



**Joint Scientific, Technical Assessment and Reporting (STAR)
and Coordinator & Staffer Meeting
Theme: Enhancing Monitoring Efforts and
Stewardship Cohort Strategy Review System Dry Run Presentations**

Thursday, January 27, 2022
9:30 AM – 12:30 PM

Meeting Materials:

https://www.chesapeakebay.net/what/event/joint_c_s_star_january_2022_meeting

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

ACTION ITEMS

- ✓ STAR members are to forward any studies or research articles they'd like to be highlighted by the communications team to Marisa at mbaldine@chesapeakebay.net
- ✓ All members to let Chris Guy (chris_guy@fws.gov) know if they have suggestions for people who may be interested in being involved with a workshop on Strategic Decision Making (SDM) and shallow water conflicts.
- ✓ Chris Guy (USFWS) and Megan Ossmann (CRC) will send Breck Sullivan (USGS) a sentence on existing monitoring needs currently being met for the Wetlands Workgroup as a placeholder in the monitoring report.
- ✓ Bruce Vogt (NOAA) will similarly send Breck a brief statement on existing monitoring needs already met for the Fisheries Goal Implementation Team (GIT) (i.e. blue crab and oysters monitoring).
- ✓ Renee Thompson (USGS) will work with Peter Claggett (USGS) and Peter Tango (USGS) on including recommendations to address the need to update the high-resolution land cover into the future beyond 2021.
- ✓ Breck and Peter are to talk with Katheryn Brownson (USFS) and Julie Reichert-Nguyen to help with incorporating some of the tidal and nontidal water temperature monitoring-related recommendations that came from the recent Scientific and Technical Advisory Committee (STAC) workshop into the monitoring report.
- ✓ Katherine Brownson (USFS) will add some nuance to the monitoring report write-ups for the monitoring needs of the tree canopy and forest buffer outcomes that their needs aren't new and will likely be met by the new land use data.

AGENDA

9:30 AM **Welcome, Introductions & Announcements – Bill Dennison (UMCES) and Scott Phillips (USGS)-STAR co-chairs, Peter Tango (USGS) CBP Monitoring Coordinator, Breck Sullivan (USGS) STAR Coordinator**

Announcements

- Communications Update - Marisa Baldine
- [STAC call for workshop proposals](#). **Proposals are due to STAC Coordinator, Annabelle Harvey (harveya@chesapeake.org) by COB February 16, 2022.**
 - Discuss potential STAC proposals to gain Cross-GIT suggestions
- PSC Monitoring Assessments Updates - MB and PSC Meetings

Upcoming Conferences, Meetings, Workshops, & Webinars -

- [Sustainable Agriculture Conference](#) - February 10-12, 2022, Lancaster, PA. (Virtual pre-conference in January).
- [Ocean Sciences Meeting](#) - February 27-March 4, 2022, Virtual.
- [Joint Aquatic Sciences Meeting](#) - May 14-22, 2022, Grand Rapids, MI.
- Chesapeake Community Research Symposium - June 6-8, 2022, Annapolis, MD. (Hybrid: virtual and in-person. [Subscribe here for updates.](#))
- [World Seagrass Conference and International Seagrass Biology Workshop](#) - August 7-12, 2022, Annapolis, MD. [Abstract submissions due February 15th, 2022](#)
- [Global HAB symposium on automated in situ observations of plankton](#) - August 22-26, 2022. Kristineberg, Sweden. Deadline for registration March 15, 2022.

Breck Sullivan went over the agenda and noted that outcomes' monitoring needs are now in their own section of the monitoring report for the Principals' Staff Committee.

Marisa Baldine gave a [communications update](#). Marisa said that the communications team has released the [Bay Barometer](#). They'll be coming out with some content to highlight each of the elements of that document. Jake Solyst from the communications team did an [interview with Adam Ortiz, EPA Administrator for Region 3](#).

Scott Phillips requested that in the next STAR meeting Marisa say which topics are coming up so STAR members are aware of opportunities to contribute to blog posts and other communications. Marisa said the communications team would like to include studies and research papers coming out and people should forward those to Marisa at mbaldine@chesapeakebay.net so the communications team can highlight them.

Scott said Scientific and Technical Advisory Committee (STAC) workshop proposals are due on February 16th. He asked for people to state what they're considering and to see if there is any connection between goal teams, or support from STAR needed. Bruce Vogt (NOAA) said the Fisheries GIT considered doing something around shallow water monitoring, but they had a workshop in 2006 on fishery monitoring and nothing changed, so he thinks a different approach is better. He mentioned there will be another science workshop in summer or fall of 2022 around blue crabs and assessing the need for a stock assessment and reviewing what they've learned about juvenile abundances. This is coming out of the Management Board (MB) and Chesapeake Bay Commission (CBC), not a STAC workshop.

Megan Ossmann (CRC) said she wasn't aware of any projects for the wetlands, Submerged Aquatic Vegetation (SAV) or black duck outcomes. Katlyn Fuentes (CRC) said brook trout and

fish passage didn't have anything for STAC workshop proposals either, but stream health is working on a proposal for a workshop on the state of the science of stream restoration. The steering committee for that has met twice, and the proposal is in development. They plan on submitting it next week for a review prior to the February 16th deadline.

Denice Wardrop (CRC) mentioned that there was a CRC roundtable webinar on stream restoration that had Tess Thompson speaking and it's accessible as a YouTube recording.

Jeremy Hanson (CRC) didn't have anything to mention from the Water Quality GIT. Matt Robinson (DC. Department of Energy and Environment) said the Plastic Pollution Action Team (PPAT) is not doing any more STAC workshops right now.

Bill Dennison (UMCES) observed that STAC workshops wax and wane. Several years ago there were many workshop proposals, now there's a lull in how many there are. He commented that this is a good year if you want to run a STAC workshop because there's a lull.

