



Potomac River Basin
Drinking Water Source Protection Partnership
2011 Annual Meeting Summary
October 4, 2011
University of Maryland, College Park

Attendees

Utilities

City of Rockville:

Judy Ding

DC Water:

Sarah Neiderer

Fairfax Water:

Melissa Billman

Chuck Murray

Greg Prelewicz

Niffy Saji

Loudoun Water:

Tom Bonacquisti

Tom Broderick

Town of Leesburg, Va.:

Russell Chambers

Aref Etemadi

Washington Aqueduct:

Tom Jacobus

Shabir Choudhary

Anne Spiesman

Washington County, Md.:

Julie Pippel

WSSC:

Martin Chandler

Mohammad Habibian

State and Local Government

DC Department of the Environment:

Shah Nawaz

MD Department of the Environment:

Saeid Kasraei

Lyn Poorman

PA Department of Environmental Protection:

Pat Bowling

VA Department of Health:

Wes Kleene

WV Department of Health and Human Resources:

Walt Ivey

Bill Toomey

Federal and Regional Agencies

EPA Region 3:

Bill Arguto

Vicky Binetti

Cathy Libertz

Ellen Schmitt

EPA HQ:

Matt Ampleman

Marjorie Copeland

Amy Posner

John Whitler

ICPRB:

Sarah Ahmed

Karin Bencala

Carlton Haywood

Joe Hoffman

Cherie Schultz

MWCOG:

Christine Howard

University of Maryland:

Sujay Kaushal

Raghu Murtugudde

USGS:

Cherie Miller (MD-DE-DC)

Curtis Schreffler (PA)

Strategic Plan Update Approval

An updated version of the strategic plan was approved. Over the past year, each workgroup reviewed its initial mandate as written in the Partnership's 2006 strategic plan. Changes were suggested and discussed at meetings throughout the year. The revised workgroup plans follow the meeting summary.

2011 Workgroup Activities and 2012 Priorities

Carlton Haywood, chair of the Early Warning and Emergency Response workgroup, summarized the Partnership's efforts in 2011 and plans for the coming year. A full report can be found in the 2011 Workgroup Activity and 2012 Priorities report that follows the meeting summary.

Following the review of activities an open discussion was held to discuss future activities and new issues for consideration. The main topics discussed were outreach and education efforts related to road salts this winter, the desire to partner with organizations working on the same issues and those funding pertinent research, and how to address potential hydrofracking and uranium mining in the basin.

Outreach and education on environmentally sensitive deicing

Fairfax Water's Chuck Murray (incoming Utility Committee chair) suggested that the Partnership write another letter to the editor on the impacts of roadway deicers on sources of drinking water. He also suggested that we reach out to state and local transportation departments and work with them to craft a balanced message between roadway safety and water quality protection. EPA Region 3's Vicky Binetti suggested the letter contain data from the utilities on observed water quality changes. Cherie Miller (USGS) noted that conductivity measurements on small streams show high levels persisting through the summer. She offered to compile the data on this for a letter.

Anne Spiesman (Washington Aqueduct), Shabir Choudary (Washington Aqueduct), and Marjorie Copeland (EPA HQ) each suggested engaging environmental groups, such as the Potomac Conservancy, and/or other media outlets, specifically local radio stations. Tom Jacobus (Washington Aqueduct) offered to reach out to WTOP to pitch the topic, but he would like to talk with DC's transportation department and DC Water before doing so. Pennsylvania DEP's Pat Bowling suggested that local papers throughout the basin be targeted for placing a letter to the editor.

MDE's Saeid Kasraei provided an update on the effort in Maryland to regulate road salt application. MDE is talking with the Department of Transportation and has submitted comments on the issue. More discussions are expected. MDE will keep the Partnership updated on the progress.

Judy Ding (City of Rockville) noted that the city is trying out beet juice as an alternative to road salts. She also said that they get many calls from area residents who complain when their streets are not cleared of snow.

Loudoun Water's Tom Bonacquisti said that they are advocating the use of beet and molasses as alternatives, but he is wondering about unintended consequences of these options, specifically in terms of contributing additional organics into the water.

Greg Prelewicz (Fairfax Water) reported that the Urban Issues workgroup is looking to engage in a national dialogue on the issue, as it is a common concern in many places across the country. An emphasis for the workgroup will be on supporting the development of a certification program for those

applying deicing materials. The workgroup is also planning to hold a webinar on the topic this year geared toward state and local transportation departments.

M. Copeland provided the following link to an EPA brief on deicing best practices:
http://www.epa.gov/safewater/sourcewater/pubs/fs_swpp_deicinghighway.pdf

Government Committee outgoing chair Wes Kleene (Virginia Department of Health) stressed the importance of building relationships and gaining the support of state and local transportation agencies before speaking out on the issue. Many of these agencies may be working toward the same goal and we should be careful not to undermine their efforts. He suggested sending letters and supporting data to the state transportation commissioners.

Engage partners on issues of common concern

Outgoing Metro Utility Committee acting chair Mohammad Habibian (WSSC) praised the work done by members of the Partnership so far, but felt that the efforts mostly have focused on internal aspects that are under direct control of the members. He would like to see the Partnership become more involved and outspoken on external issues that impact source waters, including upstream discharges, legislative and regulatory issues, and related research. As an example, the Partnership could allocate some seed money to take advantage of the collaborative program of the WaterRF or to develop a conservation plan for a farm as a case study in support of obtaining grant funding for its implementation.

