Potomac River Basin Drinking Water Source Protection Partnership

Annual Meeting Summary for November 15, 2017
Location: MWCOG Offices, 777 North Capitol St NE, Washington, D.C.

Attendees

Utilities

Berkeley Water:
Steve DeRidder
Chris Thiel

City of Rockville:
Judy Ding

DC Water:
John Deignan
Jessica Edwards-Brandt
Saul Kinter

Fairfax Water:
Justin Law
Chuck Murray
Mishelle Noble-Blair
Greg Prelewicz
Niffy Saji
Joel Thompson

Loudoun Water:
Tom Barrack
Pam Kenel

Town of Leesburg:
Russell Chambers

Washington Aqueduct:
Anna Hayden
Tom Jacobus

WSSC:
Martin Chandler
Robin Forte

State and Local Agencies

DOEE:
Collin Burrell
Shah Nawaz
Joshua Rodriguez

MDE:
Saeid Kasraei

PA DEP:
Patrick Bowling
Lisa Daniels

VDH:
Mary Mahoney
Aaron Moses

WV BPH:
Monica Whyte

Other

University of Maryland:
Sujay Kaushal

University of the District of Columbia:
Tolessa Deksissa

Federal and Regional Agencies

EPA Region 3:
Karrie Crumlish
Cathy Magliocchetti
Rick Rogers

ICPRB:
Karin Bencala
Renee Bourassa
Curtis Dalpra
Carlton Haywood
Jim Palmer

MWCOG:
Steve Bieber

USGS:
Mat Pajerowski
Curtis Schreffler

Welcome and Introductions

Lisa Daniels, Pennsylvania Department of Environmental Protection

Welcome to D.C.
Collin Burrell, DOEE

Business Meeting

1. **2017 in Review**
   Martin Chandler, WSSC (Presentation)

   Dr. Chandler covered the major accomplishments of 2017, including a special thanks to those that were involved with the projects.

   A. Update to the 2005 Strategic Plan and 2011 Update.
   - Special thanks to Pam Kenel and Jim Palmer.
   - Main questions raised at the two meetings that were held were the role of priority projects and whether the Workgroups need restructuring.
   - The issues that are still up for discussion are (1) fee structure and (2) participation of outside groups and experts.

   B. Government Committee
   - Outreach was conducted in West Virginia to small drinking water systems. A survey asking for input on water quality and an introduction to DWSPP were part of the meetings. Special thanks to Monica Whyte for her efforts.
   - A Monocacy/Catoctin Spill Response Planning Event with Adams County, Pa. and Maryland's Frederick and Carroll Counties took place. This was a table-top spill response exercise and workshop. Thanks to Pat Bowling, who was supported by MDE and U.S. EPA with the planning.

   C. Utility Committee
   - Comments were coordinated for NPDES permit renewals for Luke Paper Mill and NRG Dickerson. The comments were aligned but submitted separately by the regional utilities.

   D. Priority Projects for 2017
   - Watershed Chemical Contaminants
     - See Mishelle Noble-Blair's presentation on WaterSuite below. Mishelle's effort leading the program is acknowledged.
   - Improve Spill Response
     - A new information sharing portal, Groups.io, was used with success during the oil sheen event in November and subsequent spill events. Other spills included:
       - January: Cement powder spill, Beaver Dam Creek, Md.
       - March: WWTP discharge, Brunswick, Md.
       - August: CSX derailment, Hyndman, Pa.

        - August: oil sheen, Oxon Cove, Md.
        - October: sewage spill, Conococheague Creek
    - A spill exercise was held at NRG Dickerson in October.
    - Special thanks to Carlton Haywood and Steve Bieber who worked on sharing information about these events.
    - To address spills quickly, a Spill Monitoring Plan has been under development. Bimonthly meetings were held through the year. See the presentation for a list of items that are finished and items that are still under development. A special thanks to Niffy Saji of Fairfax Water for her leadership on the plan.
  - Source Protection Related to Toxic and Non-Toxic Algae
    - Algal identification workshops took place in August and September.
    - HAB webinars took place in June and September.
    - There is an upcoming HAB Technical Workshop in December (Contact Cathy Magliocchetti for more information). The third day of the workshop is focused on drinking water.
    - The group is coordinating UCMR4 messaging.
    - Sharepoint has been used as a repository for HAB resources and information.
    - Special thanks to Cathy Magliocchetti for leading this program.

