POTOMAC RIVER BASIN DRINKING WATER SOURCE PROTECTION PARTNERSHIP

Quarterly Meeting Summary for May 15, 2013
Location: ICPRB, Rockville, Maryland

Attendees

Utilities

City of Rockville:
Judy Ding

DC Water:
Charles Kiely
Ying Tan

Fairfax Water:
Melissa Billman
Traci Goldberg
Greg Prelewicz
Niffy Saji

Loudoun Water:
Thomas Barrack
Beate Wright

Town of Leesburg:
Russell Chambers

Washington Aqueduct:
Shabir Choudhary
Anne Spiesman

WSSC:
Martin Chandler
Mohammad Habibian

State and Local Government

DDOE:
George Onyullo

MDE:
Geraldine Dambreville
Lyn Poorman

PA DEP:
Patrick Bowling

VDH:
Barry Matthews (phone)

WV DHHR:
Bill Toomey

Other

Lew Baker, WV Rural Water (phone)
Adam Carpenter, AWWA
Peter Claggett, Chesapeake Bay Prog.
Sally Claggett, Chesapeake Bay Prog.
Stephanie Flack, TNC
Matt Genchur, PA Rural Water
Kim Linton, WaterRF
Tracy Mehan, The Cadmus Group

Federal and Regional Agencies

EPA Headquarters:
Marjorie Copeland
Sylvia Malm (phone)

EPA Region 3:
Bill Arguto
Vicky Binetti
KR Young

ICPRB:
Karin Bencala
Curtis Dalpra
Carlton Haywood
Heidi Moltz

MWCOG:
Steve Bieber

USGS:
Cherie Miller

Workgroup and Committee Reports

Emerging Contaminants – Anne Spiesman, Washington Aqueduct

- The workgroup has decided to hold a workshop on UCMR3 Risk Communication. **The Unregulated Contaminant Monitoring Rule 3** requires many systems in the basin to conduct additional monitoring between January 2013 and December 2015. The workshop agenda is still being developed, but will include information on the UCMR, the contaminants being monitored for, how EPA uses the data, and how results could be communicated to the general public. Part of the meeting may focus on messaging for communications staff. A list of all the systems in the basin that are required to do monitoring is being pulled together with help from the states and the EPA.
    - Vicky Binetti, EPA Region 3, noted that while the monitoring will start at different times during the three-year period, some utilities' monitoring data will be available online in a national database within a couple of months. This means we may want to consider having the meeting sooner rather than later.
- A **MOU on Sustainability of Federal Collaboration on Pharmaceuticals in Drinking Water** was agreed to by EPA Office of Water, USDA Agricultural Research Service, FDA, and USGS. The steering committee created under the MOU has not met yet, but they are planning to come up with a means of disseminating information to outside groups. Andrea Bennett (EPA R3) will keep the workgroup informed.
- Dr. Habibian (WSSC) briefed members on a new Water Research Foundation (WaterRF) RFP – Evaluation of Current and Alternative Strategies for Managing CECs in Water (RFP 4494). The $400,000 project is meant to look at holistic ways to manage CECs in water. He provided a handout at the meeting; a pdf version follows this summary.
- WSSC's Martin Chandler reviewed the EC portion of the DWSPP website and provided edits and updated resources. These changes will be made in the next couple of weeks.
- A. Spiesman sent the workgroup a few organizations' policy statements on the **Safe Chemicals Act** that has again been introduced in the U.S. Senate.
    - **American Academy of Pediatrics**
    - American Chemistry Council – **Policy statement**, **blog post**
- An update on the EPA's **Drinking Water Strategy** was provided by V. Binetti. EPA's Office of Water and Office of Chemical Safety and Pollution Prevention worked together to develop **human-health benchmarks for pesticides**. This effort meets part of the strategy's goal to "use the authority of multiple statutes to help protect drinking water."

