



Potomac River Basin Drinking Water Source Protection Partnership

2010 Workgroup Activity Report Annual Meeting – October 12, 2010

Urban Issues

This workgroup helps the Partnership to better communicate drinking water needs in the Potomac River basin to the agencies who oversee implementation of urban stormwater management and other NPDES programs. The workgroup has made the impact of roadway deicer salts on drinking water sources and the better use of Clean Water Act programs to protect water supply at intakes as priority issues. The goal of this workgroup is to promote implementation of better stormwater management and other management practices to protect drinking water in the Potomac basin. The initial steps include sponsoring workshops on technical issues, furthering dialogue with agencies responsible for NPDES discharges, stormwater, and roadway management, and gathering information on urban land use trends and current stormwater management practices throughout the basin.

Activities Completed in 2010

- Held an informational workshop on “Leveraging Clean Water Act water quality standards for Source Water Protection in the Potomac Basin.” The keynote talk was provided by Tracy Mehan, former EPA Assistant Administrator for Water, on Clean Water Act and Safe Drinking Water Act objectives and regulatory issues. A presentation summarizing Water Research Foundation Project 4007 (Drinking Water Source Protection Through Effective Use of TMDLs) and Project 2944 (Total Maximum Daily Loads and Drinking Water Utilities) was provided. These projects describe specific measures that have been used to include drinking water objectives in TMDLs. The session also featured presentations from the Potomac basin states on water quality standards (WQS) for stream stretches designated as drinking water supplies. The results of this workshop could be used to help members suggest changes to the WQS during the review process undertaken by each state (typically on a triennial basis). **(Achieves 2010 objective)**
- Participated in the Metropolitan Washington Council of Governments Green Highways workshop in November 2009. **(Achieves 2010 objective)**
- Drafted comments for consideration on proposed EPA Airport Deicing Effluent Guidelines regulation for consideration by selected Partnership utilities and agencies. **(Achieves 2010 objective)**
- Drafted comments on proposed legislation requiring the Maryland State Highway Administration and each local jurisdiction that is responsible for highway maintenance in the state to establish and implement a best practices road salt management program.
- Tracked several regional programs and initiatives that may impact urban source water protection efforts in the Potomac Basin, including the Chesapeake Bay TMDL, State Watershed Implementation Plans, and Clean Water Act Reauthorization for the Chesapeake Bay Program. **(Achieves 2010 objective)**

Future Activities

1. Participate in the development of water quality standards criteria for public water supplies in the Potomac basin by meeting directly with State agencies responsible for WQS development and providing input on water quality issues of interest.
 - As necessary, solicit source water quality data from water utilities that can be submitted to the State agencies to facilitate the development of water quality criteria to enhance existing source water protection in the Potomac basin.
2. Continue to advocate for minimizing the impacts from roadway and airport deicing chemicals on sources of drinking water in the Potomac basin.
 - Enhance existing outreach efforts (including presentation materials) to convey the message of drinking water impacts from chemical deicers. Outreach efforts will consist of meeting with three new stakeholders and/or the development of a webinar to educate stakeholders on the impacts of sodium chloride-based deicers on water supply and provide information on alternative chemicals and snow clearing methods.
3. Continue to track several regional programs and initiatives that may impact urban source water protection efforts in the Potomac basin, including the President's Chesapeake Bay Executive Order, Chesapeake Bay TMDL, State Watershed Implementation Plans, and Clean Water Act Reauthorization for the Chesapeake Bay Program.
4. Identify one specific "urban" project among the State Watershed Implementation Plans where the Partnership can get involved with promoting the message of source water protection. Efforts to assist with implementation of the project will be explored.
5. Invite representatives with Maryland Department of the Environment (or other basin state agency) to speak about municipal separate storm sewer (MS4) permit renewals and the conditions that have been incorporated to provide urban stream protection, including road salt management.

