The Potomac River Basin Drinking Water Source Protection Partnership

Annual Meeting Summary for November 7, 2018
Location: WSSC Consolidated Laboratory, 12245 Tech Rd., Silver Spring, Maryland

Attendees

Utilities

Berkeley County:
Steve DeRidder

City of Rockville:
Judy Ding

DC Water:
John Deignan
Saul Kinter
Bradford Lovett
Maureen Schmelling

Fairfax Water:
Jamie Hedges
Chuck Murray
Scott Powers
Niffy Saji

Frederick Co. DUSWM:
Terri Snyder-Kolovich

Loudoun Water:
Cathy Cogswell
Jessica Edwards-Brandt
Pam Kenel

Washington Aqueduct:
Alexander Gorzalski
Anna Hayden
Thomas Jacobus
Anne Spiesman

WSSC:
Clarence Beverhoudt
Joel Caudill
Martin Chandler
Robin Forte
Nicole Horvath
William Morales-Medina
Jin Shin
Priscilla To
Daniel Yuan

State and Local Agencies

DOEE:
Collin Burrell

Howard County Govt:
Lindsay DeMarzo

MDE:
John Grace
Mahnaz Mazaheri-Assadi
Alex McNamee
Robert Peoples

PA DEP:
Patrick Bowling
Kristina Peacock-Jones

Town of Leesburg:
Russell Chambers

VDH:
Mary Mahoney
Dwayne Roadcap

WV BPH:
Monica Whyte

Federal and Regional Agencies

EPA Region 3:
Beth Garcia
Karrie Crumlish
Cathy Magliocchetti
Rick Rogers

ICPRB:
Renee Bourassa
Carlton Haywood
DeeDee Hunter
Heidi Moltz

MWCOG:
Lisa Ragain

USGS:
Mat Pajerowski

Other:

Hazen & Sawyer:
Erik Rosenfeldt

Welcome, Introductions and Agenda Review

Rick Rogers, EPA Region 3

Welcome to WSSC

Joel Caudill, WSSC

Business Meeting

1. **Year in Review and Proposed Workplan**
   Pam Kenel, Loudoun Water (presentation)

Last year, members started work on the Partnership's Strategic Plan update and came up with five action items. Many of the items have been completed over the past year. The items were:

1. Refresh the workgroups
2. Review the current priority projects and transition those activities
3. Develop a workplan
4. Establish a web-based process for storage and retrieval of workgroup information
5. Edit our governing documents to fill the gap and update as needed.

The workgroups and committees were very busy over the past year. Here are some of the highlights of their work:

Contaminants of Emerging Concern

- Updated workgroup's objectives and name
- Participated in USEPA Region 3 PPCP/CEC workgroup teleconferences
- Tracked regulatory and research on per- and polyfluoroalkyl substances
- Kept the Partnership informed regarding the UCMR4 rollout
- Supported Algae Project Group
    - The Sharepoint Algae Resources page transitioned to Samepage
    - Presentation of Algal Toxin Monitoring under UCMR4 at DWSPP Meeting
    - EPA Nutrients and HAB Technical Workshop

Urban and Industrial Issues

- Deicing/Winter Chemicals
    - Tracking/coordination of participation in VaDEQ Salt Management Strategy
    - Coordinated efforts among water utilities, VDH and ICPRB for workgroup participation
    - Presentation update by DEQ on efforts at May quarterly meeting
- Provided new information/updates into WaterSuite database

Agricultural Issues

- The newly revitalized group is focusing on these main points:
    - Understand where we can make a difference; identify mutually beneficial goals and talking points.
    - Leverage activities of other organizations and programs
    - Identify and collaborate with other standing groups
    - Bring money through funding pathways

Reaching Out

- Expanded workgroup members
- Identify potential DWSPP members and recruit
- A focus on content for other workgroups
- Promotional materials
- Work for 2019 includes:
    - Annual Report
    - Distribute DWSPP invitations to small utilities
    - Promo Postcard
    - Emerging Contaminant FAQs
    - Member assistance as needed

Water Quality

- DWSPP Utility Spill Response Plan
    - The plan is initiated upon spill notification
    - Terminates when the threat has passed
    - The elements of the Plan are interdependent and often pursued simultaneously
    - The Plan was finalized on July 2018 and available on the DWSPP website (bit.ly/spill_response)
    - The Plan was part of the 2018 Potomac River Spill Functional Exercise sponsored by the US EPA (Oct 4, 2018)
    - Review potential updates to the Plan based on feedback from the spill exercise
    - Update spreadsheet containing information on utility specific water quality monitoring
- Webinar Participation: US EPA - Analysis of Online Water Quality Data
- Work for 2019 includes:
    - Update the DWSPP Utility Spill Response Plan
    - Complete update of spreadsheet containing information on utility specific water quality monitoring
    - Sponsor an information session on a water quality issue of interest to the utilities
    - Continue participating in webinars related to water quality

Early Warning & Emergency Response

Held the Regional Spill Exercise on October 4, 2018 at Loudoun Water. Funding and facilitation provided by EPA Region 3.