A. Spiesman agreed with this idea and added that contributing funds to a project would grant us more control over project design and products. She mentioned a new WaterRF program that allows for more flexibility and tailored collaboration. C. Murray concurred with this but asked if we knew what we would actually want to research.

W. Kleene suggested that this might be something for an ad hoc group to look into. Alternatively, someone could track the various research projects and potential funding sources. Collaborating with the EPA or universities might be a way to become involved with research projects in a cost effective manner. ICPRB's Joe Hoffman mentioned that the University of the District of Columbia's Water Resources Research Institute just issued a solicitation for projects. For more information, visit:
http://www.udc.edu/wrri_new/docs/DCWRRRI_Request_for_FY2012_Proposals.pdf.

C. Murray and W. Kleene both would like to have WaterRF and/or similar organizations come to a Partnership meeting to discuss recent research efforts.

Uranium mining and hydrofracking

C. Murray raised uranium mining as a potential issue that the Partnership should address. He wanted to know if this could be a Partnership issue even though it may only impact the Occoquan watershed (although a map of deposits in Virginia (see link below) does show some other limited areas within the Potomac Basin). P. Bowling thinks that there may be some uranium deposits in Pennsylvania but they are not currently being mined. The other state representatives did not know of any uranium deposits in their states. This is a hot topic in the Virginia General Assembly and Fairfax Water is likely to weigh in on the issue.

V. Binetti asked Fairfax Water to circulate the map they have depicting the locations of uranium deposits in the state. More information can be found here: <http://www.pecva.org/anx/ass/library/19/potential-uranium-in-va.pdf>. She does not think that the EPA regulates it, but wants to double check. She

suggested that the EPA may be able to provide guidance and assistance in identifying better methods of uranium mining.

C. Murray mentioned that the National Research Council is conducting a study on uranium mining in Virginia. It is expected to be released in December 2011. More information can be found here: <http://www8.nationalacademies.org/cp/projectview.aspx?key=49253>. A study conducted by Virginia Beach on potential impacts to water supply from nearby uranium mining is available here: <http://www.vbgov.com/government/departments/public-utilities/pages/uranium-mining.aspx>.

T. Jacobus asked if there was an effort within the Partnership to come to a consensus position on hydrofracking. Members discussed what the issues could be for consensus and whether or not it was an issue in the basin. A number of members have been tracking the issues for the Partnership and reporting back at quarterly meetings. At this point, the sense is that because there are limited amounts of Marcellus shale in the basin and none of it is being extracted at this time, it is not a priority, though we should remain educated on the issue and continue to track research and legislation.

G. Prelewicz reported that some of the Partnership's utilities, including Fairfax Water, are individually planning to comment on the George Washington National Forest draft management plan and draft environmental impact statement. One consideration in these documents is whether or not, and to what extent, to allow horizontal drilling in the forest. Comments are due on October 17. Washington Aqueduct abstained from commenting because USACE is legally involved in land leases for oil and gas exploration and mining.

C. Miller suggested that we bring in experts on the issue to our quarterly meetings for updates to make sure we stay up to date. She also suggested getting quarterly updates from MDE on efforts to regulate hydrofracking.

V. Binetti and C. Murray both identified the ability to handle and contain wastestreams from both uranium mining and hydrofracking as the key issue to be concerned with. The need to plan for the worst case scenario was stressed by V. Binetti.

Participants generally agreed that experts should be identified on both issues and brought in to brief the Partnership.

Announcements

T. Jacobus mentioned that the Environmental Assessment report on the Fairlawn Hydroelectric application to build a generating facility at Jennings Randolph dam was released on October 3. The document can be accessed here: http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20111003-3022. The comment period runs for 30 days from October 3.

M. Copeland distributed a flyer on proper disposal of unwanted or unused pharmaceuticals. The next Drug Enforcement Administration national take back day is on October 29.

J. Hoffman is planning to retire from ICPRB in March 2012.

Financial Update

An update of revenue and expenses as of August 31, 2011 was provided by J. Hoffman. The handout with this information follows the meeting summary.

Hoffman also mentioned that Virginia and the District of Columbia have not included contributions to ICPRB in their budgets for the next couple of years. Additionally, Virginia is looking to withdraw from the compact.

Passing of the Gavel

2011 Government Committee Chair Wes Kleene passed the gavel to Fairfax Water's Chuck Murray as incoming chair of the Metro Utility Committee. The Government Committee will now be chaired by West Virginia Department of Health and Human Resources. Many thanks to both Virginia and WSSC for leading the committees for the past two years!

Committee chair rotation – past and future. **Bold** indicates Partnership chair position.

