

POTOMAC RIVER BASIN DRINKING WATER SOURCE PROTECTION PARTNERSHIP

ANNUAL REPORT

2021



A coalition of water utilities and state, interstate, and federal authorities working together to amplify regional source water protection since 2005.



MESSAGE FROM THE CO-CHAIRS

During 2021, as the COVID-19 global pandemic raged on, the Drinking Water Source Protection Partnership (DWSPP) continued our important work to safeguard the Potomac River for our own and future generations—albeit virtually. Effective communications were sometimes hampered without the camaraderie that in-person meetings have fostered over the years. On the flip side, web-based meetings allowed more people from throughout the watershed to participate in our quarterly meetings.

Yet the productivity of DWSPP in 2021 belied the year's challenges. A stormy spring created an uptick in the use of DWSPP's PotomacSpills listserv for incident reporting and tracking. Our members proposed several refinements to improve listserv use and tested some of them in a summer exercise. We also heard how the Susquehanna River Basin Commission handles spill monitoring and response during our August meeting. This year, ICPRB's COOP Section greatly advanced their ability to model flows in the Potomac River, including the ability to model floating contaminants, by constructing a 2-dimensional non-steady flow model for reaches of the river upstream of the

Washington metropolitan area intakes and coupling this model to the National Oceanic and Atmospheric Agency's GNOME oil spill model. Their work, a culmination of years of effort and combining the financial support of many partners, was featured at our November annual meeting. It will improve regional spill response planning as well as more general water supply planning and operations for the Potomac River.

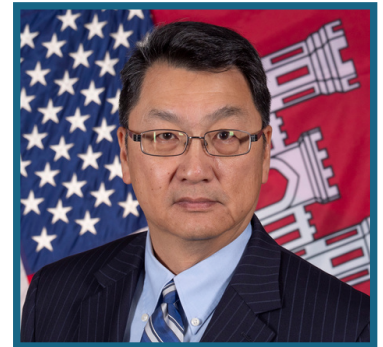
2021 was also a year of escalating public and governmental interest in PFAS, with Maryland, Virginia, and West Virginia all sharing their monitoring programs with DWSPP, and EPA Region 3 sharing a detailed new PFAS sampling SOP with our membership. On the emerging issues frontier, DWSPP held a technical workshop on the topic of microplastics that attracted internationally-recognized speakers and a large audience.

Letters written by our members continue to make a difference in individual discharge permits and in gradually shaping policies that are more protective of drinking water. The land prioritization mapping tool created by ICPRB with the support of DWSPP in 2020 has been circulating in 2021 among government agencies and conservation stakeholders. If you missed this good news, be sure to check out the story map [here](#).

As last year's co-chairs noted, much of DWSPP's work is of a long-term nature that requires the determined effort of many individuals to eventually accrue benefits to the public. As DWSPP turns 17 years old, we are beginning to get a return on the investments of hardworking individual DWSPP members that came before us—improved spill response, regional coordination on daunting contaminants like PFAS and salt, fruitful partnerships in the land conservation arena, vigilance over industrial activities within the Potomac River Basin, and early awareness of emerging threats. It's our job to do right by those who will succeed us.



Greg Busch, Maryland
Department of the Environment



Rudy Chow, Washington Aqueduct



LAND PRIORITIZATION MAPPING PROJECT

In 2020, the Potomac DWSPP developed the Land Prioritization Mapping Tool to assist land conservation organizations in prioritizing specific parcels of land in the Potomac River basin to obtain the most drinking water quality benefits.

How does the tool work?

The project area encompasses the non-tidal Potomac basin above the DC metro drinking water supply intakes, an area of approximately 7.5 million acres. The parcels are ranked from high priority for conservation to low priority for conservation. There are a total of 621 parcels comprising 3,737 acres of high-priority land in the project area.

Within the project area, agricultural and forested lands, as well as riparian areas protected by county ordinance, were considered “opportunity areas” for prioritization. There are seven metrics that were considered in the prioritization process:

- Distance to Waterways
- Distance from Surface Water Intake Weighted by 24-Hour Travel Time
- Distance from Urban Areas
- Karst Transmissivity
- Future Land Use (Year 2025)
- Preserving Existing High-Quality Streams
- Buffer Regulations