Water Quality Data – Niffy Saji, Fairfax Water

- N. Saji is now the workgroup chair. Thanks Niffy!
- ICPRB's intern has completed his effort to track down sources of water quality data in the basin. This is a work in progress. Karin Bencala and Heidi Moltz of ICPRB plan to collect information on more sources in the next couple of weeks. A recent version of the **spreadsheet** with the compiled sources can be downloaded for your review. It would be helpful if members could take a look and send Karin any missing sources.
- The workgroup will consider how to make this spreadsheet and other relevant resources available to the Partnership on our website. They will also work on a procedure for completing an annual update of the list.
- Workgroup members reviewed the data available from the EPA's **Discharge Monitoring Report Pollutant Loading Tool**. They report that the site was easy to search and provided useful information.

Government Committee – Bill Toomey, WV Department of Health and Human Resources
The committee decided to focus on Blue Green Algae/Harmful Algal Blooms for the outreach meeting topic and is currently collecting ideas for speakers. The meeting will likely be held this summer at either a Virginia or West Virginia location. Upstream water utilities are still the intended audience. Kim Linton from WaterRF mentioned that they have had a series of webinars on this topic and might be able to suggest some speakers.

Urban Issues – Greg Prelewicz, Fairfax Water

- The workgroup held an in-person meeting at ICPRB before the quarterly meeting and discussed the following items:
    - Road Salts – The workgroup is looking for partners to work with on this topic, ideally ones with a specific transportation focus. Similar efforts in other regions have had success working with universities; the workgroup will look into this as well. They will develop a vision statement covering what the goals of such an effort would be and what the Partnership can bring to the table. Steve Bieber, MWCOG, noted that there has been success in getting the region to adopt a "complete streets" strategy and that there is interest in a "green streets" effort. He suggested that Greg get in touch with COG's staff lead for the Transportation Planning Board to see if there are ways to collaborate.
    - State water quality standards – The April issue of AWWA's journal discusses a new phosphorus water quality standard for New York in the article ***Proposed nutrient criteria for water supply lakes and reservoirs***. This may be of interest for a future information session.

Reaching Out – Curtis Dalpra, ICPRB

- The website will be redesigned by a web contractor for approximately $2000. Once the work is started it will take about two to three weeks to complete. This will be covered in the current year's budget. B. Toomey suggested that state GIS resources are linked to from the DWSPP site. Send Karin any ideas you have on organization, design, and functionality in the next couple of weeks.
- The meeting with watershed advocacy groups will be held on May 24 at ICPRB. At the meeting will be Potomac Conservancy, Potomac Riverkeeper, Shenandoah Riverkeeper, and The Nature Conservancy. The purpose of the meeting is to share our priorities, learn about their water quality concerns, and see if we can identify common areas and potential ways to work together.
- The **Potomac Watershed Roundtable** is having a meeting focused on drinking water on June 11. This group was initiated by the U.S. Forest Service and is coordinated by the Cacapon Institute. G. Prelewicz suggested that given their expertise on land issues, it may be interesting to talk with them about ways to collaborate. Curtis will see if Cacapon Institute can join us on the 24th.

Ag Issues – KR Young, EPA Region III

- KR is filling in for Ellen while she is on detail.
- The outreach strategy is nearly complete and should be wrapped up in the next couple of months.
- KR is interested in pursuing the links between NRCS strategies and drinking water. As discussed at previous meetings, NRCS EQIP funding now requires that 5% of this money be spent to meet water quality goals. EPA is working with NRCS to include source water protection as one of the criteria that will determine priority watersheds for spending this money. Pennsylvania, through Patrick Bowling (PA DEP) and others, has had success in raising awareness of source water protection with the Pennsylvania State Technical Committee (STC). They used the **NRCS collaboration toolkit** developed by the Source Water Collaborative to guide this process. PA DEP worked with the EPA to provide the STC with maps of streams with high nitrate concentrations.