Katheryn Brownson (USFS) said they haven't had any proposals come forward because their hands have been full with the STAC Rising Water Temperatures workshop. Britt Slattery (NPS) said they didn't have anything for land conservation, but they've been trying to follow along with the Water Temperature workshop. Kristin Saunders (UMCES) commented in the chat that people are buried getting their current workshops done and the GIT funding projects. Bruce added Strategy Review System (SRS) process is also taking a lot of time, at least for the Fisheries GIT.

Amy Handen (EPA) said they're thinking of ideas in the future but not right now. Julie said the Climate Resiliency Workgroup (CRWG) is in the situation Kristin mentioned, supporting several GIT-funded projects and the Rising Water Temperature STAC workshop.

Peter Tango commented on the monitoring side saying that they are in the middle of the advanced monitoring workshop and don't have anything new. Scott asked Denice if there would be potential for a STAC workshop exploring follow up of the Comprehensive Evaluation of System Response (CESR) report. Bill Dennison and Denice Wardrop thought that was a good idea. Denice said for example there's a lot in there about paying more attention to shallow waters and there is a workshop potential for monitoring for shallow water. There could be proposals that would talk about assessing criteria and when might we look at metrics of variants instead of means. Chris Guy (USFWS) also liked the idea about shallow water habitat conflicts and noted that they need a pilot on how to use SDM (Structured Decision Making). Kristin Saunders (UMCES) agreed that SDM around shallow water conflicts made sense, and Katheryn Brownson (USGS) said that she knows some SDM professionals and feel free to reach out.

Scott said that that they've had different workshops on co-benefits, but the need still exists for a better integrated approach to address co-benefits. Another need is how to target funding from the infrastructure bill as well as potential funding increases that may or may not be seen over the next few years from Congress. Scott added it's important not just to think about targeting water quality acceleration but trying to address habitat outcomes and land conservation as well. By target, he clarified, that means targeting the places to implement projects and what the projects

would be. Katheryn Brownson (USFS) commented in that chat that there is another STAC workshop happening this spring on a systems approach to Best Management Practice (BMP) crediting that will be looking at co-benefits, although it seems mostly focused on wetlands.

Denice added that when they did the original monitoring review, the Monitoring Re-alignment Action Team (MRAT), one of the things that came out of that was STAR, and it was also a place for thinking about synthesis projects. People don't think about what you do after you collect the data, but that's just the beginning. What are the synthesis products if you had the infrastructure in terms of capabilities, resources and personnel? What are the synthesis projects that can get us ready for what we're about to do in 2025? Denice suggested a STAC workshop that would focus on an identification of important synthesis projects. She mentioned when STAC ran the climate synthesis proposal competition and said there's still a need for these synthesis projects more now than ever, but we've never gotten together and said here's what they would be.

Bill Dennison liked that idea and said they can build on the SAV synthesis and one that Jeremy Testa did on the Potomac. They now have examples of good synthesis products, and they can look longitudinally at the impact of those. Bill gave the example of a paper in PNAS on nutrient reduction helping the resurgence of SAV and how impactful that was for Bay program funding and how much of a difference it made. He said that any time we can use synthesis to integrate with social science and natural science that will be a real advantage.

Scott Phillips said he'd like to see something like here's some existing approaches done in other areas to look at multiple benefits of habitat restoration and would like to work with STAC to discuss how to move forward on those ideas. Bill said he thinks they could do a synthesis proposal, and Scott commented that he didn't think they could put together an integrated co-benefits workshop proposal by the deadline. Scott said they will have a STAR discussion about co-benefits in February. The Bay Commission also asked about the topic and the Federal office directors wants to deal with it within the next 4 weeks. The topic is picking up steam.

Jeremy Hanson (CRC) commented in the chat that maybe for a workshop on co-benefits they could focus it as a charette to identify and dive into existing resources that already quantify benefits of BMPs or related metrics (units per pounds, volume, etc.). A lot of stuff is out there like City-based Optimization Model for Energy Technologies (COMET), iTree, Eco Health browser on Enviro Atlas, and a workshop might be a good way to get into the specific information already available and how we can use it.

Chris Guy (USFWS) commented that Denice's idea about shallow water habitat conflicts is a great idea to tackle down the road, and the Habitat GIT is beginning to talk about it. Their idea is to pick pilots, do some SDM exercises and bring in some experts. Chris added to let him know if anyone knows someone with SDM expertise. He doesn't know if the Habitat GIT has bandwidth for another workshop, though, because they are slammed with MB feedback. Everything they brought up to the MB was met with "give us a workshop" so they have 5-6 workshops proposed over the next 6 months. However, this is one of things consistently coming up as a priority. It would be great if they can take it on and figure out how to serve the partnership with an SDM model, and shallow water habitat looks like a great place to do this. Bill Dennison said this is

timely with the CESR report from STAC with its focus on nearshore edges up in land and in the water and conflicts with hardened shorelines. Denice said this is a great synthesis topic for social systems and environmental systems. She also reminded people to remember workshops aren't the only tool that STAC has to offer. People have come to STAC with requests for all kinds of things and if the workshop proposal deadline is missed, there are still other ways STAC can help.

Chris Guy said that the Fisheries GIT, the Habitat GIT and a few other GITs are talking about it, and maybe STAC is a good place to talk about it. There's momentum for it. He added he's willing to have a conversation offline on how to do this. The Habitat GIT will be talking later today about how they want to take it on, whether it's part of their spring meeting. They're coming to the conclusion that SDM needs to be part of it.

Britt Slattery (NPS) commented in the chat that Protected Lands would be interested in this approach and they're already thinking about cross-outcome/co-benefits topics for conservation. Peter Tango (USGS) commented in the chat that interactions at the interface of land and water are important to focus on especially neighboring land use effects on shallow water habitats. High value habitat issues is a topic to focus on and added ducks and eagles as birds of note for this topic.

Breck asked Denice or Annabelle to share what avenues besides a workshop STAC can help so that they could maybe move some of these ideas forward. Annabelle Harvey (CRC) said that all of their workshop funds are not allocated when proposals are approved in March, STAC can accept proposals after the deadline, and it's looking like they will have leftover funds after March.

