*.

    - At its 2024 meeting, the ~~members of the~~ Chesapeake Executive Council should ~~each~~ affirm their continued commitment to work together in partnership to meet the goals of the *Chesapeake Bay Watershed Agreement* ~~,~~and direct the partnership ~~Chesapeake Bay Program~~ to continue implementation of the goals and outcomes as amendments are being considered.

    - The Chesapeake Executive Council should direct the Principals' Staff Committee, with support from the Management Board, Goal Implementation Teams, and Advisory Committees, to propose amendments to the *Watershed Agreement* necessary to incorporate new scientific understandings, to account for emerging challenges like climate change and more effectively engage the people living within the watershed. Any amendments to the *Watershed Agreement*'s vision, principles, preamble or goals should be prepared for consideration by the Chesapeake Executive Council at its 2025 meeting.

    - The Chesapeake Executive Council should direct the partnership~~Chesapeake Bay Program~~ to review all *Watershed Agreement* outcomes to ensure that each contributes to achieving partnership goals, provides clear direction and enables accountability ~~or~~and progress evaluation. Revisions to outcomes should be executed pursuant to the Governance and Management Framework. While not all outcomes will need revision, some reviews will likely result in consolidating, reducing, updating, removing, replacing or adding new outcomes. Proposed revisions should be considered as they are being reviewed, with every effort to complete most reviews and revisions by the 2026 Executive Council Meeting.

- **Executive Council Recommendation #2:** The Beyond 2025 Steering Committee recommends strengthening the Chesapeake Bay Program by identifying ways to simplify and streamline the partnership's structure and processes, including potential changes to the Chesapeake Bay Program's Governance and Management Framework to ensure that partner commitments can be met.

    - The Steering Committee recommends that the Chesapeake Executive Council direct the Principals' Staff Committee to enhance partnership efficacy and transparency by streamlining its processes, while ensuring effective coordination, collaboration, and

Commented [PL1]: Several commenters noted the need to maintain momentum and continue implementation of the agreement while the assessment is underway.

Commented [PL2]: Many of the commenters suggested changing this date to 2025. What does the SC think?

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inclusivity; modifying the partnership structure; and improving adaptive and science-based decision-making, ~~all toward achieving~~ to achieve a holistic vision of a healthy and resilient Bay and watershed.

- The aim of this recommendation is to ensure a program structure poised to implement the updated *Watershed Agreement* effectively and efficiently, acknowledging that existing structures, including the Management Board, Goal Implementation Teams, workgroups and action teams may likewise require streamlining to better meet partnership goals. The Chesapeake Bay Program should consider enlisting a third-party to facilitate, and should also ensure that cross-program coordination, communication and the need to work equitably and inclusively are interwoven throughout the organizational structure and activities of the partnership.

Additional Background

The *Watershed Agreement*'s vision, principles, goals, and outcomes should be reviewed to acknowledge and address emerging challenges impacting progress, apply new science and better connect the Chesapeake Bay Program's efforts with the benefits that this partnership aims to achieve for all people living, working in, or visiting the watershed. The *Watershed Agreement* identifies processes by which it can be amended, and some targeted amendments could improve the efficacy and efficiency of the partnership.

To ensure that the partnership remains relevant and is better positioned to realize its vision and goals, the partnership should carefully review the *Watershed Agreement* outcomes and determine if any outcomes need to be updated, combined, replaced or removed. Revised outcomes would likely be specific, measurable, achievable, relevant, time-bound (SMART) and equitable. Outcome revision should build upon the Outcome Attainability Assessments provided in Charting a Course to 2025 and consider the SMART –based outcome assessments and recommendations provided in the Eastern Research Group report. Changes should reflect recent scientific reports and highlight continued emphasis on achieving water quality goals, the importance of conservation in addition to restoration, shallow water habitats, the impacts of climate change, land use change, and population growth, and benefits to the people who live, work, and recreate in ~~visit~~ the area. Any revisions to outcomes should be approved by the Principals' Staff Committee or elevated, as needed, to the Chesapeake Executive Council.

The multi-jurisdictional partnership to improve the health of the Chesapeake Bay and its watershed is valuable in its ability to harness the resources and expertise of all seven watershed jurisdictions, federal agencies, academic institutions, non-governmental organizations, private industry, local governments and individuals in the work of delivering a healthy resource as a natural endowment for current and future generations. To be effective in this mission, the Chesapeake Bay Program should ensure that its governance and structure is transparent, inclusive, equitable and organized to meet its goals, while reducing siloes and breaking down unnecessary complexity.

The partnership should continue to set targets, track progress and be mutually accountable for meeting meaningful science-based goals as specified in the *Chesapeake Bay Watershed Agreement*. As new and growing challenges like increased rainfall, higher temperatures, land use change and other known or unanticipated factors continue to complicate efforts to meet partnership goals, it is imperative that the partnership continuously improve its organizational capability to assess, respond, innovate and adapt.

Commented [PL4]: Several commenters requested that this language be added earlier in the recommendation.