Reaching Out

This workgroup provides the Partnership with a mechanism to transfer information on Partnership activities and a way to assist in growing the Partnership by developing a marketing strategy to reach out to others in the watershed. The workgroup works to create alliances with other stakeholders in developing a plan to increase communications throughout the Potomac River basin.

Activities Completed in 2010

- Assisted the Ag Issues workgroup with finding appropriate photos for the *Manure du Jour* webinar session.
- Served as a resource for reporters on the impacts of road salt and deicing chemicals on source waters during this year's large snow events.
- Monitored MWCOG water quality blogging initiative.
- Provided feedback to EPA Region 3 on blog posts for their blog "Healthy Waters for EPA's Mid-Atlantic Region."
- Maintained the Partnership's website.
- Presented to and held meetings with outside organizations interested in the Partnership's efforts, including at presentations ICPRB made to several international delegations.

- Assisted with the preparation and distribution of the 2009 Annual Report.
- Worked with the Utility and Government Committee chairpersons and ICPRB to organize the annual meeting.
- Began drafting 2010 annual report.

Future Activities

1. Discuss recruitment of new members, especially smaller, upstream systems and/or groundwater systems.
2. Coordinate with various Partnership workgroups to design informational webpages on specific topics of interest.
3. Continue to pursue contact with other federal agencies having mutual interests in the Potomac watershed.
4. Continue to update the website and increase the use of our logo as a branding tool.
5. Continue to promote DWSPP during ICPRB water resources outreach efforts.

Disinfectant By-product Precursors

Natural organic matter in source water can be transformed into disinfection by-products (DBP), such as trihalomethanes, as a result of water treatment processes. Incorporating source water protection measures to address the DBP problem is a crucial component of the multiple-barrier approach and may be more efficient than simply addressing the issue on a system-by-system basis. Most efforts at controlling disinfection by-product formation (DBPF) have focused on activities at the treatment plant and in the distribution system. One area of drinking water system management that has not been widely discussed in the context of DBPF is controlling the precursor types and level via source water protection measures. The DBP Precursors workgroup was formed to pursue research ideas related to this area.

Activities Completed in 2010

The workgroup continues to track Water Research Foundation projects that are investigating the significance of land and water based disinfection-by-product (DBPs) precursors for controlling DBPs in drinking water. Two water utilities came up with considerable funding to support Water Research Foundation studies in their watersheds. The first project, being conducted by the University of Colorado and the City of Fort Collins (CO), aims to characterize the source of organic matter that contributes to DBP formation, primarily focusing on the land based sources of DBP precursors. Another group, led by U.S. Geological Survey, focuses on investigating water-based organics, as well as developing techniques to rapidly identify the characteristics of organic matter in a reservoir to better control DBPs. The WSSC is participating in both projects in an advisory role. Per our recommendation, the two teams have included treatability studies in their scope of work, with the goal of steering them to produce practical tools for DBP control. The total budget for these two projects is \$653,490, with \$230,000 provided by the Water Research Foundation and the remaining \$423,490 by those who proposed the projects. The projects are anticipated to be completed by 2012.

Future Activities

The DBP workgroup will continue to be involved in and monitor the progress and finding of these two projects in order to assess their applicability to our region and to determine if any additional projects may be needed for the Partnership.

Emerging Contaminants

The role of this workgroup is to support the Partnership by tracking and reporting on both research and monitoring efforts of persistent and newly identified threats posed to the Potomac River drinking water supply. An initial focus of the workgroup is on endocrine disrupting chemical (EDCs). The workgroup's short-term goals include defining and prioritizing EDCs based on a review of current knowledge and consultation with experts, assessing potential sources for the priority EDCs in the Potomac River, and identifying appropriate best management practices for their control. The workgroup's long-term goal is to enhance, through monitoring ongoing research, the Partnership's and local stakeholders' understanding of EDC sources, distribution, possible human and ecological health effects, treatability, and the management practices to limit their proliferation in the environment.

