

Scientific, Technical Assessment and Reporting (STAR)

Coordination Meeting

Theme: Science for 2025 and Beyond

Thursday, February 16, 2023

2:00 PM – 4:00 PM

Link: [Meeting Materials](#)

This meeting was recorded for internal use to assure the accuracy of meeting notes.

ACTION ITEMS

- Alex Gunnerson will add Julie Reichert-Nguyen to the ITAT distribution list.
 - Status – Complete.
- Alex Gunnerson will schedule a meeting between ITAT and Julie to discuss temperature trends and data in relation to the indicators for the Climate Monitoring and Adaptation Outcomes.
- STAR members with more ideas for the Strategy Review System (SRS) Biennial meeting should share their ideas with Breck Sullivan (bsullivan@chesapeakebay.net), Kristin Saunders (ksaunders@umces.edu), and Kathryn Barnhart (barnhart.katheryn@epa.gov) as soon as possible.
- Alex Gunnerson will add the following STAR meeting ideas to the STAR Planning document:
 - Brainstorming sessions for Goal Implementation Team (GIT) Funding and ROAR.
 - Climate resiliency metrics related to biological integrity for the watershed – ask Julie Reichert-Nguyen.
 - State of the Ecosystem report – ask Bruce Vogt.
 - 4-D interpolator update – ask Peter Tango.
 - Long-term climate resiliency monitoring - ask Julie Reichert-Nguyen.
 - Status – Complete.
- Breck Sullivan will distribute the revised STAR scope and purpose document. STAR Coordination members are asked to provide feedback on the STAR scope and purpose document by March 3rd, 2023.
 - Breck Sullivan will add the Partnership and Accountability branch as a source of support for science needs related to staff capacity, especially those related to non-water quality outcomes.
- Anyone with topic suggestions for STAR meetings in 2023 should send them to Breck Sullivan (bsullivan@chesapeakebay.net).
- Anyone interested in applying for the STAR Co-Chair position should submit a statement of interest (no more than half a page) that details why they would be a good fit for this position. Please submit the statement of interest to Breck Sullivan (bsullivan@chesapeakebay.net), and please reach out with any questions. More information on the position can be found [here](#).

Meeting Minutes

2:00 PM **Welcome & Meeting Overview – Breck Sullivan**, STAR Coordinator (USGS), **Scott Phillips**, STAR Co-Chair (USGS), and **Bill Dennison**, STAR Co-Chair (UMCES)

Katheryn Barnhart introduced Doug Bell, a new EPA employee who will be serving as co-coordinator of the Status and Trends Workgroup and working with the indicators team. Prior to joining the Chesapeake Bay Program (CBP) he worked at NOAA Sea Grant and has a research background in water quality.

Anyone interested in applying for the STAR Co-Chair position should submit a statement of interest (no more than half a page) that details why they would be a good fit for this position. Please submit the statement of interest to Breck Sullivan (bsullivan@chesapeakebay.net), and please reach out with any questions. More information on the position can be found [here](#).

2:10 PM **STAR's involvement in 2025 and beyond discussion** - [Jamboard Link](#)

The CBP Biennial Meeting is being held on May 11 – 12th in Charlottesville, VA. The purpose is to convene the Chesapeake Bay Program Partnership to address the [Executive Council Charge on charting a course to 2025 and beyond](#) and identify the opportunities to apply what we have learned to get us there. One of the three themes of the meeting is to identify recommendations for next steps for progressing to 2025 and adjusting for beyond 2025 given the key significant findings from current and emerging scientific data and studies. This discussion supported the planning of the Biennial Meeting by identifying key scientific knowledge that needs to be incorporated into the short- and long-term thinking about the program.

Summary

Breck began by introducing the role of STAR in supporting the Biennial Planning Meeting. Breck said STAR will play a major role in shaping the science component of the biennial meeting and plans to use today's feedback to influence the science component of the agenda.

