



Chesapeake Bay Program's (CBP)  
Scientific and Technical Advisory Committee (STAC)  
June 2024 Quarterly Meeting Minutes  
June 4-5, 2024; Hybrid  
Point of View Retreat in Lorton, Virginia  
[Meeting Webpage](#)

**Attendance:**

**W** = webinar

**Members:** Matt Baker (UMBC – **W**), Kathy Boomer (FFAR – **W**), Charles Bott (HRSD), Chris Brosch (DDA – **W**), Tony Buda (USDA-ARS – **W**), Bill Dennison (UMCES), KC Filippino (HRPDC), Carl Friedrichs (VIMS), Kathy Gee (Longwood University – **W**), Jeni Keisman (USGS – **W**), Christine Kirchhoff (PSU – **W**), Scott Knoche (Morgan State, PEARL – **W**), Ellen Kohl (UMBC – **W**), Yusuke Kuwayama (UMBC), Erin Letavic (Herbert, Rowland, & Grubic, Inc. [HRG] – **W**), Theo Lim (VT – **W**), Dave Martin (TNC – **W**), Mark Monaco (NOAA-NCCOS), Greg Noe (USGS), George Onyullo (DOEE – **W**, alternate for Efeturi Oghenekaro (DOEE)), Leah Palm-Forster (UD), Joe Reustle (Hampton University – **W**), Kenny Rose (UMCES – **W**), Mike Runge (USGS), Larry Sanford (UMCES), Amir Sharifi (DOEE – **W**), Tess Thompson (VT – **W**), Emily Trentacoste (EPA – **W**), Valerie Were (CIRA), Joe Wood (CBF – **W**), Weixing Zhu (Binghamton)

**Guests:** Greg Barranco (EPA – **W**), Doug Bell (EPA – **W**), Karl Blankenship (Bay Journal – **W**), Sarah Brzezinski (EPA – **W**), Dylan Burgevin (MD DNR – **W**), Gabe Cohee (MD DNR – **W**), Melissa Fagan (CRC), Rachel Felver (Alliance for the Chesapeake Bay), Kendrick Flowers (USDA-NRCS), Kaylyn Gootman (EPA – **W**), Amy Guise (US ACE – **W**), Jeremy Hanson (CRC), Amy Hruska (Underwood & Associates – **W**), Annalise Kenney (MD Sea Grant – **W**), Lew Linker (EPA – **W**), Kevin McLean (CBP – **W**), Julie Reichert-Nguyen (NOAA – **W**), Bailey Roberatory (CRC – **W**), Kristin Saunders (UMCES), Erin Sonnenburg (CRC – **W**), Jamileh Soueidan (CRC – **W**), Kathy Stecker (MDE – **W**), Kurt Stephenson (VT – **W**), Breck Sullivan (USGS), Bryant Thomas (VA DEQ – **W**), Qian Zhang (UMCES/EPA – **W**)

**Administration:** Meg Cole (CRC), Tou Matthews (CRC), Denice Wardrop (CRC)

**Tuesday, June 4**

**Call to Order, STAC Business, Announcements – Larry Sanford (STAC Chair – UMCES)**

Larry Sanford (UMCES) called the meeting to order at 9:30AM with a round of introductions and an outline of the meeting agenda. STAC Members were invited to give an update on any ongoing STAC efforts and/or funded activities, and Sanford asked members to share any announcements on upcoming partnership activities and events of potential interest to the committee. The March 2024 STAC Quarterly Meeting Minutes and March and April Executive Board Meeting Minutes were approved without comment.

**DECISION:** March 2024 Quarterly Meeting Minutes approved; March 2024 Executive Board Meeting Minutes and April 2024 Executive Board Meeting Minutes approved.

**CESR Updates: Tiered Implementation of TMDL and Living Resources Actions** – *Denice Wardrop (CRC), Kurt Stephenson (VT), Mark Monaco (NOAA), Kenny Rose (UMCES)*

Denice Wardrop (CRC) provided an overview on the STAC-led [Comprehensive Evaluation of System Response](#) (CESR) report, which delivered valuable insights and recommendations to the attention of the Bay Program. With the report’s circulation and continuing discussion around its implications, STAC is positioned to influence upcoming important activities and decisions in the Bay Program and partnership. The CESR Outreach Committee decided to initiate a process to create a series of policy briefs that will provide a detailed description and a framework for technical implementation of select concepts for a policymaking audience. The first of these policy briefs will be on a Tiered Implementation of the Bay Total Maximum Daily Load (TMDL); a group of current and past STAC members, along with relevant individuals from the Bay Program, met May 20-21, 2024, to develop a definition and begin the process to create this policy brief.

Kurt Stephenson (VT) provided necessary background information on Bay water quality standards and recapped the discussions from the May 2024 policy brief meeting. Stephenson also presented and explained the definition agreed upon, which is “a tiered implementation of the TMDL establishes intermediate term, spatially explicit pollutant load targets that would result in the greatest anticipated benefit to living resources on our way toward attainment of the Chesapeake Bay water quality standards.” A tiered implementation of the TMDL would not change ultimate goals but rather the means and schedule to achieve those goals.