Kristin Saunders (UMCES) said they've been talking about the idea of bringing SDM understanding and knowledge into cross collaboration conversations between SAV and fisheries and other folks that work in that shallow area. Given the deadline, are there stages they can do to phase in their work on this topic. Maybe a combination of some collaborative meetings at the habitat and fisheries GIT along with STAC synthesis and work towards a workshop next year. It's timely and it's useful, and they could use some help. Scott added they have the national experts sitting at the Patuxent Wildlife Research Center and one of them, Mike Runge, is a member of STAC, so the opportunity is there.

Bruce Vogt (NOAA) commented in that chat that he thinks the shallow water conflict needs a clear goal. They've been discussing this for a while, and it crosses many outcomes. Therefore, it gets complicated, so he thinks they need a purpose aligned with other efforts such as SAV, wetlands, or nature-based features for shoreline protection. Otherwise, it may not lead to a useful outcome or may run parallel to other conversations. Brooke Landry (MD DNR) agreed.

9:50 - 10:30 Update on PSC Monitoring Report and next steps for implementation - Peter Tango & Breck Sullivan

Peter and Breck will provide an outline of the Monitoring Report and give an overview of the monitoring needs received from Goal Teams. This discussion will also focus on gaining feedback from Goal Teams for what next steps they want reflected in the report to help them implement their monitoring needs.

Discussion Questions:

- What partners are currently supporting a monitoring need?
- What next steps would help GITs mature their monitoring needs to include information such as cost estimates, design considerations, location, and frequency?
- What funding opportunities are available to complete these and future next steps?
- We are looking for 3 STAR members to review the PSC report. Are there any volunteers?

Peter presented on additions to the Monitoring Report, noting the addition of a fourth section on opportunities for a partnership approach for enhancing monitoring. He went over a table showing primary themes in monitoring, what networks contribute which pieces and what is needed for enhancement. Peter asked for the group's insights on what is needed for next steps to implement monitoring needs for each outcome and gave an example of nutrient limitation. Breck then went over what people provided as monitoring needs and what's missing. She asked if the missing outcomes wanted to contribute monitoring needs and if any outcomes wanted to change their content.

Bruce Vogt responded regarding the blue crab, oysters and fish habitat outcomes. Blue crabs have one of the most robust fisheries surveys globally. There are some needs around the edges of that, but they didn't put anything forward because they're getting what they need to manage the stock based on that survey. They could write something up based on what's currently being done and a few of the add-ons suggested. He didn't think it fit with this assessment. Scott said it's worthwhile to write in a couple sentences what you just said, because if it's not in there, people will say they don't need anything. It's important to say, "we're making progress on it". Bruce said he'll work on it. They put things for forage and fish habitat that came up during the SRS process. but the other ones didn't come up highlighting monitoring needs as a key component. For oysters, they have monitoring in place for the restoration and have success metrics identified. There's monitoring that occurs 3 and 6 years post restoration that's in line with answering those metrics. The cost of that has continued to go up and they may be over sampling to answer the questions they need to answer. They made refinements 2 years ago and are looking at some new approaches to monitoring using video and other ways of assessing those reefs that wouldn't require the same amount of effort. They can write something up regarding that issue. For fish habitat, the one that comes up is shallow water, which they have submitted and is probably captured under forage. Shallow water monitoring would help fill gaps for the fish habitat. They also have some pilot fish habitat assessments to mention in the report. One occurred in the Choptank previously and they did the metadata inventory. There is an upcoming joint USGS and NOAA assessment in the Patuxent that will create a fish habitat assessment connecting both the freshwater and tidal system.

Scott said there are needs identified in the freshwater portion of habitat based on the Fisheries team's work with Kelly Maloney, and that Bruce brought up good estuary ones that these should

be included with fish habitat. It might be good to work with Chris Guy. Bruce said he'll talk with Justin and Mandy and provide the write ups by early next week. Breck said they are trying to have a completed report to give out to people to review. Breck added when she was looking at oysters one item that she was thinking of was how they were approaching a different methodology of monitoring. Peter said that's interesting to think of, representing work they've done to date may be over-emphasis and they've come to understand efficiencies and that's just as important as asking for something totally new.

Bruce said it won't be like the hypoxia work where they lay out a sampling design and cost estimate, but at least they can capture what's currently underway and highlight additional gaps whether it's cost of monitoring or augmenting things like the blue crab survey to include additional areas or data. Breck said that's helpful and it's understandable to not include cost estimates. None of the outcomes except toxic contaminants includes cost estimates. Scott clarified the toxic monitoring need addresses both toxic contaminant research and toxic policy and prevention.

Breck said for Wetlands, looking in the science needs database she saw a monitoring need for approving the method of the National Environmental Information Exchange Network (NEIEN). Chris Guy responded that the Bay Program funded that because the NEIEN system facilitates the Chesapeake Assessment Scenario Tool (CAST) model. Wetlands are a BMP that is underrepresented there. That is being actively worked on and money has been put aside to address it because it is an output of the Bay program not just the workgroups necessarily. Wetlands and black duck are interrelated, and both are struggling. That's the problem they're having with monitoring needs. They're not sure what's even being recorded. The science need is to find out where they're successful and how they're actually doing relative to the outcome that's been defined for those workgroups and action teams. Megan Ossmann said they didn't submit anything because they do have the living resource data analyst position they requested. They'll work with Olivia Devereux to address this need, and she'll help them develop a new tracking system. Megan added the group doesn't consider it an unmet monitoring need, but they are more than happy to write something up if needed in the report.

Matt Robinson commented in the chat to Chris to let him know at matthew.robinson@dc.gov if DC can do anything to assist with black duck and wetland monitoring. They are about to begin implementation on a big restoration project in the Anacostia (funded by NFWF) and one of the target species is black ducks. Scott said that Chris can say this was a need and is being addressed. He was surprised that better information related to sea level rise wasn't in there. Chris said that they have 4 workshops, one on climate change and wetlands, some on tidal and nontidal that are supposed to address this topic. They do not want to put anything into monitoring needs before those workshops are completed. Wetlands and black duck are going to make a pivot by the end of the summer, so monitoring needs will be clear. They'll be clear at least for tidal wetlands around marsh migration corridors, which is already GIT funded. Scott recommended putting in one sentence about monitoring needs are being developed - just as a placeholder. Chris asked Megan to send in that sentence.

