

Potomac River Basin Drinking Water Source Protection Partnership



"For Life, For Health, Clean Water"

ANNUAL REPORT 2009

Potomac River Basin Source Water Protection Partnership

Our mission is to serve as a cooperative and voluntary partnership working toward the goal of improved source water protection within the Potomac River basin in recognition of the vital role of the river and its tributaries in supplying drinking water to millions of people and in support of the multi-barrier approach to safeguarding drinking water supply for public health.

The Potomac River Basin Drinking Water Source Protection Partnership (Partnership or DWSPP) is a voluntary alliance of water utilities and local, state, regional, and federal authorities working to protect sources of drinking water in the Potomac River basin.

Established in 2004, 20 organizations are official members of the Partnership with many others participating in Partnership meetings, workshops, and activities.

Partnership priorities include:

- identifying the sources of contaminants entering the Potomac River;
- improving our understanding of the impact these contaminants have on drinking water; and
- developing strategies to minimize the presence of the contaminants and their effect on drinking water.



Members

City of Frederick, Md.

City of Hagerstown, Md.

City of Rockville, Md.

D.C. Department of the Environment

Fairfax Water, Va.

Frederick County, Md.

Interstate Commission on the
Potomac River Basin

Loudoun Water, Va.

Md. Department of the Environment

Pa. Department of Environmental Protection

Town of Leesburg, Va.

U.S. Environmental Protection Agency, Region 3

U.S. Geological Survey

Va. Department of Environmental Quality

Va. Department of Health

Washington Aqueduct, U.S. Army Corps of Engineers

Washington County, Md.

Washington Suburban Sanitary Commission, Md.

W.Va. Department of Health and Human Resources

W.Va. Department of Environmental Protection

ON THE COVER: The Shenandoah River, the basin's largest tributary, meets the Potomac at historic Harpers Ferry, W.Va. The Shenandoah, on the left side of the photo, drains headwaters areas in agricultural areas that provide source water for drinking water supply and other uses.

A Letter from the Co-Chairs

DWSPP Forges Ahead in 2009

There really is no more basic human need than a clean and safe water supply. Ensuring that the Potomac River meets this need for the millions of people that depend on it is the highest priority for the water utilities and the regional, local, state, and federal government agencies that make up the Partnership. Our success, and the safety of our water supply, depends upon the cooperative efforts of all of the residents in the Potomac River basin. This report highlights just a few of the ways that the protection of our drinking water supplies depends on all of us, from farmers, to those who use our highways.

As we celebrate the Partnership's fifth year of organized activities, we are pleased to report continued progress in 2009. Thanks to the time and effort of a number of our members, several projects were completed, a number of others continued, and several new initiatives began.

Included in this year's activities was a literature review of best management practices to reduce *Cryptosporidium* from agricultural sources, alliances established with several agricultural researchers and organizations, and the launch of a webpage for the Agricultural Issues Workgroup.

The effects on source waters from the use of deicing chemicals on roadways was highlighted in a *Washington Post* opinion article developed jointly by the Urban Issues and Reaching Out workgroups. The Urban Issues Workgroup also coordinated an information session on NPDES permitting in the basin and drafted proposed language for inclusion in future permits regarding notification requirements in the event of a spill of hazardous materials.

Emerging contaminants continued to be a major focus of Partnership activities. The Emerging Contaminants Workgroup provided comments on the disposal of controlled substances to the Drug Enforcement Administration and to the Environmental Protection Agency concerning a proposed emerging contaminant sampling program. The workgroup continued to track ongoing research through webinars and conferences. The emerging contaminants section of the webpage (www.potomacdwspp.org) continues to be updated and we urge you to take a look for more details.

The Partnership continues to seek funds to do research on drinking water disinfection by-product (DBP) precursors. The DBP Workgroup is collaborating with leading researchers on this and other important issues affecting source water quality.



**Robert Summers, Maryland
Department of the Environment**

**Thomas Jacobus,
Washington Aqueduct**

The Early Warning and Emergency Response Workgroup held several sessions to improve coordination between emergency response agencies and water utilities. A focus of this year's efforts was to relate the water utilities' concerns to those who make decisions in the event of a spill that could threaten supply.

A watershed-based approach to research and implementation is a key planning element of our work and we continue to refine the concept and target our efforts on at-risk watersheds with the potential for improvement.