E. Forest Cover and Treatment Cost

A project that looks at the relationship between drinking water treatment costs and upstream forestland. Comments for the draft were requested by November 15. The project should be finalized by January 15, 2018 and be published on the Water Research Foundation's website. An additional pre-proposal is in the works that will take a small-scale look at a WSSC situation. Partners for this project include ICPRB, Fairfax Water, Water Research Foundation, U.S. Endowment for Forestry and Communities, DC Water, WSSC, and Washington Aqueduct. A special thanks to Heidi Moltz of ICPRB and Alex Gorzalski of the Washington Aqueduct for their work on this project.

F. Final Notes on 2017 in Review

At least 75 people from 29 organizations attended the 2017 DWSPP meetings.

2. Update on WaterSuite Tool

Mishelle Noble-Blair, Fairfax Water (Presentation)

WaterSuite is a cloud-based geospatial platform that was developed in the wake of the Elk River spill. The current steering committee consists of staff members from Fairfax Water, Loudoun Water, Washington Aqueduct, WSSC, MWCOG, and ICPRB. Their first meeting was held in September 2017. A volunteer Chair is still needed.

Current WaterSuite subscribers are Fairfax Water, Frederick County, Leesburg, Loudoun Water, Rockville, Washington Aqueduct, and WSSC. A User Group has been created that provides tools and techniques from other users.

Currently, the group is putting the final touches on the Regional Agreement and the Concepts of Operations. These documents will help to guide the group on how to use the tool going forward.

The group is working on collecting Tier 2 data. Tier 2 is chemical storage data for facilities. The data is stored with the Local Emergency Planning Committees on a county-by-county basis. Data from some counties has been collected, but not all counties. MWCOG has been very helpful in data support.

A tailored collaboration with Water Research Foundation explored risk management with WS and a 2-year project with Corona/Tampa Bay Water.

Quarterly steering committee meetings will continue in 2018, as well as training and work sessions, Tier 2 data acquisition and entry and participation in the User Group.

3. Proposed 2018 DWSPP Direction

Pam Kenel, Loudoun Water (Presentation)

There was a meeting in June and August. It was agreed at these meetings that the founding documents have not kept up with the changes since DWSPP was founded 13 years ago. It was also agreed that formalizing the updating process was needed, including a look at the timescales of the different components. It was discussed that the Strategic Plan has a 6-year outlook, Workgroups (WGs) have a 2-year outlook, and the Priority Projects have some sort of conclusion, whether that be a deliverable product or a transition into something else.

A survey was sent out to the core group with 10 questions regarding how many activities (Workgroups, Priority Projects, etc.) can the Partnership sustain. The survey and responses can be found here. Six different workgroups were proposed. The idea was to cover all the priority issues, with more specific issues under the WG umbrella. Priority Projects would be associated with specific Workgroups.

Survey response summary:

- 75% of respondents felt that 6 WGs were sustainable.
- 75% felt the current WGs represented the range of the issues.
- As the group priorities change, the WG definitions should be updated.
- 100% of respondents believe that WGs should be monitoring activities, data and information related to their issue area.
- 76% of respondents believe Government and Utility Committees should serve as umbrellas to specific projects or activities, rather than function as a WG.
- The majority of respondents believe that the partnership can sustain 2-3 projects, with the understanding that there might be overlap as projects are in transition.
- The final product/activity of a Priority Project should depend on the project, but should be wrapped up within 2 years.

Recommendations gleaned from the meetings and survey:

1. Refresh the workgroups – identifying leadership and members; updating scope of issues, as-needed.
2. Review the current priority projects, determine how to transition some activities and assess capacity for new initiatives. This may be another SurveyMonkey poll.
3. Develop and agree on a workplan template for workgroups with a defined 1- or 2-year outlook and a manageable level of activity that may be distinct from priority projects.
4. Establish a (web-based, possibly Sharepoint) process and location for storage and retrieval of workgroup information on-demand.
5. Edit the governing documents to fill the gaps and update as previously identified.

4. Financial Report

Carlton Haywood, ICPRB (Revenue and Expenses)

For 2017, DWSPP received all the fees from its member organizations for a total of $90,789.00. It was spent on projects, meetings, and staff.

For 2018, there is a 5% increase in annual dues from member organizations. ICPRB commits to covering the costs if revenue exceeds expenses, so their contribution fluctuates from year-to-year.

5. Partnership Chair and Annual Meeting Location Rotations

Jim Palmer, ICPRB

Per the rotation schedule, the Utility Chair position goes to WSSC (Joe Mantua, Deputy GM for Operations, is the designee). The Government Committee Chair position goes to EPA Region 3. Karrie Crumlish has volunteered to take that position. The Partnership Chair position goes to EPA Region 3. Rick Rogers has volunteered to take that position.

The location for the 2018 Annual Meeting will be in Maryland. Volunteers are requested to host the meeting.

