

CLEAN WATER

Revise the Accountability Framework associated with the Chesapeake Bay Total Maximum Daily Load (TMDL) to improve our management effectiveness.

(Consideration 1)

Review and revise the accountability framework to improve our effectiveness, particularly in reducing nonpoint source pollution, and increase emphasis on measured outcomes and water quality data in our assessment of progress. The goal is to create space for jurisdictions to pursue opportunities that may improve water quality but are not currently being incentivized when determining progress through the use of the Chesapeake Assessment Scenario Tool (CAST). Another primary objective is to identify resources needed to abide by the Accountability Framework and to effectively manage nonpoint sources of pollution.

Impact to how we work: Significant changes to annual progress assessment and potential future WIPs and Milestones

- Continue to utilize CAST with the incorporation of multiple lines of evidence into progress evaluations.
- Evaluate efficacy of the Chesapeake Bay Program policies and guidance associated with tracking, evaluating, verifying, and reporting progress.
- Increase emphasis on mutual accountability from partners, increased focus on innovation, system learning and how we make connections with people through restoration efforts.
- Explore using social science to better understand and measure how human behavior can drive natural resource use, management and decision-making.
- Document management effectiveness.

Impact on Chesapeake Bay Watershed Agreement: New time horizons to meet the targets of the Chesapeake Bay TMDL will require revisions.

General Level of Effort: High

- Level of effort is associated with the partnership time to develop and evaluate new methods to assess progress, structure of WIPs and milestones, and accountability mechanisms that fully engages with and is supported by the Chesapeake Bay Program partners.
- This is a commitment of staff time dedicated to development, review, communication, and consensus-building of any new processes.

How-to Strategies (Phase 2 Actions):

- Evaluate how accountability should work to improve overall effectiveness:
 - Determine how and what water quality monitoring data could be used in the process.
 - Determine how can living resources and ecosystem services be connected with water quality reductions to provide holistic accountability.
 - How the annual programmatic progress reporting could be leveraged in a more meaningful way.
 - How the [Monitored and Expected Total Reduction Indicator for the Chesapeake \(METRIC\)](#) tool could be used as part of the annual progress review
 - How existing policies and guidance could be revised to improve overall efficiency and effectiveness.

CLEAN WATER

Adopt a tiered approach to the Chesapeake Bay TMDL which prioritizes living resources response, near term benefits, and climate resiliency. (Consideration 2)

Since the Chesapeake Bay TMDL was developed to achieve attainment of tidal water quality standards for dissolved oxygen, SAV/water clarity and chlorophyll *a* for the Chesapeake Bay's 92 management segments, identify a tiered implementation approach. Recognizing pollutant reductions are needed throughout the watershed, target improvement strategies based on a phased approach to progressively achieve near-term, mid-term and long-term outcomes adapted to state/regional workplans and resources. This approach will foster alignment with state and/or local water quality priorities, accelerate habitat, living resource, and watershed responses, while addressing cost effectiveness and climate resiliency.

Impact to how we work: This approach will prioritize efforts to identify and implement restoration initiatives with strong living resource benefits and that consider future implications of climate change.

- Identify benefits that align with local goals in order to shape the restoration initiatives.
- Provide opportunities to prioritize system responses to restoration initiatives through pursuing individual pieces of the larger restoration goals.
- Set tiered planning targets based on the segment(s) where efforts are focused.
- Communicate incremental successes to ensure motivation and momentum.

Impact on Chesapeake Bay Watershed Agreement: New time horizons to meet the targets of the Chesapeake Bay TMDL will require revisions.

General Level of Effort: Moderate

- Moderate effort needed to by the partnership to identify what factors should be considered, how they can be defined spatially, and the timescales that would be most beneficial.

How to Strategies (Phase 2 Actions):

- Identify impaired tidal Chesapeake Bay receiving waters (at a scale finer than the segment scale) with important connections to living resources, climate resiliency and other partnership priorities.
- Identify receiving waters with high probabilities for substantive near-term improvements given implementation levels can be put into place.
- Coordinate with jurisdictions and the broader partnership to identify how local 303(d) priorities and associated restoration initiatives align with the 'high-tier' waters noted above
- Establish a process to identify "immediate field", "near field" and "far field" goals in order to promote effective prioritization and connect restoration efforts with outcomes.
- Coordinate with jurisdictions to investigate a method that allows for multiple planning goals in tidal waters that satisfy all water quality criteria so they may be achieved in a step-wise manner

CLEAN WATER

Enhance coordination and use of monitoring and assessment results with an emphasis on guiding implementation through documenting performance.

(Consideration 3)

Establish and promote effective cross-program coordination for water quality monitoring to inform watershed health and water quality restoration programs focusing on data-driven decision-making. Promote the use of state and local monitoring and assessment for incorporation into program goals, as appropriate, which may include learning, status and trends analyses, and evaluation of meeting water quality and living resource goals.

Impact to how we work: Re-envision the way that we utilize our monitoring data to maximize the data collection efforts of the partnership.

- Incorporate the wealth of community/participatory science into the formal feedback mechanisms used by the partnership to evaluate success and drive focused implementation. Make space for and embrace the different tiers of data that this piece of the partnership collects. This includes development and use of robust feedback mechanisms for the use of this data.
 - Change the water quality assessment and monitoring outcome to include quantitative measures for expansion of capacity based on increased coordination.
 - Include more than reporting on response metrics but expand language include stressor metrics (e.g., bacteria, pH/AMD, conductivity, toxics, etc.)
- Enhance coordination among local/state/federal partners data collection.
- Prioritize and focus attention to the work that is conducted by monitoring and assessment working groups.

Impact on Chesapeake Bay Watershed Agreement: Amendments/changes to the water quality and assessment outcome to require actions described above would catalyze this effort.

General Level of Effort: Medium

- level of effort is associated with the partnership time, additional resources to develop new assessment methods that incorporate the expanded collection of data, and resources to provide robust meaningful feedback mechanisms to our community science partners.
- This is a commitment of staff time dedicated to development of these new processes and resources for development of the feedback mechanisms needed.

How to Strategies (Phase 2 Actions):

- Investigate and expand the current coordination strategy between the multi-layered water quality monitoring programs at the local, state, and federal levels.
- Identify case studies that demonstrate significant coordination between local, state, and federal coordination.
- Make community science an integral part of the partnership reporting and evaluation process; encourage greater community science, crowd sourcing and engagement.
- Develop/enhance feedback mechanisms for community science data.
- Define what responses are expected from Partnership management actions; recognize the value of diverse, existing indicators to inform management effectiveness. Develop new indicators in a timely manner when necessary.
- Make this activity a focused task and direct additional resources toward development.

CLEAN WATER

Increase and incentivize nonpoint source management implementation and identify, track, and address nutrient mass imbalances. (Consideration 4)

Provide opportunities to increase nonpoint source implementation. Incentivize effective and innovative nonpoint source management across all sectors. Demonstrate measurable ecosystem responses. Target and empower small-scale watershed restoration that addresses the needs of the community. Promote outcome-based efforts. Address known challenges associated with nutrient mass imbalances to include fertilizers and unknown sources.

Impact to how we work: Increased emphasis on nonpoint source management and demonstration of measurable system response.

- Build effective coordination and collaboration between the EPA Clean Water Act (CWA) Section 319(h) program, statewide nonpoint source management programs, and the Chesapeake Bay Program (CBP).
- Leverage understanding of watersheds with the highest nutrient loads and sources driving mass nutrient imbalance and target implementation of nonpoint source BMPs.
- Encourage awareness of nonpoint source management programs across the Chesapeake Bay Program. Direct interaction and engagement between state resource managers, trusted local partners, and private landowners are critical to successful implementation.
- Enhance environmental literacy and workforce development through career pathways, readying future generations for jobs in the conservation field.