Utility Committee

- Stakeholders: Advanced the DWSPP discussion on non-member participation
- NPDES permits: Conferred over final permit for GenOn (Dickerson) and follow-up petition filed by GenOn
- Forest Protection:
    - Completed WRF 4651 *Forest Cover Impacts on Drinking Water Utility Treatment Costs in a Large Watershed*, published in 2018
    - Letter of commitment to source water protection submitted to *Journal AWWA*, to be published Jan 2019.
    - Started the conversation on Forest Land Prioritization

Government Committee

- Non-member Participation discussion and finalized with a revision of the Framework document.
- Small Utility Fee Structure was revised to encourage small utilities to join the Partnership.

Partnership

- Started using Samepage.io as a depository of information and a tool for collaboration
- 93 representatives from 27 agencies/organizations participated in DWSPP activities.

2. Financial Report

Carlton Haywood, ICPRB

For 2018, DWSPP received all the fees from its member organizations for a total of $86,411.14. The majority was spent on staff, but also included projects and meetings. The ICPRB contributed $10,512.14 for FY18. The ICPRB commits to covering the costs if revenue exceeds expenses, so their contribution fluctuates from year-to-year.

3. Administration Updates

Renee Bourassa, ICPRB

For 2019, the Partnership Chair is WSSC (Joel Caudill). The Utility Chair is WSSC. The Government Chair is EPA Region 3.

For 2020, the Partnership Chair is Fairfax Water. The Utility Chair is Fairfax Water. The Government Chair is MDE.

4. Overview of the Potomac River Spill Exercise

Cathy Magliocchetti, EPA Region 3 (presentation)

The objectives for the spill exercise were:

1. Utilize multi-agency coordination systems
2. Identify action to maintain public health and safety during a regional water outage
3. Review and identify potential updates to the Potomac DWSPP Utility Response Plan

4. Develop resource management strategies for a regional water outage that lasts several days

An after-action report is expected to come out after Thanksgiving. There were some communication issues among local planning commissions, state OEM's, and EPA. The agencies spent a significant amount of time discussing their own internal response. Ideally, this would have been discussed at the pre-spill exercise, which was cancelled due to weather.

EPA recommends a post-exercise seminar be held to continue to work with the local jurisdictions to better address communications with Incident Command. EPA can assist with planning for the post-exercise if people are interested. Future spill exercises may address recovery and what to do with long-term water outages.

Niffy Saji of Fairfax Water addressed how the Utility Spill Response Plan was used during the spill exercise and what lessons were learned. After the exercise, the utilities offered updates and improvements that could be made to the plan.

- The scenario involved a lot of unknowns, so ICPRB had a delay in running the spill model. It was suggested that there be protocols developed for when ICPRB runs the model and that a deeper understanding of the model was needed.
- Involvement with the ICS structure early in the spill to identify and stop the spill.
- A coordinated effort in sample-taking by utilities would be beneficial.
- It was noted that a more robust compilation of lab capabilities was needed.
- Address the possibility of upstream releases to move the spill and/or dilute it.
- Communications with county and local OEM needs to be added.
- There was very little communication between utilities and the ICS structure.
- During the spill exercise there was no liaison officer available for communications.

Lisa Ragain of MWCOG addressed the issue with the WaterSuite "crash" during the exercise. After a call to Corona, they had it back up in 15 minutes, and then worked fine. She also mentioned that an exercise specifically on communications and messaging would be very helpful. Maybe a mini-exercise for the PIOs would be helpful.

5. **Per- and Polyfluroalkyl Substances**
Rick Rogers, U.S. EPA Region 3 (presentation)

Per- and polyfluroalkyl (PFAS) substances are manmade chemicals used as surfactants. They are stable in the environment, low volatility, mobile in water and soils, and bioaccumulate across trophic levels. Studies have shown that they cause negative health effects in laboratory animals.

They are currently being used in fire-fighting foams, metal plating and finishing, lubricants/surfactants/emulsifiers, photograph development, and aviation fluids, but have been used for a multitude of products in the past. They are still being produced in other countries and

can be imported into the U.S. They are found on manufacturing sites, industrial sites, municipal waste sites, and fire/crash training sites.

They will be evaluated for potential regulation under Regulatory Determinations 4. UCMR3 included six perflourinated compounds. The final data from UCMR3 is available online.

EPA published health advisories (70 ppt) in 2016 based on human epidemiological studies and animal studies. Lifetime health advisories are non-enforceable and non-regulatory. EPA also issued a Significant New Use Rule for the compounds.

Although most people have some form of the chemical in their blood, the average amount has dropped in recent years. Diet, contaminated drinking water, and indoor dust are all sources of the chemicals. One single incident of fighting a fire with foam has resulted in high levels of groundwater contamination for decades.

