



## Scientific, Technical Assessment and Reporting (STAR) Team Meeting

Tuesday, January 29<sup>th</sup>, 2026  
10:00 AM – 12:00 PM

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

**Purpose:** This is the monthly meeting of the Scientific, Technical Assessment and Reporting (STAR) Team. As the Chesapeake Bay Program (CBP) moves forward with the revised Watershed Agreement, there is an opportunity for not only updating and developing new indicators but also changing the framework around communicating indicators and progress to the partnership. This meeting highlighted the existing CBP indicators framework, provided examples of indicators from external organizations, and provided time for discussion on how CBP moves forward with indicators.

### 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. **Abstracts due February 13, 2026.**

##### Summary of past STAR discussions:

The discussion surrounding indicators has been ongoing in STAR with conversations at our May, June, and July meetings. Gabriel Duran (CRC) went over the past discussions and presentations to help participants understand the existing framework for this meeting.

#### II. [CBP Indicators Framework](#)

*Lead: Katie Ayers (U.S. Environmental Protection Agency, EPA)*

In this presentation, Katie Ayers (EPA) shared an overview of the indicators framework. She highlighted the three types of indicators, influencing factor, output, and performance indicators, and the diverse audiences of ChesapeakeProgress. Katie poses questions to consider when thinking about developing new indicators, especially with the revised Agreement. She shared the groups thoughts on criteria for indicators that are displayed on ChesapeakeProgress, also known as “capital I” Indicators. Not every Outcome or Target will have a clear indicator. To update the indicators, groups must submit the two required documents. The team is currently editing these documents to improve the experience. Lastly, Katie shared the next steps for indicator development and updating with the revised Agreement. ChesapeakeProgress is under construction right now, but specific indicator material can be found at <https://data.chesapeake.net>.

### **Discussion Notes:**

**Q:** *Julie Reichert-Nyugen:* I was one of the folks tasked to review some of the drafts. One thing that wasn't clear to me was that the methods and analysis document is being put into the metadata file in the spreadsheet. I want to make sure we're not being duplicative. We used to have the strategy review system (SRS) process. A lot of the questions in it had the workgroup compiling information. Are the conversations happening with the SRS team? I'd like to avoid redundancy and duplicative work. In the past, we would have our data providers fill out the analysis and methods document for indicators, but now the questions seem like they'd be answered by a coordinator or staffer. It fits in with the program application more than the data part.

- **Response:** *Katie Ayers:* The SRS process or whatever we decide to call our review cycle documents will be separate from the indicators analysis and methods document and data document. However, there is a relationship between those. Indicator updates might end up happening on different cycles than the SRS process. In the current analysis and methods document, there are two or three sections about data. We are shifting those to the data file to ensure they line up with metadata requirements. The remaining questions aren't completely different to what we used to ask. An example of a question like that would be "what is the long-term trend?" Our goal is to keep the analysis and methods document directly related to what the indicator is reporting on and not make programmatic conclusions about progress. We're trying to keep it tied to the outcome or target that the indicator is speaking to.
- **Response:** *Julie Reichert-Nyugen:* That's helpful. It makes sense that it is more focused on the indicator. Maybe we can use that information in the SRS process.

**Q (from chat):** *Peter Tango:* Given all the hands up - Katie, you highlight not all outcomes may have indicators and must track in "other ways". Basic management tenet - if you don't measure it, you can't manage it. Our outcomes and targets are the CBP-wide priorities. What other ways are envisioned to track progress without a measurement indicator?

**Comment:** *Chris Guy:* We did the questionnaire. I kept it at the coordinator level. It was hard because of the governance and structure and fusing of goal implementation teams (GITs). It's hard to know who is responsible and what will happen. We did our best. I heard people saying that they can't figure it out, but I feel that you've demonstrated the need. I filled it out for any outcomes under the legacy Habitat GIT. The roles and responsibilities for habitat and fisheries are going to be merged, and people will be taking on different responsibilities. Some of the questionnaires may need to be redone or clarified later. I see the coordinators maintaining the point of contact role. I encourage you to use the coordinators for anything you need. Take everything in the surveys with uncertainty because it might change. This is scientific management where we need to work even when there isn't a process. We've had a lot of conversations about how to fill out the survey.

