



Data, Analysis & Reporting (DAR) Workgroup Meeting

Wednesday, September 23rd, 2025
10:00 AM – 12:00 PM

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

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

Purpose: This DAR WG meeting will review Management Strategy and Workplan developments, discuss At-Large membership updates and selection timelines, and preview the September Clean Water Goal Team Meeting. Additionally, Greg Noe (USGS) will present his recent publication on *The “sediment shadow” in Chesapeake Bay’s tidal freshwater rivers has important implications for restoration.*

Minutes

I. Welcome & Announcements (10:00 - 10:05 AM)

Lead: **Jimmy Webber** (U.S. Geological Survey, USGS) DAR Co-Chair, **Amanda Shaver** (Virginia Department of Environmental Quality, VADEQ) DAR Co-Chair, and **Kaylyn Gootman** (U.S. Environmental Protection Agency, EPA) DAR Coordinator.

II. Updates on Management Strategies, Management Approaches & Workplans (10:05 – 10:20 AM)

Lead: **DAR Leaders.**

Material: Meeting webpage [here](#).

Kaylyn Gootman: Under the revised [Chesapeake Bay Watershed Agreement](#) and updated [Governance and Management Framework](#) (GMF), the Chesapeake Bay Program (CBP) is establishing a single Strategic Plan. Within this Strategic Plan, each of the four core goals features a dedicated Management Strategy chapter (MS). The primary focus for the Data, Analysis & Reporting Workgroup (DAR WG) is nested within the Clean Water Goal Team (CWGT) chapter. Associated Workplans will align with specific Watershed Agreement Outcomes: Reducing Excess Nitrogen, Phosphorus, and Sediment (RENPS), addressing Toxic and Emerging Contaminants (TEC), and Water Quality Standards Attainment and Monitoring (WQSAM). Although individual WG Workplans will not be published directly inside the overarching CBP Strategic Plan, the DAR WG is tasked with formulating its own distinct DAR Workplan.

Management Strategies and Management Approaches are currently being finalized at the CWGT level prior to submission to the Policy Steering Committee (PSC) for executive review. Directives for drafting WG Workplans will combine prescriptive mandates from CWGT leadership with

bottom-up activity proposals developed by DAR members. DAR leadership will request support from Signatory and At-Large voting members in participating in drafting Workplan sections.

Within the WQSAM outcome chapter, leadership and support roles across six management approaches are organized under four core targets. These targets will be supported by different CWGT WGs and Action Teams (AT). Target 4, to analyze and report status, loads, trends and factors affecting trends for non-tidal and tidal water quality, is where DAR will be operating. Within the Management Approach, this target is broken into three different approaches to: Advance water quality data analysis and analytical methodologies; conducting model-to-monitoring data comparisons; and clearly communicate analytical findings to management and scientific audiences.

DAR may also fulfill secondary support roles for broader Clean Water Goal objectives, including incorporating additional lines of evidence into progress assessments under the nutrient reduction outcome and supporting RENPS Target 3 to demonstrate pollutant load reductions through combined modeling and monitoring data.

Jimmy Webber: The Workgroup's charge encompasses four key objectives: supporting the Clean Water Goal by improving understanding of tidal and non-tidal conditions; advancing analysis, interpretation, and communication of changing water quality conditions; integrating data and analytical insights into management decisions; and fostering inter-agency scientific collaboration. WG activities will be scoped within the Watershed Agreement mandates and CWGT directives.

III. Clean Water Goal Team September Meeting Preview (10:20 – 10:35 AM)

Lead: **DAR Leaders.**

Material: Meeting webpage [here](#).

Kaylyn Gootman: The CWGT is meeting Monday-Tuesday September 28th-29th at the CBP Office in Annapolis, MD. Day 1 focuses on technical decisions regarding the Phase 7 suite of models, including Land Use Change Modeling, the E3 (Everything by Everyone Everywhere Scenario), sector inputs, base year selection, and hydrologic and critical period for establishing planning targets for load reductions. Day 2 addresses Management Strategies and WG workplans, where CWGT will approve the Clean Water Management Strategy for PSC submission, deliver a primer on new WGs and ATs (like DAR), review workplan expectations, and discuss tiered implementation frameworks.

IV. Update to DAR Membership & Timelines (10:35 – 11:15 AM)

Lead: **DAR Leaders, At-Large Member Nominees**

Material: Meeting webpage [here](#).

Kaylyn Gootman: The membership structure under the GMF establishes a maximum ceiling of 15 voting members, comprising of 9 signatory members (at-will terms designated by signatory entities), and 6 At-Large member seats (two-year terms), and general workgroup attendees/interested parties. If a signatory member indicates that they will not participate in the WG/AT, then a seat will become open for an At-Large member. DAR currently has 7 signatory members and therefore can accommodate 8 At-Large members. DAR leaders had sent out a call for nominations for At-Large members and we received 14 nominations. DAR leaders, with input

from signatory members, will finalize selection in early October 2026 and send recommendations to the CWGT Chairs for approval. The final selection will be announced at the [October 28th, 2026 DAR meeting](#).

