



Scientific, Technical Assessment and Reporting (STAR) Team Meeting

Thursday, March 26th, 2026
10:00 AM – 12:00 PM

[Visit the meeting webpage for meeting materials and additional information.](#)

Purpose: This was the March monthly meeting for the STAR Team. Brook Trout Chairs, Daniel Goetz (MD DNR) and Katie Ombalski (Woods and Water), provided an overview of the revised 2025 Brook Trout Outcome and lessons learned from the 2014-2015 Outcome. Neil Ganju (USGS) gave a presentation on Salt Marsh Geomorphic Metrics and how they are used to make landscape-scale decisions on marsh restoration and management in Chesapeake Bay. Bill Street (JRA) gave an overview of the 2025 State of the James Report Card which examined the status and trends of 18 indicators on river health and restoration. The James River Association celebrates their 50th anniversary in 2026, you can learn more about their work [here](#). Lastly, Cirse Gonzalez (VIMS CBNERR) gave a presentation on the State of the York Watershed System, which includes the York River, Mobjack Bay and Piankatank River Basins.

Minutes

I. Welcome, Introductions & Announcements

*Lead: **Ken Hyer** (U.S. Geological Survey, USGS) STAR Chair, **Breck Sullivan** (USGS) STAR Coordinator, and **Peter Tango** (USGS) CBP Monitoring Coordinator.*

Upcoming Conferences, Meetings, Workshops and Webinars

- [Choose Clean Water Conference](#) – May 18-20, 2026. Lancaster, Pennsylvania.
- [Chesapeake Community Research Symposium](#) – June 1-3, 2026. Annapolis, Maryland.
- [Restore America's Estuaries' 2026 Coastal & Estuarine Summit](#) – September 22-25, 2026. San Francisco, California.

Breck announced that the Chesapeake Bay Program USGS Staff are no longer able to use their Chesapeakebay.net email addresses. Please update this when contacting USGS Staff. Updated emails are available on the [website](#). Breck's email is bsullivan@usgs.gov and Peter's is pjtango@usgs.gov.

Breck also announced that there is a request for people to fill out a poll from the Chesapeake Bay Program (CBP) web team. This poll is seeking feedback for the ChesapeakeProgress website, which is used to track and communicate progress of Goals and Outcomes. The deadline to fill out the form is April 10. The form can be found [here](#).

II. [2025 Revised Brook Trout Outcome: How our work has evolved since 2014](#)

*Lead: **Daniel Goetz** (Maryland Department of Natural Resources, MD DNR) and **Katie Ombalski** (Woods and Waters Consulting)*

In this presentation, Daniel shared how the Brook Trout Workgroup transitioned from their 2014 Brook Trout Outcome to the revised 2025 outcome, what they've learned through the process, and how they have expanded their effort. He gave a short overview of the 2014 outcome and how the workgroup has worked towards it in the past, which includes statewide assessments and securing tracking infrastructure. As they were approaching 2025, they released a [report](#) on how well the 2014 Outcome was attained. They realized there were a few things they needed to change in order to better obtain their outcome, which they implemented in their 2025 revised outcome. Next, they dove into the three targets they will use to accomplish the 2025 revised outcome. These three focus on occupancy, abundance and resilience. Daniel also shared how each of these targets will be tracked or monitored. Lastly, they shared their next steps.

Discussion Notes:

Comment (from chat): *Nick Staten:* Documentation for how we calculated the extent of each threat and how we determined 15% in our outcome:

<https://www.chesapeakebay.net/files/Calculating-Brook-Trout-Workgroups-Resiliency-Target.pdf>

- **Response:** *Breck Sullivan:* I would encourage everyone to look at this document to see how they calculated the resiliency threats. This can be taken into consideration when incorporating changing environmental conditions.

Comment: *Breck Sullivan:* It's impressive that you went from the 2014 Outcome where you weren't sure how to monitor progress to now having three different targets, already knowing how to monitor and track it, and that most states have already identified sites.

Q: *Breck Sullivan:* I would like to share that throughout the outcome revision process we encouraged groups to consider changing environmental conditions. Brook Trout was one of the main outcomes to state it in their targets. Can you elaborate how you choose between those five?

