



CLIMATE ADAPTATION–STAR/CLIMATE RESILIENCY WORKGROUP (CRWG)

2014 WATERSHED AGREEMENT: GOAL & OUTCOME LANGUAGE

CLIMATE ADAPTATION OUTCOME: “Continually pursue, design and construct restoration and protection projects to enhance the resiliency of Bay and aquatic ecosystems from the impacts of coastal erosion, coastal flooding, more intense and more frequent storms and sea level rise.”

CLIMATE RESILIENCY GOAL: “Increase the resiliency of the Chesapeake Bay watershed, including its living resources, habitats, public infrastructure and communities, to withstand adverse impacts from changing environmental and climate conditions.”

OUTCOME DISPOSITION ADVICE TO MANAGEMENT BOARD:

UPDATE

RECOMMENDATION: UPDATE OUTCOME. The outcome language is qualitative and not SMART, which has made it difficult to assess progress. Partner feedback supports the continuing need of an adaptation outcome given impacts of climate change now and in the future on our natural resources and communities. Partners also expressed that the adaptation outcome allows for more focused investments and legislative change at the state level. Ideas for making the outcome SMART included using a place-based approach, having timebound objectives for developing/implementing nature-based solutions, and incorporating appropriate monitoring and assessment of successes and points of failure to inform adaptive management, including accepting or directing change to minimize negative impacts. Also suggested is to have the outcome take a holistic watershed approach that includes tidal and nontidal aquatic/terrestrial ecosystems. This would require additional resources to be effective.

CONSIDERATIONS: Consider if the Outcome is SMART, timescale for completing the outcome, and if achieving the outcome is an incremental step or final. **ASSESSMENT:** The adaptation outcome is not SMART. The current language is qualitative without a measurable objective or achievable milestones established. It is not timebound as it states to “continually” do the work. While climate change will cause a need to continually adapt, clearer language with timebound objectives that the partnership could incrementally work towards would allow this outcome to be more realistic. Ideas for making the outcome SMART includes incorporating place-based language and/or establishing strategies with timebound objectives to address or minimize impacts of changing climate conditions. An example of place-based language is, “within six adaptation focus areas, plan and implement nature-based strategies that enhance the longevity of habitat and ecosystem function and services beyond 2050.” Timebound objectives could be structured where a menu of adaptation options are developed for forecasted problems within different future timeframes (2050, 2075, 2100, etc.) and progress measured by how many of these strategies are implemented within certain timescales (e.g., 5, 10, 15 years). A similar SMART strategy was implemented through the Marsh Adaptation GIT-funded project where six focus areas were identified using existing marsh resilience metrics, state conservation indices, environmental justice data, and partner outreach leading to the integration of adaptation options into the planning of marsh restoration projects.

CONSIDERATIONS: Consider how the outcome relates to the Bay Agreement mission, vision, and themes/pillars and goals, the challenges to and opportunities for achieving the outcome, and whether it should be moved or restructured within the Agreement. **ASSESSMENT:** Climate change is a theme, a principal and goal within the Bay Agreement. Climate is also an elevated priority by the 2021 Executive Council (EC) Directive on Climate Change. Challenges for achieving the outcome include lack of monitoring and metrics for tracking and measuring resiliency enhancement of nature-based projects. Another challenge is how the climate adaptation outcome is structured under STAR, the science support team of CBP, given that the outcome also focuses on implementation, which needs jurisdictional

support. While the CRWG has been able to help advance scientific understanding and products for coastal adaptation planning, there is a need for a more formal GIT, climate advisory board, or other structured group within the partnership that has jurisdictional representation to advance implementation. There is an opportunity to reevaluate how the partnership tackles climate adaptation, including the integration of science and implementation, during the governance and structure discussion. Other groups, like the National Marine Sanctuaries, structure their climate work under multiple subgroups (e.g., science, adaptation/implementation, communication). Expertise exists within the partnership to aid in metric development for measuring resilience. However, there is a need for post project monitoring at appropriate timescales to assess successes and failures. There is also a strong interest from partners that the outcome is expanded from being coastal focused to a more holistic watershed approach that considers both tidal and nontidal aquatic and terrestrial ecosystems in a strategic and achievable way that leverages state and federal efforts. Additional feedback from partners included that adaptation should overlap with land conservation goals and that more granular modeling of ecosystem services-related climate scenarios could help form “climate stewards” within communities.

CONSIDERATIONS: What value is added by having the Chesapeake Bay Program work on the outcome? Does the outcome reflect [public input already received](#) and have the potential to galvanize public support/engagement? Consider the risk or unintended consequences of removing or changing the Outcome. **ASSESSMENT:** Climate change affects our watershed, natural resources, shorelines, and communities in a variety of ways – sea level rise drowning tidal wetlands and exacerbating nuisance flooding, increased precipitation increasing runoff and flooding, warming causing unsuitable habitat and/or species migration, changes in crop yields and more. The EC has stated, “While we can address some of these challenges within our jurisdictions, successful restoration of the Chesapeake Bay requires a collaborative response.” A public comment stated, “The Bay Program has a long history of providing cutting-edge science to practitioners. We need the Program to continue filling this important niche, especially regarding climate-smart practices...” The adaptation outcome has facilitated collaboration bringing climate resilience experts and implementers together to enhance science-informed adaptation strategies for restoration projects. It has also fostered collaboration in filling knowledge gaps on climate change impacts across other outcomes. The climate adaptation outcome has led to collaborative successes, such as the Marsh Adaptation workshops and worksheets that helped partners use existing data to justify proposed restoration projects in their climate resilience BIL/IRA funding proposals. It has also served a role in connecting climate change science with community resilience guidance. Partners expressed that the removal of the adaptation outcome runs the risk of losing partners, including federal agencies, non-governmental organizations and foundations who invest in and leverage this work. It was also expressed that having the climate resiliency goal and adaptation outcome has helped partners drive legislative change at the state level. Overall, multiple groups provided public comment on the Beyond 2025 report for state leaders and the Bay Program to prioritize climate change data and resiliency projects. The climate resiliency goal and the adaptation outcome helps facilitate this prioritization.

CONSIDERATION: Consider resource needs to achieve the Outcome (high, medium, low) and availability/commitment of such resources. **ASSESSMENT:** For the current outcome language, building science products to inform planning/design range from low to medium resources needed. Projects range from \$80,000 to \$250,000 with the larger values corresponding with more analysis and/or modeling needed for larger geographic areas. Example of recent funded science support project is the STAC Synthesis funding for quantifying resilience effectiveness of coastal nature-based solutions (~\$125,000). The construction of projects related to nature-based solutions for adaptation have high resource needs typically in the millions of dollars. Continuation of existing coordination and staffer support and building additional capacity and enhancements to the programmatic structure would be needed to support a more holistic watershed approach.