Scott asked what role the Scientific and Technical Advisory Committee (STAC) is playing in this conversation. Breck said she has been working with Denice Wardrop to keep her engaged on this topic. Breck said STAC has also been involved through the Comprehensive Evaluation of System Response (CESR) report and its conclusions. Kristin added she has been working on cross walking items between STAC, STAR, and the Strategy Review System (SRS) planning team. Kristin said the current agenda is shaping up to look at three categories during the meeting: pre-2025, the bridge/transition, and post-2025. Kristin said one of the roles for STAR today is to help shape the science component and the corresponding timeline. Katheryn said the role of Status and Trends Workgroup (STWG) will be to facilitate conversations between the restoration aspect of the charge and science needs for indicators.

The first topic the group discussed is the role of emerging science in decision-making and accounting for uncertainty. This addresses why we need to integrate science into our partnership. There are two potential presentations being proposed. One is having Mike Runge (USGS) discuss critical uncertainties and the role of science in resolving them. Another potential presentation is Denice and Breck discussing the current science

provisioning ecosystem, specifically the roles STAR and STAC hold and how can they be trusted channels to advance our work.

The second topic the group discussed is integrating emerging science to make informed decisions. This addresses how we integrate science into our work. For this session, two interactive components have been suggested. One is an interactive sticky note session addressing the critical uncertainties for pre-2025 and post-2025. Peter Tango asked if we could encourage strategies for addressing critical uncertainties in addition to identifying them. Peter emphasized how this change in wording can make the breakout session results more actionable. Breck agreed. The other interactive component suggested for the session is having breakout groups address the following questions:

- Are we organized to meet them?
- What is the role of advisory committees
- How do we meaningfully engage academic institutions?
- How do we effectively communicate science to stakeholders
- What are effective tools for integrating science?

Scott asked if the question about organization is reforming to the current structure or completely starting from scratch. Breck said a little bit of both: we need to think about having the right people, right group engaged, and if the people or structure need to be expanded.

Julie said the CBP partnership needs to improve the communication of the results of GIT Funded projects and STAC workshops since in many cases only the workgroup associated with each project is familiar with the results and where to access deliverables. Julie asked if STAR could play a role in distributing this information to the partnership and asking critical questions of GIT Funded projects and STAC workshops, such as “How is this information being used and how has it advanced our success in integrating science into decision making?” Kristin agreed with this point and shared she has been working with Keith Bollt to summarize the lessons learned from SRS meetings over the last cycle. Kristin said in addition to citing the learning from quarterly progress meetings on the first day, it might be helpful to include examples or case studies from GIT Funded Projects/STAC workshops. For example, the Fisheries GIT’s journey with Fish Habitat would be ideal since it starts from a need and goes through the different stages of learning and then implementation. This information might be helpful for other teams to emulate.

Bruce Vogt said the session should start with CBP examples and focus on where we have had success and what has led to success. Some examples of this success might include how we set goals and used monitoring to achieve restoration with Oysters. Blue Crabs are a good example of incorporating science into decisions making. Quantifying ecosystem services is another good example to focus on. One underlying connection behind what has made some outcomes successful is having a champion from a federal or state agency that has funded both science and implementation for these outcomes. Bruce said NOAA has supported the Oysters, Forage, and Fish Habitat outcomes. Bruce

emphasized starting off the session with what excites and interests people, less so with abstract theory.

Peter said an example story we could tell is the monitoring evolution of SAV underway from 3 STAC workshops, the evolving use of satellites for assessment, and the many steps along the way. Peter said if we cannot measure something, we cannot manage it. We need measures for each outcome. Bruce's examples speak to knowing our present state of resources and pace of progress. If we are going to accelerate progress, we need to have defined the present state of change to know what we are accelerating from.

Julie said the Targeted Outreach for Green Infrastructure (TOGI) project resulted in a lot of learning and success working with under-represented communities and helping them move forward in incorporating green infrastructure designs.