Kenny Rose (UMCES) and Mark Monaco (NOAA), who were both vital to the living resources reflections in CESR as well as the [living resources supporting document to CESR](#), briefed STAC on the science behind using living resources results as a basis for the tiered implementation approach to the TMDL. Up until present, the implementation of the TMDL revolved around achieving set dissolved oxygen (DO) levels in deep segments; the proposed TMDL implementation will target and prioritize improvements in water quality to benefit living resources habitats. TMDL implementation based on water quality standards is a bottom-up approach that is necessary but may not be sufficient while TMDL implementation based on habitat is a top-down approach and has more confidence in predicting in-situ responses. Rose remarked on the impact of the CESR report on the future direction of the Bay Program and emphasized the importance of STAC members’ continued involvement with the outcomes of the CESR report.

## Discussion:

- Kristin Saunders (UMCES) [chat]: When you talk about habitat, is that inclusive of wetlands, forest buffers, and shoreline hardening? Or is it just in-water habitat?
  - Rose: Our initial focus will be near-shore since living resources are so concentrated in that area. Then we will expand efforts onto the land-water interface and eventually we will cover the Bay and hopefully up into the rivers.
- Greg Noe (USGS): One key finding from the FY23 STAC workshop on stream restoration is the uncertainty of whether management efforts are improving local living resources. This is a strong parallel to Rose's points in that the stressors need to be known in order to target management towards those stressors. Different ecosystems in the watershed face the same issues as tidal freshwater systems and may potentially be addressed with the same general framework.
  - Rose: I agree, it can be done in a conceptually similar way. One major challenge is staffing and time.
  - Stephenson: The CESR writing team talked about the extent within the watershed where multiple benefits present themselves and prioritizing based on that.
  - KC Filippino (HRPDC): Another consideration is how to include practices such as living shorelines and the coastal plain into Bay restoration. These practices are needed and wanted but are not well funded since they don't achieve the most reduction in water quality.
- Bryant Thomas (VA DEQ) [chat]: Might the benthic evaluations be something to help inform and prioritize segments? Is there a benefit to consider breaking down the segmentation to something smaller than the 92 defined Bay segments?
  - Rose: Yes, the benthos is a good method of characterizing the segments. There have been long discussions on the appropriate spatial resolution. Personally, I am pushing towards larger segments as with smaller segments, there is more uncertainty in the relevance of measurements of organisms over a meaningful amount of time. However, management is based on localized actions. Hopefully, an analysis of monitoring data will provide insight on spatial correlation and movement patterns.
  - Monaco: The Beyond 2025 Living Resources Modeling Small Workgroup are working to ensure that the living resources component and integration with the watershed and estuary are implemented.
- Leah Palm-Forster (UD) [chat]: Will you all share actions/activities you would like to see more of from STAC members to support CESR and related efforts? Particularly for those of us who don't engage frequently or directly with stakeholder groups.
  - Wardrop [chat]: Yes.
- Yusuke Kuwayama (UMBC) [chat]: I understand how the redefinition of the objective, from achieving DO levels in deep segments to improving/enhancing living resources,

generates a need for prioritization. Is there also a need to prioritize based on differential benefits to people, as well as based on differences in costs of paths to achieve those improvements?

- Rose: There is absolutely a need to prioritize based on differences in cost. Some species habitat will go up and some will go down and there are tradeoffs to consider in these decisions. I believe that it is up to the people who are directly or indirectly impacted by habitat changes to weigh the tradeoffs.
- Charles Bott (HRSD): The TMDLs are tied to water quality standards which results in load allocations and then permit limits. How does this process work in the tiered implementation context? Does it make sense to lay out an example implementation plan that would accommodate this approach?
  - Rose: We are still working on this aspect. The approach and the methods of the TMDL stay the same; the three variables of watershed actions, living shoreline, and wetland remain. The tiered implementation seeks a combination of those variables that will benefit habitat in the near-shore on top of the benefit to dissolved oxygen and deep trench.
  - Stephenson: The policy brief writing team discussed using several illustrative examples to explain the general idea of a tiered implementation of the TMDL.
  - Wardrop: The policy briefs will be designed to demonstrate proposed concepts and provide examples rather than dictate the Bay Program's actions. Rose uses the tagline, "It's evolution, not revolution." We are not proposing to tier the TMDL but to tier the implementation of the TMDL.
- Saunders [chat]: The more we can encourage and incentivize implementers to bundle restoration actions that address not only water quality but also provide habitat connectivity, access to nature and specifically meet multiple outcomes in our 2014 agreement, the more likely we are to see these major investments happening in restoration right now go further and be meaningful to support the needs of living resources and people and perhaps accelerate improvements in shallow water areas. I would suggest explicitly mentioning this because it may be tempting for implementers to consider tiering this work with the same approach they have always used (leading with nitrogen, phosphorus, sediment reductions).
- Julie Reicher-Nguyen (NOAA) [chat]: From a people standpoint, there are fishing communities that will be affected by changes in the nearshore environment from a livelihood standpoint. Another people/living resource habitat perspective that the Climate Resiliency Workgroup has been discussing with partners is allowing for effective marsh migration in such a way that provides good fish and bird habitat and shoreline protection. However, to allow for marsh migration, changes in land use and retreat of people will need to be considered.
- Erin Letavic (HRG) [chat]: Would it be possible for the policy brief to provide an example that correlates some popular best management practices (BMPs) that are traditionally