- **Response:** *Katie Ayers:* I did not expect everyone to have every answer for the 2026 indicators survey. It was our effort to get ahead of things. If some indicators have clear answers, then we can move forward with those. Most will be developing management strategies and workplans over the next year and a half.
- **Response:** *Chris Guy:* And tools with them. Every one of our indicators have little tweaks. For example, Fish Passage is how many dams have been removed and how many river miles did it open. We have a tool and we put the data in the Excel file. On December 2, it became not only dams but also anadromous fish, but still measuring in the same way. I think everyone has given us their data, besides Maryland, and we can move forward. Does it support 2025? Yes. Are we going to report it as 2025 anadromous only? No. I think we're going to move

beyond that and get into the new data. Those are the types of things I filled out but have a lot of nuances.

**Q: Amy Handen:** On your slide about what makes an indicator on ChesapeakeProgress and how not every target or outcome will need to have an indicator, I wonder if there can be more specific criteria or guidance on what specifically qualifies to be an indicator. What are the other options that are available for tracking and accountability that might not rise to the indicator level? Also, when you shared questions to consider when developing an indicator, Gabriel's presentation noted that the purpose of indicators are for policy makers and public understanding and accountability. If we are using these indicators to implement policy, there needs to be a question about what change we'd like to see as a result of collecting and sharing this data. Sometimes that link is missing so I feel it's an important piece to include.

- **A: Katie Ayers:** Those questions aren't the only questions to be considered. They're more so jumping off points. I agree with further defining "capital I" Indicators on ChesapeakeProgress. I want them to directly relate to and communicate or progress toward the outcomes and targets outlined in the Watershed Agreement. If we're speaking to anything bigger than that, then that's another conversation and another narrative. I see indicators that go on ChesapeakeProgress as reporting progress towards the goals outlined in the Watershed Agreement. We should add some of that big picture stuff onto ChesapeakeProgress by asking why do we care? Why is this important? What do we need to do moving forward? The main goal is illustrating progress towards the things we set out to achieve with the Watershed Agreement. Maybe that answers the change we want to see as a result of collecting the indicator data. I saw Peter had a similar comment in the chat about outcomes and targets. If something doesn't go directly onto ChesapeakeProgress, how else can we track progress? I don't have all the answers, and I'd love part of today's discussion to be about this. Are there other ways to talk about progress? Is that on ChesapeakeProgress? A different platform? Chesapeakebay.net? Group pages? Goal pages?
- **Response (from chat): Breck Sullivan:** Great Question Amy! Helps combine Peter's question and my question of if there is room to include other computed information that connects to an outcome but is not used as our indicator right now! Hopefully the next presentations can help us with that!
- **Response: Catherine Krikstan:** The other datasets that aren't "capital I" Indicators are often mentioned as decision support tools or management tools. They're not datasets that illustrate our progress, but they're being used by managers to take action to make progress. That is an important category of data and information and it's one of the reasons Chesapeake Data was created. It's to provide access beyond the indicator so there was a central point where you could find all of those other things. I've been taking a closer look at the proposed management strategy template. There have been a lot of questions at the Management Board and Principals' Staff Committee level about the format our management strategies will take. When you look at elements inside the management strategy, all of that text is presented on ChesapeakeProgress in a dynamic way. Outcome pages will adapt to different ways we're presenting information. The implementation actions or management methods are talked about at a high level on ChesapeakeProgress because they are important to the story. You can have a link to other datasets that might live elsewhere. There's a connection but it may not be the central focus of that specific website.

**Comment (from chat): Peter Tango:** It seems there should be direct connection to specific targets declared in the agreement. However, there can be multiple measures related to identifying progress that relate to the target but are not exactly the target. Achieving water quality standards is a specific target while tracking average dead zone size, dead zone duration, and hypoxia frequency events per year are indicators that can show ecosystem response but are not the Water

Quality Standards Indicator, but they are valuable explanatory measures to tell the story of change, of management response.

**Comment:** *Kaylyn Gootman:* This is really important. We need to think about the next steps for these indicators. Getting something out on ChesapeakeProgress isn't the end point. We need to think beyond that – life cycle assessment, where does this go? Who is this for? For what purpose, beyond being a “capital I” Indicator? How does that tie into communication products? There is a bigger web.