Commented [PL5]: Request from commenters to draw from Reaching 2025 report and the ERG report as it pertains to the outcome assessment.

Commented [PL6]: Request from commenter(s) to address other changing conditions beyond just climate.

Commented [PL7]: More grammatically correct.

Commented [PL8]: Recognizes that the PSC has approval over changes to existing outcomes but some issue may need to be elevated to the EC.

Many of the recommendations detailed in Part II of this report and identified by the Steering Committee to improve progress towards meeting the partnership's goals do not require formal amendments to the *Watershed Agreement* or direct action by the Chesapeake Executive Council but they are, in the view of the Steering Committee, no less critical to charting a path forward for the Chesapeake Bay Program beyond 2025. The Steering Committee encourages the Chesapeake Executive Council to support the partnership in further exploring and implementing these recommendations through existing structures and processes.

Recognizing our progress and challenges toward meeting the *Chesapeake Bay Watershed Agreement*

While this report focuses on actions to strengthen the partnership beyond 2025, it is important to recognize the many successes the partnership has achieved in meeting the outcomes of the 2014 *Chesapeake Bay Watershed Agreement* and to highlight the strength and value of continued partnership. The signatories of the 2014 *Chesapeake Bay Watershed Agreement* have worked diligently to reduce pollution to meet clean water goals, improve habitat for living resources, conserve land, expand stewardship and build technical expertise as the partnership strives to achieve the *Watershed Agreement's* 10 goals and 31 outcomes.

The partnership continues its concerted effort to do more and target actions to accomplish as much as possible leading up to and beyond 2025. These efforts have greatly benefitted from significant funding made available through federal and state budgets, as well as local and private investments.

At the 2023 Chesapeake Executive Council meeting, the Principals' Staff Committee provided an update on progress towards reaching the goals and outcomes in the *Chesapeake Bay Watershed Agreement*. Eighteen outcomes were reported to be on course or complete, with 11 outcomes off course and two uncertain pending future data updates. Of those off course, the Principals' Staff Committee committed to strengthening effort and investment in addressing nonpoint sources of pollution, forest buffers, urban tree canopy and both tidal and nontidal wetlands (see Charting a Course to 2025 for more information on strategies to accelerate implementation of these outcomes).

Notable partnership accomplishments include:

- **In 2023, partners planted the highest number of forest buffers since 2016.** While the goal of planting 900 acres of forest buffers per year is unlikely to be met by 2025, since 2019, the partnership has increased its plantings each year.
- **Also in 2023, partners planted over 2,500 acres of tree canopy**, the highest acreage reported since tracking began in 2014.
- **Chesapeake Bay Program partners have added 248 new public access sites throughout the watershed**, achieving 83% of the Public Access Outcome's target to open an additional 300 new public access sites before 2025. Efforts are being made to open these sites in areas that do not have access to green space or to ensure the sites are equitable and inclusive for all.

Commented [PL9]: Request from STAC to provide a more balanced view in meeting the Agreement goals and outcomes. Added a new paragraph to that effect.

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Commented [PL11]: Request to add a reference to the Reaching 2025 report that provides additional information on strategies to accelerate efforts towards achieving these outcomes.

Commented [PL12]: Request to add recent progress on tree canopy as an accomplishment.

- **Since 1988, 30,562 miles of streams and rivers reopened to migrating fish**. The Fish Passage Outcome reached its 2025 goal of opening 1,000 miles of streams and rivers to support migratory fish populations nine years early in 2016. In 2020, the target for this goal was modified to open an additional 132 miles of streams and rivers by removing blockages like culverts and dams every two years leading to 2025.

- **As of 2022, Chesapeake Bay Program partners have protected nearly 1.64 million additional acres of land throughout the watershed.** Overall, there are now approximately 9.1 million acres of conserved land, representing 22% of lands throughout the entire watershed.

- **Partners have successfully worked to maintain the blue crab fishery.** While subject to annual natural variation, female blue crabs have stayed above the threshold of what is needed for a healthy blue crab population since 2014. Partners regularly come together to review pressures impacting blue crabs and make sound management decisions to ensure a healthy fishery.

- **Submerged Aquatic Vegetation is expected to show a strong rebound in 2024,** while still not expected to meet its 2025 target. This habitat was almost obliterated by Hurricane Agnes over 50 years ago. In 2022, the Susquehanna Flats had 10,000 acres of submerged aquatic vegetation.

- **Wastewater treatment plants have been updated throughout the watershed**, meeting the sector's goal to help reduce the amount of nitrogen, phosphorus and sediment pollution entering the Chesapeake Bay in 2016—nine years before its 2025 target.

- **Since 2014, the investment in the implementation of agriculture conservation practices is expected to prevent more than 11.7 million pounds of nitrogen from being delivered to the Chesapeake Bay, as estimated from the partnership's Phase 6 suite of modeling tools.**

- **Since 2014, 1,572 acres of oyster habitat have been restored in 11 Chesapeake Bay tributaries.** Partners have completed 1,572 acres of large-scale oyster restoration since 2014. Eight out of 10 restoration sites are now considered complete, and in 2019, Virginia completed an 11th bonus tributary.