The third topic the group discussed is the structure of the Chesapeake Bay Program (CBP) partnership and if it aligns with the future of our work. This focuses on planning for the future. There are three potential presentations being proposed. One is to have Lisa Wainger & Amy Handen discuss how to integrate social science approaches into all the work, at all levels. Another potential presentation is to have Peter Goodwin discuss alternative models for science provisioning and science plans. A third suggestion is having a panel of representatives across different parts of government and non-profits discuss how each organization makes decisions on utilizing science and which parts of a science plan are already being implemented.

Peter Tango asked if the third topic session will include all three ideas or if just one of them will be selected. Breck said it depends on how much time is available, but currently the planning team is prioritizing the panel discussion. No decision has been made yet.

Scott asked how this proposed agenda can be squared with the EC/PSC charge. Scott said it seems like we are not fully addressing their request. Kristin replied we are addressing it, but the group sees this meeting as larger than just the EC/PSC charge. Kristin said there are many different desires for what the meeting will cover, so this is an attempt to balance competing interests. Breck made the comment that the audience might not know the direct answer to EC/PSC charge questions about data or studies, so they wanted to make sure the questions address the right attendees. Kristin said we will have other sections in the agenda to focus on governance which could incorporate this question of if we are organized to meet the needs.

Breck requested input on the less developed portions of the agenda. Attendees put their comments on the [Jamboard](#) and shared them verbally. A list of comments and suggestions has been listed below:

- Julie said two big cross-cutting outcome topics that should be discussed at the biennial are 1) rising water temperatures and recommendations of actions identified in the STAC report in relation to habitats and living resources and 2) nearshore environments - strategic monitoring and restoration to assess environmental change and success of resilience strategies.
 - Kristin said the idea of integrated themes you all suggested at coordinator/staffer discussion was brought to the Biennial Planning team, which liked it and wanted to build it in to the meeting. Also, know that many of us are advocating for targeting, and some interactive exercises to the extent we can.

- Peter said a complementary resource that might help part of the suggested discussions topics you have includes the Regional Monitoring Networks (RMN) to Detect Changing Baselines in Freshwater Wadeable Streams (Final Report)
<https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=307973&CFID=60022322&CFTOKEN=41072377>
- Katheryn said the very first agenda item will be a presentation on outcome attainability and the status of which outcomes we are tracking versus not tracking. Katheryn is working to include resource needs for tracking those we currently do not have indicators for with support from Breck and Alex in pulling identified indicator science needs.
- Julie said we can utilize the synthesis work from various STAC workshops like the Rising Water Temperature STAC Workshop.
- Jeremy Hanson said it is a matter of which critical uncertainties stand in our way to meet our goals/outcomes.
 - Kristin agreed.
- Julie asked who the audience is at this meeting - are they high level state agency managers.
 - Kristin said it will mostly be the CBP office, but other folks from the partnership will be there as well.
- Bruce said the theme that comes to his mind is to link CESR, outcome integration, and indicators to monitor physical and ecological system change and response. They address ways to bring our knowledge together under an ecosystem assessment framework (which could also be focused on shallow water or areas selected for "near term restoration and attainment").
- Bruce said he is not sure how global the term "human dimensions" is for social science but encouraged having broader partnership representation. Lisa is great, but it would be good to consider others such as, but not necessarily, Knoche at Patuxent Estuarine and Aquatic Research Lab (PEARL). Panel recruitment for human dimensions can be opened up more broadly. Bruce is interested in spending some thinking about the intersection of science and Diversity, Equity, Inclusion, and Justice.
- Dave Montali asked if questions like "How will agriculture change in response to CC and what might be watershed loading impacts from that change?" can be addressed at the meeting.
 - Kristin said that is a good point and could be considered as an emerging issue.
- Dave said one success story regarding science and its use is the climate change modeling STAC workshops with recommendations implemented in Phase 6 of the model and the proposal for a new one to inform Phase 7. Julie agreed.
- Katheryn said the first session will go from discussion on outcome tracking and status to a discussion of targeting tools and resources. Katheryn is open to tag-teaming with someone more familiar with emerging science tracking needs that go beyond direct measures of outcome attainment and including that in the discussion.