### **III. Chesapeake Bay and Watershed Report Card**

*Lead: Alexandra Fries (University of Maryland Center for Environmental Science, UM CES)*

Alex and her team at UM CES have been creating the Chesapeake Bay (Watershed) Report Card since 2007. There are seven Bay indicators and eleven watershed indicators. The watershed indicators include socio-economic factors that help members of the public connect.

In 2014, UM CES began creating socio-environmental report cards around the world. When exploring the different watersheds they worked in, they made sure to learn the issues that are most important to those in that area. They have a five-step process to create these report cards, where one chooses indicators. This step can be difficult but is very important. They work to understand the values, threats, and systems in the focus area, while making sure every indicator fits with the SMART (specific, measurable, attainable, relevant, time-bound) criteria.

They organize each of their indicators into goals and aim for three to six indicators for each goal. They've found that too many indicators can wash out the message and too little can make results unreliable. They have found that the best number of indicators is around five to eleven. Alex shares a summary of how to find and select the indicators. Alex also emphasized the need for indicators to be updated regularly.

Next, Alex shared an example of their indicators in a project in Zambia. Each indicator is sorted into a category or goal, and then all the results of all indicators are presented in the overall score. She also shares an example from Upper Rio Grande, where they have more indicators than the previous examples.

Alex explains why storytelling is important to provide context and a sense of place to readers, members of the public, and decision makers. To emphasize the need for storytelling in this process, Alex shared a story about a Cholera outbreak in London and how effective science communication and storytelling was able to help find the cause and solution. Storytelling can be used in the Chesapeake Bay watershed to help communicate the message and help readers understand why the results matter.

Lastly, she shared some final thoughts for the Chesapeake Bay Watershed Report Card and indicators for the Chesapeake Bay.

#### **Discussion Notes:**

**Q (from chat):** *Peter Tango:* Some CBP groups have taken many years to develop an indicator or indicators. You all work with many groups and do this process all over the world. How long has it taken your group on average to create indicators with groups, to go from first meeting to first report card? What makes your process so efficient?

- **A:** *Alex Fries:* Using steps in a process is helpful for people to organize thoughts. For efficiency, it helps to have another group come in because they seem more unbiased. When you have a group internally, it can seem like you have biases, which can be harder with

people who have strong opinions. External facilitators can help the process run smoothly. Being flexible helps because you have to recognize that things won't always go smoothly. Being transparent and documenting decision making can help. Sometimes if you don't write down a decision means you have to come back and talk about it again. Documentation can prevent rehashing things. We can go back and update things but in the process, you should keep moving forward so you don't get stuck in an endless editing loop.

- **A (from chat):** *Alex Fries:* We used to say from beginning to end it would take 18 months, I think 2 years is more realistic.

**Q (from chat):** *Amanda Shaver:* Is there a step in the process that reviews what other indicators may already be available within that particular market or audience reach with similar information in order to avoid redundancy or determine how to build something complimentary?

- **Response (from chat):** *Peter Tango:* Love this Amanda! Sometimes there are measures and indicators being reported at regional or national scales of meaningful insight and tracking already but are not exactly our target while being familiar, data already collected and analyzed. Evaluating how much they can be used if cookie cut to our region can be very valuable, helpful, important. E.g., we do not have a CBP temperature indicator, but there are regional and national outputs (tropical nights index, frost free days indicator, temperature trend, USDA Garden Zones, etc.) that all tell the story of change really well in our area yet they are not CBP monitoring data based.
- **A:** *Alex Fries:* When we go through the process, we always look to existing indicators and data sources because we don't want to reinvent the wheel. When we develop an indicator or find an indicator, we see if it can be adapted to the Chesapeake Bay or other systems. If we're working with a new group, we let them know of existing indicators to see if they may work. There are some papers about indicators, and we are very open to sharing our information and indicator development processes and methods. NASA and Groundworks USA developed a heat vulnerability index including poverty, air temperature, impervious surfaces, and tree canopy cover. We talked with them about using it for one of our projects and that was very successful. Now, we've used the indicator that they created for a bunch of different report cards. We can use what is out there if it fits the goals.
- **A (from chat):** *Alex Fries:* Yes, we kind of start that at the beginning with the indicator identification. Sometimes there will already be well established indicators that are used and we build on those.

