

# BIENNIAL STRATEGY REVIEW SYSTEM

## Chesapeake Bay Program



### Narrative Analysis

#### [CLIMATE RESILIENCY ADAPTATION OUTCOME – NOVEMBER 10TH, 2022]

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ABSTRACT: [PROVIDE A CONCISE PARAGRAPH SUMMARY, BEGINNING WITH THE OUTCOME STATUS (E.G., ON TRACK, OFF TRACK, AHEAD OF SCHEDULE), YOUR KEY FINDINGS, SUCCESSES AND CHALLENGES THAT ARE DESCRIBED IN MORE DETAIL BELOW.]

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Over the past two years, the Climate Resiliency Workgroup's (CRWG) recent progress has increased, as the workgroup continues to pursue, design, and construct restoration and protection projects that enhance the resiliency of the Bay. The outlook of this outcome remains uncertain, as the metrics that will assist in tracking and measuring success of resilience projects still needs to be developed. Given the urgency demonstrated by climate change trends and projections, it will be important to establish metrics for measuring resilience success to inform management decisions. Challenges faced over the past two years include understanding that past efforts to track resilience were too broad in scope making it difficult to develop a usable product. Successes include supporting the GIT-funded Targeted Outreach for Green Infrastructure (TOGI), Marsh Migration Data Synthesis, and Partnership-Building for Collaborative Marsh Adaptation projects. Moving forward, the CRWG will plan discussions on how to feasibly track resilience projects and invite researchers to present on how they quantify resilience effectiveness in relation to habitat and community resilience. Additionally, the CRWG is supporting efforts to synthesize resilience and social vulnerability metrics related to targeting restoration and identifying marsh restoration projects to better position partners to apply for the influx of resilience and habitat funding.

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***NOTE:** The narrative analysis summarizes the findings of the logic and action plan and serves as the bridge between the pre-quarterly logic and action plan and the quarterly progress meeting presentation. After the quarterly progress meeting, your responses to these questions will guide your updates to your logic and action plan. Additional guidance can be found on [ChesapeakeDecisions](#).*

1. ARE WE, AS A PARTNERSHIP, MAKING PROGRESS AT A RATE THAT IS NECESSARY TO ACHIEVE THIS OUTCOME? WOULD YOU DEFINE OUR **OUTLOOK** AS ON COURSE, OFF COURSE, UNCERTAIN, OR COMPLETED? UPON WHAT BASIS ARE YOU FORECASTING THIS OUTLOOK?

The Chesapeake Bay Program (CBP) Climate Resiliency Workgroup (CRWG) is responsible for both the **Adaptation** and **Monitoring and Assessment** outcomes under the climate resiliency goal in the Chesapeake Bay Watershed Agreement. Both outcomes have broad narrative objectives. The Adaptation outcome focuses on continually pursuing, designing, and

constructing restoration and protection projects and emphasizes building resilience to impacts of coastal erosion, coastal flooding, and more frequent intense storms.

Currently the outlook of this outcome is categorized as **uncertain**. While the workgroup has actively pursued, designed, and constructed restoration and protection projects over the past two years, we do not have the metrics established to track resilience and adaptation efforts. In the near-term, the workgroup should work on determining the means to track the implementation of individual climate adaptation-related projects. This effort is time intensive, as the information is not readily available. To be successful in this effort, we will likely need a mechanism for partners and jurisdictions to self-report adaptation projects and collaboration with other workgroups that focus on tracking natural resource outcomes. From a long-term perspective, discussions are needed on metrics and methods to assess overall resilience enhancement from projects and how these resilience efforts minimize the loss of resources. To achieve this, there will likely be a need for long-term monitoring at climate adaptation project locations and/or analytical modeling support. Given the urgency demonstrated by climate change trends and projections, metrics will be important to effective evaluations of progress towards the climate resiliency goal.

How would you summarize your **recent progress** toward achieving your outcome (since your last QPM)? If you don't have an indicator, would you characterize this progress as an increase, decrease, no change, or completed? *If you have an indicator and it was updated since your last QPM, use your answer to question 16 from your Analysis and Methods document.*

Currently, the workgroup's recent progress has increased over the past two years. The workgroup has made progress towards this outcome through pursuing, designing, and constructing restoration projects. Examples of this work include supporting several Goal Implementation Team (GIT)-Funded projects led by other workgroups, including the Targeted Outreach for Green Infrastructure project, which is complete and the final report and designs should be made available this fall. Communities involved in the project are currently working with CBP partners to secure funding to implement some of the green infrastructure designs, such as living shorelines. Other efforts include the CRWG GIT-Funded "Partnership-Building and Identification of Collaborative Marsh Adaptation Projects," which aims to identify marsh restoration and resilience research projects and potential collaborative partnerships in an effort to get marsh restoration and resilience projects funded and implemented. Lastly, the CRWG supported several wetland workshop efforts with climate resilience discussions such as the EPA Office of Research and Development's Resilient Coastal Wetlands workshop, the Maryland Sea Grant Large-scale marsh persistence and restoration in the Chesapeake Bay workshop, and the Habitat GIT's Wetland Outcome Attainability workshop.