- **A:** *Daniel Goetz:* The five we picked were agreed upon by workgroup members. There are already existing funding sources to address them. To get to the 15%, with the help of the CBP Geospatial Science and Applications Team (GSAT) Team, we pulled every GIS database we could find, including the EPA 319 integrated report on acid mine drainage, private land conservation easements, and other state datasets, like Pennsylvania's dirt and gravel road data layer. We calculated land use within each catchment in the healthy watersheds to get the percentage of forest cover and identify parcels of land where forest cover was below the recommended 65 to 70%. That is the scientifically backed cut off where brook trout no longer persists. With all of the GIS work, we got baseline estimates for cumulative threats in the watershed. We've looked at the 10-year targets through the Goal Implementation Team (GIT) report along with what has already been done on the landscape. We merged those numbers together to determine new targets. There is material you can review that goes into more detail. It was a lot of GIS work that asked what had been done in the past and what could be accomplished in the next 10-15 years. We averaged the percentages across the five targets and came up with 15%. If we underperform on acid mine drainage, but overperform on riparian buffer plants, we can still reach that goal because it's a pooled average across the five threats.

Q: *Peter Tango:* Sam Hit was discussing the interactions between brown trout and brook trout. I thought there was work going on in the Shenandoah to try to pull back on distributions to help brook trout. Why didn't that reach the top five concerns?

- **A:** *Daniel Goetz:* That's a touchy subject. Each state has its own management initiative for managing brown trout and sympatric populations. In the Shenandoah, I believe their policy is still "brook trout only. No other non-natives within the headwater streams." We couldn't find

unanimous agreement that managing for allopatry was a top priority. We're funded by license dollars and anglers fish for brown trout. There is mixed scientific literature on direct impact. Some studies have shown a consequential negative impact from brown trout and others have shown that they can live in sympatry and harmony depending on habitat requirements, like temperature regimes. It's a mixed bag. We didn't think we could narrow it down in the time frame to make that a key element. We're still leaving it up to each state to determine whether they want to pursue that. They can switch from sympatry to allopatry and count that towards any of the three targets in there. We didn't want the sentiment under resiliency to be that brown trout is a main threat because I don't feel like that is an accurate blanket statement. Maryland has a non-native trout removal policy. It's pretty detailed. There are eight criteria and a stream must meet four of them to be considered. Then, a biologist has to write a formal proposal on why they want to remove non-native trout, which is reviewed and approved or denied. We currently have an ongoing one in the Upper Savage River.

Comment (from chat): Nick Staten: If you want to get in touch, my email is staten.nick@epa.gov.

III. Salt Marsh Geomorphic Metrics

Lead: Neil Ganju, Kate Ackerman, and Zafer Defne (USGS Woods Hole Coastal and Marine Science Center)

In this presentation, Neil shared how observational data is being used to create geospatial metrics and decision frameworks for salt marshes. Neil began with an overview of models and the three models they use. He also shared an overview of marsh geomorphic evolution, including sediment budgets, to provide context for his work. As sea level rises, marshes must have enough sediment to prevent erosion. By calculating the amount of sediment leaving and joining the system, they can predict whether marshes will be eroding. By using several monitoring systems, they are able to track the net sediment budget. They wanted a way to determine this sediment supply, so they created the UnVegetated-Vegetated Ratio (UVVR) which uses aerial imagery and compares unvegetated and vegetated areas within a marsh. The UVVR correlated well to the net sediment budget. They decided to create marsh units, which are separated where there would be natural hydrologic connection. They can aggregate data to UVVR in marsh units to visualize at-risk marsh units. They developed a decision matrix based on UVVR and elevation. This has been mapped across the Chesapeake to help guide focus areas for restoration efforts.

Next, Niel explains the model they use based on sea level rise, sediment mass, and export rate to calculate the lifespan of the marsh. This lifespan model is used along with the SLAMM model to create another decision matrix to recognize restoration needs.

Neil also shared that they are just getting started on edge erosion and upland migration. This can be used to map which process is dominant. A decision cube and action map could be used to decide which action should be taken based on the dominant processes.

Discussion Notes:

Comment: Breck Sullivan: This is a great example of taking scientific data and developing metrics which can be used for decision making.