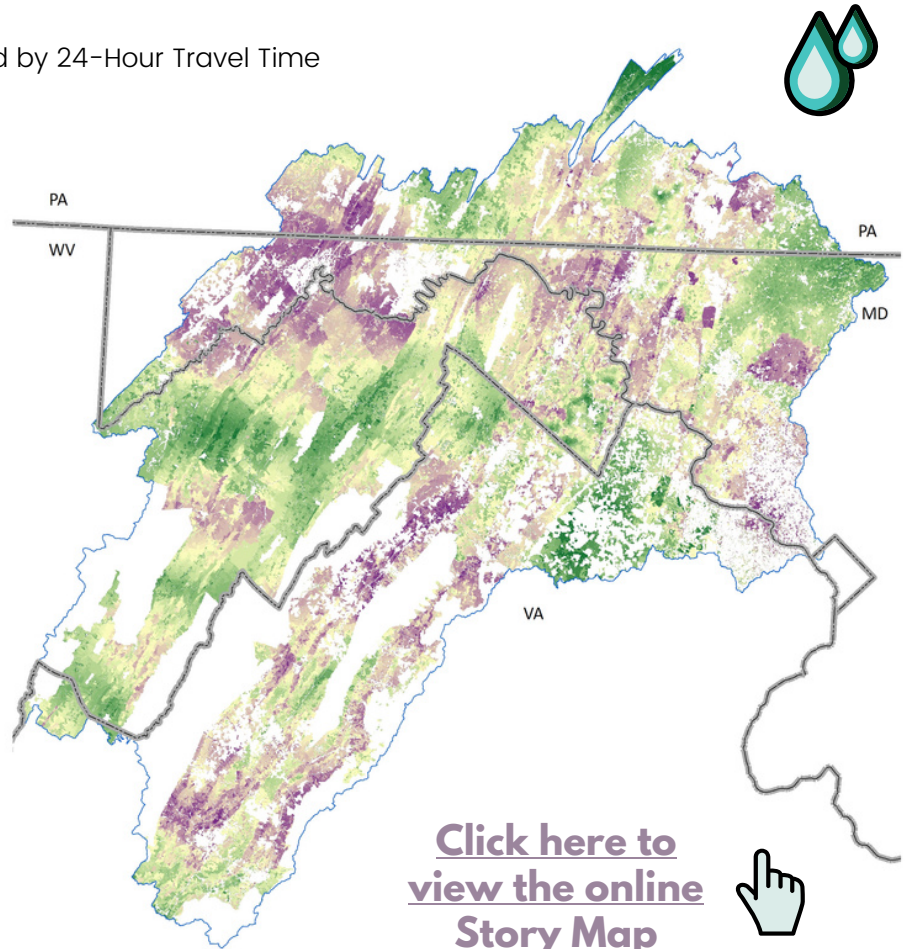
How is the tool being used?

- Sixteen entities have received the data and are utilizing it to make decisions on land protection and management activities
- DWSPP is working with Virginia Land Conservation Foundation (VLCF) and the Natural Resources Conservation Service (NRCS) to assess the opportunity to use the tool for funding priorities.

Thanks to the project sponsors!

U.S. Endowment for Forestry and Communities; Berkeley County Public Service Water District; DC Water; Fairfax Water; Frederick County (MD) Division of Water and Sewer Utilities; Loudoun Water; Town of Leesburg (VA) Department of Utilities; WSSC Water

Which parcels of land in the Potomac River Basin are the most beneficial to drinking water?



**LEARN MORE ON THE
DWSPP WEBSITE!**

CONTAMINANTS OF EMERGING CONCERN



Chair: Martin Chandler,
WSSC Water

- **Unregulated Contaminant Monitoring Rule (UCMR4)** – Quarterly summaries of Potomac River Basin water utility monitoring results were prepared and distributed after each EPA data release. Patterns of contaminant detection (e.g., HAAs, manganese) and non-detection (e.g., cyanotoxins, germanium) were summarized with statistics.
- **Per- and polyfluoroalkyl substances (PFAS)** – A new subcommittee was created to assess various aspects of PFAS occurrence, monitoring, and sources, largely in the Potomac River Basin. This information, along with state and national PFAS issues, including fate and transport, UCMR5, research, legislation, and regulation are being tracked and shared with DWSPP members.

- **Microplastics** – A new subcommittee was formed to investigate drinking water concerns associated with microplastic pollution in the Potomac River. The subcommittee held a [microplastics webinar](#) on October 12, drawing an audience of over 85 people from across the country. The subcommittee will continue to meet and track local and regional efforts, including a planned pilot monitoring study that ICPRB has received funding to conduct in 2022.
- **Endocrine Disrupting Compounds (EDC)** – The workgroup has been tracking EDC issues in the Potomac River Basin intermittently for the past 15 years. At the quarterly meeting in May, DWSPP members heard an EDC-focused research investigation entitled Improving Water Reuse for a Healthier Potomac Watershed.



[Click here to view the microplastics webinar](#)



- **Harmful Algal Blooms (HABs) and Cyanotoxins** – The workgroup tracked HABs in the Potomac River (July) and the Shenandoah River (July–August). No toxins (microcystins) were detected and did not threaten water supply. Results were shared via the PotomacSpills listserv.