Activities Completed in 2010

- Tracked chemical regulation initiatives. **(Achieves 2010 objective)**
 - The Safe Chemicals Act of 2010 was introduced by Senator Lautenberg of New Jersey. The workgroup drafted a letter supporting the intent of the legislation but did not submit it after consulting the several national associations who advised the group to wait until it appeared likely to be voted on.
- Worked with the Government Committee and EPA Region 3 and Headquarters to support several of the participating locations in the Drug Enforcement Administration's National Take-Back Day on September 25, 2010. **(Achieves 2010 objective)**
- Workgroup members continued to participate in the Water Research Foundation project 4169, Water Utility Framework for Responding to Emerging Contaminant Issues. The project team completed an extensive literature review this year and a framework for how utilities could address emerging contaminants was drafted but did not fit the intent of the project. Thus, the consultants have a new team revising the framework. The workshop that was to be held this summer has been postponed. The hope is that the Potomac region will still be used as a case study once the framework is complete. **(Achieves 2010 objective)**
- Sponsored a EPA "listening session" on the EPA's new strategy for protecting public health as it relates to drinking water (<http://www.epa.gov/safewater/sdwa/dwstrategy.html>) on August 16, 2010, at the Metropolitan Washington Council of Governments. Presentations from the EPA Office of Ground Water and Drinking Water and Office of Research and Development were followed by an open forum for feedback from audience participants. The session focused on two elements of the proposed strategy – "address contaminants as groups rather than one at a time so that enhancement of drinking water protection can be achieved cost-effectively" and "foster development of new drinking water technologies to address health risks posed by a broad array of contaminants."
- Periodically updated the Partnership website with upcoming conferences, symposia, seminars, workshops, and webcasts.
- The workgroup continued to track information on various federal and state legislative efforts related to safe drug disposal and emerging contaminant research.

- A workgroup member attended the House Subcommittee on Energy and the Environment hearing entitled, "Endocrine Disrupting Chemicals in Drinking Water: Risks to Human Health and the Environment," on February 25, 2010, and reported that the panel members pushed for regulating these chemicals and enhancing water treatment to remove them from drinking water.
- A workgroup member attended a meeting for Water Resource Foundation project 4261 "Building a National Utility Network to Address EDC/PPCP Issues" workshop held in conjunction with the June American Water Works Annual Conference and Exposition in Chicago.
- Washington Aqueduct has made significant progress in its major study to prioritize anticipated future drinking water quality challenges. Using a process that is informed by an expert panel and community stakeholders, Washington Aqueduct is considering contaminants of emerging concern as well as pathogens, disinfection byproducts, and other contaminants that might pose health or aesthetic concerns. Ultimately, the project will identify the most promising treatment and/or non-treatment strategies to pursue.
- Three workgroup members attended the PA Water Symposium on May 5 and 6, which included oral presentations and posters on the occurrence of emerging contaminants and innovative treatment.
- Some workgroup members tracked issues related to the composition of water used in the hydraulic fracturing of the Marcellus Shale to stimulate gas production based on concerns over the volume of water that could be discharged after use and reports that some of the additives might have endocrine disrupting potential.

Future Activities

2011 priorities appear in **BOLD**.

Pharmaceutical Disposal and Waste

1. **Determine the location of pharmaceutical manufacturing facilities within the basin as they have recently been identified as major sources of pharmaceuticals in the wastestreams sent to sewage treatment plants. Develop a map of these locations. Consider contacting and/or meeting with the manufacturers to discuss possible source water protection efforts.**
2. Coordinate with the Reaching Out workgroup and the Government Committee on safe medicine disposal outreach and/or promoting national and regional take-back events.
3. Track significant legislative efforts related to safe drug disposal for applicability within jurisdictions within the Potomac River basin.