Year	Metro Utility Committee Chair	Government Committee Chair
2005	WSSC – Mohammad Habibian	ICPRB – Julie Kiang
2006	Fairfax Water – Chuck Murray	EPA – Jon Capacasa
2007	Washington Aqueduct – Tom Jacobus	EPA – Jon Capacasa
2008	Washington Aqueduct – Tom Jacobus	MDE – Bob Summers
2009	Washington Aqueduct – Tom Jacobus	MDE – Bob Summers
2010	WSSC – Teresa Daniell	VADEQ – Scott Kudlas/Jason Erikson
2011	WSSC – Mohammad Habibian	VDH – Wes Kleene
2012	Fairfax Water – Chuck Murray	West Virginia – Walt Ivey/Bill Toomey
2013	Fairfax Water – Chuck Murray	West Virginia – Walt Ivey/Bill Toomey
2014		<i>District of Columbia</i>
2016		<i>Pennsylvania</i>

Other Business

J. Hoffman informed the participants that the Commonwealth of Virginia is working on a plan to withdraw from the ICPRB compact. Virginia is one of the original signatories of the compact. Upon inquiry from participants regarding the withdrawal procedure, Hoffman elaborated on the process.

C. Murray suggested that the Partnership send a letter in support of ICPRB to Virginia's governor. Many participants asked why Virginia was looking to withdraw from the compact and how it would affect ICPRB and regional water supply agreements. Answers to both these questions are unclear at this time. ICPRB and other organizations have sent comments and/or inquiries to Virginia to this effect.

The Utility Committee will draft a letter and circulate it to other members for review and signatures. The Partnership's government members said that they could not sign a support letter given states' rights issues.

W. Kleene abstained from discussion and motions on the issue.

Information Session – Regional Climate Change Impact on Water Utilities

An information session focused on climate change was held following the business meeting. The presentations and additional information are available on the [Partnership's website](#).

Presentations:

- Land Use, Climate Change, and Contaminants in Streams: Implications for Drinking Water
Sujay Kaushal, Earth System Science Interdisciplinary Center, University of Maryland
- Predictive Tools and Observations for Sustainable Resource Management for the Chesapeake Bay
Raghu Murtugudde, Earth System Science Interdisciplinary Center, University of Maryland
- Adaptation Strategies for Water Utilities
John Whitley, Amy Posner, and Matt Ampleman, Water Security Division, U.S. Environmental Protection Agency

Strategic Plan 2011 Update

Potomac River Basin Drinking Water Source Protection Partnership

Reaching Out

The Reaching Out workgroup (ROW) informs and educates the public and water professionals about DWSPP activities and initiatives, supporting the activities of the other workgroups. The ROW also produces materials and conducts outreach activities to help move DWSPP toward its goals. The group can also help to attract new membership and input to DWSPP. Much of the group's work is continuous in nature.

Objectives

- Assist DWSPP workgroups in promoting and educating others on their activities and projects.
- Promote DWSPP membership expansion.
- Promote DWSPP through the annual report and other efforts.

Activities

On-going:

- Maintains DWSPP web presence to publicize activities and keep membership informed.
- Produces an annual report that membership can use as a general information piece both internally and externally.
- Fields information requests from media, public, and membership.

Short term:

- Generic outreach presentation that can be used by members to discuss the Partnership with outside groups.
- Support outreach for workgroup-sponsored activities – crypto webinar, pharmaceutical take back events.

Long term:

- Outreach to other water supply/management agencies aimed at increasing membership.
- Produce recruitment materials to increase membership.
- Arrange a directory of members willing to be interviewed by media or give talks about source water protection to citizens groups or agency staff.

Measures of Success

- Partnership efforts to conduct outreach and informational meetings are supported by the workgroup.
- Directory of available experts for interviews at member organizations is compiled.
- The annual report is available by the winter meeting of the following work year.
- The website is up to date with Partnership activities and resources for more information on priority issues.

Emerging Contaminants

The role of the Emerging Contaminants workgroup is to support the Partnership by tracking and reporting on findings of research and monitoring of persistent and newly identified threats posed to source water quality in the Potomac River basin. A primary focus of the workgroup shall be on endocrine disrupting chemicals (EDCs), pharmaceuticals and personal care products (PPCPs), and on other chemicals or contaminants of concern– their identity, sources, distribution, possible human and ecological health effects, treatability, and control through management practices to limit their occurrence in the Potomac River and its tributaries.

Objectives

- Identify emerging contaminants that occur (or have a reasonable potential to occur) in the Potomac River basin. Monitor research on detection methods, surrogate indicators, and occurrence.
- Identify potential sources of identified priority emerging contaminants.
- Identify patterns of contaminant distribution and persistence, especially downstream of identified point sources.
- Compile information on human and ecological/environmental health effects, and epidemiological/toxicological studies to understand health significance and relative risks posed by emerging contaminants in drinking water.
- Identify control measures and best management practices to reduce or minimize occurrence of emerging contaminants in the Potomac River and its tributaries.
- Develop a communications strategy to educate Partnership members and stakeholders on relative risks of emerging contaminants to drinking water quality and on control measures and best management practices.

Activities

On-going:

- Research Tracking:
 - Track research on identity, sources, distribution, possible human health effects, treatability, and control of priority emerging contaminants.
 - Comment, as appropriate, on proposed research studies on emerging contaminants.
 - Track, support, and participate in emerging contaminant monitoring programs that may be undertaken by government agencies or utilities, if of value to the Partnership.
 - Track Water Research Foundation (WaterRF) projects related to understanding and responding to emerging contaminants.
- Permit Tracking:
 - Track NPDES permits that may result in emerging contaminants being discharged into source waters; when appropriate, consider reaching out to dischargers to discuss source water protection opportunities.
- Information Exchange:
 - Support development of factual basis for Partnership or individual members' comments on pending legislation, regulations, guidance, etc. related to emerging contaminants.
 - Facilitate coordination of efforts and communication of unpublished research among interested agencies and individuals.
 - Update workgroup's webpage annually or more frequently; inform Partnership via email and periodic website updates of upcoming conferences, symposia, seminars, workshops, and webcasts on relevant themes.