**Q (from chat):** *Catherine Krikstan:* My impression is that the "roll-up" of our indicators into a higher-level score for the broader ecosystem has been a sticking point for the Bay Program as an organization--that while we are comfortable measuring progress toward a specific target, we haven't wanted to score the Bay. Curious if others have insight into that, and whether our organizational goals for our indicators are changing (i.e., moving from "measuring progress" to "assessing the ecosystem as a whole")?

- **Response (from chat):** *Breck Sullivan:* Maybe it doesn't need to be a roll up of everything, but how can we tell the story of each outcome better because there is more to a story then just i.e. abundance, reaching attainment, planting numbers.

**Q (from chat):** Peter Tango: Question on your updated CB report card - a lot of our collective work ties into reversing habitat fragmentation. Fish passage is to improve fish movement, population interaction, habitat access. Forest conservation and preservation, wetlands conservation and preservation, shoreline integrity, etc. I think of using island biogeography/fragmentation theory concepts - big patches are better than small patches, patches in close proximity/clustered are better than patches far apart, connectivity of habitats is better than patchwork. These measures are important to living resource community and population integrity, minimizing edge effects and invasibility, etc. Are you all perhaps trying to incorporate fragmentation indices of waterways and land use into your new report card because of this high value management index?

- **Response (from chat):** Alex Fries: I would love to do that Peter, I think a connectivity indicator would be really helpful and informative.
- **Response (from chat):** Julie Reichert-Nyugen: Existing work in the Southeast blueprint to identify priority areas for a connected network of lands and waters for ecological endpoints could help with ideas for this, <https://secassoutheast.org/2025/12/05/Southeast-Conservation-Blueprint-2025-now-available.html> US Forest Service is also developing a Plantable Areas and Forest Fragmentation map to help with siting conservation and restoration. This is still in development. Katie Brownson is the point of contact

#### **IV. Puget Sound Partnership, their Goals, Vital Signs, and Indicators**

*Lead: Jeff Lerner (EPA)*

This presentation focused on the Puget Sound Partnership and their action agenda and vital signs work. Jeff started with background on the Puget Sound Partnership. They produce the Puget Sound Action Agenda regularly, which fulfills the need to produce a comprehensive conservation management plan as part of the National Estuary Program. They are updating this right now for 2026-2030. This will be split into four themes that are similar to the revised Chesapeake Bay Watershed Agreement. They also have foundations that have associated strategies and actions.

Next, Jeff dives into the vital signs, which are organized into five goals. They have 23 vital signs with 70 indicators. They also have some indicators that are in a candidacy stage or are being developed. They have nine longer-term targets. Jeff shares the success of their indicators and how the results are organized.

Jeff shared an example of a vital sign, Chinook Salmon. He also explained Progress Indicators, which track human activity. Next, he explored the Monitoring Network and how they support the vital signs and progress indicators.

Puget Sound Vital Signs: <https://vitalsigns.pugetsoundinfo.wa.gov/>

#### **Discussion Notes:**

**Comment (from chat):** Peter Tango: I like the concepts of agreed upon indicators and candidate indicators. Around 2017 what was the Climate Resilience Workgroup had a 2-yr GIT funded project to conduct a process for indicator development. About 180 candidate indicators were identified, 7 were finalized as meeting needs from monitoring to analysis, time and space cover, time series were met. The remaining 170-ish candidate indicators are still documented for review and consideration in their value to our work. Just reflecting on complementary work in CBP history.

**Q: Breck Sullivan:** You did a nice job of putting it into the lens of the Chesapeake Bay. Now that we have targets in our Agreement, would that be what they consider their indicators?

- **A: Jeff Lerner:** That is my interpretation. In the Chesapeake Bay, we've been talking about indicators that they call progress indicators. I think it's a combo because we're talking about where we're going with the long-term health of the ecosystem. There's this space that's been made available for these progress indicators. This has been a contentious topic for them. There have been critiques of the vital sign work and there was a revision in 2019-2020 that came out of an analysis done by the Washington Academy of Science that looked at what they were doing and found flaws. There was a large review that was done by the Washington Department of Economics and came up with recommendations. This has not been a smooth process for them. As we are looking at this as a partnership, it is a combo of progress indicators and ecosystem indicators.
- **Response: Breck Sullivan:** Thank you for that history. It's nice to know that we are not alone in the number of meetings and tough discussions that need to be done.
- **Response: Jeff Lerner:** There is a wealth of information on the [Puget Sound website](#). They have background documents and reports on indicators.
- **Comment: Breck Sullivan:** I have been talking with someone from Puget Sound, but she was not available for this meeting. If you'd like to hear more about this, let me know and we can bring her in to discuss it further.