Impact on Chesapeake Bay Watershed Agreement: No change to the agreement.

General Level of Effort: Medium

- Many jurisdictions are incentivizing approaches to encourage small-scale watershed restoration with measurable outcomes outside of the CBP crediting structure.
- Dedicated approach and directive to coordinate and connect the CWA 319(h) and CBP goals and outcomes.
- Data sourcing and compilation to assist with data-driven decision-making at the catchment scale, including the siting and maintenance of additional water quality monitoring stations, and assessing mass imbalances and identifying potential solutions.

How to Strategies (Phase 2 Actions):

- Incentivize actions and approaches to small-scale watershed restoration and identify nonpoint source BMPs that are most important to water quality improvement through providing funding and staff resources, targeted and enhanced water quality monitoring, and communicating importance of these efforts through the social science lens through use of demonstration sites, workshops, etc.
- Dedicate federal and state staff time and resources to connect the CWA 319(h) and CBP. Develop state-supported recommendations to integrate the programs.
- Identify and support partnership endorsed approach to tracking mass imbalances. A variety of options are available to address these imbalances, including implementing technologies that reduce nutrient inputs, improving manure distribution (from surplus to deficit areas), and exporting nutrients from the watershed.
- Include assessment of mass imbalances as a part of the accountability framework. To the extent there are new or revised WIPs, mass imbalances could be a required element of the WIP: (1) identification of watershed; (2) identification of known sources; (3) address any uncertainties regarding potential sources; (4) identification of existing and potential policies (nutrient input policies, other BMPs, export programs); and (5) adaptive management plan to provide reasonable assurance.

CLEAN WATER

Expand support for local government capacity. (Consideration 5)

Identify opportunities to expand on existing local liaisons programs that connect, empower, and inform the federal, state, and local partners to grow awareness, educate, provide administrative and technical assistance, and increase implementation efforts across the watershed.

Impact to how we work: Increased focus on local priorities at a smaller scale than the Chesapeake Bay region.

- Connect and empower local governments and communities to address the pollution in their back yards, which will ultimately lead to improvements in the Chesapeake Bay.
- Address the changing environment by planning for and selecting practices with multiple benefits.
- Strengthen partnerships between trusted local partners, government, and community members and leaders.

Impact on Chesapeake Bay Watershed Agreement: No change to the agreement.

General Level of Effort: Medium

- All jurisdictions have some form of existing local liaisons program.
- Staffing support to identify and compile the jurisdictions' existing local networks.
- Develop recommendations for funding strategies and approaches to further support and expand such programs.

How to Strategies (Phase 2 Actions):

- Identify existing networks within and outside of the Chesapeake Bay Program partnership.
- Incentivize, through funding, opportunities to leverage and expand on programs, connecting localities with needed resources to improve fiscal health while advancing restoration initiatives.
- Co-produce assistance tools to maximize their local utility and application complementing regional management needs.
- Ensure long-term institutional knowledge capacity within the public service sector recognizing short and long-term turnover within a skilled workforce.
- Develop and modernize staff capacities with education and training support to address changing workforce requirements through time supporting science, management and policy advances, understanding and implementation activities.
- Subsidize actions fostering local benefits embedded in the fabric of state, federal, and regional implementation needs and efforts.
- Foster social equity with equal opportunities to resources and assets across socio-economic and cultural landscapes of the region.
- Develop or expand on a network of networks to connect small watershed groups throughout the Chesapeake Bay and share best practices.
- Identify successful small watershed groups, what's working, what's not, how can successful programs be replicated throughout the watershed.
- Map organizational capacity of small watershed groups/interventions that improve watershed he

CLIMATE

Develop and Implement a Framework for a Climate Adaptive Bay and Watershed of the Future (Consideration 1)

Climate change is rapidly and significantly altering the Chesapeake Bay and its watershed. As detailed in the CESR report, it is infeasible to return the Bay to its pre-colonial state. Therefore, the Chesapeake Bay Program (CBP) must work with partners and communities to envision a Bay of the future and enact climate adaptive measures to support a healthy system given anticipated changes. To tackle the wide scope and impact of climate challenges, such as increased storm flows, temperatures, sea levels, and storm events, and the widespread impacts these changes will have on habitats and people, the CBP needs to embrace an overall climate strategy and the capacity to support it.

Impact to how we work: Adapt partnership structure and increase capacity to effectively advance integration of climate considerations in all aspects of the partnership's work.

- Evaluate CBP structure and institute adaptations that would facilitate the important work of the partnership while prioritizing climate change and promoting cross-partnership work to accelerate implementation of climate adaptation measures across outcomes.
- Enhance CBP knowledge and capacity to apply scientific capabilities to respond to climate vulnerabilities, for example, by expanding the climate science support team, integrating climate science into BMPs, and promoting climate education in training materials.
- Apply decision science (e.g., structured decision making) at all levels of the CBP to support cooperative problem solving and improve outcomes under conditions of uncertainty.

Impact on Chesapeake Bay Watershed Agreement: Evaluate existing and proposed Bay Agreement goals for alignment with climate change projections and multiple benefits.

- Develop new goals that are compatible with anticipated future climate conditions and that support a healthy, equitable, and resilient Bay.
- Establish more holistic climate adaptation goal(s) and set numerical outcomes. Numeric outcomes are essential for assessing meaningful progress towards a healthy Bay.

General Level of Effort: High

- Anticipate 3+ years of time to obtain the scientific data and conduct the community engagement necessary to update the Bay Agreement goals using climate projections and local perspectives.
- Commitment of partnership time, resources for completing new assessments, and dedicated staff time to enhance coordination, structure new adaptive management processes, and conduct community engagement.

How to Strategies (Phase 2 Actions):

- Develop system for engaging watershed communities, collaboratively setting new goals prioritizing climate adaptation strategies, and identifying indicators of progress.
- Identify climate projections, research, and data/vulnerability assessments that could help inform setting of climate-adapted goals, outcomes, management strategies, and indicators; Develop new vulnerability/impact assessments of projected climate change (complete 2035 climate assessment).

CLIMATE

Improve the resilience of communities to key regional climate vulnerabilities.

(Consideration 2)

This approach would help mitigate impacts to the Chesapeake Bay Watershed exacerbated by climate change by helping communities protect water quality and habitat while adapting to climate change impacts such as sea level rise, extreme heat, and changing rainfall patterns. Given the inextricable link between natural systems and the human communities across the Chesapeake Bay watershed, climate considerations need to address impacts to both habitats and people. This approach would make the work of the Chesapeake Bay Program more locally relevant and could increase buy-in and participation while allowing for new partnerships.

Impact to how we work: Consider socio-ecological impacts of climate change and how community-level resilience intersects with holistic Bay health.

- Prioritize efforts and resources for adaptation projects in communities most vulnerable to ever-increasing risks or with highest cumulative risk.
- Identify ways to better incentivize community adaptation through our crediting and accountability framework with an emphasis on practices with multiple benefits (water quality, flood protection, habitat, greenspace, etc.) to communities.
- Support research into long-term monitoring of BMPs and other adaptation measures to evaluate real-world performance for community resilience in addition to Bay Program goals.
- Improve involvement and outreach by directly engaging communities and supporting efforts to build networks of practice at different scales throughout the watershed.

Impact on Chesapeake Bay Watershed Agreement: This approach could include consideration of impacts to community resilience and adaptation in other outcome management strategies, creation of a community-level adaptation outcome and principle, and development metrics towards tracking the progress.