- **Since 2022, the partnership has added five monitoring stations in rivers and six in tidal waters.** These are already providing better and more frequent water quality data in areas of interest.

Despite progress made to date, the Chesapeake Bay Program (CBP) Science and Technical Advisory Committee (STAC) Comprehensive Evaluation of System Response (CESR) report identifies many ongoing challenges to achieving our shared vision of a restored watershed and Bay. Challenges include generating more pollutant reductions from non-point sources to meet water quality goals; the need for increasing management attention towards living resources; and committing to improving the CBP's ability to "learn while doing" and adjust our adaptive management approach to ensure efficient, effective, and positive environmental outcomes. As a partnership, we must continue to develop and implement approaches to innovate and address existing and new challenges.

Part II: High-level Recommendations and Considerations for the Chesapeake Bay Program

In October 2022 the Chesapeake Bay Program Executive Council (EC) issued a charge https://www.chesapeakebay.net/what/publications/executive-council-charge-to-the-principals-staff-committee-charting-a-course-to-2025-and-beyond to the Principal Staff Committee, recognizing that the 2025 deadlines established for some goals and outcomes under the 2014 *Watershed Agreement* would likely not be met, while also recognizing that data collection and analysis, science and changing environmental conditions must be re-evaluated and included in a critical path for the partnership's work beyond 2025. The EC Charge organized nine strategic subjects, listed below, for review and consideration within three overarching topics of Science, Restoration and Partnership, with the expectation that at the 2024 annual EC meeting, the PSC will present recommendations addressing how the partnership will continue to include new advances in science and restoration, along with a focus on partnership priorities moving beyond 2025.

Chesapeake Bay Program, Executive Council Directive, October 2022 (Abbreviated)

Science

- Identify new and emerging scientific data and studies which could modify our progress reporting and adaptive management approach, as well as the goals and outcomes under the *Watershed Agreement*.
- Enhance our monitoring and reporting capabilities to improve our understanding of existing conditions and trends.
- Define the existing and emerging challenges (e.g., climate change conditions, increasing growth, diversity, equity, inclusion and justice considerations) to accomplishing the partnership's work under the *Watershed Agreement*, and how addressing those challenges might alter our collective restoration priorities, including the possibility of extending the target date for completing restoration of water quality beyond 2025.
- Identify opportunities to leverage action across multiple goals and outcomes of the *Watershed Agreement.*

Restoration

- Develop and begin to implement a communication strategy that identifies key partnership successes, associated ecosystem improvements and areas where more effort is needed.
- Provide snapshots of outcome attainability under the *Watershed Agreement* (e.g., which outcomes are likely to be met by the date(s) set by the partnership, which won't, and why) and options for communicating these snapshots to demonstrate progress in achieving our outcomes and the remaining work to be done, including gaps to be addressed.

Partnership

- Focus on moving beyond 2025 by seeking ways in which restoration can be relevant to all communities within the watershed.

- Assess the overall partnership to determine whether we are effectively hearing from and listening to all stakeholders and have systems of evaluation and decision-making to enable meaningful action and allocation of partnership resources.
- Based on this assessment, develop recommendations for potential improvement.

In response to extensive dialogue and direction at the PSC level, the Management Board established a Beyond 2025 Steering Committee (Steering Committee), comprised of representatives from the signatories to the 2014 *Chesapeake Bay Watershed Agreement,* Goal Implementation Teams, Advisory Committees, participating federal agencies and non-governmental organizations. As the Steering Committee commenced its work in 2023, it was recognized that additional challenges and emerging issues continued to arise since the 2022 EC Charge was issued and should also be included and addressed in the response to the EC Charge. Together the Steering Committee members identified and prioritized their initial work around five topic areas, in order to capture (a) the scope of the original EC Charge and (b) the breadth of new advancements in science, restoration and structure of the partnership. Thus, five Beyond 2025 Small Groups were established around Clean Water (CW), Climate (C), Healthy Watersheds (HW), People (P), and Shallow Water Habitats (SW). Extensive feedback, public input, analysis and synthesis of ideas, data, trends, best practices, and lessons learned contributed to and resulted in five ~~Findings~~ Considerations from each small group (25 total Considerations, categorized and abbreviated by CW1-5, C1-5, HW1-5, P1-5, and SW1-5 throughout this report~~)~~, see also ~~provided in~~ Part III: Source Materials of this report), and ultimately further synthesized by the Steering Committee to guide immediate next steps.

Commented [PL13]: Several commenters requested clarification of these abbreviations.

Concurrently, the EPA Chesapeake Bay Program Office funded an independent consultant, the Eastern Research Group (ERG), to perform a program evaluation for the Steering Committee's consideration. ERG was tasked with answering three evaluation questions centered on program structure and effectiveness, stakeholder understanding and support, and outcome attainment. ERG reviewed key documents identified by the Steering Committee, held a series of groups discussions across the Chesapeake Bay Program's organizational structure, and performed an assessment of the *Watershed Agreement*'s 31 outcomes. The observations and conclusions outlined by the ERG Report, provided in Part III of this report (abbreviated through Findings 1-12 or F1 – F12 and Considerations 1-11 or C1 – C11), further informed the Steering Committee's considerations and synthesis of the Small Groups' findings, as demonstrated throughout this document.