Short term:

- Continue participation in WaterRF research project #4169, Water Utility Framework for Responding to Emerging Contaminant Issues, to ensure the Potomac case study is prominent and successful.
- Track developments on:
 - UCMR3 (hormones, etc.)
 - Hexavalent chromium
 - Perchlorate
 - Hydrofracking (bromides, radionuclides, etc.)
- Track algae issues and changing conditions that may have water treatment ramifications (cyanobacteria, etc.).

- Continue tracking significant legislative efforts related to safe drug disposal for applicability within the Potomac River basin.
- Track new efforts by the federal government to transform the way that industrial chemicals are regulated.

Long term:

- Approximately every 5 years sponsor a seminar or workshop on current research. The next Emerging Contaminants workshop is planned for 2012 or 2013 to update research information and discuss current issues.
- Periodically update FAQs on Emerging Contaminant workgroup webpage.
- Support the Reaching Out workgroup in updating the Partnership's website and developing public communications tools for responding to emerging contaminant issues.

Measures of Success

- Maintain list of emerging contaminants known to occur in the river with citations of data source/paper.
- Partnership members understand risks posed by emerging contaminants to source water quality in the Potomac River basin and control measures for reducing those risks.
- Members either have individual or collective strategy for communicating emerging contaminant information to stakeholders.

Urban Issues

This workgroup is intended to position the Partnership to better communicate drinking water needs in the Potomac River basin to the agencies who oversee implementation of point and non-point source discharges of urban runoff, including Municipal Separate Storm Sewer (MS4) programs. These agencies may include state agencies, local jurisdictions, or regional planning districts or planning commissions. This workgroup shall focus on urban stormwater including urban and highway runoff and other point and non-point discharges associated with storm activity. The goal of this workgroup is to promote implementation of better stormwater management and better integrate Clean Water Act and Safe Drinking Water Act water quality programs to protect sources of drinking water in the Potomac. The workgroup's activities include ongoing efforts to evaluate the impact of road deicers and salts on the Potomac. The workgroup will periodically update information on urban land use trends and on current stormwater management practices throughout the basin. This workgroup will also develop and maintain a list of recommended urban stormwater practices to be used for advocacy throughout the watershed.

Objectives

- Improve communication between appropriate urban stormwater agencies to both educate Partnership members on urban stormwater issues in the Potomac River basin and to educate agencies on drinking water concerns.
- Advocate for implementation of management practices that will better protect drinking water in the Potomac River basin.
- Support relevant agencies in obtaining funding to implement projects where applicable.

Activities

Short term:

- Investigate and report on projected trends of urban areas in Potomac River basin. Obtain currently available information on projected land use, specifically focusing on urban and suburban areas.
- Characterize currently established stormwater management requirements in the Potomac River basin. Obtain information from state stormwater agencies to characterize how stormwater is managed within various areas of the Potomac River basin.
- Prioritize communities with which to begin dialogue. A small number of communities should be identified as priorities, based on proximity, density, potential for protection, or other parameters.
- Investigate best management practices regarding use of deicing chemicals. Appropriate agencies will be contacted to determine what kinds of chemicals are used, whether there are alternatives that may reduce the risks to water supplies, and whether there are best management practices that can be applied to improve water quality.

Long-Term:

- Meet with priority jurisdictions to begin dialogue and exchange information. The purpose of the initial meetings will be to inform the jurisdictions about the Partnership goals, and educate the Partnership members on stormwater issues for those communities.
- Develop recommendations for urban stormwater management in coordination with state agency stormwater staff.
- Advocate for implementation of recommended stormwater practices.

Measures of Success

- Provide presentation to Partnership on trends and priorities.
- Develop recommendations for stormwater management practices.

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 in the region's sources of drinking water. The Ag workgroup will work primarily with state and local academic institutions and agencies that can provide technical, extension, and veterinarian support. One of the Partnership's founding workgroups, the Pathogen's group, identified Cryptosporidium as the most significant pathogenic public health threat to water suppliers in the Potomac. After the completion of the Cryptosporidium Source Tracking Project in 2008, which identified the significant sources of Cryptosporidium in the basin, the Pathogen and Ag workgroups worked together to develop an educational outreach initiative to raise awareness of the links between agriculture, Cryptosporidium, and drinking water.

The Agricultural workgroup's central focus is on Cryptosporidium and developing a message to convey the importance of preventing this pathogen from entering source waters. However, the workgroup's interests extend to the prevention of other difficult-to-treat drinking water contaminants (e.g. Phosphorus, pesticides, and pharmaceuticals) from agricultural land as well. One of the workgroup's main challenges is to determine the most effective methods to engage the agricultural community. The Ag workgroup's long term plans include continuing to help the Partnership better communicate drinking water needs in the Potomac River basin and to promote implementation of improved source water protection practices in agricultural areas.

In 2011, the Pathogens workgroup was officially dissolved with pathogen issues absorbed by the Ag Issues and Urban Issues workgroups.