## V. Discussion on CBP Outcome Indicators

*Lead: STAR Leaders*

Discussion Questions:

1. Rethinking what is an indicator now that we have targets?
  - a. There should be a direct connection to targets. However, there can be multiple measures related to identifying progress that relate to a target.
2. Who is the audience and how do we communicate it beyond the indicator? What is the purpose of the indicator beyond Progress?
3. If not all outcomes have indicators, how do we measure/manage it? Where else can we talk about progress?
4. Does anyone have insight on CBP not wanting to roll up to higher level score? Is our organizational goal for our indicators changing from “measuring progress” to “assessing the ecosystem as a whole”?

**Key Takeaways:**

- Be flexible with indicators.
- Maybe every target/outcome doesn't need a quantitative indicator to showcase progress.

**Future Discussion Topics:**

- How can we tell the story of what's happening with our progress? How do we make sure that leads to improvement in our ecosystem conditions?
- Continue discussion on where the narrative will be held.
  - Is it in ChesapeakeProgress? The Bay Barometer? How do we support the Bay Barometer team if it is?

**Discussion Notes:**

**Comment:** *Breck Sullivan:* My understanding of the first question, which came from Peter Tango, is should we be rethinking what a “capital I” Indicator is now that we have targets in our Watershed Agreement? Previously, we were speaking about the progress of the outcome through an indicator because we didn’t have these specific SMART metrics that we were trying to reach. Now that we do, should ChesapeakeProgress be more of a direct connection to targets? Can there be multiple measures related to identifying progress that relate to the targets? In Katie’s presentation, she mentioned that an indicator focuses on the progress of an outcome. Now, should we be showcasing whether we are meeting a target and provide multiple measures to explain the progress related to that target? Going off of this, now that we have targets and ChesapeakeProgress is to address progress with our Watershed Agreement. Some of our targets are more yes or no, but some aren’t. Does that mean every target needs an indicator? I would think no, but I am open to other people’s thoughts.

**Comment:** *Julie Reichert-Nyugen:* Seeing the presentations today was really helpful. I think what the indicator looks like will look different across the outcomes. Not every target is going to be quantified with data. Some are more about engagement and working with partners. The Adaptation Outcome is now more focused on capacity building. We have had challenges creating an indicator with data and stating how successful we’ve been in building resilience in the Chesapeake Bay watershed. That’s a heavy lift. The direction we went with our outcome is that we may never have the capacity to monitor and collect the amount of data needed to answer that question. We can use our partners who work in resiliency to help folks site projects and restoration. There are things that build resiliency in the watershed, like forest conservation and nature-based solutions to protect shorelines from erosion. We might not be able to put a number to how well that’s performing, although we are striving to. We could do surveys, like Alex had mentioned, with our seven sub-watershed areas and the partners. We could ask how our efforts are helping to build their capacity and understanding to help target these nature-based solutions and getting funding to implement them. Eventually we can create a framework, and we have research partners working on that to help determine how well these efforts are performing. That goes back to what Jeff was showing that there are different tiers that the indicators may cover. We should allow that flexibility with our workgroups. My idea was a map that shows what the Chesapeake Trust have done. They show a map of the projects and a connection to their goals. It could be that. We see the sub-watershed areas building out. We can’t say how successful we are at reducing flooding or addressing shoreline erosion, but we could start with showing how we are building our network. I think we need to offer flexibility. Some of this is more long-term and it will be hard to get the monitoring.

- **Response:** *Breck Sullivan:* It’s good to hear a perspective of a different target with more of a range of information rather than a specific trend.
- **Response:** *Alex Fries:* We created a resiliency report card in Maryland, and it included indicators that seemed very different. For example, one of them was number of emergency service facilities in a flood zone with the goal of moving them out of the flood zone. That’s a very different type of indicator, but it’s almost a yes or no. If we have 80 emergency services in flood zones, we want to move those out because people can’t access it if it’s flooded or gets damaged, which poses risk to human health and the economy. Then, you could say how close you are to moving those things or having alternatives so people can still access those

services. That's a very different kind of indicator, but I wanted to mention you could do things like that.