This document seeks to succinctly capture the common themes that emerged throughout the small group findings, the ERG evaluation, and Steering Committee discussions -- organized under the EC Charge's three subject areas of Science, Restoration, Partnership. In doing so, this report aims to identify the most relevant, pressing and impactful recommendations that will maximize benefits and results across the work of the Chesapeake Bay Program, while improving the way the partnership accomplishes its work.

Science

Rigorous science is the backbone of the Chesapeake Bay Program's restoration and conservation efforts. This scientific foundation informs policy decisions and strives to ensure resources are targeted in areas to accelerate progress. The partnership faces a number of existing and emerging challenges that require integration of new findings, fostering collaboration among researchers across the watershed and in different disciplines, and prioritizing areas where knowledge gaps exist. By remaining grounded in science, the Chesapeake Bay Program can ensure its future efforts are based on the most up-to-date knowledge.

1. Optimize monitoring, modeling, and analysis

Monitoring allows Chesapeake Bay Program partners to assess and evaluate progress from restoration and conservation efforts, while identifying gaps where more attention is needed in the future. **The Steering Committee recommends developing a long-term strategy to maintain the integrity of core monitoring networks and pursue opportunities for enhancements in monitoring** (Monitoring Review). Monitoring is critical for evaluating progress and identifying challenges towards meeting the goals and outcomes of the 2014 *Chesapeake Bay Watershed Agreement*. However, monitoring is insufficient for many partnership outcomes, and a majority of the outcomes do not follow the SMART (specific, measurable, achievable, relevant, and time-bound) criteria, lacking measurable qualities (ERG F11, Monitoring Review). **The Steering Committee recommends that all~~any~~ updated outcomes have a clear target for reporting and an existing monitoring plan or coincident development of a fundable monitoring and analysis plan to support assessment.** These factors are essential for ensuring a return on investment toward achieving a healthier Bay and watershed.

The Steering Committee recommends better utilizing our monitoring and assessment capacity, with increased emphasis towards characterizing watershed health at ~~the~~a local ~~level~~ scale as well as for the entire basin (HW1). Characterizing watershed health at a local scale can enhance cooperation and coordination of monitoring across organizations, emphasize local priorities and environmental justice, and inform implementation efforts done at the local level while providing a more holistic understanding of the watershed and Bay condition (HW1; CW3). Additionally, there is a wealth of state, local, and participatory monitoring data that may be used for learning, status and trends analyses, and model validation (CW3). **The Steering Committee recommends incorporating multiple lines of evidence in existing and new tools and models, or linking multiple models, to evaluate progress towards multiple goals** (CW1, SW2, HW5, STAC Climate). Incorporating various types of data (water quality monitoring, toxic and other emerging contaminants, living resources data, social science~~, and emerging contaminants~~) into tools and models would address multiple Chesapeake Bay Program outcomes, strengthen the connectivity, and offer a more complete picture of Chesapeake Bay and watershed health. **The Steering Committee also recommends modeling efforts integrate climate change projections to better understand changes across multiple indicators and inform strategic planning at the local and state level** (C1, C2, C3, C4; HW1; SW2).

2. Integrate existing and new science findings in decision making, resource allocation, and communication strategies.

The Steering Committee recommends adaptation to the latest scientific findings as well as improved communication on how these findings are integrated into decision making, resource allocation, and management strategies. Many ongoing efforts within the partnership, like the Science and Technical

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Commented [HE16]: Numerous comments highlighted the need to add more regarding toxic contaminants and emerging contaminants more explicitly.

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Advisory Committee's Comprehensive Evaluation of System Response (CESR) report, have identified emerging scientific data and insights. These insights offer opportunities to accelerate progress by, for example, incentivizing performance over counting practices (CW1; EC Charge), addressing nutrient imbalances, and prioritizing water quality attainment and living resource response in shallow and open waters, shifting focus away from solely the deepest portion of the Bay. Furthermore, and as well detailed in the CESR Report, the partnership will need to have an increasing emphasis on programs that control and minimize nonpoint sources of pollution to meet existing WIPs, especially in agricultural and developed landscapes. By actively integrating these scientific findings into the Program's decision-making, resource allocation, and management strategies, the partnership can optimize its approach.

The Chesapeake Bay Program not only conducts cutting-edge research but also translates those findings into reports. Research should inform communication strategies that connect the health of the Bay to the well-being of people (P2). The Program could more effectively link the partnership's work to the tangible benefits it provides for people around topics such as soil health, ecosystem services, and shallow water habitats to inspire broader engagement and action (C5, C4; SW4).