URBAN & INDUSTRIAL ISSUES

- Monitored, reviewed, and commented on NPDES facility renewal applications or other discharge issues, including:

- Allegany Ballistics Lab (WV)
- Pactiv Plastics (VA)
- Ft. Detrick (MD)
- WMATA Silver Line (VA)
- Proctor and Gamble / BCPSSD (WV)
- Virginia Water Quality Standards Triennial Review (VA)



Chair: Greg Prelewicz,
Fairfax Water



- Provided support and coordination for WaterSuite with Metropolitan Washington Council of Governments (MWCOG) Water Sector Program
- Focused on salinization issues from winter chemicals
 - Participating in National Science Foundation funded research in the Occoquan watershed
 - Participating in Metro DC regional salinization monitoring and education efforts

WATER QUALITY



Chair: Niffy Saji, Fairfax Water

- Revised the Utility Spill Response Plan
- Tracked resources:
 - Salt monitoring locations
 - Harmful algal bloom (HAB) monitoring locations map
 - Submerged aquatic vegetation (SAV) monitoring locations
- Provided a webinar to educate DWSPP on the Utility Spill Response Plan
- Collaborated with the Early Warning & Emergency Response Workgroup to stage a communications exercise and an Occoquan spill exercise

EARLY WARNING & EMERGENCY RESPONSE

- Cooperated with Water Quality Workgroup to update the Utility Spill Response Plan
- Hosted a communications exercise and an Occoquan spill exercise
- Contacted firms about booming capabilities and interest in presenting to the Partnership
- Updated the monitoring and alarm capability spreadsheet including alarming the toxicity parameter at Fairfax Water
- Worked with the MWCOW Water Security Monitoring Group and USGS on additional sites for sondes (the Point of Rocks location is up and running)



Chair: Joel Thompson,
Fairfax Water



REACHING OUT ...



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Chair: Lisa Ragain, Metropolitan
Washington Council of
Governments

- Created the [2020 Annual Report](#)
- Started the monthly "Members News Drop" newsletter to keep members up to date on DWSPP member and workgroup activities between quarterly meetings
- Created a special newsletter and shared social media posts celebrating the inaugural [National Source Water Protection Week](#)
- Assisted other workgroups with projects, such as promotion for the microplastics webinar

JOIN US!

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PARTNERSHIP@ICPRB.ORG
TO JOIN THE PARTNERSHIP



[Click here to view
Source Water
Protection Week
resources](#)

AGRICULTURAL ISSUES



Chair: Pam Kenel, Loudoun Water

- Collaborated with American Water Works Association (AWWA) to develop a better understanding of Farm Bill funding opportunities for source water protection
- Secured funding from Maryland Natural Resources Conservation Service (NRCS) National Water Quality Initiative (NWQI) to develop a watershed assessment for the Upper, Middle, and Lower Little Pipe Creek watersheds in Frederick and Carroll Counties, MD
- Utilized the Land Prioritization Mapping Tool to refine Virginia NRCS source water priority areas for 2022 funding
- Worked with EPA and NRCS to submit a NWQI proposal to West Virginia NRCS for the Cacapon River watershed



2021 VIDEO LIBRARY



Click the below links to watch videos from various workshops, meetings, and events.

DWSPP Meetings:

- [February 3](#): Virginia Tech's Initiative to Reverse Freshwater Salinization
- [May 5](#): Co-managing CECs and Nutrients for a Healthier Potomac Watershed; PFAS
- [August 4](#): PFAS; Susquehanna River Early Warning System
- [November 3 Annual Meeting](#): Revisiting the 2012 Source Water Protection Vision and Roadmap; Mapping the Potomac with topo-bathymetric lidar

Special Events:

- [Microplastics in the Potomac River Basin: Drinking Water and Source Water Protection Perspectives](#)
- [Land Prioritization Mapping for Protecting Drinking Water Quality Presentation](#)
- [A Celebration of Source Water Protection Week](#)

See these videos and more on the [DWSPP YouTube Channel](#).

Find information on previous meetings on the DWSPP [Past Events](#) page.

ABOUT US

Mission: To serve as a cooperative and voluntary partnership working towards the goal of improved source water protection of the Potomac River in recognition of the vital role of the river in supplying drinking water to millions of people within the Potomac watershed and in support of the multi-barrier approach to safeguarding the drinking water supply for public health.

25 MEMBERS

Government Agencies

- District of Columbia Department of Energy & Environment
- Interstate Commission on the Potomac River Basin
- Maryland Department of the Environment
- Pennsylvania Department of Environmental Protection
- United States Environmental Protection Agency, Region 3
- United States Geological Survey
- Virginia Department of Environmental Quality
- Virginia Department of Health
- West Virginia Department of Health and Human Resources
- West Virginia Department of Environmental Protection

Water Suppliers

- Berkeley County Public Service Water District, WV
- City of Frederick, MD
- City of Hagerstown, MD
- City of Rockville, MD
- Corporation of Harpers Ferry, WV
- DC Water
- Fairfax Water
- Frederick County, MD
- Loudoun Water
- Town of Leesburg, VA
- Town of Romney, WV
- Town of Shepherdstown, WV
- Washington Aqueduct
- Washington County, MD
- WSSC Water