Julie Reichert-Nguyen commented we have a placeholder around sea level rise and the effects on wetland extent.

Sean Corson (NOAA) commented in the chat that the hypoxia sensors can also help characterize overwintering conditions for blue crabs and potentially for oysters year round. Understanding the bottom conditions for both of these species are important, and the hypoxia measurements (along with temperature and salinity) will be a big help. Understanding the overwintering temperature conditions for blue crab could impact the winter dredge sampling design. This could help us tune the survey to remain effective in the face of climate change. Peter Tango added it also speaks to the sampling design and its seasonal challenges to winter monitoring work. A sentence or two that points to the collective value across outcomes like Fish Habitat, Forage, Blue Crab, Water Quality adds strength to the recommendations.

Katheryn Brownson commented in the chat that for forest buffers and tree canopy they may want to add some nuance that their needs aren't new and will likely be met using the new land use data.

Scott commented that this is our chance to get in front of the PSC, and the vision is to keep putting these needs in front of them for the next five years. Chris commented for the final wetlands workshop, which is the outcome attainment workshop, they're targeting those members to be there. While they can only give one paragraph for this report, it's very important to get the message across that they will be asking for resources moving forward. Scott said that's what they want this report to support everyone to do. Scott added for a couple of these that have no monitoring needs, reflect on that. Protected lands for example has a need for better tracking of protected lands. There's a pilot being done for Maryland, but according to Renee, it needs to be done watershed wide. The same is with land use.

Scott said he thinks they need to remind people they have existing needs, otherwise they're missing all the work they've done to have those needs catalogued. Britt said the way the call was phrased, they responded to say "our needs are already logged in the database so can we use the database". Scott said so maybe they need to change this category to say they still have existing needs that have already been met. Chris agreed. Breck added for citizen stewardship, local leadership and diversity outcomes discussed putting in language around ICR approval for their surveys to track progress for their outcomes. EPA is doing everything they can to get the approval, but they're still waiting on it. It should be highlighted that they need these surveys to help track their outcomes.

Peter presented on how to go from the conceptual stage of a monitoring need to funding recommendations, using nutrient limitation as an example. Then Breck and Peter asked for input from GITs on the discussion questions listed above. Here is the [Jamboard link](#) for Sustainable Fisheries, Vital Habitat, Water Quality, Toxic Contaminants, and Healthy Watersheds Goals. Here is [the Jamboard link](#) for Stewardship, Land Conservation, Public Access, Environmental Literacy, and Climate Resiliency Goals. Scott said for the report itself they're trying to have a chapter on some of the things here. This will become important as they go to implement the report. They didn't have time to address this topic and fill in the Jamboards, but STAR will bring

this back as they get more into the implementation phase of the report. It will also be followed up in an email. Scott added that they're presenting an overview of the report to the MB at the February meeting. This would be a good time for coordinators and staffers to meet with their chairs before that meeting and have them at the MB meeting giving their perspectives. Scott stressed that it is important that there are not just water quality folks present and that they really need goal team chairs there to balance out that conversation.

Greg Allen commented in the chat in relation to that, when referring to a preponderance of water quality focus, it should be clear that is nutrient and sediment water quality. PCBs and pesticides and other pollutants are water quality-related but get a small fraction of resource allocation.

Julie asked when this information on the Jamboards would be needed because she didn't feel comfortable filling them out herself without the Climate Resiliency Workgroup membership input. Scott said it could be as general as partners in the CRWG. Then when they go to implementation, they can get more specific. This is meant to be rough and maybe some examples.

Peter commented in the chat to Renee Thompson (USGS) that they have draft network summaries with Section 2. They did not have one yet for Land Use and Land Change. They can share the outline and example of what they have. He also added that STAC Workshops have been used to develop monitoring designs by the way.

Renee responded thanks and she thinks they need to communicate the needs around the outcomes as well as the larger need to update the high-resolution land cover regularly. There is currently no commitment beyond the most recent update in 2021. They will need to continue this investment into the future. Peter Claggett and Renee can work with Peter on this section.

Kristin commented that it is a more effective communication style for the MB and the PSC when people give the bottom-line up front and asked how are they presenting this (moving away from just water quality) in written and presentation form? Scott replied they'll be previewing that during the MB discussion, so that's another place to weigh in on the messaging.

Katheryn Brownson commented in the chat that there were a lot of recommendations related to water temperature monitoring needs that emerged from the recent STAC workshop, and it would be nice to try to capture some of those initial recommendations somewhere. Kristin agreed.

Matt Robinson commented that for the Plastic Pollution Action Team (PPAT) he put their answers under the first Jamboard because it's not clear what outcome they qualify under at this point.

10:30-11:45 Strategy Review System Dry Run Presentations of the Stewardship Cohort (3 Outcomes 25 minutes each)

Materials: Citizen Stewardship SRS Dry Run Presentation, Diversity SRS Dry Run Presentation, and Public Access Site Development SRS Dry Run Presentation.

There are 3 CBP outcomes, organized under the Stewardship Cohort, that will be reviewed by the Management Board (MB) on February 17th, 2022. The dry run for STAR provides an opportunity for each outcome to provide their MB

presentation and get suggestions for improvements. The presentations should follow the guidelines provided under the Strategy Review System on [Chesapeake Decisions](#).

10:30-10:55 Public Access Site Development - Jackie Kramer, NPS (Chair) and Olivia Wisner, CRC (Staffer)

Dave Goshorn (MD DNR) commented that a change from past Management Board meetings is that in the past they've allotted 15 minutes for presentation, 20 minutes for discussion and 10 minutes for action items, but now it is 15 minutes for presentation, 15 minutes for discussion and 15 minutes for identification of action items. Dave emphasized for the outcomes to be as specific as possible in their request and needs, and at the MB meeting to speak up if they have misinterpreted what your outcome is asking for from them. The final materials are due a week from today - the PowerPoint and narrative. Sherry Witt is going to be facilitating this discussion at the MB. Dave added that the order at the meeting will be diversity first, then stewardship, then public access.