General Level of Effort: High

- Additional resources and capacity would be required to provide technical assistance to communities in order to align community resilience priorities with opportunities associated with water quality, climate adaptation, living resources, etc.

How to Strategies (Phase 2 Actions):

- Cultivate climate-resilient communities by building community capacity to adapt to climate change (i.e., increasing adaptive capacity).
- Promote nature-based solutions to improve infrastructure to withstand the effects of climate change and incorporate into community plans and policies.
- Advance modeling and monitoring of flood impacts for coastal and inland communities.
- Support efforts to develop effective and equitable policies for relocation that account for cultural, economic, and social constraints at the individual and community level.
- Facilitate meaningful engagement with climate-vulnerable and climate justice communities.
- Support development of downscaled climate projections that help communities understand the future impacts of climate change across multiple indicators.
- Broaden CBP scope of climate justice to include public health and other aspects that matter to stakeholders; establish metrics related to community climate vulnerability/resilience.

CLIMATE

Promote carbon stewardship actions to increase the carbon storage and sequestration benefits of watershed restoration (Consideration 3)

Climate change poses a major threat to the sustainability of communities and ecosystems within the Chesapeake Bay watershed and will impact our ability to meet water quality and other partnership goals. The [latest IPCC report](#) emphasizes the urgent need to reduce emissions worldwide to mitigate the most catastrophic effects of climate change for current and future generations. Carbon stewardship is a holistic approach that balances carbon storage and sequestration objectives with other ecosystem restoration goals. In the context of the Chesapeake Bay Program, practices like forest and wetland conservation, management, and restoration deliver climate mitigation benefits while ensuring ecosystems also maintain the health, function, and resiliency needed to continue delivering water quality benefits.

Impact to how we work: Use carbon stewardship as a framework to integrate carbon considerations throughout the partnership's restoration, conservation, and scientific efforts.

- Apply carbon stewardship science by adopting carbon accounting methods to better target existing above- and below-ground carbon sinks for conservation and management, to inform BMP selection and improvement, and to minimize emissions associated with restoration.
- Develop better incentives for carbon stewardship to improve consideration of carbon in land use planning and decision-making, increase the conservation and stewardship of carbon sinks, and improve BMP selection to support climate mitigation and build soil health.
- Use decision support frameworks for considering tradeoffs between climate mitigation and other objectives associated with projected climate and land use changes.
- Improve regional coordination around carbon stewardship using natural climate solutions by convening national, state, and local partners already engaged in these efforts.

Impact on Chesapeake Bay Watershed Agreement: Without changing the agreement, carbon stewardship could be advanced by identifying opportunities to integrate carbon benefits into management strategies for existing goals or outcomes. Eventually, the partnership could consider developing a new goal or outcome focused on carbon stewardship.

General Level of Effort: High. Since the Bay Program is not currently directly engaged with climate mitigation work, significant effort would be required to develop and implement a strategy for integrating carbon stewardship into the work of the partnership.

How to Strategies (Phase 2 Actions):

- Adopt a carbon accounting strategy to quantify and communicate the carbon storage and sequestration currently being provided by ecosystems as well as the carbon impacts of current and new water quality BMPs that could deliver climate benefits.
- Identify opportunities across multiple sectors to better incentivize carbon stewardship through policies, incentives, crediting, and markets. This should include promoting the conservation and stewardship of existing carbon sinks to ensure climate resilience as well as the implementation of BMPs that deliver water quality and climate mitigation benefits. Feasibility analyses could inform if carbon crediting (including blue carbon) or more traditional markets (for forest products, agroforestry, etc.) could provide financial support.
- Identify existing national, regional, state and local natural climate solution initiatives and relevant organizations to engage to inform opportunities for improved regional coordination.

CLIMATE

Promote strategies for healthy and productive ecosystems under changing climate conditions (Consideration 4)

Climate change is a universal stressor that affects everyone and every ecosystem in the Chesapeake Bay watershed. Ecosystem change in the watershed and Bay is occurring and will continue into the future from the changing climate conditions (e.g., rising water temperatures, shifting precipitation patterns, and sea level rise). The Chesapeake Bay Program should institutionalize the concept that the Bay of the future will not be the Bay of the past and aim to protect and conserve healthy ecosystems from climate change stressors while embracing change through adaptation that leads to positive outcomes for desired ecosystem services.

Impact to how we work: Fundamentally integrate climate stressors and adaptation when developing management responses to change.

- Advance and support long-term monitoring and assessment of compounding stressors on ecosystem health, including living resources, to improve understanding of the impacts of management and restoration actions and allow for adaptive management.
- Advance science to target and improve the design of nature-based solutions/green infrastructure to enhance confidence in their use for ecosystem and community resilience.

Impact on Chesapeake Bay Watershed Agreement: Need a program structure, goals, and success measures that allows for crosswalk between ecosystem services (e.g., habitats, living resources, water quality) that align with community needs under changing climate.

General Level of Effort: High

- Expand support for social science, communication strategies, and venues for partnership discussion on future Chesapeake Bay warming, precipitation, landscape change, carbon management, along with nutrient management, and resulting impacts to ecosystem services to promote proactive approaches in preparing for and adapting to ecosystem change.
- More dedicated staff time and resources to enhance coordination and develop new processes and adaptive management mechanisms.

How to Strategies (Phase 2 Actions):

- Integrate emerging science, monitoring, and use of climate change projections to understand changes in habitat and shifts in landscapes, fisheries and wildlife.
- Develop strategies to sustain ecological function, reduce stressors and disturbances, create thermal refugia, and promote habitat connectivity and biodiversity under climate change.
- Have indicators that track and assess ecosystem health and change through improved monitoring, modeling, and forecasting to allow for climate-informed adaptive management.
- Better define compounding stressors on ecosystem health with challenges from future climate, population growth, land use, and landscape changes.
- Develop adaptation strategies for healthy ecosystem function under changing climate conditions while protecting ecosystem services in support of diversity, equity, inclusion and justice and community resilience goals.
- Pursue the development of a CBP soil health outcome and ways to support and incentivize achievement. Soil health is the basis for overall healthy ecosystems that will enhance resiliency for living resources and promote biodiversity.

CLIMATE

Promote regenerative agricultural production and regionally based food systems in the Chesapeake Bay Watershed (Consideration 5)

Agriculture has a major influence on water quality, local economies, communities, and ecosystem health both in local waters and in the Chesapeake Bay. Supporting a shift to regenerative food production methods and regionally based food systems would simultaneously improve climate mitigation and resilience, water quality, economic and community health, and environmental justice and equity, holistically improving the health of our watershed.

Impact to how we work: This is a long-term recommendation that, to fully realize, would require a systems-based, sustained approach. However, incremental steps to lay the groundwork will also benefit the partnership's current water quality and watershed restoration efforts.

- Increase collaboration with the growing network of producers, processors, distributors, local, state, and federal government, businesses, nonprofits, and institutions working to develop and support a regenerative and regionally based food system. Collaborative efforts could include improved utilization of market-based approaches to deliver systemic change. There is a strong foundation for this work through programs like the [Partnerships for Climate Smart Commodities](#) and others.
- Use educational, behavioral science and marketing resources to ensure that producers and consumers understand the value of regenerative and locally sourced food for watershed restoration and have mechanisms to effectively support the transition.
- Develop mechanisms to address issues of regional carrying capacity and nutrient mass imbalance to support healthy and equitable food access and incentivize a circular approach to food and manure waste management. These mechanisms could draw from existing regional examples, including efforts to install [anaerobic digestors](#) and to [increase recycling of food waste](#).