- KR would like to help make the connection in other states between the source water, 319 offices, and the STC. Sylvia Malm (EPA HQ) suggested that others could use the toolkit to reach out to their STC or even directly to the State Conservationist.
- The Salter Mitchell/EPA messaging projects in Lancaster County, Pa., and Frederick County, Md., are continuing. The Lancaster project focuses on agricultural issues and the Frederick project focuses on the residential homeowner.
- The Source Water Collaborative is doing a **pilot project in Lancaster County** that will work to integrate the Safe Drinking Water Act and Clean Water Act. The county planning department is funding the project, though many utilities are involved as well. This type of collaboration is part of the county's integrated water resource management plan.
- KR spoke with Mark Dubin of the University of Maryland and the Chesapeake Bay Program. He mentioned that Phase 6 of the Bay model is being developed and will involve significant changes. This may be a good topic for a future information session.

Early Warning and Emergency Response – Carlton Haywood, ICPRB

- There were two recent spills, one in Oldtown, Md., and one in Herndon, Va. Neither was a serious event but it gave ICPRB the opportunity to use their spill model and run through communication procedures. Three questions/lessons came from these events:
    - ICPRB will now close out events with a final email.
    - What size of a spill warrants notification? Any amount of a toxic substance? Certain threshold for WWTP overflows?
    - How to address questions about what is actually being seen and/or experienced on the river? Who to call for water quality information?
- ICPRB has completed the annual update of spill contact information. The updated contact sheet for state and federal spill notification will be sent out soon.
- It is time to see if we can reschedule the meeting with Colonial Pipeline.
- Horsley Witten is presenting at an **AWWA conference** in September (Distributions Symposium/Emergency Preparedness and Security) on the spill exercise completed last spring.
- S. Bieber reported on the continuous water quality monitoring network.
    - The system is running at the Brunswick and New Design intakes. The Shepherdstown station has the equipment, but is waiting for it to be installed. COG is working with the utilities to figure out the communications equipment and how to share data between utilities. A draft plan for how to do this should be ready in about a month.
    - The UASI (Homeland Security Urban Area Security Initiative) funding decision is being made soon and the money for this project may be lost. The maintenance contracts for each station run approximately $10,000 per year and the fish biomonitor maintenance is about $2,000 per month for all three upstream stations combined. If the funding is lost, there may have to be further discussion with the utilities and other entities about these costs.
    - Cherie Miller from the USGS is interested in looking at the trends in the historic data from these stations. Each utility owns the data that comes out of this effort so each would have to be contacted individually.

Issue Updates

Marcellus Shale updates –

- P. Bowling – Drilling has slowed in Pennsylvania, but pipeline work is picking up. Approximately 6,300 unconventional wells have been drilled and nearly 50% of these have been hydraulically fractured. For reference, there are almost 83,000 conventional wells drilled throughout the state. The Governor has ordered a **study** on naturally occurring radioactivity associated with oil and gas development.
- B. Toomey – Drilling is still going on in West Virginia's northern panhandle and central area. In 2012, there were 553 applications for horizontal wells and 417 permits issued. In 2013, there have been 231 applications and 196 permits. The applications continue to focus on areas producing wetter gas. There continues to be a lot of pipeline activity as well.
- Lyn Poorman, MDE – The reports required by the June 2011 Executive Order signed by the Governor are available on **MDE's website**.
- V. Binetti – The majority of drilling wastewater is no longer being sent to POTWs and more is being recycled in gas development. The bromides from this wastewater had been causing significant problems for water treatment plants. That said, it is clear that bromides from other sources such as coal-fired power plants and iron and steel facilities are leading to bromides in the water. In Pennsylvania, EPA is seeing more applications to use underground injection to deal with the hydraulic fracturing waste water.

Uranium update – G. Prelewicz – No update at this time.