**Comment:** *Jeremy Hanson:* I think at the highest level our primary audience is the Executive Council (EC). We have the Bay Barometer and other press releases and communications tied into that. There used to be more of a connection when the EC met more consistently. We'd have the state of the Program or Bay Barometer geared towards those meetings. I am not sure if that is the intent in the future and how the Bay Barometer will evolve. We do have all these different indicators and datasets that are updated regularly and reported in one high-level report out built into the way we operate with the EC. If we're communicating things at that level, it should be well understood by the general public. That's the advantage of that checkpoint. Below that is the super complicated web that we've all been discussing today. We have many different potential audiences depending on how we want to focus on or interpret things. That's where we have to be intentional about what we are updating, communicating, tracking and reporting.

- **Response:** *Breck Sullivan:* When looking at ChesapeakeProgress to understand who the audience is it said federal, public, non-profit, etc. I found it interesting how Katie broke it down and shared that federal viewers go to ChesapeakeProgress to understand funding. For some of the indicators, we don't really talk about funding and there was the funding page on ChesapeakeProgress. I wonder if there is a disconnect between what ChesapeakeProgress can offer versus what an indicators audience is. We are trying to make it more accessible for the public or someone at the EC level versus having an indicator that is very technical.
- **Comment (from chat):** *Rachel Felver:* The Bay Barometer has always been meant to be an annual report. The State of the Program was more of an overall look at the partnership. In the past, we've combined them because a lot of the work was duplicated when they fell within a similar timeframe. We are open to switching the format of the Bay Barometer, but our team can't be responsible for synthesizing the data to determine a bigger picture of watershed health -- but we are happy to communicate about it!
- **Response (from chat):** *Amanda Shaver:* Those are great points, Jeremy!
- **Response (from chat):** *Catherine Krikstan:* Jeremy makes a good point about the rolling nature of our updates--we don't always stop to tell a broader story because we're always working to tell different aspects of it.

**Q:** *Larry Sanford:* The audience is key. It has to be decided before you establish the whole framework. In the Bay Report Card, they started with a limited number of indicators to a large number of indicators with a broadened focus. When the indicators change, how do you keep your continuity from earlier?

- **A:** *Alex Fries:* It's hard. Part of doing that is communicating the changes and why they were made. We are talking about new tidal indicators. We've been using the same Bay indicators that are back calculated to 1986. It's a little scary to add new indicators to the Bay when the data might not go as far back. Are we going to lose the message of significantly improving trends over time? I think it's about using the data to tell multiple stories depending on the audience. We can still tell the story that water quality is improving over time while adding new indicators. Our plan is to work toward adding those new indicators and when the next

report cards come out with those new indicators, we need to explain that we added the new indicators and what that means. It's a process. We can still use the old stories and long-term information, while adding new items that are relevant and needed.

- **Response:** *Breck Sullivan:* That's an important question for us to consider. With the revised Agreement, we will have some indicators that we want to continue using, while having new indicators that we want to consider to help describe the progress.

**Comment:** *Amy Handen:* I want to share a story on how we decided to change course for stewardship and decided to not have a quantitative indicator. During our first data collection for the Stewardship Outcome, which was to increase the number of people doing things, we collected thousands of points of data and boiled those into one number. In our second round of data collection, we realized it wasn't communicating anything to our target audience and didn't help people behave differently. We decided in our revised outcome to change it to "provide data/resources." Now, we're not developing a single indicator that represents achievement, but we created Chesapeake Behavior Change. We collect data and share it with our audience. We provide resources to our audience so they can take action in their local communities to improve stewardship. I wanted to highlight that because not every answer is to create an indicator. We need to make sure we are not always defaulting to it having to be an indicator.

- **Response:** *Alex Fries:* Sometimes we have an indicator type thing that's not an indicator but has data and information. We include that as part of the story. For one region, PFAS was a priority, but they didn't have data. We included it as part of the story as an emerging concern in the region. There's lots of things like that which are not good indicators but need to be communicated and elevated.