implemented to the “new” living resources response concept? I think it is important to explain what the living response expectation is for those same types of practices.

- Filippino [chat]: Or ones that haven’t been implemented because they don’t get enough nitrogen, phosphorus, sediment reductions.
- Wardrop [chat]: Yes, great idea for one of the examples in the policy brief.

### **Beyond 2025 Effort Updates, Next Steps – Larry Sanford (UMCES), Kathy Boomer (FFAR)**

Kathy Boomer (FFAR) provided an overview of the Beyond 2025 efforts and an update on the current status of the steering committee conversations. Since June 2023, the Beyond 2025 Steering Committee has been working to fulfil its [charge](#) to recommend “a critical path forward that prioritizes and outlines the next steps for meeting the goals and outcomes of the Watershed Agreement leading up to and beyond 2025.” At the [Beyond 2025 Symposium](#) earlier this year, five focused recommendations were drafted for each of the Small Groups: People, Clean Water, Climate Change, Healthy Watersheds, and Shallow Water. At the current stage, [final recommendations](#) have been developed for each of the five small groups and the steering committee is in the process of drafting a final report with overarching recommendations. [The [draft Beyond 2025 Steering Committee report](#) was released in July 2024.] Amongst the overarching recommendations within the draft report, the Beyond 2025 Steering Committee has developed three themes: partnership, restoration, and science. The draft report will be open for public feedback through August 31st and the final report will be delivered in October to the Management Board (MB) and Principals’ Staff Committee (PSC), and to the Executive Council (EC) in December. Boomer underscored that STAC can play a role in these efforts by connecting the Beyond 2025 draft report to the CESR report in order to help refine language and ensure recommendations align.

Sanford provided an update on a recent [evaluation of the Chesapeake Bay Program](#) by consultants at Eastern Research Group (ERG), which was conducted as a parallel effort to the reflections from Beyond 2025 Steering Committee. The report provides considerations for the function and structure of the Bay Program, based off internal processes and relationships, engagement with stakeholders and external decisionmakers, and the appropriateness of outcomes and goals. Sanford explained the 12 findings and 11 considerations presented by the ERG draft report; the final [Chesapeake Bay Program Beyond 2025 Evaluation](#) report by ERG was released June 18. The Beyond 2025 Steering Committee synthesized the considerations into four partnership recommendations.

### Discussion:

- Saunders: When the 2014 Watershed Agreement was being negotiated, STAC was instrumental in helping us craft the language for some of the outcomes. There were some items that were not ready to be stated as SMART (specific, measurable, achievable, relevant, time-based) goals but we felt compelled to include, such as diversity and toxics. We planned to change the language the language and develop

measurable outcomes over time. I think this is a role for STAC to help us with our language for SMART goals in the next iteration.

- Sanford: I am somewhat disappointed in the recommendations developed by the Beyond 2025 Steering Committee. There have been many specific ideas and they've been boiled down into these generic, inoffensive recommendations.
  - Filipino: I've shared your disappointment but the ultimate goal is to scale down the report into a set of recommendations that are 1-2 pages long for the Executive Council. These are currently an outline of the recommendations and we haven't yet seen how the ERG comments will be reflected.
- Boomer: There is a bimodal distribution of beliefs around where we should go next. Some see the need for institutional learning and some might be overwhelmed by the prospect of changing gears again. I think part of the overwhelmed feelings stem from the vagueness of what direction to take and STAC could be helpful in guiding the Bay Program. In the May Beyond 2025 Steering Committee meeting, there was frustration around a lack of understanding of science-based decision making.
  - Wardrop: I think the polarization is not necessarily about the path forward but about how much to change the path. My concern is that there are many ideas on the table and the end of Phase 1 does not seem like a good time to push anything off the table. Many people might disengage if they don't see any of their efforts in the recommendations coming out of Phase 1.
- Sanford: Phase 1 is the direction for Beyond 2025 efforts while Phase 2 is the implementation.
  - Wardrop: The PSC and the Management Board have control over what comes out of Phase 1.
- Palm-Forster: I wonder if there is an opportunity for STAC to add strategic words within the main points or underneath them that link to CESR or other conversations. Providing these conversation points could have value.
- Reichert-Nguyen [chat]: I was in the climate small group and the alternate steering committee member for STAR. It does seem like the synthesis watered down the big ideas from the individual small groups - I'm not sure if this is a function of trying to capture all thoughts across the groups in a broad statement or if there is hesitation with the big ideas because of the shifts that would be needed to execute these.
- Sullivan: I am on the drafting team for the synthesis narrative and specifically the science section. I understand the feelings about the vagueness and lack of action as well as the understanding that we are bringing together many themes and ultimately provide two recommendations for the governors. In the narrative, we did try to reference small group recommendations and points from CESR but I would appreciate help with wording to increase the actionability.
  - Saunders: The drafting team for the synthesis was trying to keep some of the good ideas while also using language that would find consensus with the steering