Olivia presented for Public Access. First she read the goal and the outcome, then went over what is their expected versus actual progress, showing cumulative total of public access sites. They are on track and in fact ahead of schedule to achieve the projected outcome. Olivia went over successes and challenges from the past few years. The public access group functions well as a professional community that gathers to learn from each other. The group itself doesn't implement new sites but getting together to learn from each other has been useful to workgroup members. They have a current GIT funded project researching benefits and barriers to public access in the watershed, which also included the relationship between using public access sites and stewardship behavior. The workgroup members are excited about results of that study. When trying to get public access implemented, it is useful to pair public access with another program because there is limited funding strictly for public access site development. Another success is lowering match requirements and weighting scoring criteria for applications for grants to support projects taking place in smaller communities or underserved communities. Challenges the group has experienced include increased cost of materials for public access sites, and the cost of maintenance. Maintenance costs can impede development of new sites. Workgroup members have limited influence over funding strategies.

Covid-19 resulted in record usage of public access sites, to the point where some were degraded. State agencies are working to fix them. There is a backlog of sites needing renovation and maintenance. The capacity of partners to apply for public access grants is an issue and each state has their own set of actions to make it easier. Making sites ADA accessible can be prohibitively expensive. Climate change impacts design and implementation of future public access sites and be part of maintenance concerns for existing sites.

How they will be adapting in the future: plan to continue to meet on bi-annual basis. Continue to work on research projects such as the benefits and barriers to public access project. In individual jurisdictions, members continue to collaborate with state agencies to address public access

infrastructure and keeping an eye on the Infrastructure Bill to see how it will be available to states.

The next question addressed was how to make this work equitable and inclusive. The first phase of the research is a quantitative 2000 person study across the watershed. The second phase is a qualitative focus group asking individual groups what's keeping them from using public access sites. During that portion, they'll focus on traditionally underserved communities. The states each have their individual efforts to make public access sites more inclusive, and Olivia gave examples of some of these efforts.

What help is needed from the MB? The public access outcome is on track to be achieved for 2025. The last time they asked for them to update funding strategies to allow for maintenance and MB asked for inventory of funding sources which was provided. However, there was no change in strategies to make it easier for maintenance. Olivia added since they're not supposed to come to the MB with funding asks they've left it blank and would like input on what should be requested. They could just keep public access in mind.

Dave commented that given the fact that they brought this last time and the MB didn't respond perhaps diplomatically making that point that there was no response so this need is still there. This counts as infrastructure and they could make the point the MB didn't act last time; now there is the infrastructure investments and jobs act, and it's time to act now. Maybe they can re-submit the spreadsheet or anything they provided last time. Dave's other comment was to put examples of other jurisdictions with actions on making public access sites more inclusive. Jackie Kramer (NPS) clarified that MD, NY and WV are doing things, and they just didn't list it but can add those examples. Dave said that it would be great to add those or just say it verbally, and if someone isn't working on it, asking for contacts in their jurisdiction.

Scott commented for MB support, they might want to acknowledge continued help from agencies that are already working on this and making progress. He agreed with putting in what Dave just suggested around the use of infrastructure funding to accelerate progress around public access and to ask them to step up next time they ask.

Renee Thompson said great job and wanted to highlight a couple other opportunities for cross-outcome opportunities, especially on climate and Diversity, Equity, Inclusion and Justice (DEIJ). There's an opportunity for protected lands and public access coordination. The GIS team did research on public access opportunities on protected lands, and that could be another area of opportunity especially with 30 by 30 and equity and access. Coupling restoration and protection opportunities can often include public access in a project like that. This is a big opportunity especially with infrastructure and 30 by 30 funding.

Jackie replied some of the issues some of the states are having is there's such a demand to maintain what they have they are not pursuing new access points. They're on target but not doing leaps and bounds more like when they started out. The resources are so limited so they focus on maintaining or trying to make sites up to deal with climate change. Therefore, creating new sites is a challenge and then it falls to the local level. That's more of a tracking nightmare to link up with land conservation at a local level with public access site creation. So much of it is done at land

trust level. They also don't count public access on land open to the public. They only count local, federal, state government owned land or non-profit organizations, but they have to have some lease arrangement with government bodies to have it open to the public. Jackie agreed there are opportunities, but the problem is in tracking of them. They have states reaching out to partners and finding out where other access is being developed at local level. A member brought up that there's money for land acquisition but not to develop the site. They should go together but because they don't it is a challenge. Hence Olivia's point about doing public access as part of other larger projects.

Olivia said maybe one of their gaps is trying to tie public access sites to restoration or land acquisition, and they'll put an emphasis on that in the ask. Dave Goshorn agreed and said they discuss bundling or aggregating. If there is a brownfield in an underserved community on the water and they can restore it and include a public access site to hit multiple things. Communicating among shared needs is important.

Britt Slattery (NPS) added some of this is happening through public sites. With infrastructure money, the protected lands group is trying to assemble some project ideas, things that could be put together in a funding package. Some of those things are underway. Within GIT 5, they could coordinate on what can count and isn't already being counted.

Kristin Saunders (UMCES) commented in the chat that one untapped potential is to work with locals to see if they will require public access as a component of new or redeveloped spaces. The maintenance then becomes a burden for the developer but it is a way to achieve the public component. Laura Cattell Noll (Alliance for the Chesapeake Bay) commented in the chat that is something to consider: maintenance and/or the creation of public access sites is one of the eligible uses of American Rescue Plan Act (ARPA) funds for local governments. Given the use of public lands during COVID-19, there is a lot of interest in this area.

Kristin Saunders also added in the chat to Renee's comments that she thought there is an additional coordinator position NPS intends to fill and that would straddle public access and land conservation. There would be a closer connection there as Renee suggested.