#### EXPLAIN ANY GAP(S) BETWEEN OUR ACTUAL PROGRESS AND OUR OUTCOME.

The Adaptation outcome does not have quantifiable metrics, making it difficult to evaluate whether we are making progress towards the outcome. With climate change, there will always be the challenge of keeping up pace since we will never be truly done with our outcome. We are continually trying to improve and implement strategies to build resilience to climate change impacts to the Chesapeake Bay restoration efforts. However, there is no current method or metric to track and assess the resiliency enhancement from adaptation projects. The workgroup has made incremental progress during the last 2 years on the Adaptation outcome. The CRWG assisted the Habitat GIT/Wetland Workgroup in conceptualizing and securing GIT-funding for a marsh data synthesis project that was contracted to the Virginia Institute of Marine Science (VIMS). This project reviewed existing marsh data related to condition, marsh migration, and

sea level rise, among other variables, and developed a framework on how localities can use these data to inform marsh restoration decisions. The CRWG also is leading the GIT-funded project, “Partnership-building and Identification of Collaborative Marsh Adaptation Projects.” This project includes the review and synthesis of existing resilience and social vulnerability metrics and the identification of partner marsh restoration and resilience priorities to support targeting and promoting where and how to pursue marsh adaptation projects. Given the urgency demonstrated by climate change trends and projections, it will be important to establish metrics for measuring resilience success to inform management decisions.

*NOTE: YOUR RESPONSES RELATED TO OUTLOOK AND RECENT PROGRESS WILL BE USED TO UPDATE YOUR OUTCOME PAGE ON [CHESAPEAKEPROGRESS](#) AND THE [OUTCOME STATUS PAGE](#).*

2. Looking back over the last two or more years, describe any scientific (including the impacts of climate change), fiscal, and policy-related developments that impacted your progress or may influence your work over the next two years. Have these resulted in revised needs (*e.g.*, less, more) to achieve the outcome?

*TO THE EXTENT FEASIBLE, DESCRIBE YOUR NEEDS USING THE SPURR THOUGHT MODEL, I.E., **SPECIFIC AND ACTIONABLE, PROGRAMMATIC PARTNER, URGENCY OF THE NEEDED ACTION, RISK OF NOT ACTING, RESOURCES REQUIRED.***

The workgroup identified a number of external factors that have the potential to impact the workgroup’s adaptation efforts moving forward. Recently, the federal government passed a number of new laws (*i.e.*, the Infrastructure Law and the Inflation Reduction Act) that include a significant amount of funding for natural infrastructure and resilience efforts. As the workgroup develops their next 2-year Logic and Action plan, there is a need to determine the role of the workgroup in how they support partners who are applying for this funding. The workgroup has an opportunity to help position our partners in a way that makes them more competitive for this federal funding; support could mean assisting with project conceptualization, grant writing, partner alignment, and finding funding sources for projects.

Another external factor that has the potential to impact the workgroup and our efforts is the Executive Council’s Climate Change Directive and its workplan. Currently, the workgroup is situated to support some of the actions identified in the workplan as it relates to climate science needs. The workgroup sits beneath STAR, and operates as a science support group for the Bay Program. It is outside of the workgroup’s capacity, scope, and membership to address the entire plan; there is a need for jurisdictional and federal commitments and a separate coordinating body and process.