There were no objections stated from the members for the proposed 2018 meeting dates. The proposed 2018 meeting dates are:

- February 21
- May 16
- August 15
- November 14

The Annual Meeting date was later changed to November 7 to avoid a conflicting event.

6. **Passing of the Gavel**

Lisa Daniels Pa. DEP passed the gavel to Rick Richards of EPA Region 3.

Mr. Richards is excited about his position and looking forward to working with the Partnership. From his organization's perspective, there are two flagship partnerships that are focused on protecting drinking water sources. DWSPP is one of them, Schuylkill Action Network is the other. They are held up as good examples for other EPA Regions to follow. This is a testament to everyone's efforts and inputs. Without the Partnership, the response to incidents like the sheen event earlier this year would have been much different.

7. **HAB Workgroup Subcommittee, Internal Education on Algal Toxin Monitoring**

Cathy Magliocchetti, EPA Region (Presentation)

The group has been successfully using Sharepoint as a platform to gather resources and information on HABs. Information includes recorded webinars, CDC reporting systems, EPA's freshwater HABs system, guidance documents, and more. There is also a calendar for upcoming events, which includes the 3-day workshop on HABs in December 2017. The third day of the workshop focuses on drinking water concerns. Contact Cathy Magliocchetti for an invite to the Sharepoint site.

The Subcommittee on Internal Education on Algal Toxin Monitoring under UCMR4 is underway. The project is working to formulate internal talking points and communication materials for utility-to-utility discussions on UCMR4 algal monitoring requirements that are going to take effect in January. Work products include:

- Draft flow diagram for HAB routine monitoring and observation
- Sample collection procedure/timeline/specifications

The EPA is working on answering additional questions compiled by the subcommittee. An addendum Q&A document should be circulated early 2018.

The subcommittee is looking for synergies with the Emerging Contaminants WG and how that group can use their data collection efforts previously developed under UCMR3 to supplement the data transfer for UCMR4.

A formal presentation will occur at the February DWSPP meeting with more information on the subcommittee and its work.

The subcommittee believes an external communication effort should also be under way. Lisa Ragain of MWCOG has agreed to assist with messaging and materials as part of the Reaching Out WG. Volunteers were requested for this project. Ms. Ragain specifically requested volunteers from communication staff from the utilities, but everyone is welcome.

Lisa Daniels asked about lab capacity for cyanotoxins. Ms. Magliocchetti said that she expects it will be addressed in the materials coming out in February. Ms. Daniels requested that the state organizations reach out to their relevant organizations to check on their lab capacity.

8. Water Quality Trends

Zachary Smith, ICPRB (Presentation)

Mr. Smith presented on the Water Quality Trends app that has been posted on the ICPRB website. It is an online visualization tool to quality assure water quality data, allowing one to quickly evaluate trends using various parameters. The online application creates a convenient avenue for connecting spatial, tabular, and graphical data. Data for this application was collected from Legacy STORET and the Water Quality Portal. This tool was used for the Long-Term Water Quality Trends in EPA Region 3 report by ICPRB.

Heat maps and Loess curves can be created from individual water quality monitoring sites to visualize the data. Additional tools include a list of related publications.

Future steps for ICPRB include additional data sources and potential users. Mr. Smith requested input on how this could be helpful to DWSPP members. Additional data should be submitted in the Water Quality Portal as that is the easiest way to translate the data. However, if there was sufficient interest, Mr. Smith could create an additional app that would be specific to the utility's needs. There would just need to be a standard format for the data.

9. Discussion on Workgroups

Pam Kenel, Loudoun Water

Ms. Kenel led a group discussion on Workgroups that involved 3 of the 6 proposed WGs; discussions will continue as the DWSPP refreshes the workgroups.

A. Contaminants of Emerging Concern Workgroup

The initial question raised was whether the HAB committee should be its own WG, or remain under the Contaminants of Emerging Concern WG. As emerging contaminants are constantly changing, it was noted that keeping it under the WG will allow for more flexibility.

B. Agricultural Workgroup

Although there is much interest in agricultural issues, the DWSPP has had a challenging time keeping the momentum for this WG. Karin Bencala noted that several people have been interested, but it has been difficult to develop a plan or project because there are not many people in the group that have a background in agriculture. To be self-sustaining, the WG needs connections to the Ag community working with us. Perhaps a different approach from previous attempts? A suggestion was made to focus on soil health and how best management practices improve the soil as well as improve water quality. DC

Water has been creating relationships with the agricultural community to sell biosolids. Some of these relationships might prove fruitful or relevant in the future.

It was noted that "nutrients" and "EDC's (endocrine disrupting chemicals)" should be included under this WG's umbrella.