At today's meeting, all nominees presented themselves and provided a brief discussion on what their contributions to DAR would be if selected. It should be noted that this is not to minimize or prevent participation from any members and attendees. You can read all At-Large nominee bios [here](#).

V. Invited Science Talk: The “sediment shadow” in Chesapeake Bay’s tidal freshwater rivers has important implications for restoration (11:15 AM – 12:00 PM)

Lead: **Greg Noe** (USGS)

Material: Meeting webpage [here](#).

In this presentation, Greg focused on his project identifying spatial and temporal patterns in suspended sediment across tidal rivers. This project was published. The manuscript can be found [here](#). Greg begins by showing the varying suspended sediment concentrations in different tidal and salinity zones. He also reviews the impacts of suspended sediment, the CBP TMDL sediment reduction goal, and the tidal freshwater rivers of the Chesapeake Bay. Based on previous research findings, there are low levels of sedimentation in tidal freshwater wetlands.

The team used the CBP long-term surface tidal and nontidal monitoring data. For the tidal monitoring data, he compared the mean salinity and mean suspended sediment concentration. The turbidity maximum is around 5 psu while the tidal freshwater zone (0-0.5 psu) experienced some lower sedimentation, but also a lot of variability. They wanted to know if this was driven by nontidal inputs. After plotting the mean sediment concentration for the different salinity zones for each tidal river, they found that the nontidal sediment concentration is independent of the tidal freshwater means.

Next, Greg shows plots of the monitoring stations of each river based on suspended sediment from upstream to downstream. In seven of these rivers, they found that the sediment shadow was present where there was a local minima of sediment availability in the tidal freshwater zone. Then, there was a peak of sediment concentration at the oligohaline and then decreasing concentration as flow moves towards the Bay. This is a widespread phenomenon and is observed in the biggest rivers, like the Potomac and James. Other rivers in the Bay observed other patterns, like a flat concentration as you move from nontidal to tidal fresh, then there is a peak flow by decreasing concentration as you move through the salinity zones. Other rivers didn't have enough long-term monitoring to draw conclusions.

Next, Greg showed the same graph but focused on the Patuxent River. This shows an apparent decrease in suspended sediment as it moves from nontidal to tidal fresh. This concentration slowly increases as it approaches the estuarine turbidity maximum (ETM) and then slowly decreases as it approaches the mainstem of the Bay.

Greg and his team worked with Rebecca Murphy at the CBP Office to utilize her generalized additive model (GAM) to analyze the effect of freshwater flow on suspended sediment. He plotted the percent change in total suspended sediments (TSS) and salinity and found that 5 freshwater stations had high variability. After 10 psu for salinity there was a mean of 25%

reduction in TSS. They also plotted the GAM results by monitoring station and tidal river showing the time it took freshwater flow to impact suspended sediment, the direction of correlation, and how strong the correlation is. Greg gave an example of this for the James River.

Based on these findings, they found the sediment shadow patterns on 7 rivers in the Bay, a moderate response in 3 rivers, and little to no patterns in 3 rivers, which is partly due to lack of long-term data. Greg covered some caveats and limitations, like only using surface sampling. He also walked through some other literature and projects on sediment. There used to be higher sediment delivery in the past, going back to the colonial eras. However, in the recent decades, there has been no long-term trend of sediment delivery. Sediment is being deposited in the nontidal and beginning of the tidal freshwater zones causing the observed sediment shadow. The minimal availability of sediment in the tidal freshwater zone could impact response to sea level rise and influence restoration efforts.

Discussion:

Comment from chat: Jimmy Webber: Here is a [short summary](#) of Greg's work, with a link to JA.

VI. Adjourn

(12:00 PM)

Next meeting: October 28th from 10AM-12PM.

Attendance:

Gabriel Duran, CRC
Amanda Shaver, VA DEQ
Renee Karrh, MD DNR
Peter Tango, USGS
Kaylyn Gootman, EPA
Andrew Keppel, MD DNR
Anthony Timpano, VA DEQ
Jamie Shallenberger, SRBC
Helen Smith, Devereux Consulting
Cassia Pianca, VIMS
Qian Zhang, UMCES
Jeff Chanut, USGS
Doug Moyer, USGS
Cassandra Davis, NYS DEC
Dave Parrish, VIMS
Breck Sullivan, USGS
Tom Parham, MD DNR
Rikke Jepsen, ICPRB

Greg Noe, USGS
Tony Buda, USDA
Joe Schell, DNREC
Nick Murray, WV DEP
Becky Monahan, MDE
Durga Ghosh, USGS
Jimmy Webber, USGS
Matthew Stover, MDE
Rebecca Murphy, UMCES
Rachel Owrutsky, DNREC
Ashley Hullinger, PA DEP
Joseph Morina, VA DEQ
Shannon Thomas, CC
Klaus Huebert, MD DNR
Elgin perry, Consultant
Jon Duncan, PSU
Tish Robertson, VA DEQ
Efeturi Oghenekaro, DC DOEE