Land Preservation in Adams County, Pa. – V. Binetti
The **Land Conservancy of Adams County received a $250,000 grant** from EPA and American Rivers for the acquisition of a 135 acre easement of forest in the Marsh Creek watershed to protect the drinking water supply for Gettysburg. Funding for this grant came from a 2009 earmark for $2.1 million to protect the **Potomac Highlands**. American Rivers selected seven additional projects for portions of this funding.

Annual Meeting – We will start planning the meeting now to find the best location, topic, and speakers. P. Bowling has offered to look into Pennsylvania options.

Annual Dues – Members should start thinking about activities we might want to undertake in 2015 and beyond that might require increased funding.

Announcements

- V. Binetti – Source Water Collaborative added two new members, the National Association of Conservation Districts and Smartgrowth America. They continue to develop relationships with the agricultural sector and hope to improve on-the-ground protection efforts. There is an EPA workgroup focused on better coordination and integration of the Safe Drinking Water Act and Clean Water Act. They are developing case studies of how this has worked.
- Marjorie Copeland, EPA HQ – An updated version of the document that outlines **Federal funding opportunities for source water protection** is now available.

Information Session

Tree Canopy Trends in the Potomac Watershed, Peter Claggett, USGS/Chesapeake Bay Program
Forests and Water Quality in the Potomac, Sally Claggett, U.S. Forest Service/ Chesapeake Bay Program
Source Water Protection Activities of the U.S. Endowment for Forestry and Communities, Tracy Mehan, The Cadmus Group (Handouts follow below)

Next Quarterly Meeting:
August 22, 2013

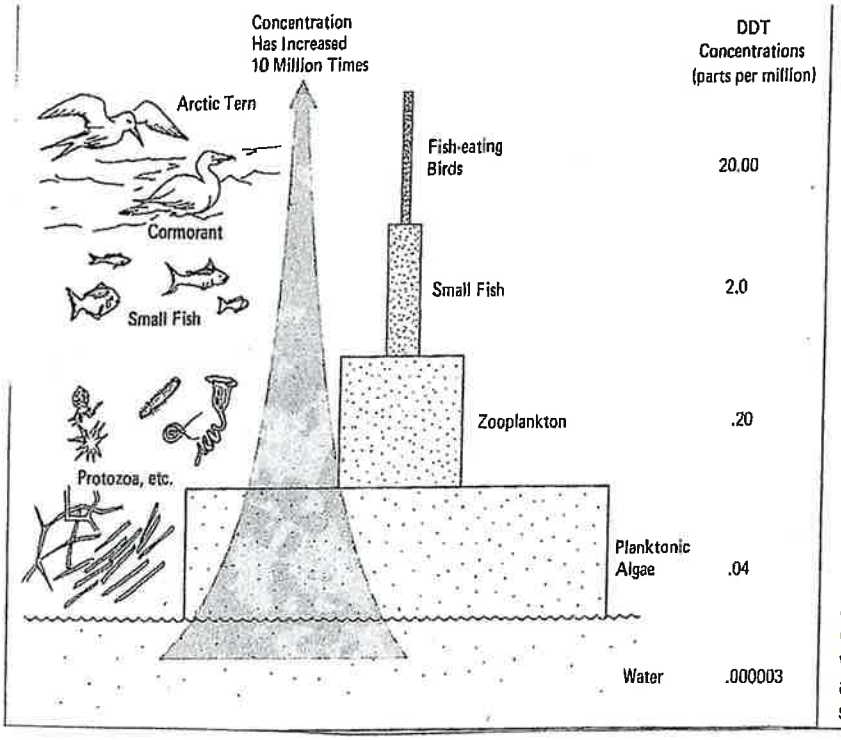


FIGURE 11–4
Biomagnification. When the phenomenon of bioaccumulation is put into the context of a food chain, each successive consumer receives a more contaminated food supply and, in turn, accumulates the contaminant to yet a higher level. For example, scientists have observed that the concentration of the pesticide DDT was magnified some 10 million-fold as it passed through the food chain shown.