Impact on Chesapeake Bay Watershed Agreement: The current Agreement does not have any goals specific to agriculture. Without changing the agreement, management strategies for some existing goals and outcomes could be modified to incorporate efforts to build and sustain soil health and support the broader effort to expand regenerative and regional food systems. Over the long term, a new goal could be set to promote regenerative and regional food systems, and an associated soil health outcome could be developed.

General Level of Effort: High: Level of effort is associated with the commitment of partnership, staff and other Bay stakeholders to evaluate new structure, processes and resources needed to enhance coordination and develop support for regenerative and regional food systems, including marketing approaches, social science, education and communication strategies.

How to Strategies (Phase 2 Actions):

- Determine how the partnership's scientific research, workshops, modeling, monitoring, prioritization, regulatory standards and methods, outreach, communication, education, workgroups and advisory committees, including the newly proposed agricultural advisory committee, could be more strategically utilized to support regenerative and regional food systems.
- Identify specific stakeholders to engage who are currently involved with efforts to develop regenerative and regional based food systems across multiple sectors, for example [Appalachian Sustainable Development](#).
- Evaluate the potential to develop a soil health outcome and new indicators to measure success that take carbon storage, sequestration, emissions reductions and other benefits into account. Outcome should apply to all soil related activities including food, fiber, forestry and lawn care.

HEALTHY WATERSHEDS

Data, Tools and Monitoring: Using partnership-approved monitoring data, assessments, and tools, characterize and track watershed health at various scales to inform and increase implementation. (Consideration 1)

While watershed physiographic conditions establish a baseline set of expectations for stream health, combinations of human activities, land use, and land use histories affect both stream conditions and potential across multiple dimensions (e.g., temperature, conductivity, pH, flow, nutrients, sediment, bacteria, and toxics). Integrating information on these dimensions is needed to strategically plan and implement actions to achieve biological uplift and quantify ecosystem services. The connection with ecosystem services will help bridge the gap between community interests, needs and CBP outcomes that is necessary to achieve a people-centric approach to restoration and conservation and supports the more holistic, outcomes-focused accountability framework called for in the Comprehensive Evaluation of System Response (CESR) report. A local watershed approach improves the likelihood of success for improving water quality and stream health, maintaining it into the future in the face of changes in climate and land use.

Impact to how we work:

- Reframes our assessment and monitoring of watershed health to the local watershed (subwatershed or catchment scale) as well as the entire basin.
- Includes landscape integrity metrics from land use and land cover data along with other water quality data to fully characterize local watershed health.
- Enhances the utility of data investments and cooperation across departments and organizations. Incentivizes implementers of BMPs, land use planners, and land conservationists to cooperate to improve and maintain ecosystem services.
- Coordinate with non-traditional partners (e.g., public health agencies, planning commissions, municipalities, floodplain managers, drinking water utilities, local interest groups) focused on improving local waterways.

Impact on Chesapeake Bay Watershed Agreement:

- Modifications to the watershed health, stream health, protected lands, and land use options evaluation outcomes may be required to achieve greater integration and efficiency.

General Level of Effort: High/Moderate

- Commitment of jurisdiction and other staff time to develop these new processes, resources and feedback mechanisms to communities, implementers, and science partners.

How to Strategies (Phase 2 Actions):

- Develop an integrated, coordinated, collaborative approach to current GIT and workgroup structure of the CBP at the intersection of the Stream Health Workgroup, Healthy Watersheds GIT, Water Quality GIT, and STAR with enhanced use of the Strategic Engagement Team.
- Explore use of the Chesapeake Healthy Watersheds Assessments and other tools to characterize subwatershed health for local communities.
- Expand the list of credited actions and BMPs that contribute to watershed health (See R4).
- Create regular feedback mechanisms linked to planning, community engagement and actions (See R2, R3, R4).

HEALTHY WATERSHEDS

Planning: Support strategic green infrastructure planning for watershed health at multiple scales. (Consideration 2)

Strategic action at the local watershed scale is needed to achieve CBP protection and restoration goals and local land use planning is a critical tool. However, local plans are often not integrated across watershed and/or jurisdictional boundaries, leading to a fragmented approach for land/water protection and restoration. The CBP Partners should help communities create strategic spatial plans for land conservation and restoration that incorporate green infrastructure elements (e.g., key habitats, working lands, watershed protection and recovery, climate resilience, green stormwater) and consideration of underserved communities including overlapping jurisdiction priorities for wildlife, forests, outdoor recreation, public access, agriculture, and water supply. In addition, the Bay program itself should develop a 5 year comprehensive strategic plan that synthesizes goals, strategies and outcomes similar to other large estuary or landscape scale conservation initiatives.

Impact to how we work:

- The partnership must leverage tools, data, expertise, and funding for more intentional work and support for local/regional planning.
- Planning occurs on at least 2 levels: 1) Local watersheds, 2) Comprehensive Bay-wide
- Places more partnership emphasis on landscape integrity, green infrastructure concepts across local watersheds, not just implementation of individual BMPs.
- Will require partnership funds to work with local communities to incorporate watershed actions into local planning processes and facilitate cross-jurisdictional plan integration.
- Include funding incentives for local implementation of integrated watershed plans.

Impact on Chesapeake Bay Watershed Agreement:

- This recommendation is tactical. It encourages better planning for watershed health but is consistent with the current agreement.

General Level of Effort: Moderate

- This recommendation overlaps with R1 on characterizing watershed health and R3 on community engagement. It will require effort to organize and prepare materials to provide technical and funding assistance in planning and ongoing support to local communities.

How to Strategies (Phase 2 Actions):

- Gap analysis on current efforts toward planning for watershed health.
- Gauge resources and support needed to reach communities across the Bay.
- Develop playbook or guidance for planning and use of local government engagement tools.
- Leverage new CBPO Outreach and Engagement investments.
- Leverage existing federal planning assistance programs, such as the USACE Planning Assistance to States Program.
- Work with LGAC, SAC and other partners such as APA chapters.
- Utilize other jurisdictional plans for wildlife, forests, recreation, nonpoint source management, water supply protection, etc.

HEALTHY WATERSHEDS

Local Engagement: Increase the reach and effectiveness of Local Community and Partner Engagement through capacity building. (Consideration 3)

Local engagement is key to helping communities and other partners understand federal and state programs while also helping them plan, secure funds and take local watershed action. The Bay program jurisdictions and other partners engage in many different forms of outreach and engagement but often for specialized purposes. Supporting these coordination and technical assistance programs promises to be a more comprehensive and holistic mechanism that can be expanded to intersect with more communities in the watershed. These local coordinator programs go by different names but often have similar functions including facilitation, communication, planning, funding/finance, project management, implementing watershed actions and tracking results. They also help build awareness of nonpoint source pollution prevention and reduction efforts and incorporate living resources conservation, climate resilience and working with underserved communities.

Impact to how we work:

- More intentional use of existing programs that communicate from the community/local level up through the jurisdictional and federal level.
- This aligns with the Clean Water group's Recommendation #5

Impact on Chesapeake Bay Watershed Agreement:

- This recommendation would not need any changes to the Watershed Agreement.
- Modifications to consolidate or interconnect existing goals and outcomes may be considered for improved understanding and efficiency.

General Level of Effort: Moderate

- Evaluate the current structure in the Chesapeake Bay Program's partnership to identify what's working, what needs improvement, and what needs change.
- Evaluate jurisdictional structures and means of community involvement to identify best practices and share among the partners.

