

James Steven Webber

Associate Coordinator of USGS Chesapeake Bay Studies
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Professional Experience

2024 – Present: Associate Coordinator of USGS Chesapeake Bay Studies

Northeast Regional Director's Office

- ***Develop USGS science activities to support management needs in the Chesapeake Bay watershed.*** Work with the USGS Chesapeake Coordinator to develop annual workplans, budgets, and program-guidance documents that reflect how USGS activities directly align with Department of Interior priorities and support Chesapeake Bay Program science needs.
- ***Coordinate USGS Chesapeake Bay science activities.*** Work with ~100 USGS scientists across ~18 science centers on science activities that deliver management-relevant insights about the goals and outcomes of the revised Watershed Agreement.
- ***Share science insights with Chesapeake Bay Program partners.*** Translate and communicate USGS science to the Chesapeake Bay Program through direct engagement with the Goal Teams and Workgroups. Continue serving as a USGS point of contact for the Clean Water Goal Team and associated Workgroups.

2012 – 2024: USGS Hydrologist

Virginia and West Virginia Water Science Center

- ***Led science activities for the Chesapeake Bay nontidal monitoring network.*** Led a team of USGS scientists working to compute, publish, and analyze water-quality loads and trends from a network of 123 nontidal Chesapeake Bay stations. Led efforts to communicate key insights about water-quality loads and trends to the Chesapeake Bay Program and other partners.
- ***Co-led the development of a Chesapeake Bay agricultural water-quality monitoring network.*** Collaborated with USGS scientists to initiate a new water-quality monitoring effort in small agricultural watersheds throughout the Chesapeake Bay watershed.
- ***Served as project chief of the Chesapeake Bay Showcase Watershed study.*** Led an evaluation of water-quality trends, nutrient and sediment sources, and geochemical conditions in agricultural Chesapeake Bay watersheds with a team of scientists. Led publications summarizing results.
- ***Led the analysis and publication of water-quality trends and drivers in Fairfax County, Virginia.*** Analyzed factors affecting water-quality trends in urban and suburban Chesapeake Bay streams. Led the publication of a USGS report that explained the drivers of water-quality trends, including the effects of stormwater management practices.
- ***Served as member of the USGS Chesapeake Bay Science Team.*** Worked with a team of senior USGS scientists to prioritize and fund Chesapeake Bay science activities.