10:55-11:20 Stewardship - Suzanne Etgen, Anne Arundel County Watershed Stewards (Outgoing Co-Chair), Britt Slattery, NPS (Coordinator), and Olivia Wisner, CRC (Staffer)

Suzanne Etgen (Ann Arundel County Watersheds Stewardship Academy) and Britt Slattery presented for the Stewardship outcome. The current co-chairs are leaving with 2 new co-chairs coming in this week. Suzanne will be staying in the workgroup leading behavior change work. Suzanne read the outcome and added they are working on reframing this goal with an eye to equity because of the word citizens which they want to replace. Volunteers is another word they're working to re-imagine as it relates to stewardship. Suzanne went over their expected and actual progress and noted for context this is not a quantitative outcome. There is not a baseline. In the last two years there's been significant progress on communicating and utilizing that data. There is a new stewardship indicator in the Bay report card. That is showing the opportunity or penetration of stewardship overall as measured by the stewardship indicator survey of 2017

which measures 19 stewardship behaviors, both opportunity or penetration and likelihood of adoption. Suzanne showed a diagram with a mixture of the behaviors and how they're being implemented. Those scores are helping to show case and will be able to be updated in 2023 with the next indicator survey (taken in 2022). Another use of the data is on chesapeakebehaviorchange.org, the creation of a state-of-the-art site for social marketing to help practitioners move their outreach and engagement from awareness to impact and behavior change. It is opportunity and likelihood going together to create a behavior score and help drive effective outreach campaigns.

Suzanne went over what they have learned. Successes include the energy around behavior change has grown. There will be a behavior change forum examining the science behind behavior change on February 10th, 2022. Environmental problems are people problems. Imagining that Bay restoration would be solved without utilizing behavioral science is crazy. They're really focusing on utilizing behavior science to drive effective engagement. Another success is the social science assessment project to identify the social science opportunities within the Bay program. Those are happening adjacent to the workgroup but influenced by the workgroup. Another success is the development of the report card and website. The workgroup has been reconvening with new energy.

Challenges include capacity and staffing changes. The capacity to drive this work involves a lot of people who are not agency based and don't have a lot of time. This is different from other workgroups because that expertise doesn't exist within the Bay program. Most of the Stewardship Workgroup members are volunteers from non-profits rather than state/ federal agency employees. The stewardship index and the website took a lot of time – it wasn't fully funded and required outside assistance. Also, the issue of discontinuation of using the word citizen, and volunteer is a challenge. They missed opportunities to coordinate with the Diversity workgroup. Finally, there are federal restrictions around surveying and collecting data that have been a barrier to assessing progress due to a slow approval process.

Britt presented for things on the horizon, which includes new federal funding sources. There are sources at federal and state level. Even things like infrastructure related things can incorporate stewardship. This could include potential workforce development opportunities. There are cross outcome opportunities, especially looking at trying to achieve outcome attainability targets for tree canopy, riparian buffer, forest, and land conservation. Increased awareness of DEIJ and need to coordinate with the Diversity workgroup. Possibility of stormwater credits for behavior change is a topic of interest. This will be discussed at the forum on the tenth.

Britt discussed how this impacts their work and showed the ladder of engagement. Because of the work on the survey and website, there has been lots of effort at individual actions and behavior but not so much at developing community leaders and champions and community level action. They will work both bottom up and top down. They have had good input from the workgroup. Based on that input, they're organizing around 3 main themes of build stewards, gain champions (including role of local governments), and network development. Britt shared a list of work towards equitable and inclusive restoration, including considering a formal request to change language in the goal and outcome to change citizen, looking at DEIJ practices and

coordinating with diversity workgroup, assuring representation from all watershed jurisdictions and local leadership workgroups, and utilizing some of the tools that exist such as the Diversity Dashboard or Environmental Justice screen.

Peter Tango commented in the chat that Citizen Science has evolved to say Community Science for example when we work with the Chesapeake Monitoring Cooperative which works with groups across the watershed.

Britt went over what help they need. They have capacity needs around the behavior change website and tool – they need support on doing training, outreach and technical assistance. Some combination of partners, Bay program staff and contractors. They need support with encouraging cross outcome opportunities. They need support with integrating social science. Peter Tango asked if they could be specific about integrating social science, and Suzanne Etgen commented in the chat a reminder that social science is much bigger than behavior change.

Matt Robinson commented in the chat that it's very possible to connect community science with plastics monitoring and planned to hold a discussion with Britt and the PPAT. Sherry Witt commented in the chat, would you add a bullet to the Help Needed regarding MB approval on changing the terms in the Stewardship Outcome statement? Scott Phillips commented in the chat to be careful on the term "behavior change", which some people looked upon as a negative concept. Greg Allen commented in the chat network building should be an expectation of the MB. Katie Brownson (USFS) commented in the chat for the forest buffer workshop, they are hoping to have a pre-workshop webinar focused on social science and behavior change. They would be happy to work with them all on that. Rachel Felver added in the chat, the Web team is still doing user testing on the website; They are planning on doing a larger unveiling of the website in April.

Suzanne added that in the 2017 data collection there were some local jurisdictions that bought into a more statistically significant local sampling, and that makes the utilization of the data exponentially more beneficial for the local jurisdiction in terms of targeting behaviors and audiences. They would like to say that opportunity was made broadly to jurisdictions throughout the watershed. Any leadership or thoughts in that direction would be helpful in terms of getting the word out to jurisdictions and/or creating funding package to help lessen the load. This is an urgent and important next step in the next 3 to 6 months.

Dave commented they need the MB to reach out to their staff and promote what the website provides. There will be workshops later this year on these topics, and it would be good to incorporate behavior change has part of these workshops. Britt said the website hasn't been prominently rolled out. Maybe they could dedicate some time at an upcoming MB meeting to go over the website. Carin Bisland (EPA) recommended saying they're working on a bigger rollout of the website, and recommended to say to the MB "what would you need from us in order to further integrate social science into the Chesapeake Bay Program?". This would make it more of a discussion and how can you help them help you. Carin added that these are good requests, but she has seen them say they'll promote it and nothing comes of it. The workgroup wants to get them thinking about what steps they could take and what help they need in order to take those

steps. Suzanne responded there are a million things you could do but what should you do, and those recommendations are going to be coming out of this assessment. It's not reasonable for anyone to move forward until they get the results. Maybe a placeholder to say this is coming. To be clear, it's not something out of the stewardship workgroup. Amy Handen is doing it. That might need to be clarified. Carin agreed that's a good point and added the more people who can frontload how they deliver things to folks the better off they are. If still working on this, that means that's a good opportunity to engage them. They want to help tell you what they think others might want to have but want to say no, MB, we're asking you to do these things. Trying to get them to think about what they need in order to help you.