Conclusions

- Trace amounts of steroids and pharmaceuticals have been reported in water for more than 30 years
- Robust analytical methods are capable of accurately detecting and quantifying chemicals in water at levels < 0.000000001 g/L
- Only 11 of 62 target compounds were detected in finished drinking water (>20% frequency)
  - Atrazine had highest frequency at 83%, but at less than 1/3rd the MCL
  - If MRLs were 10 ng/L, then 9 of 62 would have been detected
  - If MRLs were 100 ng/L, then 3 of 62 would have been detected
  - If MRLs were 1000 ng/L, then no compounds would have been detected
- Exposure to estrogenic chemicals in diet are far greater than in drinking water
- Toxicological relevance is critical in order to establish meaningful treatment and analytical goals

REQUEST FOR PROPOSALS

Evaluation of Current and Alternative Strategies for Managing CECs in Water (RFP 4494)

Project Objectives

The objectives of this project are to:

- identify and analyze the current regulatory, non-regulatory and other paradigms used in the US and internationally to manage contaminants of emerging concern (CECs) in water,
- identify and analyze any existing or proposed multi-disciplinary programs and paradigms used in the US and internationally that provide holistic approaches to manage CECs,
- develop and evaluate alternative holistic management strategies and/or paradigms for managing CECs in water,
- develop a list of representative CECs to be used for evaluation of the identified strategies,
- compile information on the relative risks of the representative CECs and relative sources of exposure to the representative CECs,
- compare the relative financial, environmental, and societal costs and benefits to human health and the environment of the identified management strategies and/or paradigms for managing CECs in water, and
- identify potential approaches for overcoming the barriers to and promoting the advancement of the alternatives with the greatest potential overall benefits and lowest overall costs in a document that can serve as a reference and support for multi-sector stakeholder collaboration.

This project is being funded through the Focus Area Program, which enables Water Research Foundation to solve broadly relevant subscriber issues and challenges with a targeted, sustained research effort. The program is developed around research Focus Areas: a topic area that is of high interest and priority to Foundation subscribers because of a challenge or opportunity that is present, emerging, or anticipated, and for which research will help subscribers manage and address the challenge or optimize the opportunity. A focus area includes a discrete challenge or opportunity statement, measurable objectives, and one or more projects that will lead to applied solutions and benefits for Foundation subscribers within a specified, relevant time frame.

Healthy Watersheds through Healthy Forests

Source Water Protection and the U.S. Endowment for Forestry and Communities (the Endowment)

Forests are Essential for Clean, Abundant Water

About two-thirds of our Nation's freshwater resources originate in forests. Maintaining forested watersheds in a healthy condition ultimately reduces drinking water treatment and storage costs. A 2004 study found that for every 10% increase in forest cover within the source area, treatment and chemical costs decrease about 20% and about one-half of the variation in treatment costs can be explained by the percentage of forest cover.

The Endowment's Goal

Promote "beneficiary pays," fee-based, funding mechanisms as the most cost-effective approach to conserving and improving management of forested watersheds.

The Endowment's Approach: Beneficiaries Pay

Protecting and managing forested watersheds is cost-effective, but very significant funding is required to accomplish this necessity on a nationwide basis. The most scalable and practical approach is to empower communities to protect their own watersheds by connecting water consumers with the forest landowners who produce their water, thus putting a "face" on this important issue. The Endowment supports approaches that allow communities to generate the funding needed to protect their watersheds, including payments for watershed services, watershed protection fees on water bills, and local ballot measures that secure funding for watershed protection.

The Endowment's 2013 Watershed Projects

Watershed Protection Fees --Through a $4 million partnership with the Natural Resources Conservation Service, the Endowment is piloting projects in NC, VA and the mid-Atlantic. Raleigh, NC, instituted a watershed protection fee in 2012 that averages 40 cents/month/household, generating $1.8 million annually for watershed protection.