Comment (from chat): Neil Ganju: UBMorph-Audubon paper:
<https://link.springer.com/article/10.1007/s12237-025-01618-w>

Q: Julie Reichert-Nguyen: We are using the UVVR information for the Choptank River. When listening through all of these new metrics, I'm excited because this could help us pinpoint adaptation strategies. In fisheries, we spend a lot of time thinking about low marsh habitat for fish. Can we use these metrics to identify the future marsh imprint that could have healthy low marsh and high marsh? I am visualizing a map with color coded segments at a future scenario to

see what areas would be good to maintain low marsh and what areas would be good to maintain high marsh. I'm not sure if we can use the information now to do that.

- *A: Neil Ganju:* The fundamental question would be if we have information on the speed of transition from high marsh to low marsh to mud flat. If you know there is low marsh that is consistently low marsh, that could be mapped with a combination of SLAMM and UBMorph. SLAMM would be giving you consistent low marsh percentages. UBMorph would be giving you a long or steady lifespan. That would give you an idea of low marsh parcels that are good fish nursery habitat and they'll be consistent for several decades. You'd have to come up with what you're looking for with those metrics. If it's consistent low marsh with low likelihood of edge erosion, you'd want SLAMM to say it's stable as low marsh and the erosion model to say there isn't a lot of erosion. That would be a persistent low marsh area.

IV. [2025 State of the James Report Card](#)

Lead: Bill Street (James River Association, JRA)

Bill began by sharing a video, which is linked [here](#). He also shared the mission and vision of the James River Association. They began the State of the James River Report in 2007 to communicate information, track progress, and motivate action, including policy. To communicate results, they used to use a pyramid of health but then switched to a graphic that provides numeric values for different indicators across the watershed. This includes a grading scale, which is currently a B for the whole watershed. They split the analysis into River Health and River Restoration. Bill shared their interactive [webpage](#), which allows viewers to dive deeper into each indicator. Based on past scores, the James River has been seeing steady increases in their overall score. When there are updates or changes in how they measure their indicators, they will back calculate to previous years for consistency, if they are able to. In the key conclusions of their report, they emphasize the good news as well as areas where more work is needed.

Discussion Notes:

Comment: Bill Street: We find it challenging when the Bay Program describes the nitrogen, phosphorus and sediment model results as loads. We use the model results as the implementation of the Watershed Implementation Plan (WIP). I think it is effective at that. It shows how far we've gone in implementing the needed practices. Currently, Virginia is at 100% of their sediment reduction goals according to the model but sediment loads continue to increase, and our water clarity is struggling. It would be helpful if you could bring some clarity to that. That's helpful at our level in talking to policymakers and helping push for things we need to address.

- *Response: Peter Tango:* Thank you for raising that. I don't have a solution, but I like the point you made. That's something we can raise here for further discussion.

Q: Peter Tango: Are sturgeon part of your indicator portfolio?

- *A: Bill Street:* We'd love to include the sturgeon, but we don't have annual monitoring and the necessary data sets. That's an example of something we'd love to be able to talk about but don't have the data for.

Comment: Breck Sullivan: I want to comment on a challenge you mentioned. At the Chesapeake Bay Program, we are hoping to make progress on telling a better synthesized story when we have so many metrics to discuss. For example, we have the Clean Water Goal Team. We'll have the outcome that focuses on the nitrogen, phosphorus, and sediment model, but within that Goal Team, will also be our monitoring outcome. We're trying to figure out how to tell the synthesized story between what the model is saying and what the monitoring is telling us. From your examples, I am interested in looking more into the pyramid you discussed and the interactive

portion that shows the big picture and can zoom in on individual indicators. Maybe that's a way we can synthesize our information. When we look at our current indicators, we share our non-tidal and tidal trends. We see mixed results. If you look at them individually you can understand it. When you look at it holistically, what is it telling us.

- **Response: Bill Street:** It's a challenge and may be easier for us to boil down. If you're working on one of those data sets, it's tough.
- **Response: Breck Sullivan:** That's helpful to hear too because we are moving in the direction of trying to create materials at the local level. If it can't be done at a Bay wide scale, how can we do that more locally?
- **Response: Bill Street:** We'd certainly be happy to work with you on that. Our colleagues and other watershed groups would appreciate it and be helpful in that process.
- **Response: Breck Sullivan:** We produce the tributary summary StoryMaps that the James River Association has collaborated on. Maybe in our next update, we could do a more synthesized section.