Objectives

- Develop a better understanding of the pathogen, *Cryptosporidium*, and other drinking water contaminants that originate from agricultural land (e.g. Phosphorus, pesticides, and pharmaceuticals), and methods for controlling their introduction to the public water supply.
- Identify control measures and best management practices to reduce or minimize agriculturally related drinking water contaminants in the Potomac River basin.
- Develop an outreach strategy to educate the Potomac watershed agricultural community and other interested parties about agricultural drinking water contaminants and existing pollution reduction measures.
- Advocate for the implementation of management practices that will better protect public drinking water sources in the Potomac River basin.

Activities

On-going:

- Look for outreach opportunities at existing workshops, in-service trainings, and agricultural events in the Potomac River basin.
- Work with the Emerging Contaminants workgroup to track research related to drinking water contaminants from agricultural sources – review academic, industry, and government publications and reports; and attend conferences, seminars, symposia, workshops, and webinars.
- Work with the Reaching Out workgroup to continue to add relevant information to the Potomac DWSPP, Ag workgroup webpage.
- Identify and contact relevant agencies and stakeholders interested in the goals of the Ag workgroup for building alliances focused on agricultural sustainability and source water protection.

Short term:

- Promote the *Cryptosporidium*, Cattle & Drinking Water webcast; evaluating the feedback provided by webcast participants.
- Coordinate with the Ag Advisory Committee to create an outreach strategy for the Ag workgroup. The Ag Advisory Committee was formed in 2010 and consists of various experts in the agriculture sector who advise the workgroup.
- Begin implementing aspects of the outreach strategy with an initial focus on communicating about *Cryptosporidium* issues and appropriate best management practices (BMPs).

Long term:

- Continue to promote the use of control measures and BMPs to reduce agriculture-associated drinking water contaminants in the Potomac River basin.
- Continue to implement the workgroup's outreach strategy.
- Work with the Urban Issues workgroup to track several regional programs and initiatives that may impact source water protection efforts in the Potomac basin, including the federal Chesapeake Bay TMDL and associated State Watershed Implementation Plans (WIPs).
- As necessary, solicit source water quality data from Potomac DWSPP partners that can be submitted to academic institutions and agricultural agencies to increase awareness of source water protection in the Potomac River basin.
- Monitor research efforts regarding drinking water contaminants from agricultural landscapes in order to better understand the movement of contaminants in the environment and their sources.

Measures of Success

- Complete outreach strategy with the assistance of the Advisory Committee.
- Implement aspects of the outreach strategy in the Potomac River basin.
- Increase the number of partners interested and knowledgeable in protecting drinking water from agriculturally related contaminants.

Disinfectant By-Product (DBP) Precursors

Disinfection-by-products (DBPs), generated when a disinfectant such as chlorine reacts with organic matters (the precursors) in water, are considered potential carcinogens and are strictly regulated under the Safe Drinking Water Act. The current practice takes the precursors as a given and attempts to lower the DBP formation via treatment steps. This workgroup proposed that limiting precursors in raw water, via source water protection, may provide another option for limiting DBPs in finished water.

Objectives and Activities

The workgroup's goal was to work with the Water Research Foundation (WaterRF), with a hope that the WaterRF would pursue research with the following objectives:

- To assess the relative contribution of different watershed sources of precursors (i.e., land-based/allochthonous vs. in-river/autochthonous) to formation of the DBPs in finished water.
- To assess whether source water protection measures targeted at the precursors sources would be feasible and cost-effective.
- To pursue a case study if the research findings warrants a follow up.

The workgroup submitted a research proposal to WaterRF based on the above objectives, with Potomac River watershed as a case study along with some limited funding support from the WSSC. WaterRF declined to fund the proposed research in light of its more critical research needs, limited funding, and questions about the proposal's potential for success.

However, two water utilities came up with considerable funding of their own to support similar Water Research Foundation studies in their watersheds. The first project, being conducted by the University of Colorado and the City of Fort Collins, Colorado, 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 WaterRF and the remaining \$423,490 by those who proposed the projects. The projects are anticipated to be completed by 2012.

The DBP workgroup will continue to be involved in and monitor the progress and findings 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.

Early Warning /Emergency Response

This workgroup is intended to better prepare the Partnership's member utilities to respond in the event of a spill or other incident that affects their water supplies. The workgroup also will open dialogs with emergency response agencies and with operators/owners of significant hazardous waste sources to improve the mutual understanding of water supply vulnerabilities and emergency response preparedness.

Objectives

- Ensure that an emergency communications system and protocol reflecting the specific needs of the water supply community are in place and understood.
- Establish a relationship with the petroleum pipeline industry, and others when identified, to facilitate a mutual understanding of hazardous material transportation procedures and risks to water supply.

Activities

Short term:

- The Metropolitan Washington Council of Governments (MWCOC) has developed the Regional Incident Communication and Coordination System (RICCS) to facilitate communications in the event of emergencies. RICCS allows registered users to notify others of significant events through a centralized system that delivers messages to email addresses, cell-phones, and pagers. For most types of emergencies, the RICCS system is confined to the immediate Washington, D.C., metropolitan area (D.C. metro area) that includes MWCOC's member jurisdictions. However, because of the upstream-downstream connection of the Potomac River and its tributaries as the area's water supply source, the workgroup will work with MWCOC to enroll Partnership members in the RICCS water group regardless of their location.
- The EW/ER workgroup will work with MWCOC to get features added to the Water/Wastewater Agency Response Network (WARN) that will enhance its utility to the Partnership for communication in the event of an emergency.
- Open a dialog with Colonial Pipeline to (a) educate that company of the water supply vulnerabilities to a pipeline spill event; and (b) educate DWSPP members about Colonial Pipeline spill prevention and response capabilities and procedures.
- Obtain DWSPP participation on the Regional Response Team and Area Committee.
- The Partnership will maintain a one-page summary of emergency communications procedures for distribution to water utilities. The protocol will reflect the emergency plan developed for the D.C. metro area by MWCOC, with any needed modifications to accommodate the larger coverage of the Partnership.