The Program's data, scientific findings, and reports are vast, so the **Steering Committee recommends improved access to information and cooperation among organizations to share data** (ERG F12, ERG C6; CW3; HW1). This includes creating an accessible data repository and fostering better coordination among monitoring programs at all levels. *ChesapeakeData* could support this need by serving as a central point of access to data resources and decision-support tools to promote collaboration and data sharing across multiple agencies and organizations.

3. Prioritize research that addresses knowledge gaps in existing and emerging challenges.

The **Steering Committee recommends prioritizing climate science and research on land use change** (EC Charge) **to enhanc~~e~~ing the partnership's understanding of these anticipated changes, and how conservation practices may respond to th~~e~~ose changes~~, by prioritizing climate science and research on land use change~~** (EC Charge)**.** Climate change and development is rapidly and significantly altering the Chesapeake Bay and its watershed. This requires a holistic biophysical and social science approach to better understand the interaction of these issues together and with other factors. The partnership should consider the impacts of rising temperatures on ecosystem health (STAC), the role and design of nature-based solutions and green infrastructure to mitigate the impacts of climate change (C3, C4; Climate Directive; HW2), the impacts of a changing climate on restoration practices (CW2; SW1), vulnerability assessments for living resources, habitats and communities (C2; SW3), and synthesizing resilience strategies that maximize the ecosystem services and benefits (C3).

The Steering Committee also recommends a greater focus on conducting social science research and applying its findings to ensure restoration and conservation efforts align with the well-being of people (ERG F8, C7)**.** Social science ~~reflects~~ comprises a ~~n extremely~~ broad field of scientific study related to people and social relationships~~; sSocial science should be applied where it can have the greatest overall impact and applied strategically rather than opportunistically~~ (P5). Prioritizing the understanding of people's values and motivations can help ~~drive sustainable natural resource use, management, and decision-making as well as~~ ensure equitable inclusion of all communities in restoration and conservation efforts (CW1).

Commented [HE17]: Was specifically called out as missing during the feedback process. Added, because sTAC has consistently highlighted this as one of the most important things we need to resolve.

Commented [HE18]: Several comments highlighted the need to more explicitly call out the need for better non-point source controls in agricultural and developed landscapes. This is consistent with CESR and small-group discussions.

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The Chesapeake Bay Program's capacity on climate and social science is constrained by limited personnel and funding. The partnership can enhance Chesapeake Bay Program knowledge and improve decision-making by expanding the Program's climate science support team, ~~and~~convening ~~social science staff~~a diverse panel of social scientists working with communities, and dedicating resources for the strategic application of these topics (ERG C7; C1, C4; P5). By investing in these areas, the partnership can bridge the gap between knowledge and action.

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Restoration and Conservation

Since its inception, the Chesapeake Bay Program has worked to restore the Bay and its living resources by addressing water quality concerns. However, a changing climate and a growing human population in the watershed have challenged the Program's progress. The Bay of the future will be different from the Bay of the past and these changing conditions will make it more difficult to reach our goals (CESR). A holistic restoration approach continues to be necessary and is increasingly important in the context of emerging challenges. Working strategically to improve the Program's holistic approach to restoration and conservation will help ensure our collective efforts are resilient and have the intended benefits for the Bay and the watershed's ecosystems and communities.

1. Support ~~S~~system-~~S~~scale ~~C~~conservation and ~~R~~restoration ~~P~~planning and ~~I~~implementation for ~~H~~habitats and ~~C~~communities.

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Given the land use pressures associated with a growing population, **the Steering Committee recommends that the Bay Program elevate Conservation as a key guiding pillar alongside Science, Restoration and Partnership** (HW 4). Taking a more holistic, systems approach to increase ~~the~~ impact ~~of conservation~~ at multiple scales requires broadening our vision of restoration to incorporate management, stewardship and conservation of land and aquatic environments into local and regional land use planning efforts that encourage compact, efficient, and sustainable development. Conservation[1] entails the protection, preservation, management, or restoration of natural environments and the ecological communities that inhabit them. Protecting forests and farm lands from development and other land use transitions can help protect investments made to restore water quality and natural habitats. Conservation and stewardship of land and aquatic environments can support watershed health, expand and enhance publicly accessible natural areas and ensure the resilience of ecosystems that provide clean water, store carbon, and provide numerous other ecosystem service and socio-economic benefits to local communities (C3, HW4)~~Conservation, defined here as protection from development and other land use transitions, is much cheaper than restoration and can help ensure the durability of investments in water quality and habitat restoration. Conservation and stewardship of land and aquatic environments can support watershed health, expand and enhance publicly accessible natural areas and ensure the resilience of ecosystems that provide clean water, store carbon, and provide numerous other ecosystem service and socio-economic benefits to local communities (C3, HW4)~~. The partnership should identify mechanisms to further integrate conservation and stewardship throughout the Program.

Commented [PL22]: Request from LGAC for a revised explanation or description of what we mean by "conservation."