How to Strategies (Phase 2 Actions):

- Coordinate better facilitation and enactment of recommendations from LGAC and SAC.
- Enhance programs that already exist within the jurisdictions as expressed in [LGAC's Recommendations to the Executive Council \(2023\)](#).
- Create a "network of networks" to provide a forum for coordination of existing efforts, share best practices, and identify gaps.
- Create space in existing goal team and workgroup meeting to facilitate better two-way communication between people working at the local level and the Bay Program.
- Develop tools and resources with a bottom-up approach with the guidance of Bay Program data and expertise.
- Train individuals for providing multi-disciplinary technical assistance to engage local communities and partners to assist them in planning and implementing their local priorities.
- Modify use of partnership resources to support the capacity for this community engagement.

HEALTHY WATERSHEDS

Watershed Actions: Elevate Conservation and Stewardship as key guiding pillars for the Chesapeake Bay Program (Consideration 4)

A more holistic approach to watershed health requires more explicit recognition of the critical role that land conservation and stewardship play in maintaining watershed health. Land conservation and stewardship provide ecosystem services, ensure the durability of water quality investments, promote the long-term resiliency of critical habitats to climate change, and directly benefit underserved communities. Protection and planning are much cheaper than restoration on a per acre basis and can help address critical nonpoint source pollution challenges and local needs for flood control, sourcewater protection, and public recreation, among other benefits.

Impact to how we work: Broadening the scope of the partnership's work to integrate conservation and stewardship as key strategies for improving watershed health would be a fundamental shift that would ultimately include reconsidering how resources are allocated.

- Leverage knowledge of local, state, and federal programs to conserve 30% of the land by 2030, achieve longer-term goals, and build an interconnected network of conserved landscapes. Couple land protection with restoration to restore ecosystem function, promote species resiliency, and provide ecosystem services to communities.
- On a local scale, use a "network of networks" approach to build local capacity and support green infrastructure practices including: land protection, restoration, wildlife conservation and the maintenance of community tree canopy and other nature-based solutions.
- Prioritize and improve coordination of efforts to manage and steward protected and restored areas. The long-term stewardship needed to protect investments in restoration and conservation includes the management of public (federal, state and local) and private lands that provide critical wildlife habitat, public access, and watershed health benefits.
- Expand and enhance publicly accessible natural lands through the creation, stewardship and improvement of more parks and trail networks. This will enhance the livability and land values for local communities, particularly underserved communities.

Impact on Chesapeake Bay Watershed Agreement:

- Without changing the Agreement, Conservation and Stewardship could be elevated as key guiding pillars for the Program (alongside science, restoration, and partnership). Watershed Agreement goals and outcomes could be modified where appropriate to explicitly address the importance of conserving and stewarding all watersheds, expanding the focus beyond state-identified healthy watersheds.

General Level of Effort: Moderate/High. Moderate efforts would be required to implement the "How to" Strategies in Phase 2. However, significant additional investments of time and resources would be required to fully integrate conservation and stewardship into the Program.

How to Strategies (Phase 2 Actions):

- Identify the Watershed Agreement outcomes that would benefit from revision to incorporate a more explicit focus on conservation and/or stewardship.
- Investigate local, state, and federal conservation and stewardship programs, mapping and data sources, and stakeholders that could be better engaged to facilitate the effective integration of conservation and stewardship into the partnership.
- Determine the appropriate pathways for engagement in the current (or improved) partnership structure.

HEALTHY WATERSHEDS

Measure Watershed Outcomes: Shift to an outcomes-based approach to promote protecting, restoring, and maintaining watershed health. (Consideration 5)

The Comprehensive Evaluation of System Response (CESR) report for the Bay recommends incentivizing outcomes over counting practices. A revised approach to tracking and incentivizing watershed health outcomes would support actions to protect or improve local waterways and ecosystem services provisioning, including land conservation and stewardship as complementary insurance policies for restoration.

Impact to how we work:

- Create a more robust, action-oriented and partner engaged Strategic Review System (SRS).
- Expand use of progress measures: Move beyond CAST to utilize "multiple lines of evidence" with tools such as the Chesapeake Healthy Watersheds Assessment (CHWA), and state data for a picture of watershed health.
- Improve the Bay Program's crediting framework to better incentivize practices that will improve watershed health and ecosystem services outcomes, including land conservation and stewardship.

Impact on Chesapeake Bay Watershed Agreement:

- The agreement provides broad authority to create an accountability process. There is no need to modify the agreement to include a refreshed approach to measuring progress.
- A watershed health approach may consolidate goals and outcomes and reduce silos
- Track impactful outcomes, not just outputs. Reduce the number monitored for efficient tracking. Employ a multi-disciplinary approach to goal setting.

General Level of Effort: Moderate

- Estimate a year to work out the revised approach as part of phase 2.
- Utilize existing accountability team, but also need to add capacity to engage jurisdictions and locals and get their input related to partnership (see R2 and R3).
- There will be a need for a commitment to maintaining a revised system.
- Intentional design to ensure we are not adding components halfway through.
- Changes may require the creation of new indicators.

How to Strategies (Phase 2 Actions):

- Develop a Guiding Framework: Use a new Bay Program Comprehensive Plan to measure progress and ensure partner alignment (See R2).
- Evaluate local watersheds within their ecological and geographical contexts using the 'spectrum of health' concept (See R1).
- Highlight Local Efforts: Develop an approach to showcase diverse local community projects and their watershed health benefits.
- Incentivizing Actions: Identify actions that improve local health and provide ecosystem service benefits, then explore ways to quantify, monetize and incentivize such actions (e.g., use of FieldDoc data, eco-price ecosystem services calculations, project files, etc.)
- Establish a timeline for updating the approach/SRS for the next cycle.
- Accountability Clarification: Define accountability within the partnership, distinguishing it from TMDL and its Accountability Framework.
- Streamline reporting for jurisdictions, other grantees and other partners.

PEOPLE

Utilize an independent expert on equitable and collaborative partnerships to oversee the implementation of recommendations identified in the ERG report to make the governance, structure, accountability framework and decision-making process of the Chesapeake Bay Program more efficient and effective.

(Consideration 1)

Centering people requires a concerted effort to evaluate how best to represent their voices in the governance structure of the Chesapeake Bay Program. While advisory committees are essential, these groups do not have the power within the partnership to make decisions, direct resources and otherwise affect the change represented in their recommendations. This work will require an independent, outside consultant who explores existing evaluations, regional models, listens to outside perspectives and thinks broadly about potential changes.

Impact to how we work:

- Overarching governance structure: Engage a broader set of leaders responsible and accountable for each goal area, ensuring that all outcomes have decisionmakers at the table. This would likely change the make-up of the Management Board and/or center leadership at the level of the partnership.
- Ensure representative signatories: Ensure stakeholders with significant investments, those representing lead federal agencies, indigenous governance bodies, non-profits, and/or local government representatives, -- have a role in determining goals and outcomes.
- Advisory Committees: The primary mechanism for receiving input from key constituent groups is currently the advisory committees. The recommendations of these groups need to factor more heavily into agenda setting and conversation for the Principals Staff Committee meetings.
- Goal Implementation Teams: The GIT level of the partnership has subject matter expertise for the goals and outcomes. The GIT level could be better activated for primary decision-making, resource making, and problem-solving.

Impact on Chesapeake Bay Watershed Agreement: The preamble and principles should be updated to better align with new learning on community engagement and reflect any changes to the governance structure that have been adopted.

General Level of Effort: Medium. Much of this work should be accomplished by an independent expert on equitable and collaborative partnerships and should not require significant time from CBP staff. It will, however, require a financial investment to support the work of the expert.