Bruce said he would caution against just measuring output and suggested considering outcome success more holistically by including themes like ecosystem services.

Breck said social science seems to be an important theme and asked if it would be worth it to hire the people who did the workshop with coordinators and staffers and have them do social science work at the event.

Kristin asked about moving towards shallow waters. Scott said that will be elevated by CESR. Bruce said this conversation is deeply connected with delisting and emphasized it can be used to better support habitat suitability models. With the work of the Bay Oxygen Research Group (BORG) and Hypoxia Collaborative, there will be more available data with a higher temporal resolution. Peter added that one consideration for monitoring design is addressing key gaps with high uncertainty. Peter emphasized this new data can support improved decision making for a variety of outcomes, but also creates emerging needs related to developing new tools and new monitoring designs. Breck added Maryland and Virginia were involved in this work. Breck said this work demonstrates a positive development out of the PSC monitoring charge. Bruce emphasized the need to make sure the data are used and there is a system response to these changes. Scott said a focus on living resources is probably most inclusive and hosts more of the critical uncertainties. Bruce replied some of the focus would be how water column habitat impacts living resource function, like growth and reproduction.

Breck thanked everyone for taking the time to provide feedback and said if anyone has additional comments, they should send them to Breck, Kristin, and Katheryn.

***Note: The science portion of the Biennial Meeting agenda has changed drastically based on time available, but the comments provided during the STAR Coordination meeting shaped the current structure and has been incorporated into other aspects of the meeting too. Feedback on issues that should be addressed in the Biennial Meeting are still welcomed.

2:55 PM

[Review of action items from last meeting](#) – August Goldfischer (CRC)

August led a check-in on the status of action items decided at the last meeting to see if any needed to be revised or updated.

Summary

August walked through the action items from the last coordination meeting and outlined which ones have been completed and which ones are in progress.

Breck said the next PSC monitoring meeting will be in April or May.

Julie asked what the tributary summaries trends for water temperature look like. Breck said the tidal trends from 1985 to present are water temperature. Jamileh is currently working on the air temperature and precipitation indicators on [ChesapeakeProgress](#), but they are for the entire region and are not tributary specific. Julie suggested that the tributary summaries team meet with the climate resiliency team to discuss collaboration here. Breck agreed and said the precipitation data being used in the tributary summaries are monthly means from PRISM at the land river segment scale and then aggregated to each tributary.

Justin said we could probably revisit connecting ITAT tributary summaries with the NOAA seasonal summaries. Alex replied he, Kaylyn, and Breck have been working on the climate section of the tributary summaries and have a subsection on how it influences habitat. In that subsection they reference and link to the NOAA seasonal summaries.

3:10 PM

[STAR Scope and Purpose](#) (Jamboard)

Time was provided for the group to provide feedback on the STAR Scope and Purpose document (updated), with a particular focus on how STAR and STAC work together and next steps to implement the functions.

Summary

Breck gave a brief overview of what has been updated and changed on the document. It was updated to reflect STAR's current functions.

Julie said there is opportunity for enhanced collaboration with STAC workshops and GIT Funding projects. Julie suggested a potential role for STAR might include communicating the breadth of work and final products from GIT Funding and STAC workshop projects. Julie said STAR can also help by asking critical questions of GIT Funded projects and STAC workshops, such as "How is this information being used and how has it advanced our success in integrating science into decision making?" Breck replied that STAC has a recommendations database but not many people know about it. August suggested linking to the STAC database on the science needs database, so it is better integrated and advertised. Scott suggested highlighting this work on the STAR webpage where appropriate. Peter Tango agreed and said it can show areas of mutual interest. Breck said one idea is finding a STAC champion for each workgroup, but that might be less feasible due to time constraints.

Jeremy Hanson said the new STAC projects manager starts March 1.

Peter said once CESR completes its final review, there can be an updated link to STAR.