**Q:** *Breck Sullivan:* Thank you for sharing that, Amy. Earlier in the meeting, you had asked how and where we showcase progress without an indicator. Are you saying that not everything needs an indicator, but we need to talk about where we showcase that progress?

- **A:** *Amy Handen:* I was trying to illustrate that not every answer is an indicator and there are multiple approaches we can consider when sharing progress on our outcomes. Sometimes it's an indicator with a "capital I," sometimes it's an indicator with a "lowercase i," sometimes it's tracking data, and sometimes it's providing resources. I think there is a spectrum of opportunities for us to consider when we are trying to communicate the achievement and progress towards our goals.
- **Q:** *Breck Sullivan:* When communicating that through Chesapeake Behavior and the data you've collected, where would you express that to showcase how the outcome is doing?
- **A:** *Amy Handen:* That's the million-dollar question. When we decided to change courses, we weren't sure if we could do it. We still don't have the answer to that question. It's a qualitative assessment. I think we're doing what we need to do to achieve our outcome, but it's very subjective. I know the SMART acronym is an approach. It's not the only approach. I'd love to consider other ways we can demonstrate progress and achievement that aren't just quantitative.
- **Response:** *Breck Sullivan:* I remember in discussions during Beyond 2025, we mentioned that not everything can be SMART. This is a good reminder of that. I think the narrative of

qualitative information, still connects with the quantitative indicators of how we still have a qualitative narrative that needs to be told with the quantitative trends. Those can be combined to tell the story better.

- **Response:** *Amy Handen*: And how do we achieve an outcome that is different? How do we change courses? How do we inform policy and shift budget decisions based on data? That is the ultimate goal. How do we improve the conditions we are trying to achieve? We're not just wanting to make the public aware of how many trees we planted and how many best management practices we've installed.

**Comment (from chat):** *Jeremy Hanson*: Those multi-year comprehensive plans Jeff mentioned other programs do is an excellent chance for synthesized story telling on a recurring basis to consolidate across our many rolling updates. If we know that every X years, we can get better at telling those cross-cutting stories. I feel like CESR did a lot of that bigger picture storytelling that we should be doing more often than every ~20 years which was the gap between CESR and Chesapeake Futures.

**Comment (from chat):** *Jeff Lerner*: For Birds, PSP considers it a vital sign. They have 3 categories: marine birds, terrestrial and estuarine. Two have indicators and estuary birds is TBD. Results are mixed. Terrestrial birds like forest species are declining due to habitat fragmentation.  
<https://vitalsigns.pugetsoundinfo.wa.gov/VitalSign/Detail/17>

## VI. Adjourn

Next Meeting: Thursday, February 26<sup>th</sup>, 2026

### Attendees:

- Alex LoCurto, ACB
- Alexandra Fries, UMCES
- Allison Welch, CRC
- Amanda Shaver, VA DEQ
- Amy Handen, EPA
- Ann Foo, UMCES
- Angie Wei, UMCES
- Ashley Hullinger, PA DEP
- Becky Monahan, MDE
- Breck Sullivan, USGS
- Catherine Krikstan, UMCES
- Cindy Johnson, VA DEQ
- Conor Keitzer, UMCES
- Doug Bell, EPA
- Emily Heller, EPA
- Emily Young, ICPRB
- Eric Hughes, EPA
- Gabriel Duran, CRC
- Jeff Lerner, EPA
- Jeremy Cox
- Jeremy Hanson, CRC
- Jessica Blackburn, ACB
- John Wolf, USGS
- Joseph Schell, DNREC
- Julie Reichert-Nyugen, NOAA
- Katie Ayers, EPA
- Kaylyn Gootman, EPA
- Keith Boltt, EPA
- Khesha Reed, EPA
- Larry Sanford, UMCES
- Liz Chudoba, ACB
- Marisa Baldine, ACB
- Mary Stack, ICPRB
- Matthew Stover, MDE
- Melinda Cutler, MDE
- Melissa Fagan, CRC

- Meg Cole, CRC
- Megan Thynge, EPA
- Nick Staten, CRC
- Peter Tango, USGS
- Petra Baldwin, CRC
- Qian Zhang, UMCES
- Rachel Felver, ACB
- Rick Mittler, ACB
- Shahrzad Badri, UMCES
- Suzanne Trevena, EPA
- Tou Matthews, CRC