How to Strategies (Phase 2 Actions):

- Revisit and synthesize recommendations of past and current program reviews (e.g., NAS 2011, Reaching 2025 report, CESR 2024, ERG 2025) to identify successful changes made post evaluations and define persistent challenges.
- Hire a contractor to focus on external partner, stakeholder, and community input to the governance, structure, accountability framework, and decision-making processes.
- Gather information and create summaries of other existing regional governance structures from around the county with a focus on lessons that could be applied.
- Identify a project team to develop a strategy that explores innovative approaches to shared leadership a broader community of diverse representatives to participate in decision-making and ensure accountability.
- Develop recommendations that support public transparency, establish a participatory priority and budget setting process, and strengthen power-sharing with an expanded group of collaborators as appropriate from input received.
- Codify a government structure that empowers a broader group of partners and communities with an emphasis on indigenous representation.

PEOPLE

Ensure the priorities of the Chesapeake Bay Program partnership reflect the needs of people and the impacts of a changing environment at the most local level. (Recommendation 2)

The Chesapeake Bay Program's measures of success should be developed through community engagement and should reflect the priorities of the communities who live within the watershed. The Program's goals, outcomes, metrics and messaging must resonate with and meet the relative needs of watershed residents whose health and livelihoods depend on a healthy environment and sound governmental policy.

Impact to how we work: Approach the goals and outcomes of the 2014 Chesapeake Bay Agreement with an eye toward the impact on local communities and people.

- Reframe how the Chesapeake Bay Program measures success and creates and implements evaluation schemes
- Increased focus on goals and outcomes that resonate with and are tangible to the public, but have co-benefits with water quality, such as:
 - Land use change, including impacts on private land and impacts on cultural resources
 - Climate change and resilience; climate adaptation and planning
 - Recreation and public access
 - Environmental education, environmental literacy and workforce development
 - Public health and quality of life
- Creates a long-term outreach and engagement strategy for connecting with the public and stakeholders.

Impact on Chesapeake Bay Watershed Agreement: Potential changes and amendments to the non-water quality goals or additions to the water-quality goals.

General Level of Effort: Medium

- Level of effort is associated with the Partnership time to review and evaluate the current Agreement for alignment with public interest. This may require new data, but most likely can be determined using current and existing data.
- There may be more effort involved should new outcomes be identified for a revised agreement. This would require more research into measures of success.

How to Strategies (Phase 2 Actions):

- In creating Goals and Outcomes, work closely with People-focused groups and communities. Utilize existing networks to gather existing data on public concern and interest to inform what priorities are currently missing.
- Identify current Agreement outcomes that have a high public interest and increase investment and expansion. Provide increased communications and capacity around those outcomes, especially if they were not achieved by 2025. If the outcome was achieved in the last Agreement, work to identify a new goal for that outcome.
- Identify issues that have a high public interest that are not currently reflected in the 2014 Agreement and determine a path forward for potential inclusion of those issues in a future iteration. Determine the issues the most appropriate for the Partnership, the metrics for measuring progress and success, existing work on the issue area, etc.
- Implement a long-term, sustainable, partnership-wide outreach and engagement strategy.

PEOPLE

Diversity, Equity, Inclusion and Justice (DEIJ) must be a key lens through which the Chesapeake Bay Program's work is established and carried out. (Recommendation 3)

The Chesapeake Bay Program must institutionalize and activate the DEIJ Implementation Plan throughout the partnership's structure and efforts. This will require the Chesapeake Bay Program to provide the necessary capacity and financial resources for the effective and sustained implementation of the plan.

Impact to how we work:

- Placing DEIJ within the foundation³ of the Chesapeake Bay Program's work will require all Goal Implementation Teams, workgroups, action teams, advisory committees and leadership to adopt and employ DEIJ best practices in their work where relevant.
- Commitment to hiring and retaining full time staff to provide coordination across the Partnership is necessary. A position is needed to coordinate the Diversity Workgroup itself and serve as a senior-level DEIJ director to ensure DEIJ is ingrained in the partnership and the actions in the DEIJ Implementation Plan Strategy are codified.
- Enhanced partnership structure will improve stakeholder engagement. This includes working alongside and through trusted sources and ensuring the necessary funding and staffing resources are in place.

Impact on Chesapeake Bay Watershed Agreement:

- If there is opportunity to revise the Agreement, the Diversity Outcome language will need to be updated, clarified, and made more actionable and appropriate to CBP's function, with forethought given to desired, measurable results.
- Ensure that advancement of the commitments in the DEIJ Implementation Plan are considered when creating new Outcomes, as a means to achieve multiple goals and outcomes at the same time.

General Level of Effort: Medium/High

- Funding and intention to hire a permanent Diversity Coordinator at EPA is already in place.
- Many GITs, workgroups and advisory committees have already embraced the idea of integrating DEIJ considerations in their work, but several lack support, capacity, and resources to do so.
- Significant effort is needed to bring all jurisdictions and other partners along in the process of embedding DEIJ into our work.
- Dedicated staff time and other resources are needed to implement the DEIJ Implementation Plan and build meaningful relationships with organizations and individuals that previously have not been engaged with the partnership.

How to Strategies (Phase 2 Actions):

- Fully activate and work to accomplish the four focus areas of the DEIJ Implementation Plan, which is based on four focus areas.
- Hire a permanent Diversity Workgroup Coordinator and a senior level Diversity Director.
- Leadership embeds DEIJ actions into their own workplans and priorities. Leadership embeds DEIJ knowledge building among their workplans.⁵
- Funding and resources are prioritized to sustain implementation of the DEIJ Implementation Plan and workforce and workplace culture matters are addressed to ensure employee retention.

PEOPLE

Create intentional partnerships with networks focused on issues related to Watershed Agreement goals to learn from those networks and accelerate outcome attainment in collaboration with their members. (Recommendation 4)

The Bay Program should embrace its role as a capacity builder of partners and work to identify shared priorities, best practices, and recognizing network partner's voice in CBP management actions and decision-making. The Program should also identify opportunities for building the capacity of these existing networks through increased funding. The Chesapeake Bay Program must ensure that communities of color and other underrepresented groups have a voice in shaping the future.

The Chesapeake watershed is very large, and includes a variety of people, geographies, demographics, interests, and environmental issues. It is nearly impossible for the Chesapeake Bay Program Partnership to meaningfully engage with all of the communities and people that call this watershed home. In order to successfully engage people from across the watershed, the Partnership should evolve to better coordinate and engage with the growing number of existing networks, partnerships, and coalitions. These organizations are already connected to and have trusted relationships with key demographics of people (farmers, restoration practitioners, community leaders, local governments, etc.) and can help to not only engage these audiences in the restoration effort more but serve as a feedback loop to the Partnership on their needs and concerns (see recommendation 2).

Impact to how we work:

- Restructure opportunities for engagement and collaboration with networks across the watershed.
- Create capacity within existing activities for deep listening and investment in audience research.
- Create new participatory budgeting and priority setting strategies.
- Existing networks of stakeholders are considered as a partner of the Program rather than an outside entity.

Impact on Chesapeake Bay Watershed Agreement: No impact

General Level of Effort: Low/Medium

- Level of effort is associated with the partnership time and additional resources to review current Chesapeake Bay Program structure to identify opportunities for increased engagement and collaboration with stakeholders through networks.
- Staff time dedicated to managing and fostering the relationships with these networks in meaningful and authentic ways.

How to Strategies (Phase 2 Actions):

- Research all of the existing networks across the watershed. Identify their role, their audience, operating area, etc. Identify gaps in the existing networks.
- Determine the capacity needs of the existing networks to support the work of the Partnership and foster connections at the local level.
- Provide funding to support existing local liaison programs through trusted networks.
- Provide technical assistance for trusted messenger outreach.
- Support realization of the DEIJ Implementation Plan.