Julie asked what STAC can do besides workshops to support the CBP. Jeremy said STAC can also do "technical reviews" and sometimes that is a better option than a workshop. Peter said he agrees with Jeremy - STAC has been important to taking on technical reviews. Julie said there is potential for enhance utilization of STAC researchers to address CBP science needs.

Breck said Gary Shenk is the liaison between STAC and the CBP.

Julie said this is a nice document, especially to see all the workgroups under STAR and their primary function.

Katheryn said the STWG is working towards addressing resource needs for increasing capacity to develop and update indicators for all outcomes. Katheryn sees overlap between this effort and maybe some of the integrated monitoring networks workgroups.

Breck said she added a section on greater collaboration with the science and partnerships branch at EPA. Katheryn said for science needs related to staff capacity, especially those related to non-water quality outcomes, the Partnership and Accountability branch is also a source of support and should be added.

3:45 PM

[Feedback on STAR 2023 meeting topics](#)

The STAR team gathered feedback on meeting topics to see if any workgroups wanted to highlight a specific topic at a future STAR meeting. Feedback was also provided via [Jamboard](#).

Summary

Breck walked through the potential meeting topics for STAR meetings in 2023 and noted that STAR is looking to have themes for each month to boost engagement. A field trip is being considered for July. Katheryn liked the field trip idea. Breck mentioned some general themes to consider are reaching 2025 and beyond, DEI, social science, international researchers and regional approaches, and hybrid meetings with field trips.

The December meeting will take place earlier in the month.

Peter Tango suggested including a GIT funding and a ROAR brainstorming session. Breck agreed this is a good point.

Julie suggested creating climate resiliency metrics related to biological integrity for the watershed. As it stands, much of the CRWG expertise is focused on coastal waters so that is an identified gap. Perhaps STAR can help with this at a meeting. Breck said that is a good idea.

For the March Living Resources Meeting, Peter suggested maybe tapping Bruce and company on the State of the Ecosystem report as he thinks there are additional scales of interest and data to potentially inform shifting baselines (e.g., fish communities shifting north), ocean currents at the mouth of the bay, coastal zooplankton measures, etc. Peter said this can be later in the year as well, since these analyses could be very interesting.

Peter suggested having an update from BORG on the performance of the 4D interpolator. A late 2023 update might be interesting.

Julie said long term climate monitoring is a need, but to get funding it needs to help answer a research question. Julie said a meeting could include brainstorming research questions and methodology for long term climate monitoring. Scott asked if there is an opportunity to take questions from the STAC rising temperatures workshop and apply them to answering these questions. Julie said that is a good start. Julie explained it is difficult to find funding for developing a monitoring design and that a lot of the grants require a fishery focus. Scott said there might be USGS help for monitoring network design. Breck said there are funding opportunities through USGS and Chesapeake Studies to build monitoring design plans which could address the needs in the PSC monitoring report. While this would not create the long-term monitoring itself, it would be the necessary intermediate step to create the plan itself. Peter said examples of how to connect long term monitoring to fisheries could include acidification and potential effects on the aquaculture industry, plastics monitoring - food web links possible, factors affecting progress on recovery like salt monitoring of streams could be connected to the varied success of fish reproduction. Shad have had near zero recruitment in the James River, and they stopped their stocking efforts after 20 years compared to Potomac stock success. Maybe its salt, temperature, other to drive network development. Julie said there is interest in ocean acidification and aquaculture at NOAA, so some funding is going on in this arena.

4:00 PM

Adjourn

Participants: Alex Gunnerson, August Goldfischer, Breck Sullivan, Bruce Vogt, Dave Montali, Doug Austin, Doug Bell, Jamileh Soueidan, Jeremy Hanson, John Wolf, Julie Reichert-Nguyen, Justin Shapiro, Katheryn Barnhart, Kaylyn Gootman, Kristin Saunders, Liz Chudoba, Matthew Kierce, Mark Nardi, Megan Thyng, Peter Tango, Rebecca Murphy, Scott Phillips.