Emerging Contaminant-Related Regulation

4. **Monitor the development of EPA's proposed Drinking Water Strategy especially the items on regulating contaminants as groups and innovative technologies to address health risks from a broad suite of chemicals.**
5. **Track new efforts by the federal government to transform the way that industrial chemicals are regulated (Safe Chemicals Act) with the goal of drafting a statement or white paper in coordination with national organizations.**

Water Research Foundation Projects

6. **Continue participation in the ongoing Water Research Foundation research project #4169, Water Utility Framework for Responding to Emerging Contaminant Issues, to ensure the project provides a valuable tool for water utilities and the Potomac Partnership.**
7. Participate in Water Research Foundation project #4261 "Building a National Utility Network to Address EDC/PPCP Issues".
8. Track Water Research Foundation projects related to emerging contaminants and, when needed, propose in-kind or cash support to facilitate them.

Emerging Contaminant Research

9. Continue tracking research on emerging contaminants by reviewing academic, industry, and government publications and reports; and by attending conferences, seminars, symposia, workshops, and webinars.
10. Track, support, and participate in emerging contaminant monitoring programs that may be undertaken by government agencies or utilities, if of value to the Partnership.

Communications

11. Support the Reaching Out workgroup in its efforts to update the Partnership's website and to develop public communications tools for responding to emerging contaminant issues.
12. Periodically update and post the list of upcoming conferences, webinars etc. on the Partnership website.

Agricultural Issues

The Agricultural Issues (Ag) workgroup was formed to take an active role in building alliances with the agricultural community in order to minimize water pollution, particularly *Cryptosporidium*, in the region's sources of drinking water. The Pathogens workgroup identified *Cryptosporidium* as the most significant pathogenic public health threat to water suppliers. Since the completion of the *Cryptosporidium* Source Tracking Project in 2008, which identified the sources of *Cryptosporidium* in the basin, the Pathogen and Ag workgroups have joined together to develop an educational outreach program to raise awareness of the links between agriculture, *Cryptosporidium*, and drinking water.

The Ag workgroup is planning to reach out to the United States Department of Agriculture (USDA) Natural Resource Conservation Service, local soil and water conservation districts, USDA Farm Service Agency, and USDA Cooperative State Research, Education and Extension Service. The Ag workgroup will benefit from these agencies in terms of their established relationships with the agricultural community, technical and educational expertise, and knowledge of, and access to, federal and state programs that aid in the implementation of best management practices (BMP).

Activities Completed in 2010

- **Presented to and received feedback from the Maryland State Technical Committee (STAC)**
In November 2009, Ag Issues Workgroup members presented to the Maryland STAC on the Partnership's work and efforts related to reducing the risk of *Cryptosporidium* entering our source waters. Ag Issues workgroup members also requested and received feedback on the *Cryptosporidium* message developed and asked for advice on how to engage the agriculture community in the issue of *Cryptosporidium* and drinking water. **(Achieves 2010 objective)**

- **Engaged local and national experts and formed an advisory committee**
After talking with many agricultural researchers and technicians, there were several clear recommendations: work with the conservation districts, local extension specialists, and veterinarians; form an advisory committee; and make the message less technical and add more information on herd health. The Ag Issues Workgroup decided that each of these goals would be much more achievable with the help of an advisory committee comprised of a number of individuals with expertise in various areas, from veterinarian researchers to extension agents. A current list of the Ag Issues Advisory Committee members can be found on the Potomac DWSPP's website.
- **Education and information-gathering webinar on *Cryptosporidium*, Cattle and Drinking Water**
The Ag Issues workgroup, with input from the Ag Advisory Committee, organized a webinar entitled, "*Cryptosporidium*, Cattle & Drinking Water: Critical linkages between best management practices (BMPs) and safe drinking water." This ran live on July 22 as part of the Penn State University Agriculture and Environment Center's *Manure du Jour* webinar series. The purpose was to provide information on the link between *Cryptosporidium* and drinking water and to gather information from participants on the best way to present this information to other audiences. The webinar will be archived at the Penn State webinar library (www.aec.cas.psu.edu) where participants can continue to view the slides and complete the survey questions. **(Achieves 2010 objective)**