committee. There is a tension between the jurisdictions and other members in their priorities. My suggestion is for STAC to keep pushing the conversations that matter in Phase 2. STAC could also underscore the things that are missing in the synthesis and help reframe some of the goals and outcomes to be more integrated.

- Boomer: The main charge of the Beyond 2025 Steering Committee was to decide whether there is a need to take a step back and revisit the goals, objectives, and structure of the Bay Program. Looking at the ERG report and the Beyond 2025 discussions, there's a clear need to revisit the goals and objectives and many discussions include the need to increase integration across GITs. An institutional learning step would be invaluable to engaging the diversity of communities across the watershed and STAC might be able to develop a vision that helps the Bay Program feel comfortable taking that bold step.

### [Report out from STAC Workshop "Climate Change Modeling III: Post-2025 decisions"](#)

– Gary Shenk (USGS)

Gary Shenk (USGS) summarized the FY23 STAC Workshop "[Climate Change Modeling III: Post-2025 decisions](#)" held May 7<sup>th</sup>-9<sup>th</sup>, 2024 at the Virginia Tech Executive Briefing Center in Arlington, Virginia. The workshop brought CBP managers and model developers together with experts in climate change, estuarine, and water science. The goal of the workshop was to develop recommendations for new or refined methods and modeling techniques to be completely and fully operational by 2025 and to assess future impacts of projected climate change on watershed loads and estuarine processes, including the methodology for updating expected reductions in nutrient pollution loads due to 2035 climate projections.

Discussion:

- Monaco: How would the management processes work for tiered TMDL implementation?
  - Shenk: We can either look at a smaller area in the Bay and consider individual actions to improve that area or looking at a point in the watershed and consider its effects downstream. For the latter, a model can integrate across all space downstream of the watershed and compare to other watersheds to develop a prioritization.
- Filipino: For phase 7, are we still going to have two separate sets of numbers when adding a climate change model onto a basic model? When will we have a living resources model with climate change predictions?
  - Shenk: That is a good point and one of the groups brought that up when asking if we were still going to be doing things the exact same way in 2050. We want to produce models that are capable of breaking out the components but also offering an integrated answer. It is a policy call by the Water Quality GIT.

- George Onyullo (DOEE): I disagree with the point that “uncertainty quantification for its own sake does not advance management.” I think this workshop should result in the ability to begin to use uncertainty quantification, cast that for management in terms of risk, and develop risk communication.
  - Shenk: That is a good point and maybe living resources is the key. Living resources makes that risk more understandable.
  - Sanford: At the workshop, we talked about how phrasing uncertainty in terms of risk of certain actions is probably more accessible to management.

### **Second Call for STAC FY24 Workshop Proposals, STAC Approval of RFP Edits – STAC Staff**

STAC discussed releasing two separate calls for FY24 STAC workshop proposals at the [December 2023 Quarterly Meeting](#); the Executive Board approved this action at the December 2023 Executive Board Meeting. STAC evaluated four received workshop proposals at the [March 2024 Quarterly Meeting](#) and approved two proposals: “Identifying Natural and Social Sciences Gaps to Support Market-Based Approaches to Chesapeake Bay Watershed Restoration” and “Leveraging Artificial Intelligence and Machine Learning to Achieve Chesapeake Bay Research and Management: A Review of Status, Challenges, and Opportunities.” STAC Staff received feedback for improving the incorporation of diversity efforts and the Executive Board revised evaluation criteria categories and weighting within the workshop RFP.

STAC Staff presented the revised Request for Proposals (RFP) to STAC for committee approval. The remaining FY24 workshop funds available are \$20,000, with each proposal able to request up to \$15,000. The RFP will be distributed to the partnership following the June Quarterly Meeting and final proposals are due August 16, 2024. At the September Quarterly Meeting, the STAC representatives on each workshop steering committee will answer questions regarding their proposal, and the committee will decide which workshop proposals to approve for funding. All workshops receiving STAC funding for FY24 must be completed by May 31, 2025.