PEOPLE

Create a budget and staffing allocation plan to support the strategic application of social science best practices, research, and synthesis to advance goal achievement and ensure partnership impact. (Recommendation 5)

Ecological problems are social problems. Social science helps us to understand human behavior, effective policy and governance structures, community engagement, conflict and resolution among stakeholders, and the economic valuation of ecosystems services critical to developing effective conservation strategies. Social science must be applied where it can have the greatest overall impact and applied strategically rather than opportunistically. Resources are currently inadequate and spread too thinly across many goals and some easy-to-address issues are getting repeated attention at the expense of more fundamental, difficult problems. spread too thinly across many goals and some easy-to-address issues are getting repeated attention at the expense of more fundamental, difficult problems.

Impact to how we work:

- Increase ability to achieve outcomes by shaping approaches to restoration and conservation that are derived from local context and evidence-based research. Understand why goals are lagging and provide framework to co-design and implement solutions to lagging goals with communities.
- Increase in literacy and capacity needed within the partnership to effectively apply social science.
- Increase ability to adaptively manage efforts to understand why certain engagement and institutional practices do not yield desired results.
- Improve partnership governance and decision making through use of institutional and policy sciences that reveal reasons for lack of effective response across partners and identify alternative methods of meeting partner needs.
- Understand social, economic, and cultural contexts to enhance outcomes of conservation by creating institutional data and information that can increase efficiency and effectiveness of policies and programs.

Impact on Chesapeake Bay Watershed Agreement:

- Ensure execution of the current commitment in the Watershed Agreement Principles, “Explore using social science to better understand and measure how human behavior can drive natural resource use, management and decision-making.”
- Increased achievement of Watershed Agreement outcomes when programs and policies are designed with evidence based social science research.

General Level of Effort: High

- Social science integration will not happen without people who have primary responsibility and expertise to facilitate research and implementation of social science best practices.

How to Strategies (Phase 2 Actions):

Engage all partners in creating a detailed strategic plan for social science that sets priorities, allocates resources, identifies appropriate expertise needed, and develops partnerships and funding sources to address gaps in social science capacity on topics including outcome achievement, and partnership impact, governance, and decision making, etc

SHALLOW WATERS

Shallow Water Habitat Scope: Edges and Nearshore Waters of 3 Ecological Zones: Non-tidal Fresh, Tidal Fresh, and Tidal Estuarine. This includes the rivers and streams that flow to the waters of the Chesapeake Bay and the nearshore habitats where the plants and animals live and people interact with the water.

Design and implement shallow water habitat restoration on an ecosystem scale in tidal and nontidal areas to incorporate other practices (i.e. oysters, wetlands, SAV, and reforestation) for the benefit of habitat and living resources. These 'other' practices can have a co-benefit of water quality improvement and provide social, economic, connectivity and resilience. (Consideration 1)

Habitat loss due to multiple stressors is a concern for non-tidal and tidal shallow waters and impairs the human and ecological benefits these habitats provide. When designed appropriately, habitat restoration can provide climate resilience or the ability to bounce back following climate change- induced stress. It can also provide refugia for living resources and protection for nearby communities.

Impact to how we work: This would require a change in the way habitat restoration is targeted, designed, and implemented and would require better coordination with nearby stakeholders and improved integration with climate change and water quality. To be successful, water quality measures and practices must be looked at holistically and include living resource, climate resilience, and other ecosystem benefits. Living resources do benefit from water quality improvements, but they have other stressors that need to be addressed as well. A project that is designed for habitat and living resource improvements can also effectively address water quality as a complementary goal. Modifications are necessary to prioritize restoration efforts and funding criteria on an ecosystem scale and with a focus on shallow water habitats vulnerable to climate change. This requires targeting locations to address stressors of shallow water habitats by collecting and using more shallow water habitat data and modeling to guide the appropriate restoration practices.

Impact on Chesapeake Bay Watershed Agreement: Transformational. Changes to the water quality and assessment outcome to require actions described above would catalyze this effort.

General Level of Effort: High.

This would require additional partnership staff time and resources to develop assessment methods that incorporate the expanded collection of data, and to develop meaningful stakeholder engagement feedback loops. Funding for restoration would need to elevate consideration of climate impacts and living resource habitat needs.

How to Strategies (Phase 2 Actions):

- Emphasize the enhancement of social and ecological benefits in locations with the longest-lasting impact. This may be places where existing restoration is already taking place or maybe new locations that become “more bang for the buck” under future conditions
- Identify a regional restoration champion or lead, and collaboratively set realistic restoration goals based on stakeholder priorities.
- Incorporate ecosystem services and social needs into restoration success metrics to provide a more balanced assessment of project success.
- Improve training opportunities and consistent monitoring requirements for the restoration industry.
- Include degraded systems where possible because there will be social benefits in addition to ecological benefits at these sites.
- Balance restoration with future landscape condition. (i.e. marsh migration corridors, conservation easements for salt marsh sparrow) and set goals that are realistic and account for off-setting losses.

SHALLOW WATERS

Shallow Water Habitat Scope: Edges and Nearshore Waters of 3 Ecological Zones: Non-tidal Fresh, Tidal Fresh, and Tidal Estuarine. This includes the rivers and streams that flow to the waters of the Chesapeake Bay and the nearshore habitats where the plants and animals live and people interact with the water.

Improve the understanding of connectivity and habitat function under changing conditions by expanding Chesapeake Bay and watershed monitoring and modeling to include shallow water habitats. (Consideration 2)

Shallow water habitats in the Chesapeake Bay and its watershed are not adequately monitored or modeled to provide an understanding of shallow water habitat and living resource response to changes in water quality and management actions. Implementation of long-term shallow water living resource monitoring and assessment, with focused fine-scale modeling, is needed to understand habitat connectivity and habitat function under changing land-use and climate conditions.

Impact to how we work: This recommendation requires a data gap analysis to determine the data type and frequency necessary to assess shallow water habitat conditions and response to stressors and management actions. Based on the analysis, an expansion of monitoring efforts in shallow water is recommended to address the gaps. We cannot increase monitoring everywhere; therefore we need to promote modeling, analysis, and synthesis efforts that support decision needs. In addition, we will need a system for uploading the monitoring information, and a tracking system for habitat restoration projects that are not captured by the NEIEN database and CAST model. The jurisdictions or partners can upload the information to complement the CAST system, but not duplicate data submissions.

Impact on Chesapeake Bay Watershed Agreement: Extend / No changes needed.

General Level of Effort: Moderate-High.

The level of effort is associated with the time needed for partners to expand monitoring programs, and the additional resources needed by the Partnership to develop new or modify existing assessment methods to incorporate the expanded collection of data and model integration.

How to Strategies (Phase 2 Actions):

- Develop appropriate metrics and implement a shallow water habitat sentinel site program.
- Use a combination of remote sensing, sentinel site and other monitoring data, and modeling to understand and predict the effects of climate change and management actions on shallow water habitat function and recovery.
- Use a combination of data synthesis and new research to better understand habitat connectivity, the impacts of competing uses, changing water quality, and changing habitat conditions on living resources.
- Develop economic valuations of ecosystem services for shallow water habitats to better address conflicting uses and habitat trade-offs.
- For all restoration projects, include pre- and post-restoration monitoring of sufficient duration to detect long-term causes of failure or success.
- Develop and implement a comprehensive tracking system and database for habitat restoration projects.
- Consider historical context to improve understanding of habitat condition and performance capacity in the future.
- Based on latest analyses, adjust timelines for expected shallow water habitat and living resource responses to nutrient and sediment reductions.
- Consider changes in land-use (i.e., development) and shorelines (i.e., hardening and erosion control measures) equally with change from climate impacts.