Future Activities

1. Review feedback from *Manure du Jour* webinar participants on *Cryptosporidium* message and outreach approach.
2. Develop draft outreach strategy for Ag Issues workgroup.
3. Coordinate with the Ag Advisory Committee to finalize the workgroup's outreach strategy.
4. Look for outreach opportunities at existing workshops and ag events in the basin.
5. Coordinate with ag agencies to conduct on-farm audits.
6. Identify common issue areas with the Emerging Contaminants workgroup where efforts could have synergistic benefits.

Pathogens

The Pathogens workgroup was formed to provide the Partnership with information on the sources of pathogens that may affect the raw water supplied by the Potomac River and its tributaries. The workgroup has identified Cryptosporidium as the most significant pathogenic public health threat to water suppliers. In 2006, the DWSPP was awarded a grant by the EPA Regional Applied Research Effort (RARE) to conduct a Cryptosporidium monitoring and source tracking project in cooperation with the EPA Office of Research and Development and the Centers for Disease Control and Prevention.

Activities Completed in 2010

The Pathogens workgroup is supporting the Ag Issues workgroup to address *Cryptosporidium* as necessary, but is otherwise not currently active. This year the workgroup provided comments on the webinar presentation "*Cryptosporidium*, Cattle & Drinking Water: Critical linkages between best management practices (BMPs) and safe drinking water." Led by the Ag Issues workgroup and participated in conversations on the development of an outreach strategy.

Future Activities

Continue to assist the Ag workgroup and others as needed.

Early Warning and Emergency Response

Early warning systems can potentially detect contamination events before they reach water supply intakes. This workgroup was formed to monitor ongoing work in this field, to propose specific projects to benefit water suppliers in the Potomac basin, and to ensure that an emergency response plan is in place.

Activities Completed in 2010

- At the 2010 annual meeting the capabilities of the Water/Wastewater Agency Response Network (WARN) and its interaction with the Regional Incident Communication and Coordination System (RICCS) were demonstrated and an update of the early warning monitoring system on the Potomac was provided by MWCOG staff. **(Achieves 2010 objective)**
- The After Action Report from the 2008 spill exercise was reviewed and utilities provided progress updates on items specific to them.
- The workgroup chair met with Metropolitan Washington Council of Governments (MWCOG) staff to learn more about the WARN system that is being developed for the Nation Capital Region (NCR). The NCR WARN website has the ability to exchange messages among members during an event via a password-protected portal. All of the messages are time and date stamped making it easier to prepare an after action report. Several enhancements were made to the system to allow for the possibility of the tool to be tailored to the needs of Partnership members and upstream utilities.
- The possibility for holding another hazardous spill response exercise to build off of the lessons learned from the 2008 exercise was discussed with the EPA, which has funds available for this.
- Communication procedures between the RICCS system and ICPRB staff responsible for running time-of-travel models were reviewed and tested.
- The factsheet, Interstate Notification & Time-of-Travel Estimates for Spills in the Potomac River Basin, was updated with current contact information for regional response personnel. This information was posted to the DWSPP and ICPRB websites and distributed at the annual meeting.

Future Activities

1. Establish an annual review process between the Partnership and Colonial Pipeline to ensure that the best source water protection measures are in place and that Colonial Pipeline is aware of and acting on the Partnership's drinking water concerns.
2. Test communication procedures between ICPRB, RICCS, and WARN systems. Provide support to agencies not familiar with the tools.
3. Review and work to resolve communication gaps that were brought up in the 2008 exercise or that continue to be an outstanding issue.
4. Develop a plan for holding another spill exercise with the EPA, including goals, participants, and a timeline.
5. Complete annual update of the factsheet, Interstate Notification & Time-of-Travel Estimates for Spills in the Potomac River Basin.