Over the past five years, the Partnership has made great strides toward better understanding the threats to the region's sources of drinking water. Through the continued commitment and hard work of our members to protect source waters in the Potomac River basin, we will build on this knowledge as we enter the 2010 work year.

We proudly celebrate our fifth anniversary and extend an invitation to water utilities and government agencies throughout the basin to join us in this important effort.

Robert Summers,
Deputy Secretary, Maryland Department of the Environment

Thomas Jacobus,
General Manager, Washington Aqueduct

The authors are Co-Chairmen of the Potomac River Basin Drinking Water Source Protection Partnership for 2008-2009.

2009 Project Highlights

Water Supply Protection From Hazardous Spills

The Early Warning and Emergency Response Workgroup continues to strive to improve regional coordination in the event of a hazardous spill in the basin. Following the spill response training and exercise conducted in 2008, the workgroup has taken a number of steps this year to address issues that arose during these activities:

- An updated list of intake locations downstream of Colonial Pipeline was sent to the company and were incorporated into their database of intake locations.
- Contact information for state and federal emergency response agencies, along with that of regional organizations, was compiled and distributed as a factsheet – Interstate Notification & Travel Time Estimates for Spills in the Potomac River Basin.

In addition to these activities, a meeting was held in September 2009, with the Washington, D.C. metropolitan area water suppliers, state emergency response personnel, and the federal on-scene response coordinator. At this meeting, the concerns of the water utilities in the event of a spill were brought to the attention of those who would be making spill response decisions. Also explained at this meeting was the structure of the federal Unified Command response and the role utilities would play depending on type and extent of a spill.

A number of recommendations were made at this meeting for continuing to prepare for a spill. First, the need for annual spill exercises was stressed a number of times and is a priority for the workgroup in the coming year. It was also suggested that the Partnership contact the local level emergency response agencies as they will be the first to respond to an incident and will remain in the top coordination role throughout the response efforts. Additionally, further coordination with the U.S. Department of Transportation and Colonial Pipeline to review their emergency response plans was suggested as a way to ensure that drinking water concerns are being addressed. These items, among others, are goals for the workgroup in 2010.



Participants in a hazardous spill workshop interact to explore and coordinate the responsibilities of emergency personnel, managers, and water utilities to work toward a fast response to water supply threats.

Water Research Foundation Project Update

Partnership utilities' active participation in Water Research Foundation projects continued in 2009, with the Water Utility Framework for Responding to Emerging Contaminant Issues project. This initiative will develop a strategy for drinking water utilities to address the challenge of emerging contaminants. It will provide information on best practices based on current knowledge on these contaminants and will include recommendations for monitoring programs, analytical methods, treatment processes and treatment enhancement options, source protection efforts, risk assessment, and effective communication strategies that can be used for endocrine disrupting compounds (EDC) and pharmaceuticals and personal care products (PPCP). Also in this past year, one of the Partnership's utilities was selected as a case study for a project that will help guide U.S. drinking water utilities toward a unified strategy for source water protection.

In the coming year, the utilities will engage in another project related to emerging contaminants – Building a National Utility Network to Address EDC/PPCP Issues. This project focuses specifically on how utilities can cooperate and collaborate to improve their response to the issues of EDCs and PPCPs through the creation of a nationwide network.

Impact of Road Salts in Region Makes it to *Washington Post*



Martinsville, Va., DPW

Reducing the impact from road salts and other de-icing products is a priority issue for the Partnership's Urban Issues Workgroup which, with the help of the Reaching Out Workgroup, successfully had an op-ed, signed by Joe Hoffman of ICPRB, published in the Washington Post on April 12, 2009. The article is reprinted in its entirety here.

A Little Less Salt, Please

By JOSEPH K. HOFFMAN

We know that too much salt in our diets is bad for our health. But few recognize the impact that excessive salt on our roads has on local waterways and our sources of drinking water. The end of winter presents an opportunity to plan for sensible salting and integration of new technologies to reduce road salt usage. Increased use of road salts allows commuters to drive more safely and reduces time lost to weather, but these benefits come at a cost to our drinking water sources. Icy roads can be tackled with less harmful chemicals and with better information on road conditions, allowing for precise application of salt.

Salt carried in runoff can cause peak chloride concentrations in some urban streams to approach 25 percent of the salt concentration of seawater. These levels can harm or destroy aquatic life, particularly in small streams. Chloride persists long after the last snowflake, as dissolved road salt infiltrates into groundwater and into local streams. This increased level can last through the summer, often at a level more than 100 times greater than in unaffected forest streams. Average annual chloride concentrations increase with the spread of impervious surfaces, making the concentrations found in suburban and urban watersheds extremely harmful to freshwater life.