For public water wupply systems, notification to consumers should include actions that the water system is taking and identify options that consumers may consider to reduce risk. PWSs can close contaminated wells or change rates of blending of water sources or treat source water with activated carbon or high-pressure membrane systems to remove PFOA and PFOS. Certain carbon sources work better than other for treatment. Some Pa. systems are using bituminous coal GAC carbon. Also, ion exchange units seem to work well, last a long time, and have a small footprint.

EPA has four main goals: (1) Creating Toxicity values for GenX and PFBS, (2) Groundwater clean-up goals, (3) Determination on regulating PFOA/PFOS, (4) Develop analytical methods for additional PFAS and for analyzing other media.

6. **Impacts of Anthropogenic EDCS and the Role of Reuse and Conservation on the Quality of the Potomac River**
Erik Rosenfeldt, Hazen & Sawyer

Mr. Rosenfeldt is in year 2 of a 4-year EPA STAR project that focuses on the Potomac River. The project is titled Improving Reuse for a Much Healthier Potomac. They are starting data analysis now. The project should be wrapped up by June 2019.

The project was spurred from several other studies that looked at the skewed ratio of intersex fish in the river. One of these studies compared land use and the prevalence and severity of intersex fish. Ag land use and animal density are significantly related to prevalence and severity of intersex fish.

Mr. Rosenfeldt's study looked at the impact of BMP's on nutrient's and Endocrine Disrupting Chemicals (EDCs). It compared streams with BMP's to a similar stream with no BMP's. They looked at the relative contribution to the load of a variety of parameters: estrogenic activity, estrone, TDN, SRP, and DOC. The majority of the load was from agricultural non-point sources.

They want to evaluate where they are coming from and what we can do about them. Additionally, how does water reuse fit into the picture?

The study took the approach of managing co-pollutants. They tracked spatial variations of "hot-spot" maps of EDCs, biological activity, and nutrients in 31 primary sub-watersheds. They were able to correlate TDN with land use, specifically cropland. There was a little relationship between land use and estrone, a little stronger with bulk estrogenic activity, but the relationship was much stronger when looking at pesticide-use (such as atrazine). It was found that wastewater plants are really efficient at removing estrogen.

There was less impact of both the agricultural and urban BMP's than a previous study. The streams with BMP's had lower nutrients and DOC. BMP sites had lower estrogen. WWTP effluent discharge caused downstream increases in SRP and fluorescence index. Point source discharge sometimes caused downstream increases in pesticides. Planned potable reuse had lower concentrations of phosphorous, DOC, atrazine and metolachlor. This may have had less to do with the impact of the WWTP and more to do with the application differences between the two states where testing occurred. The stream load of estrogen in the indirect potable reuse designed facility is higher than in the "unplanned" potable reuse facilities. Atrazine had similar findings.

Finally, a multi-criteria decision analysis framework will be applied to the project to get a sense of the different management strategies to find out what would be the best return on investment for the different management strategies.

7. **Cattail Creek Stream Restoration at Maple Dell Farm**
   Lindsay DeMarzo, Office of Community Sustainability, Howard County (presentation)

The Howard County Office of Community Sustainability has worked with the Maple Dell Farm to restore the stream on their property. It is a 96-acre dairy farm (200 cattle) that is highly visible to Howard County residents. The 6,200 linear feet stream ran through their pasture land which was mostly flood plain. Previously, the runoff from the barns and pasture would go directly into the stream.

The farm is in a state agricultural perpetual easement. There is now a stream conservation overlay on that easement as part of this project. The farm is about to be the last remaining dairy farm in the county.

WSSC, the county, and other partners funded a 5,500-linear foot natural channel stream restoration. A buffer will be planted on each side and a fence will keep the cattle out of the stream. Several stream crossings have been installed. Water troughs were added throughout the farm since the cattle no longer have access to the stream. Runoff water from the barn roofs will be directed to the wetlands instead of onto the ground.

The partnerships were essential to the success of the project. WSSC was a very important partner in this project. They saw the benefit as the stream flows to the Triadelphia Reservoir. Additionally, there is a wetland a little further downstream that has a threatened wetland species. These new wetlands may provide additional habitat for that species.

WSSC had a full year of pre-project water quality monitoring. They plan to continue monitoring as the stream buffers grow in over the next 5 years. The project provides credit towards the county's MS4 permit.

8. Passing of the Gavel

Rick Rogers of EPA Region 3 "passed the gavel" to Joel Caudill of WSSC who will chair the Partnership for 2019.

9. Open Discussions

Pat Bowling of Pa. DEP asked if the Framework Document has been updated and online. Renee said that it is available on the DWSPP website.

John Deignan of DC Water passed out a brochure and card that will be used for outreach to other utilities. He asked for feedback on the items.

10. Field Trip

The meeting was followed by a field trip to the Maple Dell Farm Stream Restoration Project in Woodbine, Maryland.

Upcoming Events

Meeting Dates for 2019:

- Wednesday, February 6
- Wednesday, May 1
- Wednesday, August 7
- Wednesday, November 6