Melissa Sines (Colmena Consulting), a consultant to the Bay Program, offered feedback to STAC Staff to encourage consideration of diversity, equity, inclusion, and accessibility (DEIA) by including these considerations within the proposal evaluation criteria. The revised RFP added scoring variables for proposal evaluation and adjusted scoring weights for each item. The scored variables **steering committee composition** and **suitability** were combined while the three variables of **impact**, **equity**, and **accessibility** were added. While the existing **relevance** variable assesses the programmatic alignment of the proposed workshop, the new **impact** variable assesses the potential actionability and effectiveness of the proposed workshop. The proposed scoring variables and weights are the following: scientific and technical merit (25%), impact (20%), relevance (15%), organization and planning (10%), steering committee composition and suitability (10%), equity (10%), and accessibility (10%).



Discussion:

- Wardrop: I like the balance of scoring as 40-20-40; focus on the target topic makes up 40% in scientific and technical merit and relevance while impact makes up 20% while the logistics make up 40% in the remaining variables.
- Baker: For the impact criteria, are the questions posed meant to represent the implication that all considerations would be met or some met in various degrees of success? Would a satisfactory proposal need to meet all considerations to be competitive?
  - STAC Staff: STAC members will evaluate each category on a scale of 1-5 and STAC Staff will average each score. The evaluation questions within the RFP will help proposal teams in writing their proposals and help STAC members decide their score for each category.
  - Wardrop: Some of the consideration questions are paired as “or” questions since there are generally two categories of workshops: Programmatic and State of the Science. Some questions may not be applicable to a proposal based on the type of workshop proposed. To clarify the considerations, add an “or” between the paired questions.
    - Sanford called for a motion of approval for the proposed edit to the workshop RFP language. The motion was approved and seconded. No objections were made.

**DECISION:** Language within the “Impact” scoring section of the FY24 Workshop RFP was adjusted to add an “or” between paired consideration questions. The revised [FY24 Workshop RFP](#) was approved for Round 2.

- Wardrop: STAC decided to do two phases of workshop RFPs due to the anticipation of delays in GIT funding and the Beyond 2025 activity. Saunders, do you think this was a good idea? That people will find opportunity with this second call?
  - Saunders: I think so. At the time of the first call for proposals, the Bay Program was overwhelmed with the Beyond 2025 effort and the GIT funding process. Projects that do not receive GIT funding will be able to apply for STAC workshop and science synthesis funding, to the extent that the projects match STAC criteria.
  - Sanford: When evaluating proposals, STAC should also keep in mind the time constraints of scheduling the workshop as FY24 funds are applicable to May 31, 2025.
    - Wardrop: Workshop steering committees will have to be mindful of scheduling planning and efficiently using STAC Staff time.
    - STAC Staff: Since workshop funds roll over to the next fiscal year, there is also the option for workshops to convene after May 31 if needed.

## **STAC FY24 Science Synthesis Request for Proposals – Jeni Keisman (USGS)**

Jeni Keisman (USGS) leads the Science Synthesis (SS) Subcommittee, which was tasked with developing guidance for conducting STAC-sponsored science synthesis projects, including a process for selecting appropriate issues for science synthesis projects and designing the request for proposal. Science syntheses have been an essential tool for advancing Chesapeake science for decades and STAC completed a synthesis project in 2019 related to how climate change may impact on-going effort to restore and protect the Chesapeake Bay which contributed to funding for the project “[Quantifying the impact of past and future climate and eutrophication on the dynamics of dissolved oxygen in the shallow waters of Chesapeake Bay.](#)” Informed by lessons learned from previous synthesis efforts, Keisman and the SS Subcommittee drafted an RFP for a STAC-funded synthesis project. Keisman presented the STAC FY24 Science Synthesis RFP, which focuses on a single topic of “effectively managing for climate change at the intersection of impacts to water quality, people, and living resources.”

Science Synthesis proposals may request funding up to \$125,000 in total costs, which will be available in three phases. The project must be completed by May 31, 2027, and duration must be aligned with availability of funds. The proposals should address how the synthesis work would contribute insights to support climate adaptation and risk-informed decision-making in the face of uncertainty and how the project will further DEIA within the Bay Program research community. The RFP encourages early and ongoing consultation with relevant managers and community representatives. Included are DEIA examples of that align with the [CBP DEIJ Strategy Implementations Plan](#) and the lists of climate science needs identified by the CBP Climate Resiliency Workgroup.

### Discussion:

- Breck Sullivan (USGS) [chat]: When I was a staffer, I participated in one of these synthesis projects and it allowed me to meet one of my goals of being part of a published journal article, so it is really great to see the recommendation of having early-career participants. It is great for networking, research development, and provides an actual deliverable that is not always guaranteed with the staffer position.
- Sanford: Are there funds specifically identified for personnel support?
  - Keisman: The water clarity synthesis had that support because it was originally a STAC workshop and the funds were redirected with STAC approval. For this synthesis project, the SS Subcommittee included clear language to discourage placing additional burden on STAC Staff. Evaluation of proposals will account for whether projects are within the proper scope for funding provided.
- Mike Runge (USGS): Is the funding enough to support travel for workshops or supporting a post-doctorate? Are there enough resources for these expectations?