In addition to sustaining ecosystem-wide management, and as explored in CESR, **the Steering Committee recommends planning for the restoration and conservation of nearshore habitats, inclusive of tributary rivers and streams– some of the most important places for people and the most productive habitats for living resources** (CESR, P2, SW1). Emphasizing the social, economic and ecological benefits of restored, resilient and connected shallow water habitats would strengthen the connection between people and habitats and promote proactive approaches to climate adaptation (C4; SW1, SW4). In urban areas, this may require intentional efforts to reestablish habitats and reconnect population centers with local waterways. However, it is essential to understand and plan for the

Commented [PL23]: Request to reference CESR where appropriate.

[1] https://www.nrcs.usda.gov/sites/default/files/2022-09/English%20Whats%20CONSERVATION%20Mean_4.pdf

changes these habitats will undergo due to climate change, including rising temperatures and water levels, to develop strategies to address vulnerabilities and sustain ecosystem function (C1, C4).

2. Review and, where necessary, revise existing goals, outcomes and management strategies to more effectively guide the partnership's restoration and conservation efforts beyond 2025.

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The partnership should apply recent science and lessons learned through the Strategy Review System to identify the ongoing and emerging challenges impacting our success and consider if goals and outcomes need to be modified to better account for emerging challenges. **The Steering Committee recommends reviewing and adapting the partnership's portfolio of outcomes as needed to be more compatible with anticipated future landscape conditions, accounting for climate, population growth and projected land use change** (C1; SW1, SW2). In some cases, new or refined management strategies could be developed for existing goals and outcomes to address emerging challenges (C3, C4, C5).

The Steering Committee recommends streamlining goals and outcomes, as well as overall partnership structure, to improve the integration, efficacy and efficiency of restoration and conservation efforts. This could be done by reducing the number of medium- or long-term outcomes to better focus efforts (ERG C2) or by modifying and consolidating interconnected goals and outcomes to achieve greater collaboration, integration and efficiency (ERG C4; HW1, HW2, HW5). For goals and outcomes maintained in an amended agreement, time horizons and targets should be modified for off-track outcomes, including exploring a phased implementation of the TMDL (CW2). Some foundational off-track outcomes, like forest buffers, tree canopy, and wetlands, will require new management strategies and continued prioritization to accelerate progress. For outcomes that have been achieved, strategies should be developed to ensure continued success, new targets should be identified where appropriate, and any amendments should ensure restoration priorities reflect the needs of the public (P2).

3. Improve the Program's holistic approach to planning, prioritization, progress-tracking and accountability.

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Adopting a more holistic approach to address emerging challenges requires a strategic approach both before and after restoration practices are implemented on the ground. More strategic planning and prioritization could optimize the impact of our restoration investments and enable leveraging new funding sources. **The Steering Committee recommends developing and adopting approaches to better incentivize practices that maximize benefits to living resources and people.** Many water quality BMPs can also deliver ecosystem service benefits for climate mitigation, ecosystem adaptation, community resilience, regenerative food systems, environmental justice and more, but only if their implementation is prioritized and targeted to effectively address local environmental and community concerns (C2, C3, C4, C5; CW5; SW 1, SW2, SW3, SW5). At the same time, a more holistic approach can facilitate evaluating tradeoffs between multiple objectives when needed (C3, SW2).

The Steering Committee recommends enhancing the local benefits of Chesapeake restoration and conservation by improving alignment ~~with~~of regional, state and local plans and priorities (CW2, CW5). Improving collaboration with networks of local partners and planners would facilitate both the development of restoration and conservation approaches that align with ~~local~~community priorities and where appropriate, the incorporation of watershed actions into local and river/tributary planning processes (HW2, SW3). ~~Better l~~Local engagement that seeks to understand local priorities would further increase outcome achievement by shaping restoration and conservation approaches that are co-

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designed with communities and reflect the local context, including current environmental and socioeconomic conditions and needs (P5, SW3).

The Steering Committee recommends improving progress-tracking and accountability to further support efforts to adaptively manage, to better target and prioritize resources and to provide technical assistance and communication of outcomes. The partnership should evaluate lessons learned through the Strategy Review System, identify effective approaches for improving progress-tracking and accountability, and provide additional federal funding as needed to support any additional monitoring or reporting requirements. This could include developing a tiered or phased implementation approach for meeting tidal water quality standards, assisting with data-driven decision-making, and targeting lagging outcomes and critical or vulnerable habitats (CW2 CW4; HW1; SW1, SW3). The Water Quality Accountability Framework could also be revised to increase emphasis on measured outcomes and to incentivize innovative approaches to address stressors and target nonpoint sources of pollution (CW1). Shifting to a more transparent, multi-objective accountability system based on measured outcomes could better track a wider range of efforts supporting partnership goals (CW4, HW5, SW2, SW5) and enable improved outcomes under conditions of uncertainty (C1).

Partnership

The Chesapeake Bay Program is a long-standing regional partnership between states, federal agencies and other partners that guides the restoration and protection of the nation's largest estuary. The partnership is focused on moving beyond 2025 by adaptively managing how we work together and by seeking new ways in which restoration and conservation can be relevant to more communities within the watershed. To meet these ambitious goals and produce lasting results, the partnership needs to ~~adopt a systems approach to~~modify its governance and structure, utilize a partnership of networks strategy for capacity building, broaden the scope of involved communities and improve communications and transparency.