Britt added one of the things we might need is time of people who represent the partners. Having MB say we need the expertise and go back to agencies saying they need the help. That leadership and support says doing this is important. Britt added whether to officially ask for language change.

Carin said that Jess Blackburn was talking about Citizens Advisory Committee (CAC) considering something similar. She recommended saying to the MB "in particular as you're looking at whether CAC should continue to be named, we're also concerned about outcome and goal language". There have been changes in the agreements like the diversity workgroup changed the minority language. Maybe ask them if they feel like it was worth it. Peter noted change of citizen science to community science among the Chesapeake Monitoring Cooperative.

Carin said it's good to have the MB think about this holistically -are there words we should be removing from our lexicon across the CBP, and we recommend focusing on removing some of that language from this particular goal and outcome.

Amy Handen (EPA) commented while the energy and enthusiasm around behavioral and social science was born out of stewardship work particularly effort to collect stewardship data, want to make sure that we're all speaking to the fact that social science should be integrated throughout the partnership and not just in the stewardship goal team. Make sure people don't just interpret social science as something that just exists in the stewardship goal team; we all have a role to play.

11:20-11:45 Diversity - Kevin Newman, DOEE (Co-Chair), Briana Yancy, CRC (Staffer), and Allison Ng, EPA (Coordinator)

Allison Ng (EPA), the coordinator for the Diversity Workgroup, started the presentation for the Diversity Outcome. She read out the goal and outcome and noted that the indicator only covers part of the outcome language. Allison showed the performance against the target, showing percentages of survey respondents who work for or with the CPB who are people of color, and also those in a leadership position shown separately. Allison explained that they have not re-evaluated their indicator since the last SRS review or since implementing any of the actions in their current logic and action plan. The data from the indicator comes from a survey that's waiting on approval; their current review covers actions from 2020 and 2021. They are uncertain of progress because of this delay. However, if it continues on the same trajectory, they will not

meet their targets by 2025. Allison also noted that the 2019 numbers are not as meaningful because of a low response rate of 38%. The outcome encourages the MB to amplify importance of responding to the survey and hopes that their information collection request will be approved soon. While measuring racial and ethnic diversity of Bay program participants and leaders is a key piece of the puzzle, the partnership needs to set metrics and track progress related to key actions called for in the diversity outcome language.

Briana Yancy (CRC) presented on what they have learned in the last two years, keeping in mind they haven't been able to measure progress on their outcome and indicator, but sharing progress on completing activities in logic and action plan. Most activities in their logic and action plan are on track, and they have made significant progress towards activities the MB says will help meet their outcome. However, they're not saying that they are on track since they don't have the data. The progress they've made include establishing a steering committee, working with the grants team to add DEIJ language to the grant guidance, the addition of SRS question 5 which specifically asks how each workgroup plans to integrate DEIJ into their work, and working with the DEIJ action team on the DEIJ statement strategy and implementation plan. External facing actions such as improving diversity and hiring within partner organizations and environmental justice focused actions face barriers because they are not in the workgroup's locus of control.

While the workgroup was successful at influencing the Chesapeake Bay Program Office (CPBO) and jurisdictions to incorporate DEIJ into requests for applications, GIT funding applications and current CPBO grant guidance, it was difficult to evaluate whether changes to grants expanded funding to underrepresented communities primarily because of a lack of baseline data or clear methodology. There continued to be concerns from grant makers that underrepresented communities do not have the capacity to do the work required by certain funding opportunities. However, technical assistance grants can provide funding, time and expertise to work with communities to build capacity within their organizations to later apply to larger projects. It may take more time to do the work and occur on a smaller scale, but projects will be more sustainable because the impacted communities will be invested. These challenges have informed the new GIT funded project for 2022 that will develop a baseline, connect vendors and community facing organizations and present workshops to help prepare community service organizations to apply for funding.

Upcoming changes to organizational diversity and environmental justice includes we all need to do our part to address both issues. Increasing racial and ethnic diversity within our professional organizations and increasing racial equity and support for underserved communities. Data shows discrepancies between community exposure to environmental risk and risk of flooding due to climate change, heat island effect and exposure to pollutants. As the Bay program implements its management strategies it should consider how to maximize benefits of implementation for communities historically underserved or overburdened. Social science needs include improving survey methodology to collect information on current internal targets and indicators and developing new metrics or indicators to better understand the Bay program's ability and opportunity to implement practices in underserved communities both rural and urban in terms of both Best Management Practice (BMP) installation and grant dollars spent. There have been

significant policy developments that impact the diversity outcome. It has become clear that stakeholder engagement needs to be the focus moving into the next SRS cycle and more work is needed to clarify and approach what is appropriate for the Bay program partnership to affectively achieve that desired approach. This work is made more urgent today given social context with numerous racially motivated incidents, associated public unrest and importance placed on this work at all levels of government. Historically the diversity workgroup has been the voice of DEIJ work for the CBP and now we understand that DEIJ must be integrated into all elements of the CBP's work including how, when, what and to whom we communicate. Overall, the partnership has much to learn on how to approach DEIJ issues and needs.

Allison presented on how this impacts their work. They hope to improve awareness of who is able to benefit environmentally and financially from Bay funding opportunities, through the GIT funded project of 2022. They hope to establish annual workplans with HBCUs with whom they have an MOU, and work with the communications team to identify opportunities to improve stakeholder engagement through formal CVP communications. They plan to increase outreach to organizations through Diversity Workgroup presented webinars, partnering with the communications team. The first one will be in March. They will conduct a pilot project with a stakeholder group underrepresented in the past – previously incarcerated individuals. They will pilot this in the next 2 years. While some of the other GITs are beginning to engage with traditionally underserved communities, the Bay program has not engaged with this sector of the population, and it is an important one.