Long term:

- An enhanced water quality monitoring system can provide early warning of contamination events before the materials reach water supply intakes. The Partnership will investigate the feasibility of developing an enhanced monitoring system.
- Establish contacts with petroleum pipeline industry and other industries as needed.
- To improve DWSPP partner readiness to respond to emergencies, hold periodic emergency response exercises.

Measures of Success

- Increase participation of upstream water utilities in the RICCS and WARN systems.
- Distribute concise emergency communication procedures.
Establish contact with petroleum industry.



2011 Workgroup Activity Report and 2012 Workgroup Priorities

Potomac River Basin Drinking Water Source Protection Partnership
Annual Meeting – October 4, 2011

Early Warning and Emergency Response

This workgroup is intended to better prepare the Partnership's member utilities to respond in the event of a spill or other incident that affects their water supplies. The workgroup also will open dialogs with emergency response agencies and with operators/owners of significant hazardous waste sources to improve the mutual understanding of water supply vulnerabilities and emergency response preparedness.

Activities Completed in 2011

- Held two in-person meetings with Colonial Pipeline with the dual purpose of improving Colonial Pipeline's understanding of the high consequences to water supply from a pipeline spill within the metro Washington area utilities' service area and DWSPP members' understanding of Colonial Pipeline's integrity management program and their spill response plan. Additional meetings and communication are planned as follow-up to these two successful events. The Metropolitan Washington Council of Governments is assisting with this effort. **(Achieves 2011 objective)**
- The EW/ER workgroup has begun planning for a spill exercise to be held in winter/spring of 2012, with funding support from the U.S. EPA. Assistance for this exercise will be provided by Horsley Witten, the same firm that assisted with the 2008 DWSPP spill exercise. **(Achieves 2011 objective)**
- Opened lines of communication with the Coast Guard Area Committee, the group of government agencies that respond to emergency events such as spills. The EW/ER workgroup is now on their interested parties list and EW/ER members have attended to Area Committee meetings and drills.
- Assisted the Utility Committee in drafting comments to the U.S. Department of Transportation on the Pipeline and Hazardous Materials Safety Administration's Advance Notice of Proposed Rulemaking (ANPRM) on the Safety of On-Shore Hazardous Liquid Pipelines. Letters were also sent to the U.S. Environmental Protection Agency and U.S. Department of Homeland Security, encouraging the consideration of source water protection when reviewing pipeline safety rules.

2012 Work Plan

1. Continue communications with Colonial Pipeline to learn more about the company's integrity management program.
2. Hold at least one spill exercise to test communications and related spill response.
3. Prior to the spill exercise, test and refine, where necessary, communication procedures between ICPRB, RICCS, and WARN systems; utilities; and government agencies so that we are prepared to get the most benefit from the EPA/Horsley Witten spill exercise.
4. (An aspirational goal) In conjunction with the Government Committee's outreach efforts, reach out to more upstream utilities to include them in EW/ER coordination.

Reaching Out

The Reaching Out workgroup (ROW) informs and educates the public and water professionals about DWSPP activities and initiatives, supporting the activities of the other workgroups. The ROW also produces materials and conducts outreach activities to help move DWSPP toward its goals. The group can also help to attract new membership and input to DWSPP. Much of the group's work is continuous in nature.

Activities Completed in 2011

- 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.
- Maintained the Partnership's website. **(Achieves 2011 objective)**
- Presented to and held meetings with outside organizations interested in the Partnership's efforts, including at presentations ICPRB made to several international delegations. **(Achieves 2011 objective)**
- Prepared 2010 Annual Report.
- Helped to organize the annual meeting.
- Kept membership informed of news items and other information.

2012 Work Plan

1. Discuss recruitment of new members, especially smaller, upstream systems and/or groundwater systems.
2. Coordinate with various Partnership workgroups to maintain and upgrade Partnership web presence.
3. Continue to pursue contact with other federal agencies having mutual interests in the Potomac watershed.
4. Continue to promote DWSPP during ICPRB water resources outreach efforts.
5. Produce 2011 Annual Report.
6. Produce outreach and educational materials needed by the membership.

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 in the region's sources of drinking water. The Ag workgroup will work primarily with state and local academic institutions and agencies that can provide technical, extension, and veterinarian support. One of the Partnership's founding workgroups, the Pathogen's group, identified Cryptosporidium as the most significant pathogenic public health threat to water suppliers in the Potomac. After the completion of the Cryptosporidium Source Tracking Project in 2008, which identified the significant sources of Cryptosporidium in the basin, the Pathogen and Ag workgroups worked together to develop an educational outreach initiative to raise awareness of the links between agriculture, Cryptosporidium, and drinking water.