1. Adopt a systems approach to streamline governance and structure.

The Steering Committee recommends that the partnership contract an independent party to help review and revise the Chesapeake Bay Program's governance and structure to improve efficacy, transparency and collaboration. By adopting a systems approach, the partnership would be able to better understand the interconnectedness of both partnership-adopted processes and organizational structure. With the support of an independent systems expert, the partnership can create an updated logic model that works backward from the Goals and Outcomes to their corresponding actions, incorporating a theory of change to inform linkages between actions and Goals and Outcomes (P1; ERG C1). The partnership should also seek to simplify complexity by focusing the organizational structure (ERG C3, ERG C4), and should consider cross-program coordination, cooperation, and transparency to streamline logistics, increase knowledge sharing, and eliminate silos (ERG C1, ERG C2). Additionally, strong internal collaboration and communication within jurisdictions can increase cross-program coordination and in turn create synergies and increased innovation. This reevaluation should also adequately balance product and process, ensuring that both are equitable.

The Steering Committee recommends the partnership revisit its adaptive management principles to better enable efficient and effective decision-making. To increase confidence and transparency in decision-making, the Program can improve engagement with Advisory Committees and with the

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relevant leaders and subject matter experts accountable to their jurisdiction or signatory for each Goal area, ensuring that all outcomes have decision-makers at the table (ERG C5).

The partnership should evaluate the successes of the Strategy Review System (SRS) and strengthen its areas of need. The SRS is the Bay Program's adaptive management framework used to track progress towards meeting each of the outcomes in the *Watershed Agreement* and to adjust course where needed (ERG C6, ERG C7; P1). The SRS needs to be more adaptive, embracing its role within the partnership's theory of change and logic model. The partnership should strategically apply relevant expertise at the Management Board and allow for flexibility within the framework. As part of the SRS, a clear process for assessing current and future vulnerabilities and changing conditions is necessary to provide the tools for adaptive planning (ERG C7; SW 3).

2. Enhance ~~C~~capacity ~~B~~building and ~~A~~administrative/~~T~~technical ~~A~~assistance through ~~L~~local ~~N~~networks.

The Steering Committee recommends enhancing the Program's structure so it can better serve as a partnership of networks that connect local implementors with data, tools, resources and technical assistance that build capacity ~~at the local level~~ on a local scale**.** Developing a more holistic, locally engaged approach to restoration and conservation will require additional capacity across the partnership. Coordinated capacity building and technical assistance through local networks can help leverage resources and expertise to address emerging challenges and to more comprehensively and efficiently drive implementation of practices that support the Programs' goal and outcomes (CW 3, CW4, CW5; HW1, HW3, HW 4; SW 3, SW5). The partnership could begin by supporting jurisdiction agencies and other partners including nonprofit organizations in establishing and deepening collaborative relationships with strategic networks of local liaisons that provide administrative and technical expertise to on-the-ground partners (CW5, HW3). Through these local liaison networks, federal and state partners can connect local implementors and decision-makers with interdisciplinary tools, data and other resources that drive conservation and restoration action (HW3, HW4; ERG C6). Partnership with these networks can also be leveraged to create feedback loops for sharing bottom-up insights that support learning from the local level (P2, P4). Long-term, the partnership should identify opportunities to resource strategic networks for sustained partnerships that create durable impact (P4; HW4).

3. Strengthen the Program's capacity to ensure watershed restoration is relevant to all communities.

The Program and partnership should commit to inclusive and meaningful engagement of people and communities that have been historically underrepresented, under resourced, and underserved. The partnership should increase the number of historically excluded communities involved, collaborate with these communities to create varied and meaningful pathways for participation, and increase the quality and authenticity of community engagement. This includes collaborating with the watershed's indigenous communities on pathways for increased involvement in the Program (ERG C10). In creating these pathways, the partnership should ensure engagement is a benefit not just for the Program, but for the communities and groups engaged, and that information exchange is emphasized over information extraction.

The Steering Committee recommends, in response to the Executive Council statement in support of diversity, equity, inclusion, and justice, that the partnership institutionalize and actualize the Program's Diversity, Equity, Inclusion and Justice Implementation Plan. The diversity of the partnership should reflect the diversity of the watershed it is working to conserve and restore**.** The partnership

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should begin by assessing barriers to activating and implementing the existing DEIJ Implementation plan; with these considerations accounted for, the partnership should incorporate DEIJ into the program's foundation via the DEIJ Implementation Plan. This will require the necessary capacity and financial resources for effective and sustained implementation of the plan, including working alongside and through trusted sources and ensuring the necessary staffing resources are in place (C2; P2, P3). As new programs, structures or priorities are formed, ensure that the commitments of the DEIJ Implementation Plan are incorporated through all relevant areas of the partnership's efforts, not limited to the Diversity Workgroup.