Education

The Pennsylvania State University

M.S., Forest Resources, 2012

B.S., Environmental Resource Management, 2010

Selected Publications

- Webber, J.S.**, Gootman, K.S., Hyer, K.E., Tango, P.J., and Moyer, D.L., 2025, Using monitoring and partnerships to provide management-relevant information about Chesapeake Bay rivers: U.S. Geological Survey Fact Sheet 2025–3045, 2 p.
- Webber, J.S.**, Chanat, J.G., Clune, J.W., Devereux O.H., Hall, N.C., Sabo, R.D., and Zhang, Q., 2024, Evaluating water-quality trends in agricultural watersheds prioritized for management-practice implementation: *Journal of the American Water Resources Association*, v. 60, no. 2, 304–330 p.
- Webber, J.S.**, Clune, J.W., Soroka, A.M., Hyer, K.E., 2023, Your land, your water—Using research to guide conservation practices on local farms in the Chesapeake Bay watershed: U.S. Geological Survey Fact Sheet 2023–3050, 4 p.
- Miller, S.A., **Webber, J.S.**, Jastram, J.D., Aguilar, M.F., 2023, Using high-frequency monitoring data to quantify city-wide suspended-sediment load and evaluate TMDL goals: *Environmental Monitoring and Assessment*, v. 195, no. 11, 1372 p.
- Webber, J.S.**, Chanat, J.G., Porter, A.J., Jastram J.D., 2023, Evaluating Drivers of Hydrology, Water Quality, and Benthic Macroinvertebrates in Streams of Fairfax County, Virginia, 2007–18: U.S. Geological Survey Scientific Investigations Report 2023–5027, 198 p.
- Hyer, K.E., Phillips, S.W., Ator, S.W., Moyer, D.L., **Webber, J.S.**, Felver, R., Keisman, J.L., McDonnell, L.A., Murphy, R.R., Trentacoste, E.M., Zhang, Q., Dennison, W.C., Swanson, S., Walsh, B., and others, 2021, Nutrient trends and drivers in the Chesapeake Bay Watershed: U.S. Geological Survey Fact Sheet 2020–3069, 4 p.
- Clune, J.W., Capel, P.D., Miller, M.P., Burns, D.A., Sekellick, A.J., Claggett, P.R., Coupe, R.H., Fanelli, R.M., Garcia, A.M., Raffensperger, J.P., Terziotti, S.H., Bhatt, G., Blomquist, J.D., Hopkins, K.G., Keisman J.L., Linker, L.C., Shenk, G.W., Smith, R.A., Soroka, A.M., **Webber, J.S.**, Wolock, D.M., Zhang, Q., 2021, Nitrogen in the Chesapeake Bay watershed - A century of change, 1950–2050: U.S. Geological Survey Circular 1486, 168 p.
- Ator, S.W., Blomquist, J.D., **Webber, J.S.**, and Chanat, J.G., 2020, Factors driving nutrient trends in streams of the Chesapeake Bay watershed: *Journal of Environmental Quality*, v. 49, no. 4, 812–834 p.
- Keisman, J.L., Murphy, R.R., Devereux, O.H., Harcum, J., Karrh, R., Lane, M., Perry, E., Zhang, Q., Wei, Z., **Webber, J.S.**, and Petenbrink, M.N., 2020, Potomac tributary report: A summary of trends in tidal water quality and associated factors: Chesapeake Bay Program Office.
- Noe, G.B., Cashman, M.J., Skalak, K., Gellis, A., Hopkins, K.G., Moyer, D.L., **Webber, J.S.**, Benthem, A., Maloney, K., Brakebill, J., Sekellick, A., Langland, M., Zhang, Q., Shenk, G., and others, 2020, Sediment dynamics and implications for management: state of the science from long-term research in the Chesapeake Bay watershed, USA: *WIREs Water*, v. 7, no. 4, e1454 p.
- Porter, A.J., **Webber, J.S.**, Witt, J.W., and Jastram, J.D., 2020, Spatial and temporal patterns in streamflow, water chemistry, and aquatic macroinvertebrates of selected streams in Fairfax County, Virginia, 2007–18: U.S. Geological Survey Scientific Investigations Report 2020–5061, 106 p.
- Zhang, Q., **Webber, J.S.**, Moyer, D.L., and Chanat, J.G., 2020, An approach for decomposing river water-quality trends into different flow classes: *Science of The Total Environment*, 143562 p.
- Hyer, K.E., Denver, J.M., Langland, M.J., **Webber, J.S.**, Böhlke, J.K., Hively, W.D., and Clune, J.W., 2016, Spatial and Temporal Variation of Stream Chemistry Associated with Contrasting Geology and Land-Use Patterns in the Chesapeake Bay Watershed: Summary of Results from Smith Creek, Virginia; Upper Chester River, Maryland; Conewago Creek, Pennsylvania; and Difficult Run, Virginia, 2010–2013: U.S. Geological Survey Scientific Investigations Report 2016–5093, 211 p.

Amanda Shaver

Virginia DEQ | Water Quality Assessment and Chesapeake Bay Monitoring Supervisor

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Amanda Shaver is an experienced team supervisor with more than 20 years of experience in Virginia's water quality programs at DEQ. She brings a strategic planning mindset and exceptional organizational skills to every project. Amanda is passionate about fostering team collaboration, building strong stakeholder relationships, and driving innovative solutions through active listening and problem-solving.

For the past eight years, she has managed the production of Virginia's biennial 305(b)/303(d) Integrated Report, coordinating a statewide team of 10 staff to assess millions of water quality data points collected over a six-year period and report on designated use status of surface waters. With statutory and regulatory requirements in mind, Amanda ensures Virginia's water quality reporting is accurate and timely as well as meaningful and accessible by the public. Amanda also oversees Virginia's Chesapeake Bay Monitoring Program, which includes tidal and non-tidal monitoring funded through Section 117(e) grant funds. The water quality data produced through these programs are invaluable and ensuring quality and management to be able to use them in decision-making is a top priority of Amanda's. She assists the Criteria Assessment Protocol Action Team leadership and participates in the Bay Oxygen Research Group Action Team, Toxic Contaminants and Integrated Trends workgroups. Amanda also served as an Outcome Lead for Virginia's administration of WQSAM in 2025 and is contributing to developing the WQSAM Management Strategy in 2026.

Amanda holds a Bachelor of Science in Environmental Policy and Planning from Virginia Tech and has recently completed several leadership development programs, including the Public Sector Leader Program through Virginia Tech's Institute for Policy and Governance. Outside of work, Amanda, her husband—a Virginia DEQ aquatic biologist—and their 4-year-old daughter are on a mission to complete Virginia's Trail Quest by visiting every state park. She also enjoys kayaking on the James River and attending live music events.