SHALLOW WATERS

Shallow Water Habitat Scope: Edges and Nearshore Waters of 3 Ecological Zones: Non-tidal Fresh, Tidal Fresh, and Tidal Estuarine. This includes the rivers and streams that flow to the waters of the Chesapeake Bay and the nearshore habitats where the plants and animals live and people interact with the water.

Implement an active approach to climate adaptation in shallow water habitats that integrates vulnerability assessments for living resources and communities, alternative future scenarios, community engagement, and learning elements.

(Consideration 3)

There is a need to better understand and predict climate impacts on shallow water areas and adapt to future conditions since they are critical to both people and living resources. A clear process for assessing relative vulnerabilities both currently and in the future while engaging communities in the setting of priorities is necessary to provide the tools for climate adaptation decision-making and planning.

Impact to how we work: Requires implementation of a formalized adaptive planning process that includes community engagement elements and room to adapt goals within the context of changing conditions. Promote local engagement and utilize networks to share assessments and better understand local priorities.

Impact on Chesapeake Bay Watershed Agreement: Requires revision of the accountability metrics and assessment of outcomes.

General Level of Effort: Medium.

Level of effort is associated with the implementation of a new framework for collaboration and integrated assessment, along with development of expertise and capacity in vulnerability assessment and construction of alternative future scenarios.

How to Strategies (Phase 2 Actions):

- Co-develop adaptation strategies with partners and communities to take advantage of local knowledge and collaborate with local planning to provide a holistic approach that aligns with local priorities.
- Use alternative future scenarios to provide decision-makers with options reflecting local community priorities.
- Identify critical habitat areas in both tidal and non-tidal waters and develop targeting approaches aligned with maximizing shallow water habitat health.
- Where possible, leverage and partner with other ecosystem habitat function projects, existing large-scale restoration efforts, and significant investments in best management practices (BMPs).
- Train partners and planners in ecosystem services and tools for planning with habitat impact considerations.
- Consider and provide incentives for preservation before restoration.
- Pilot BMP implementation with local non-profits that seek to balance water quality improvements with improvements to habitats, living resources and communities. Identify successful local programs and initiatives and scale up these efforts across rivers, sub-watersheds, and communities.
- Formally and periodically assess effectiveness and implement learnings into updated vulnerability assessments, modeling, and planning.

SHALLOW WATERS

Shallow Water Habitat Scope: Edges and Nearshore Waters of 3 Ecological Zones: Non-tidal Fresh, Tidal Fresh, and Tidal Estuarine. This includes the rivers and streams that flow to the waters of the Chesapeake Bay and the nearshore habitats where the plants and animals live and people interact with the water.

Strengthen the connection between people and shallow water habitats by communicating the importance of these ecosystems and their socio-economic benefits to stakeholders. Develop active and sustained engagement with partners and communities to understand their values and utilize social science strategies to develop stewards of our local waterways. (Consideration 4)

Residents in the Chesapeake Bay watershed lack awareness of the societal importance and benefits of shallow water habitats, and the Chesapeake Bay Program has not effectively linked shallow water habitats to the tangible benefits they offer to individuals who rely on local waterways for recreation, jobs, and cultural practices. This lack of public understanding and engagement is compounded by scientific jargon that fails to resonate with communities.

Impact to how we work: Implementing this recommendation would require a shift in operations towards a more meaningful partnership with people and communities, including but not limited to adjusting membership, management actions, and funding decisions to prioritize benefits to people and communities. Expanding our communication capacity and stewardship role would also be necessary.

Impact on Chesapeake Bay Watershed Agreement: Extend. This represents a transformative approach to how the Program communicates benefits to people and engages communities but does not create a new outcome.

General Level of Effort: Moderate

Effort is needed for developing new communication products and using existing networks. High effort is needed for building greater outreach capacity and for any direct engagement.

How to Strategies (Phase 2 Actions):

Targeted audiences: Underrepresented Communities, Non-tidal and Waterfront Communities

Communications and Engagement Planning:

- Using social science, develop a plan to foster two-way communication with local partners and communities that focus management actions on identified quality of life issues.
- Focus on polluted waterways while ensuring socio-economic and environmental justice dimensions are considered in managing access, use, and local economies.
- Tailor messages to a community's priorities, economic and ecological values and history. Focus on making content accessible, engaging, and relevant.
- Facilitate education about Best Management Practices (BMPs) and stewardship actions. This may in turn increase public engagement in habitat enhancement projects.

Implementation of Communications and Engagement Plan:

- Structured, targeted engagement with networks of partners utilizing a diverse suite of strategies to showcase ongoing restoration efforts and year-over-year improvements.
- Increase public engagement in habitat enhancement projects, by understanding local priorities, seeking feedback at multiple touchpoints, and then adjusting course if needed.
- Invest in training and regional technical assistance to strengthen outreach capacity.
- Improve methods to connect people with shallow water habitats through trails, education, community science, and public access to water.

SHALLOW WATERS

Shallow Water Habitat Scope: Edges and Nearshore Waters of 3 Ecological Zones: Non-tidal Fresh, Tidal Fresh, and Tidal Estuarine. This includes the rivers and streams that flow to the waters of the Chesapeake Bay and the nearshore habitats where the plants and animals live and people interact with the water.

Improve the balance of accountability, resources, and effort across the outcomes. Manage shallow water habitats as an interconnected ecosystem that leverages collaboration among the Bay Program partnership and organization structure by minimizing rigid bureaucracy without sacrificing inclusivity. Adjusting outcomes and funding accordingly. (Consideration 5)

The clean water regulatory requirements and accountability framework focus on TMDL crediting, but we need meaningful accountability with other outcomes that are not regulatory and deliberate and purposeful changes in project criteria to include living resources and their habitats. Water Quality makes up ten percent of the Bay Program outcomes, but commands significantly more in effort and focus. Clean water is only one factor of sustainable and healthy habitats for living resources and the Bay Program needs to balance effort, resources, and responsibility across the outcomes. In addition, there is a need for greater collaboration and engagement between the outcomes and throughout the partnership.

Impact to how we work: A re-envisioning of how the partnership works together and collaborates is necessary, including elimination of redundant or unnecessary processes that do not move the work of the partnership forward. We recommend a multi-objective accountability system that tracks outcomes and engages jurisdictions and local government, with an emphasis on incentives versus punitive measures. Modification to Program structure is also needed for improved collaboration.

Impact on Chesapeake Bay Watershed Agreement: Extend/ Do not need to amend to include strategies and mechanisms for collaboration, responsibility and dedicated funding.

General Level of Effort: High. This effort requires full participation of stakeholders ensuring equitable responsibility and collaboration. Stakeholder availability will require capacity building in most partnership organizations and significant increases or shifting of current funding.

How to Strategies (Phase 2 Actions)

- Conduct periodic evaluations of GITs/workgroups focused on efficiencies and collaboration. Incorporate social science and utilize existing networks to increase collaboration. Create a formal mechanism for input on Management Board agendas.
- Establish accountability mechanisms that focus on partnerships and trust, not regulatory approaches, include habitat improvements, and foster this through periodic training for partnership building. Develop mechanisms that track all outcomes as consistently and closely as water quality, with an emphasis on incentives versus punitive measures and a local focus.
- Reward preventative measures, not just corrective measures. Build state capacity, including the creation of markets for water quality, carbon, and other nature-based solutions.
- Utilize partners to navigate funding sources, focus on local governments and NGOs.
- Evaluate the cost curve versus living resources response curve.
- Encourage collaboration beyond singular practices and connecting outcomes and broaden representation on MB beyond water quality.
- Improve collaboration among different levels of government and in the permitting process. Consider new studies on permitting processes for restoration projects.