In addition to environmental impacts, salt can also con-

taminate drinking water supplies. After winter storms, observations at water treatment intakes in the Potomac River and in adjacent water supply watersheds, such as the Washington Suburban Sanitary Commission's Patuxent basin, include increases in chloride, ammonia (to counter an increase in salt during the treatment process), sediment and total organic carbon. The highest annual levels of chloride in the Potomac River are detected after winter storms. Local water utilities have observed increased sodium levels in pre-treated Potomac River water during the past 12 years. Winter weather-related runoff can affect the taste of drinking water, corrode plumbing infrastructure, complicate treatment challenges and, potentially, increase costs.

Innovative alternatives are available. The Massachusetts Highway Department has adopted a reduced-salt application in areas where salt could harm the environment or drinking water supplies. Other departments have integrated road weather information systems (automatic weather stations that use embedded roadway sensors to measure surface temperature, wetness, and residual chemicals to more efficiently plan winter maintenance operations) that increase safety and reduce the use of de-icing chemicals.

Regionally, the Maryland State Highway Administration uses pavement sensors and other technologies to guide ice management decisions, the Virginia Department of Transportation is increasing pre-treatment (to reduce overall chemical usage), and the D.C. Department of Transportation uses naturally-derived beet juice products with brine mixtures to reduce chemical usage and corrosivity.

In addition, our expectations during winter weather bear examination. As long as we expect immediate access regardless of weather conditions, transportation agencies will salt roads before the first snowflake. Road safety is paramount, but if the harmful effects of increased salt in our drinking water sources are ignored, the costs will be evident in our water treatment costs and in the negative environmental effects.

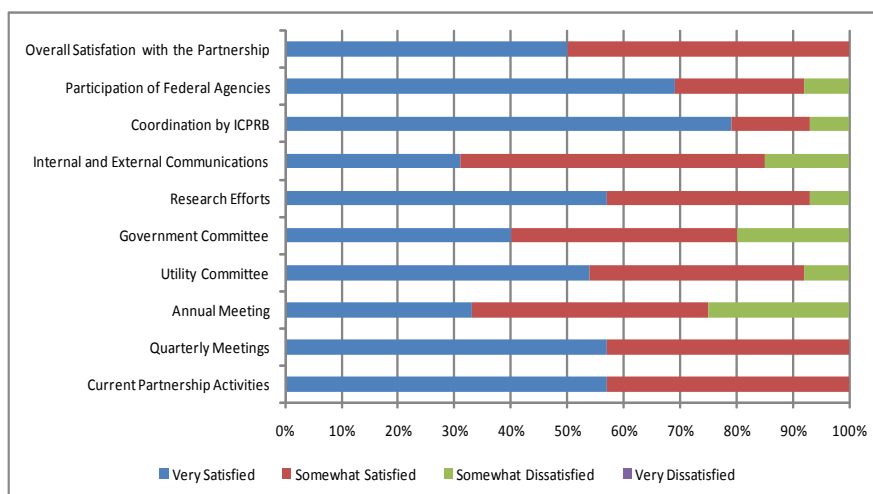
The Potomac Drinking Water Source Protection Partnership, a group of water suppliers and government agencies focused on protecting drinking water sources, identified roadway de-icers as a priority concern, and encourages use of more environmentally friendly anti-icing chemicals and research.

The writer is executive director of the Interstate Commission on the Potomac River Basin (ICPRB). The ICPRB serves as coordinating agency for the Potomac River Drinking Water Source Protection Partnership.

Loudoun Water Hosts 2009 Annual Meeting



Loudoun Water, a water and sewer utility serving Loudoun County, Virginia, hosted this year's annual meeting. The group toured the facility, which includes innovative and state-of-the-art technology. The Loudoun Water campus includes the Aquary, a center where the public can learn about the efforts that bring the area clean water. For more information, visit www.loudounwater.org, or call (571) 291-7700.



Last July, the Reaching Out Workgroup took a look at the satisfaction level of the Partnership's members with various aspects of the Partnership's activities. The table shows the results of this survey. As always if you have any comments or concerns, do not hesitate to contact KR Young, Pennsylvania Department of Environmental Protection at c-kyoung@state.pa.us; (717)-772-5650.

Please contact us for more information on Partnership activities and participation.

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