How can the management board lead the program to adapt? Achieving this outcome requires buy in and participation from throughout the CBP. They request assistance from the MB to improve the diversity survey collection process and assist in other means to collect data from signatories, partners, staff and leadership of partnership. They are asking them to report demographic information of signatories and for strategy and timeframe for increasing diversity of partnership both participants and leadership, including MB itself. Those in a position to make appointments can consider the overall DEIJ implementation plan when making those decisions. For example, revising governance documents to allow for both team co-chairs to be either emerging leaders or already in a leadership position. In addition, the outcome requires a mechanism to collect data, track progress and identify where more work needs to be done. They request MB assistance to develop a new tracking element to collect information from each of the signatories on their activities and progress towards achieving the outcome language such as efforts to address EJ concerns in 2022 and annually thereafter using the current reporting schedule and system. The diversity workgroup seeks to learn how these efforts impact decision making. An alternative option is for signatories to report out semi-annually at MB meetings on their efforts to address DEIJ. Benefits of collectively working on internal targets and actions are meaningfully engaging with underrepresented stakeholders and diversifying partnership. Leadership will bring valuable perspectives and represent voices from important communities and stakeholders, and the MB would demonstrate support for and leadership on this outcome and set the precedent for the rest of the CBP.

Carin commented in the chat maybe they could point out and congratulate a state agency that is working with incarcerated populations. PA Department of Conservation and Natural Resources (DCNR) has a program for workforce development with incarcerated populations for forestry practices/tree planting. Briana said that's a good idea and added that the habitat GIT has an initiative in their upcoming workplan.

Dave said it might be helpful to add some sub-bullets on how actions will be achieved. He suggested the second bullet is the most important of the three bullets on the help needed slide. Also, since they mentioned governance document and making some changes - that's an example of a sub-bullet. These appointments range and there is no one standard way of reaching out but the MB is the right place to go. A specific ask could be when reaching out for appointments to make it a policy to point out the diversity needs. Don't just say we need your jurisdiction to appoint someone to your workgroup. He suggested having some language in the phone call or email or letter that specifically reminds them of the diversity needs.

Carin commented the Diversity Workgroup is similar to the Stewardship Workgroup in that they don't want them to say the diversity workgroup is the only place this work is taken on - it needs to be integrated. One of the things that the habitat goal team was looking for was an emerging leader and was having a difficult time recruiting sometime. She wondered if the Diversity workgroup can provide guidance on finding emerging leaders.

Allison said another thing that came up is compensating people for participating.

Renee commented that she was still struggling with the connection between the work that the diversity workgroup does and the larger strategy and implementation plan. Renee helped develop that plan but something that remains a challenge is the amount of actions that are specifically identified as the DEIJ workgroup to be the leads on. Is there a way you can take some time during the presentation or with us now to clarify the nuance between the logic and action plan, the work you do in the workgroup and the larger CPB implementation strategy? How on earth is this small team going to take on all these actions? They will want to make sure that's communicated to the MB and the rest of us that they all need support to do all this.

Allison responded at a previous MB meeting there was commitment to funding a position for a DEJI Coordinator. It was taken out of current needs because it's been committed to. The work of the workgroup is sometimes doing what the outcome says and is more internal to the partnership, but it's also doing the stakeholder position piece. When the DEIJ coordinator comes in, the diversity workgroup would work closely with them, and they would be doing the things on the implementation plan that are outside the scope of the outcome.

Carin commented on the slide with the outcome articulated that this is the guiding star, but this is not the entire plan nor is it their intention as a workgroup to take on the entire plan. It's important to emphasize what they do and what they do not do as a workgroup.

Scott wrapped up the meeting by thanking all the speakers and goal teams.

11:45-12:30 Coordinator/Staffer Meeting

12:30 Adjourn

Next Meeting Date: February 24th, 2022, from 10am-12pm.

Participants:

Alexander Gunnerson (CRC), Breck Sullivan (USGS), Peter Tango (USGS), Amy Goldfischer (CRC), Marisa Baldine (CRC), Katheryn Barnhart (US EPA), Megan Ossmann (CRC), Briana Yancy (CRC), Amy Handen (CRC), Britt Slattery (NPS), Katie Brownson (USFS), Laura Cattell Noll (Alliance for the Chesapeake Bay), Caroline Johnson (CRC), Garrett Stewart (CRC), Greg Barranco (CRC), Chris Guy (USFWS), Allison Ng (US EPA), Matt Robinson (DOEE), Rachel Felver (Alliance for the Chesapeake Bay), Kristin Saunders (UMCES), Doug Austin (US EPA), Julie Reichert-Nguyen (NOAA), Liz Chudoba (Alliance for the Chesapeake Bay), Jeremy Hanson (CRC), Jennifer Starr (Alliance for the Chesapeake Bay), Melissa Fagan (CRC), Doreen Vetter (US EPA), Carin Bisland (US EPA), Olivia Wisner (CRC), Greg Allen (US EPA), William Dennison (UMCES), Dave Goshorn (MD DNR), Gary Shenk (USGS), Scott Phillips (USGS), Ken Hyer (USGS), Renee Thompson (USGS), Bruce Vogt (NOAA), Angie Wei (UMCES), Tom Parham (MD DNR), John Wolf (USGS), Alicia Berlin (USGS), Sherry Witt (GDIT), Kathy Boomer (TNC), Mandy Bromilow (NOAA), Suzanne Etgen (Anne Arundel County WSA), Brooke Landry (MD DNR), Rebecca Murphy (UMCES), Denice Wardrop (CRC), Katlyn Fuentes (CRC), Sean Corson (NOAA), Meg Cole (CRC), Jackie Pickford (CRC), Katlyn Fuentes (CRC), Annabelle Harvey (CRC), Bo Williams (US EPA), Lee McDonnell (US EPA).