4. Enhance ~~C~~communications and ~~T~~transparency to ~~F~~foster ~~L~~long-term ~~S~~success.

The Steering Committee recommends prioritizing and improving communications and transparency ~~with the partnership's outreach and engagement activities~~ to spur stewardship, drive restoration and conservation momentum and ensure long-term Program efficacy. The partnership should continue to strengthen relationships between people and ecosystems by regularly communicating key partnership successes, associated ecosystem improvements and socio-economic benefits garnered from achieving *Watershed Agreement* goals (ERG C5, ERG C6; SW4). This includes identifying key audiences and ~~conducting thorough, social science research to fully~~ understanding local priorities, needs and challenges (P5) before identifying how and when the partnership wants to engage with these constituencies. Partners can also better facilitate information exchange by expanding state and federal agency communications staff, engaging more deeply with the Program's Advisory Committees, and, as appropriate, utilizing coordinated, tailorable communications to amplify impact throughout the entire watershed. At all levels of the partnership, the Program should enhance pathways for local networks, Advisory Committees and others to provide feedback on science and policy development to ensure that the Chesapeake Bay Program is effectively hearing from and listening to stakeholders. The partnership should strengthen its commitment to transparency both externally, particularly for stakeholders that have historically been excluded from the Program because of overly complex systems and processes, and internally by relying on proven social science best practices and processes in decision-making and fostering a collaborative organizational culture that includes diverse voices (ERG C5, ERG C7; P5).

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Part III: Source Materials

Materials are held on https://www.chesapeakebay.net/who/group/beyond-2025-steering-committee

- *Beyond 2025 Small Group Findings and Considerations: https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/Beyond-2025-Small-Group-Findings-and-Considerations_FINAL.pdf*
- *Chesapeake Bay Program Beyond 2025 Evaluation:* https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/CBP-Beyond2025-Final-Report-for-SC-06-18-24.pdf
- *Charting a Course to 2025: https://www.chesapeakebay.net/what/publications/charting-a-course-to-2025*
- *Rising Watershed and Bay Water Temperatures: Ecological Implications and Management Responses:* https://www.chesapeake.org/stac/document-library/rising-watershed-and-bay-water-temperatures-ecological-implications-and-management-responses/
- *Enhancing the Chesapeake Bay Program Monitoring Networks: https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/Enhancing_the_Chesapeake_Bay_Program_Monitoring_Networks_A-Report_to_the_Principals_Staff_Committee.pdf*
- *Chesapeake Governance Study: Report of 2021 Decision-Maker Interview Results: https://digitalcommons.dartmouth.edu/facoa/4314/*
- *Recognizing Political Influences in Participatory Socio-Ecological Systems Modeling: https://sesmo.org/article/view/18509/18038*
- *Linking Soil and Watershed Health to In-Field and Edge-of-Field Water Management: https://www.chesapeake.org/stac/document-library/linking-soil-and-watershed-health-to-in-field-and-edge-of-field-water-management/*
- *Using Local Monitoring Results to Inform the Chesapeake Bay Program's Watershed Model: https://www.chesapeake.org/stac/document-library/22313/*
- *Cafe Summaries and Report Products from the Chesapeake Bay Program Strategy Review System's 3rd Cycle Biennial Meeting: https://www.chesapeakebay.net/what/event/chesapeake-bay-program-srs-biennial-meeting*
- *2014 Chesapeake Bay Watershed Agreement: https://www.chesapeakebay.net/what/what-guides-us/watershed-agreement*
- *Chesapeake 2000: https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/cbp_12081.pdf*
- *Governance and Management Framework for the Chesapeake Bay Program: https://www.chesapeakebay.net/what/publications/chesapeake-bay-program-governance-document*

- *Achieving Water Quality Goals in the Chesapeake Bay: A Comprehensive Evaluation of System Response: https://www.chesapeake.org/stac/cesr/*

- *Enhancing Chesapeake Bay Partnership Activities by Integrating Social Science: https://cbtrust.org/wp-content/uploads/UMCES_Social_Science_Final_Report_w_Apps_2.7.23.pdf*

- *Retrospective on Lessons Learned from the Chesapeake Bay Program Strategy Review System's 3rd Cycle with Suggested Adaptations to Address Issues: https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/2.-Read-Ahead-Retrospective-on-Lessons-Learned-from-the-CBP-SRS's-3rd-Cycle_5.5.23_2023-05-09-175030_ddta.pdf*

- *Advancing Monitoring Approaches to Enhance Tidal Chesapeake Bay Habitat Assessment: https://www.chesapeake.org/stac/document-library/enhancing-the-chesapeake-bay-program-monitoring-networks-a-report-to-the-principals-staff-committee/*

- *Using Ecosystem Services to Increase Progress Toward, and Quantify the Results of, Multiple Chesapeake Bay Program Outcomes: https://www.chesapeake.org/stac/document-library/using-ecosystem-services-to-increase-progress-toward-and-quantify-the-benefits-of-multiple-cbp-outcomes/*