Comment (from chat): Marisa Baldine: Will's story about sturgeon in the James River - <https://www.chesapeakebay.net/news/blog/in-search-of-a-true-river-monster>

V. State of the York Watershed System

Lead: Cirse Gonzalez (*Chesapeake Bay National Estuarine Research Reserve, Virginia Institute of Marine Science, VIMS CBNERR*)

Cirse began her presentation with an overview of CBNERR and their work in the York River. In 2019, VA-CBNERR hosted a York River roundtable where it became clear that there needed to be an updated State of the York Report. They had a process where they aimed to put the end-users first by including community members in the development process. From this, they gained a list of priority elements and determined what needed to be added to this report, as compared to the previous 2000 report. From this, they created their report which is an interactive digital report that can be found [here](#). This includes not only a report, but a StoryMap, repository of data, and other resources.

Cirse went over the report structure which is broken into system geography, changing landscape, water quality, and resources. She summarized their findings within each of these categories. For the system geography, Cirse shared the 6 subwatershed divisions that were used to communicate findings. For the changing landscape section, they reported on land cover change, sea level rise, precipitation changes and living shoreline opportunities. Within their water quality section, Cirse shared how the York plays into the Chesapeake Bay Program WIP reduction goals and how they are still working to accomplish theirs. They also reported on harmful algal blooms, other biological and chemical impairments, and pollution. In the last section, "The Resources We Steward," the report outlines historical sites, commercial oysters and oyster restoration, submerged aquatic vegetation (SAV), fish passage, commercial fisheries, public access, conservation lands, and native and invasive species.

Cirse also mentioned a webinar series that Breck has been involved with and recommends. It can be found [here](#).

Discussion Notes:

Q: *Breck Sullivan:* You mentioned the additional metrics that were added for the 2025 State of the York. What led to you choosing those additional metrics?

- **A:** *Cirse Gonzalez:* We had a co-productive process that included a needs assessment that included surveys and informational interviews. What we heard through that process led us to prioritize the topics that were listed in the presentation. We felt like we could bring in other priorities to make the narrative flow better. It was a mix of what the people wanted and what helped with the narrative that served their needs. This was in the spirit of serving needs and making it accessible.
- **Response:** *Breck Sullivan:* Thank you. I think that is something the Bay Program has worked on and needs to continue to work on.

Q: *Breck Sullivan:* After the report was done, were there other key audiences you were trying to disseminate it to?

- **A:** *Cirse Gonzalez:* We've utilized the power of our roundtable folks. These represent community groups, non-profit organizations, and federal and state agencies. We hope they carry the message and resources we've created for them to disseminate among practitioners, residents, and constituents. We are always looking for ways to get the word out. If anyone wants postcards with QR codes to get the word out, please let me know. The report is not printed because we didn't receive funding. If anyone knows of funding for printing, we would definitely take them up on that.

Comment: *Breck Sullivan:* Thank you everyone. I hope you were able to grab onto something that will help you in the future with identifying metrics, the collaborative effort needed, or how to communicate progress and decision making. I know I have some ideas to help the Chesapeake Bay Program encompass all of the outcomes and synthesize information. I look forward to using them.

VI. Adjourn

Next Meeting: [Thursday, April 23rd, 2026](#)

Attendees:

- Allison Welch, CRC
- Ann Foo, UMCES
- Ashley Hullinger, PA DEP
- Bill Street, JRA
- Breck Sullivan, USGS
- Carl Friedrichs, VIMS
- Carol Cain, MD DNR
- Carol Howe, USGS
- Cirse Gonzalez, VIMS CBNEER
- Christina Garvey, CRC
- Dan Goetz, MD DNR
- Emily Young, ICPRB
- Gabriel Duran, CRC
- Julie Reichert-Nguyen, NOAA
- John Wolf, USGS
- Kate Ackerman, USGS
- Katie Ombalski, Woods and Water Consulting
- Keith Bollt, EPA
- Kristen Saacke Blunk, Headwaters LLC
- Liz Chudoba, ACB
- Marisa Baldine, ACB
- Mary Stack, ICPRB
- Matthew Kierce, IWLA
- Neil Ganju, USGS
- Nick Staten, CRC

- Petra Baldwin, CRC
- Rebecca Murphy, UMCES

- Rick Mittler, ACB
- Tess Danielson, DC DOEE