3. **BASED ON THE RED/YELLOW/GREEN ANALYSIS OF THE ACTIONS DESCRIBED IN YOUR LOGIC AND ACTION PLAN, SUMMARIZE WHAT YOU HAVE LEARNED OVER THE PAST TWO YEARS OF IMPLEMENTATION.**

*SUMMARIZE OVERALL (NOT PER ACTION) WHAT YOU HAVE LEARNED ABOUT WHAT WORKED AND WHAT DIDN’T WORK. FOR EXAMPLE, HAVE YOU IDENTIFIED ADDITIONAL FACTORS TO CONSIDER OR FILLED AN INFORMATION GAP?*

Over the past two years, the workgroup has made progress on a large number of our priority actions. We assisted with capacity building activities that support the implementation of adaptation efforts through our GIT-funded Marsh Adaptation Project and supported the Habitat GIT-funded Marsh Data Synthesis Project as well as participated in numerous resilience related workshops and meetings. Our workgroup's meetings focused on supporting ongoing resiliency efforts (e.g., STAC Rising Water Temperature Workshop), information exchange on stormwater resilience, living shoreline and marsh research, and marsh resilience targeting tools. Over this timeframe, we also encountered obstacles to completing a few priority actions related to tracking Bay-wide resilience efforts. We learned projects need a narrower focus on specific adaptation activities (e.g., marsh migration, green/natural infrastructure) and stakeholder input early in the process to ensure that the project has utility for them.

Through reviewing our progress made on actions that support the Adaptation Outcome, we were able to identify general themes about lessons learned and key takeaways, which will be foundational as we build our next workplan. We learned that focused meetings provide better incremental progress on adaptation outcome activities, as they provide a space to exchange information, generate ideas, and collaborate. This has led to a focus on coastal wetlands as a priority adaptation action because of their outcome status (behind), elevated CBP priority, vulnerability to climate change impacts, their capacity to build resilience (e.g., flood reduction), and increases in coastal resilience/natural infrastructure funding opportunities. Lastly, we determined that cross-GIT and workgroup collaboration is important to achieve the climate adaptation outcome, as this outcome is cross-cutting with many other outcomes within the Bay Program and through collaboration, we can increase capacity to undertake larger, more impactful projects. For instance, the CRWG worked with the CBP Strategic Engagement Team (formerly, the Local Engagement Team) who helped us disseminate climate resiliency information. The CRWG provided information on resilience tools and studies that the Local Engagement Team utilized to support the following efforts:

- Educational modules: [A Local Government Guide to the Chesapeake Bay](#)
- Climate webinars: 1) [Plan Integration for Resilience AND Equity](#) and 2) [Leveraging Hazard Mitigation for Water Quality Benefits](#).
- Local Leadership [meeting](#) on resilience information to climate related flooding (Aug 2021).
- Maryland Municipal League Panel on [Equity in Climate Resilience](#) (June 2021) and Magazine Article ['Seeking Solutions for Addressing Stormwater-related Flooding Challenges'](#) (Dec 2021).

4. BASED ON WHAT YOU HAVE LEARNED THROUGH THIS PROCESS AND ANY NEW DEVELOPMENTS OR CONSIDERATIONS DESCRIBED IN RESPONSE TO QUESTION #2, HOW WILL YOUR WORK CHANGE OVER THE NEXT TWO YEARS? IF WE NEED TO ACCELERATE PROGRESS TOWARDS ACHIEVING OUR OUTCOME, WHAT STEPS ARE NEEDED AND, IN PARTICULAR, WHAT SPECIFIC ACTIONS OR NEEDS ARE BEYOND THE ABILITY OF YOUR GROUP TO MEET AND, THEREFORE, YOU NEED THE ASSISTANCE OF THE MANAGEMENT BOARD TO ACHIEVE?

*DESCRIBE ANY ADAPTATIONS THAT MAY BE NECESSARY TO ACHIEVE YOUR OUTCOME MORE EFFICIENTLY AND EXPLAIN HOW THESE CHANGES MIGHT LEAD YOU TO ADJUST YOUR MANAGEMENT STRATEGY (IF SIGNIFICANT) OR THE ACTIONS DESCRIBED IN COLUMN FOUR OF YOUR LOGIC & ACTION PLAN. WHAT NEW SCIENCE, FISCAL, AND POLICY-RELATED INFORMATION, COULD BE RECOMMENDED OR PURSUED OVER THE NEXT TWO YEARS TO MAINTAIN*

*OR, IF NEEDED, ACCELERATE PROGRESS? USE THE SPURR MODEL DESCRIBED IN QUESTION #2, TO PROVIDE DETAIL TO THE NEEDED STEPS AND ACTIONS.*