- Keisman: Funding would likely not support hiring a post-doctorate full-time but maybe for half their time. These are good considerations.
- Emily Trentacoste (EPA): The RFP is not clear if these synthesis efforts are only focused on the Bay or if it includes the watershed; the SS Subcommittee may want to adjust the language to be more inclusive of the watershed. I think it would also be important to include an expectation for the synthesis group to develop a translation and engagement plan at the beginning of their project so that they have to think through the results of the synthesis and connecting it with managers.
  - Keisman: Maybe we can add an additional addendum to describe or give examples of what a translation and engagement plan would look like.
- Bill Dennison (UMCES): Synthesis funding is difficult to obtain; the project should not just be writing a scientific paper but also translate it to working with managers. I think the funding is reasonable to an interesting and valuable effort. It can also serve as a great career boost for a young professional.
- Wardrop: The funding available is likely not sufficient enough to support all aspects of a synthesis project. Do you think this RFP is sending the right message of encouraging groups to integrate or align the synthesis project with current efforts?
  - Runge: In their budget justification, have the groups explain how they will leverage this funding against other funds.
- Trentacoste [chat]: 1) There are more science needs from the Bay Program related to climate change than those put forth earlier by Sullivan. I would recommend we provide a link to the Science Needs database in the RFP and encourage people to scan it for ideas. 2) It would be great to provide some resources to the selected project team(s) regarding characteristics of successful synthesis projects – maybe a short package of the lessons learned from past projects and voluntary contact info for previous synthesis team leaders.
  - Sullivan [chat]: Agree. There are other climate science needs that can be found in the; the list provided earlier was the top climate science need from each GIT.
- Kristin Saunders (UMCES) [chat]: Maybe include language in the RFP that provides details of previous successful efforts (e.g., “the most successful synthesis efforts have included leveraging existing staff, meeting locations, etc.”).

**DECISION:** STAC awarded the Science Synthesis (SS) Subcommittee with final editorial authority to release the STAC-Sponsored Science Synthesis RFP after accounting for comments from STAC.

**[MD Legislation, Whole Watershed Act](#) – MD Senator Sarah Elfreth**

Maryland Senator [Sarah Elfreth](#) joined STAC to discuss the [Past, Present, & Future of the Bay Movement](#) from her perspective as a policymaker. As a direct response to the implications and recommendations within the CESR report, Senator Elfreth, along with Delegate Sara Love and in

collaboration with a broad coalition of stakeholders, introduced the Whole Watershed Act (legislation [SB 969/HB 1165](#), passed April 4, 2024) to pilot a highly collaborative, science-based approach to watershed restoration across the state of Maryland. This legislation will incentivize a holistic watershed restoration project by establishing new funding streams and approval pathways for innovative local watershed projects which include environmental co-benefits to ensure a long-term positive impact on water quality, habitat restoration, and living resources.

Senator Elfreth provided detail into the planned actions of the Whole Watershed Act, which includes measuring watersheds at an 8-digit size, targeting watersheds that show the greatest need for restoration and the most effective basins, investing in diverse communities, and requiring multiple co-benefits outcomes. Restructuring the organization of management and bundling total available funding will streamline the process of initiating and implementing five pilot projects. Important dates for this legislation: the RFP will be issued October 1, 2024, and descriptive letters of intent due December 15, 2024; final projects will be selected March 1, 2025, and funding will begin July 1, 2025.

Senator Elfreth commended STAC on the writing of the CESR report, offering praise for the language that made interpretation easy for non-academics to understand and translate into policy. She contributed the passing of the Whole Watershed Act, a significant legislation involving \$100 million, to the CESR report. Now, as Senator Elfreth campaigns for the federal Senate, she aims to apply the lessons from both the CESR report and the Whole Watershed Act at the federal level.

#### Discussion:

- Filipino: You mentioned expediting the permitting process. Do you know how you will do it?
  - Elfreth: State legislation cannot apply to federal agencies but state management teams will have to meet six times a year with applicants and must invite the Army Corps and EPA. The goal is to expedite the process by having all involved parties communicating simultaneously rather than requesting each party's comments sequentially will quicken the process.
- Friedrichs: I am new on STAC as a Virginia Gubernatorial Appointee and excited to work with other state appointees. What similar work has Pennsylvania done and did it inspire this legislation?
  - Elfreth: We learned from [Lancaster Clean Water Partners](#) that in achieving water quality returns, it is more efficient to have a critical mass of buy-in from property owners along a stream than random acts of restoration. Feedback on the bureaucratic processes of all the funding pots influenced the decision to condense all state funding available into one pot and appropriate per project.

There were some political challenges with the funding decision and some parameters of spending money remain.