C. Reaching Out Workgroup

Would it be helpful if this WG worked collaboratively with other groups to develop outreach messaging and products? The group has not previously been headed by PIOs from participating organizations; perhaps this is an opportunity to engage the communications professionals in DWSPP member organizations.

10. Hormones, Nutrients and Salts in Drinking Water in the Potomac River

Dr. Sujay Kaushal, University of Maryland (Presentation)

A. Hormones and Nutrients

Dr. Kaushal's work was built on an EPA project that looked at how Best Management Practices can attenuate hormone pollution. Dr. Kaushal looked at endocrine-disrupting hormone (EDC) "hot spots" in the watershed. The first year of the project identified and tracked spatial variations in these hot spots. Researchers sketched out the watershed geochemically, then measured the following water quality parameters: EDCs, nutrients, organic and inorganic carbon, as well as in situ measurements such as water temperature and conductivity.

The higher levels of Total Dissolved Nitrogen were largely found in the middle Potomac where there is a high amount of agricultural activity. There is an increase in nitrogen concentration associated with a higher amount of cropland.

Following the Potomac down to the Chesapeake Bay, there is a lot of denitrification. Looking at the specific nitrogen isotope, there is a natural gradual enrichment of the heavier nitrogen isotope (that does not become a gas). Most of the nitrogen that ends up in the Potomac is taken up before it hits the Bay. There were similar findings for phosphorous. They are linked, suggesting that if you are managing for nitrogen, you are also managing for phosphorous.

However, there were not similar findings for hormones. The concentration of EDC has a poor relationship with nitrogen or phosphorous concentrations. However, when a flow path through BMPs on a smaller scale, you'll see a concurrent decline of nitrogen, phosphorous, and EDCs. More research is needed to figure out what is happening on these smaller scales.

B. Weathering

Salinization is an issue on a continental level in the United States. More than just sodium chloride, it is the cocktail of salts that interact with each other that effect toxicity. Studies

show that 67% of rivers have shown an increase in alkalinity and calcium. This suggest that there is a weathering process occurring. Three things that contribute to this problem:

- Strong acids are being added into the environment (e.g., manure applications, acid rain, etc.)
- Lime and road salts are being added into the environment
- An increase in impervious surfaces that can be broken down by these acids

Salts such as sodium, calcium, and magnesium have increased in water systems since the 1950s. This combination can have a weathering effect on infrastructure, including drinking water pipes. The same elements increase as impervious surfaces increase in the watershed. Impervious surfaces are directly related to water quality.

C. Salinization

Salinization is a global problem due to weathering and road salt applications. Salts and nutrient pollution are linked. When salt is added to soil, the nutrients (nitrogen and phosphorous) are released from the soil, increasing pollution.

There is a declining trend of salts in the southwestern United States where salt concentrations are higher. This is thought to be due to more wastewater instead of agricultural water runoff due to the development in the area. In addition, they have started to implement salt reduction strategies.

More work is needed on tracking sources, transport, and transformation of salts.

At this time, the meeting was adjourned.

Participants were invited to attend a field trip at a District of Columbia salt distribution facility after the meeting.

Field Trip

As road salt is a key issue for the D.C. Metro area, DOEE set up a field trip at the 18,000-ton capacity state-of-the-art road salt distribution Farragut Street, NE facility in the District. An official from DDOT and DOEE was on hand to lead the tour. They use rock salt for deicing (removing ice that's already formed on the streets) and brine, salt solution with beet juice added, for anti-icing (to prevent ice from forming by applying the brine before the snow or ice falls).

The District has created a new anti-icing operations section of its Snow Team for this snow season. It will treat approximately 330 lane miles of National Highway Service Routes; 1,468 lane miles of primary and secondary plow routes; and various known residential hot spots. Additionally, 19 liquid dispensing trucks and 10 new liquid

dispensing club cars with plows and spreaders to clear and treat sidewalks and bike paths, are included under the non-motorized trail operations section.

This year's snow/ice removal program also features:

- 800+ members of the DC Snow Team, including plow drivers, technology experts, mechanics, and quality control, safety, and administrative personnel.
- 447 pieces of snow removal equipment, including municipal plows and NHS light and heavy vehicles as well as leased equipment.
- 42,000 tons of salt, an 8% increase over last year.
- A new, larger capacity salt dome located on South Capitol Street, SE, replacing a smaller dome at Potomac and R Streets, SE.
- 10 new liquid dispensing gators with plows and spreaders to pre-treat streets with a brine/beet juice mixture to retard freezing.
- 12,500 gallons of beet juice and 30,000 tons of brine/hot mix (hot mix is the combination of brine and beet juice that is sprayed).
- A new Automatic Vehicle Locator (AVL) system loaded into all plows – municipal, contractor and rental – to show where the plows have been.