Moving forward, the workgroup has identified a number of steps to help make progress toward our Adaptation Outcome. As mentioned in earlier responses, cross-GIT and workgroup collaboration is key; the workgroup plans to explore collaborative opportunities with the Habitat GIT/Wetland Workgroup related to coastal marsh resilience efforts. Current efforts that will carry forward into the next CRWG workplan will include continued support for the GIT-funded Marsh Adaptation Project, which includes synthesizing and promoting the use of common resilience and social vulnerability metrics for selecting marsh restoration locations and measuring success and identifying marsh restoration projects and partners to pursue funding. Aligned with that work, CRWG will focus on synthesizing the finding of various tidal wetland/marsh resilience tools through possible GIT-funding to assist with restoration targeting and evaluating marsh success. Furthermore, the workgroup will be determining what role they can fill in helping partners capitalize on the influx of infrastructure and resilience funding. This could include providing advisory support and lessons learned on the grant application process for projects identified through the GIT-Funded Marsh Adaptation Project.

Other identified efforts that the workgroup plans on undertaking include discussing with workgroup members what is meant by “resilience enhancement” and how the CRWG can feasibly track progress on the Adaptation outcome. To help inform this discussion, we plan to invite researchers to present on how they are quantifying resilience effectiveness in relation to habitat and community resilience. Additionally, we plan to invite representatives from the Local Government Advisory Committee to present on recommendations from the Local Government Forum: Integrating Resilience into Local Planning. Lastly, we plan to continue to explore opportunities to identify and discuss gaps in resiliency work (e.g., ghost forests/forest loss, marsh migration tradeoffs, benefits of living shorelines versus hardened shorelines, defining equitable adaptation) in collaboration with respective workgroups.

In an effort to increase the workgroup’s capacity to make more progress on both the climate adaptation and climate monitoring and assessment outcomes, we successfully advocated for and hired a workgroup staffer through the Chesapeake Research Consortium’s (CRC) Environmental Management Development Program. The piloting of the climate staffer position was successful in achieving better cross-workgroup coordination and support for GIT-funded projects advancing progress on the adaptation outcome. However, we have heard that the CRC staffer program is being restructured under a new contract with CRC. **Given the success of the climate staffer position and the urgency in making progress on the climate resiliency goals, we would like to see an emphasis on continued support for the climate staffer position.**

The CRWG would also like to raise awareness to the Management Board on potential requests that may result from the GIT-funded Marsh Adaptation Project. Members of the project team may reach out for information on who to contact in your agency working on tidal and coastal wetland projects. This project includes identifying regional and local partners and organizations planning or implementing tidal wetland projects. The Management Board can assist in helping identify staff working on these types of projects. Additionally, we would like Management Board members to **encourage your organization to participate in the stakeholder outreach questionnaire if contacted, which is a component of the same GIT-funded project.**

The workgroup identified one key request of the Management Board, which will help our Adaptation efforts moving forward. The Climate Resiliency Workgroup is a small, science support workgroup, situated within STAR. We are tasked with two outcomes, the Adaptation outcome, discussed in this Narrative Analysis, and the Monitoring and Assessment outcome. As such, we must remain judicious with our resources and ensure we are focusing on the actions that support our outcomes. A few recent developments have the potential to impact the capacity and resources we have to carry out this work. The Executive Council's Climate Change Directive outlines Partnership-wide actions to address the urgency of climate change impacts. **We request the Management Board define accountable parties for actions identified under the Executive Council's Climate Change Directive workplan.** The CRWG has actions that align with this workplan and plans to discuss which actions we can support during the development of our next 2-year logic and action table. However, we do not have the capacity to or the appropriate membership or scope to coordinate this Partnership-wide effort.

5. WHAT STEPS ARE YOU TAKING, OR DO YOU RECOMMEND, TO ENSURE YOUR ACTIONS AND WORK WILL BE EQUITABLY DISTRIBUTED AND FOCUSED IN GEOGRAPHIC AREAS AND COMMUNITIES THAT HAVE BEEN UNDERSERVED IN THE PAST?

To truly foster climate resilient communities, we must ensure that our actions and efforts are equitably distributed and make sure the needs of underserved and underrepresented communities are met. We have started focusing more effort within our actions to support these communities. Efforts include supporting the Target Outreach for Green Infrastructure (TOGI) in Vulnerable Areas. This project included outreach and conceptual designs for two underserved community areas and two tribes. Currently, partner organizations are supporting these communities in seeking funding to implement some of these conceptual designs. Additionally, the workgroups' GIT-Funded Marsh Adaptation project incorporates goals to work with the Diversity Workgroup to identify and reach out to leaders of underrepresented groups to participate in stakeholder engagement efforts to identify projects. The project also earmarks a portion of the budget for compensation of their time, which is a known barrier to participation for these groups.