- Thompson: Is there a long-term commitment – on the order of decades – to monitor these watersheds?
  - Elfreth: This legislation does not have such a commitment; this would be a good addition to next year’s legislation. Other bills were also included for the passing of this legislation including beneficial use of dredge material; unfortunately, the bill to increase boat fees, which would have paid for the monitoring budget, was not passed.
- Baker: When drafting this legislation, was it your envisioning that sandboxing would be part of this restoration effort?
  - Elfreth: Not in this bill; another bill I proposed but was not passed was the “Best In Show,” of which is closer to the concept of sandboxing than the Whole Watershed Act. The “Best In Show” would have used 5 million dollars of funding that is already directed towards BMPs to prioritize agricultural projects that have the opportunity for the greatest ecological restoration and engaging disadvantaged communities. The idea of sandboxing can make politicians hesitant as they would have to negotiate with local governing partners to give up an amount of local control.
  - Baker: Does the Whole Watershed Act allow for experimental restoration treatments to test the effectiveness of different approaches?
    - Elfreth: That is up to the writers of the proposals. To refine legislation for next year, we need to think about how to ensure the engagement of our academic and scientific partners in that monitoring. What makes the most sense in my mind is figuring out the best mix of restoration practices to have the greatest benefits.
- Dennison: For the monitoring of these large restoration projects, I believe we have the people, through connections to USGS, VIMS, and other organizations and institutions, to collect these measurements. The Baltimore Harbor is a great example of collaboration with so many businesses and organizations able to work together after the Key Bridge collapse. Baltimore might be a key target for improvement; no areas want to be recognized as worse than Baltimore so if Baltimore Harbor improves, all other places will want to improve.
  - Elfreth: I came to politics from the National Aquarium. The patch of water between Pier 4 and Pier 5 is so stagnant, it might be the most patch of the Bay—and I proposed the [floating wetlands exhibit](#) [which is free and accessible to the public as of August 9, 2024]. The Middle Branch is the perfect candidate for one of the projects to be covered but politicians cannot pick the projects as that would undermine the idea of letting the science guide us.

- Wardrop: Watching the response to CESR in legislation has been extremely rewarding. How can we continue to provide science to inform policy and help like-minded policymakers?
  - Elfreth: The state management team meetings have to be open to the public. The team would greatly appreciate a subcommittee of Maryland STAC members who want to provide scientific advice; this would also allow STAC to check assumptions that the bureaucracy has from the beginning and to engage in the monitoring and interpretation work later on. I want to be able to leave the Chesapeake Bay Commission (CBC) with a playbook that Pennsylvania, Virginia, and other states can also follow.

### Monitored and Expected Total Reduction Indicator for the Chesapeake (METRIC)

– Gary Shenk (USGS)

Gary Shenk (USGS) briefed STAC on the [Monitored and Expected Total Reduction Indicator for the Chesapeake](#) (METRIC), developed by Qian Zhang (UMCES) and inspired by the CESR report. The Bay Program has several indicators for progress towards its goals which do not match results from monitoring data, where models typically overestimate the effectiveness of programs, as the CESR report notes. This is at a disconnect with the partnership's opinion, in which most parties interviewed through D.G. Webster's (Dartmouth College) [Chesapeake Governance Study](#) believed that the watershed model is not given enough credit. Zhang and colleagues used long-term monitoring data, statistical analysis methods, models with lag estimates, and other variables to develop an indicator that accounts for the response gap, implementation gap, and planning gap. METRIC can be viewed for individual non-tidal network stations with sufficient data on [this site](#). This indicator facilitates conversations comparing modeled and monitoring outcomes and invites research questions for responses within watersheds.

Discussion:

- Friedrichs: How confident is this indicator in the lag times?
  - Shenk: There is a not an insignificant amount of uncertainty in the lag times; there is not much data on lag times to draw from. However, the temporal variables are not used in the calibration as the calibration is generally spatial.
  - Friedrichs: Is there any chance phosphorus is meeting its goals and an adjusted lag time is needed to show this?
    - Noe: This is hydrologic lag time, not geomorphic.
    - Shenk: The lag times account for soil storage of phosphorus and nitrate transport for groundwater.

### [The Key Bridge Response](#) – Amy Guise (US ACE)

Amy Guise (US ACE), Planning Division Chief for the Baltimore District, joined STAC to explain the response to the collapse of the Francis Scott Key Bridge that occurred on March 26, 2024 after being struck by the Dali cargo ship. Shortly after the incident, Baltimore County declared a State of Emergency and the Port of Baltimore was closed; hazardous materials containment measures were put into place and search and rescue operations used remote vehicles to assess the safety and hazards around the site. A unified command was established with the organizations of the U.S. Coast Guard, the U.S. Army Corps of Engineers, the Maryland Department of Transportation, the Maryland Department of Environment, and the responsible party of Witt O’Briens. Other agency support was received from NOAA, EPA, OSHA, MD DNR, and International Marine Spill Pollution Response. Guise detailed the assessment of the wreckage and the planning and implementation of the cleanup, attributing the ongoing success of the response to the Key Bridge collapse to the teamwork among the agencies and organizations involved.