The Agricultural workgroup's central focus is on Cryptosporidium and developing a message to convey the importance of preventing this pathogen from entering source waters. However, the workgroup's interests extend to the prevention of other difficult-to-treat drinking water contaminants (e.g. Phosphorus, pesticides, and pharmaceuticals) from agricultural land as well. One of the workgroup's main challenges is to determine the most effective methods to engage the agricultural community. The Ag workgroup's long term plans include continuing to help the Partnership better communicate drinking water needs in the Potomac River basin and to promote implementation of improved source water protection practices in agricultural areas.

Activities Completed in 2011

- Conducted and recorded second "Cryptosporidium, Cattle & Drinking Water" webinar (March 9, 2011).
- Advertised live and pre-recorded webinar locally and nationally.
- Conducted an informative thirteen-question survey of webinar and reviewed feedback from participants.
- Followed up with journalist, providing technical information for article on Crypto in *Lancaster Farming*.
- Explored Potomac land preservation possibilities.
- Created poster on *Crypto* source-tracking RARE project.
- Worked on updating DWSPP's Strategic Plan, including adding language on the Ag Issues workgroup.

2012 Work Plan

1. Develop draft outreach strategy for Ag Issues workgroup.
2. Coordinate with the Ag Advisory Committee to finalize the workgroup's outreach strategy.
3. Look for outreach opportunities at existing workshops and ag events in the basin.
4. Identify common issue areas with the Emerging Contaminants workgroup where efforts could have synergistic benefits.

Emerging Contaminants

The role of the Emerging Contaminants workgroup is to support the Partnership by tracking and reporting on findings of research and monitoring of persistent and newly identified threats posed to source water quality in the Potomac River basin. A primary focus of the workgroup shall be on endocrine disrupting chemicals (EDCs), pharmaceuticals and personal care products (PPCPs), and on other chemicals or contaminants of concern – specifically, their identity, sources, distribution, possible human and ecological health effects, treatability, and control through management practices to limit their occurrence in the Potomac River and its tributaries.

Activities Completed in 2011

- Tracked chemical regulation initiatives. The Endocrine-Disrupting Chemicals Exposure Elimination Act of 2011 was introduced in the U.S. Senate and House of Representatives. The bill proposes to set up a research program to investigate up to ten potential endocrine disrupting chemicals (EDC) per year and possibly ban those most harmful to public health unless human exposure is mitigated. The workgroup continued to track information on various federal and state legislative efforts related to safe drug disposal and emerging contaminant research. The federal Safe Drug Disposal Act was signed into law in fall 2010 and rulemaking is currently underway. **(Achieves 2011 objective)**
- 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 April 30, 2011. **(Achieves 2011 objective)**
- Workgroup members continued to participate in Water Research Foundation project 4169, "Water Utility Framework for Responding to Emerging Contaminant Issues." A workshop was held in Maryland on June 10, 2011 with the intent of soliciting feedback from DWSPP members. In July, the consultant team released a draft framework web-tool (series of interlinked web pages and related documents) for beta-testing. The outcome of the project to date does not fully meet the original expectations of many members. **(Achieves 2011 objective)**
- Periodically updated the Partnership website with upcoming conferences, symposia, seminars, workshops, and webcasts. In addition, members reviewed and added content for a new web page to address proper pharmaceutical disposal. **(Achieves 2011 objective)**
- Efforts to identify pharmaceutical manufacturing plants in the basin commenced using EPA data on NPDES permits. Pre-treatment schemes and multiple standard industrial classification codes for pharmaceutical plants have complicated the process. A workgroup member has acquired data on all permitted dischargers in the basin that could be used for various reasons including the identification of any pharmaceutical-related facilities. **(Partially achieves 2011 objective)**
- Several workgroup members participated in a utility-focused workshop for Water Research Foundation project 4323, "Customer Perceptions of Endocrine Disrupting Compounds (EDCs) and Pharmaceuticals and Personal Care Products (PPCPs) in Drinking Water," held in June 2011 in Washington, D.C. **(Achieves 2011 objective)**
- Three workgroup members attended an Emerging Contaminant Forum sponsored by PA DEP in Harrisburg on March 24, 2011 which included four presentations on the occurrence of emerging contaminants, impacts on aquatic life and innovative treatment methods. **(Achieves 2011 objective)**
- Several workgroup members continued to track issues related to hydraulic fracturing of the Marcellus Shale to stimulate gas production. Concerns exist over the volumes of wastewater produced, its treatment, and contaminants contained in water that could be discharged after use. Regulatory efforts in several states (PA, MD, NY) to limit discharge impacts or halt exploration pending further study were reviewed. Members also considered a Draft Environmental Impact Statement prepared by the U.S. Forest Service supporting a revised Land Use and Resource

Management Plan for the George Washington National Forest. The Plan includes a proposed ban on horizontal drilling (the main method associated with hydraulic fracturing) but allows conventional vertical drilling for gas exploration and production under existing mineral rights, leases, or licenses.

- Members worked intermittently over several months to update the EC Workgroup Strategic Plan.
- Several members attended an EDC forum “Disruption: New Pollutants in the Potomac and Beyond” sponsored by the Potomac Conservancy in Washington, D.C. on June 3, 2011. A wide range of perspectives from eight speakers included research, environmental health, risk assessment, regulation and water treatment. Washington Aqueduct GM Tom Jacobus was one of the speakers.
(Achieves 2011 objective)

2012 Work Plan – 2012 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 in 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, EDC Exposure Elimination 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. Track Water Research Foundation projects related to emerging contaminants and, when needed, propose in-kind or cash support to facilitate them.