Discussion:

- Wardrop: To have reacted so quickly, to what extent do you practice responses requiring that kind of integration? Did you practice any part of the response beforehand or have any sort of training?
  - Guise: We did not have prior training for this situation. The commanders come from experience throughout the entire military; the colonel and her chain of command had never experienced a unified command. What made the unified command work so well was the partnerships – the people who live here and the organizations that work here had an established connection and could trust each other.

### **Wednesday, June 5**

[Science Communication Workshop](#) – Paula Jasinski (Green Fin Studio), Dave Jasinski (Green Fin Studio), and Lauren Huey (Green Fin Studio)

[Green Fin Studio](#) is an environmental communication and marketing firm focused on bridging the gap between science and diverse audiences to achieve environmental, sustainable, and community engaging goals. President Paula Jasinski, Vice President Dave Jasinski, and Director of Environmental Communication Lauren Huey joined STAC to conduct a science communication workshop to help committee members become more comfortable in communicating with policymakers.

Prior to the meeting, STAC members [completed a survey](#) to help tailor this workshop to STAC member and committee needs. Members highlighted challenges in ensuring stakeholders recognized the relevance of science in policy and regulatory contexts, articulating complex topics in understandable ways and converting complex topics into visuals, avoiding information



overload within limited timeframes, and assessing audience technical knowledge and interest. Most members reported a moderate comfortability with conveying complex scientific concepts to policymakers.

Green Fin Studios interviewed several current and former policymakers within the Chesapeake Bay watershed and compiled a video of these policymakers sharing their perspectives from working with scientists. The policymakers interviewed were:

- Adam Ortiz, Regional Administrator, EPA Mid-Atlantic
- Sarah Elfreth, Senator, Maryland
- Mike Rolband, Director, VA Department of Environmental Quality
- Nikki Rovner, Associate State Director VA, The Nature Conservancy
- Ann Swanson, Former Director, Chesapeake Bay Commission
- Verna Harrison, Former Secretary, MD Department of Natural Resources
- Troy Hartley, Director, VA Sea Grant Program
- Skip Stiles, Senior Advisor, Wetlands Watch

Jasinski and Jasinski provided advice to STAC addressing committee concerns. Messaging emphases were placed on presenting a brief and concise message, using relevant examples to engage with different audiences, presenting conclusions over processes, acknowledging gaps between science priorities and policy priorities, and repeating main points within the same conversation or presentation. STAC members participated in an activity where they used the “And-But-Therefore” (ABT) method to compose a message in three parts. Huey provided advice for graphical design and composition of one-pagers.

Green Fin Studios has played a major role in the outreach and communications of the CESR report, especially for the [CESR Report in Brief](#) which summarizes major findings and highlights paths forward alongside comprehensive graphics. P. Jasinski attributed the success of the CESR report to the use of shared language, the connection to policymakers’ priorities, the relationships of trust between the report authors and the CBC, and the repeated conversations about the findings leading up to and following the release of the report.

Wardrop provided reflections on the writing and outreach process of the CESR report. Wardrop and Stephenson gave 27 presentations and briefings on CESR before the report was published, which served dual purpose of conducting market research and creating demand for the final product. Since the report release in May 2023, Wardrop and Stephenson have given 61 presentations on CESR, with other STAC members also distributing the message. The journey of learning throughout the process and willingness to constantly revise strengthened the report and reception; the findings and implications gave partners permission to speak freely and the courage to confront inconvenient truths while recognizing opportunity. With hindsight, Wardrop would focus on better highlighting other STAC products, speeding up the production



of the Report in Brief, and more accurately predicting the time investment required. The timing of the report release was fortuitous, CESR being released to fresh leadership and a willing community, and champions in unexpected places stepping forward to promote CESR.

Discussion:

- Sanford: How do STAC members feel about doing outreach for CESR efforts?
  - Monaco: I think we need to put it into more common terms. Explaining this to the general public remains a challenge.
- Palm-Forster: Could we have a set of slides to use and tailor for presentations?
  - Valerie Were (CIRA): A slide deck would be good so that we are consistent in our messaging as well.
  - Filippino: Having handouts like the Report in Brief would also be useful.
- Palm-Forster: Some research projects funded at UD hired a documentary crew to make documentaries and they have received great publicity. They've been picked up by a public radio in Maryland and are talking to NPR. This might be a path for CESR outreach to take.

The [STAC September 2024 Quarterly Meeting](#) will take place in-person on Tuesday and Wednesday, September 10-11, 2024 at the Nature Inn at Bald Eagle in Howard, Pennsylvania. On Day 2, STAC will workshop a second letter to the PSC on the draft Beyond 2025 report.

*Minutes Approved by STAC at the [September 2024 Quarterly Meeting](#).*