Emerging Contaminant Research

8. Continue tracking research on emerging contaminants by reviewing academic, industry, and government publications and reports and by attending conferences, seminars, symposia, workshops, and webinars.
9. 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

10. 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.
11. Periodically update and post the list of upcoming conferences, webinars etc. on the Partnership website.

12. **Begin planning for an Emerging Contaminant workshop for Partnership members to be held in 2013.**
13. Identify common issue areas with the Agricultural Issues workgroup where efforts could have synergistic benefits.

Urban Issues

This workgroup is intended to position the Partnership to better communicate drinking water needs in the Potomac River basin to the agencies who oversee implementation of point and non-point source discharges of urban runoff, including Municipal Separate Storm Sewer (MS4) programs. These agencies may include state agencies, local jurisdictions, or regional planning districts or planning commissions. This workgroup shall focus on urban stormwater including urban and highway runoff and other point and non-point discharges associated with storm activity. The goal of this workgroup is to promote implementation of better stormwater management and better integrate Clean Water Act and Safe Drinking Water Act water quality programs to protect sources of drinking water in the Potomac. The workgroup's activities include ongoing efforts to evaluate the impact of road deicers and salts on the Potomac. The workgroup will periodically update information on urban land use trends and on current stormwater management practices throughout the basin. This workgroup will also develop and maintain a list of recommended urban stormwater practices to be used for advocacy throughout the watershed.

Activities Completed in 2011

- Organized an information session on "Identifying Source Water Protection Opportunities in the Chesapeake Bay Watershed Implementation Plans," which was held following the April quarterly meeting. **(Achieves 2011 objective)**
- Engaged in discussions with groups from other parts of the country that train snow plow operators on environmental and source water protection issues to generate interest in developing nationwide deicing operator training/certification programs. **(Achieves 2011 objective)**
- Worked on preparing a webinar presentation on the environmentally sensitive application of deicing materials and the potential benefits for source waters. **(Achieves 2011 objective)**
- Continued tracking of 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 2011 objective)**

2012 Work Plan

1. Present updated information on land use changes and trends in the Potomac basin and how this may be impacting source water quality. The plan is to build on the data and information that ICPRB and state agencies already have available.
2. Update and maintain a comparison of stormwater management requirements in the Potomac River basin.
3. Present deicing webinar to interested stakeholders and make the webcast publically available on the web and actively promote the webinar.
4. Identify a Watershed Implementation Plan Phase 2 project with significant source water benefits to actively champion.

Disinfectant By-product Precursors

Disinfection-by-products (DBPs), generated when a disinfectant such as chlorine reacts with organic matters (the precursors) in water, are considered potential carcinogens and are strictly regulated under the Safe Drinking Water Act. The current practice takes the precursors as a given and attempts to lower the DBP formation via treatment steps. This workgroup proposed that limiting precursors in raw water, via source water protection, may provide another option for limiting DBPs in finished water.

Activities Completed in 2011

The workgroup continues to track Water Research Foundation projects that are investigating the significance of land and water based 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 findings 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.



Potomac River Basin Drinking Water Source Protection Partnership

Administrative Revenue and Expenses Update* October 1, 2010 through August 31, 2011

REVENUE FROM VOLUNTARY CONTRIBUTIONS	Budgeted	Received
States		
District of Columbia	6,157.41	0.00 [†]
Maryland	6,157.41	6,157.41
Pennsylvania	6,157.41	6,157.41
Virginia	6,157.41	0.00 [†]
West Virginia	<u>6,157.41</u>	<u>6,157.41</u>
<i>States subtotal</i>	<i>30,787.05</i>	<i>18,472.23</i>
Utilities		
Fairfax Water	10,262.35	10,262.35
Washington Aqueduct	10,262.35	10,262.35
WSSC	10,262.35	10,262.35
City of Frederick	300.00	0.00
City of Hagerstown	300.00	375.00
City of Rockville	300.00	330.00
Frederick County DUSWM	300.00	375.00
Loudoun Water	1,380.00	1,380.00
Town of Leesburg	300.00	375.00
Washington County	<u>300.00</u>	<u>300.00</u>
<i>Utility subtotal</i>	<i>33,967.05</i>	<i>33,922.05</i>
Federal & Regional Agencies		
ICPRB contribution	<u>11,057.37</u>	<u>TBD</u>
<i>Federal & Regional Agencies subtotal</i>	<i>11,057.37</i>	
Total FY 2011	75,811.47	TBD
<hr/>		
EXPENSES	Budgeted	Actual* August 31, 2011
ICPRB staff (salary + fringe)	47,442.00	41,142.06
Postage	50.00	0
Supplies & Office Exp.	800.00	855.66
Communications	400.00	689.76
Meeting Expenses & Travel	2,200.00	1,783.51
Publ. & Printing	150.00	0
ICRPB Indirect	<u>24,769.47</u>	<u>20,628.63</u>
Total FY 2011	75,811.47	65,099.62

[†] Contribution expected; not yet received.

*Expense figures subject to accounting review during ICPRB's annual audit.