Clean Water State Revolving Fund—This federally-capitalized fund provides billions in loans for water treatment. Only a few states have successfully tapped this program for source water protection. The Endowment is partnering with The Trust for Public Land to encourage more states to participate. The primary focus in 2013 is in Colorado, California, Oregon, and Washington.

Conservation Ballot Measures— In 2012, voters passed 81% of local measures for conservation through bonds or tax increases, raising an estimated $767 million. Concern for drinking water sources motivates voters to support these measures. The Endowment is working with The Trust for Public Land and others to expand this approach to more communities across the country

The Drinking Water Community and Individual Utilities—Water utilities are critical players in source water protection issues. Their support for projects can accelerate source water protection. In partnership with the American Water Works Association, the Endowment is funding a source water protection coordinator—Tracy Mehan, of The Cadmus Group-- to more systematically engage the water

community, individual utilities, and to help implement the *Source Water Protection Vision and Roadmap*.

Economic Benefits of Green Infrastructure—Increasing evidence suggests that healthy "green" infrastructure such as forests and wetlands can significantly reduce water treatment and storage costs through traditional "gray" or bricks-and-mortar infrastructure. The ideal combination of green and gray will save water consumers money and provide many other benefits. The Endowment is working with The World Resources Institute to support their research on this important economic issue.

Partnerships

The Endowment works closely with a wide variety of public and private partners to promote the protection and improved management of forested watersheds. Our cost-share partners include:

Natural Resources Conservation Service
USDA Forest Service
Department of Defense
American Water Works Association
The Weyerhaeuser Family Foundation
The Gates Family Foundation
Knobloch Family Foundation
The Kelley Family Foundation Trust
Sand County Foundation Bradley Fund for the Environment
American Forest Foundation
The Conservation Fund

In any extreme situation, you cannot survive for more than:

- **3 minutes without air**
- **3 hours without shelter**
- **3 days without water**
- **3 weeks without food**

The U.S. Army Survival Manual

"The Endowment's approach that links local water consumers with protection of their own watersheds holds great promise as a sustainable way for communities to address perhaps the most important natural resource issue of this century – water conservation."

Jason Well, Acting Chief, Natural Resources Conservation Service

"Investing in watershed conservation is the best way for our citizens to save money on their water bills in the long run. The Endowment's financial support helped Raleigh pioneer a system that is working well for all involved."

Charles Meeker, former Mayor, Raleigh, NC

The Endowment's Mission -- The Endowment works collaboratively with partners in the public and private sectors to advance systemic, transformative and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities.

Contact -- Peter Stangel; peter@usendowment.org; www.usendowment.org; 404-915-2763.

U.S. Endowment for Forestry and Communities

Raleigh, North Carolina—Upper Neuse Watershed

Opportunity Driver -- Water quality in the Upper Neuse River Basin is declining due to population growth and associated development. Basin population is expected to almost double between 2002 and 2030, resulting in development of 50,000 acres -- 76% of the remaining undeveloped land in the basin.

Action -- In 2005, Raleigh Mayor Charles Meeker, with City Council support, established the Upper Neuse Clean Water Initiative (Initiative), a partnership with land conservation groups. Instead of relying solely on water treatment plants, the Initiative works with landowners, local governments, and others to conserve priority forests, floodplains and stream buffers that provide natural water treatment.

Goal -- Save residents money by investing in cost-effective watershed protection efforts to help prevent declines in drinking water quality and quantity.

Financial Mechanism -- Raleigh's City Council began with annual allocations ($500,000 - $1.5 million) for watershed conservation. In 2011, they established a "watershed protection fee" of 1 cent/100 gallons, included in customers' monthly water bills. The fee costs homeowners an average of 40 cents/month and generates about $1.8 million annually for land protection to protect drinking water quality. Since 2005, Raleigh has allocated on average more than $1 million per year for land conservation in the Upper Neuse. Nearby Durham instituted a fee for the same purpose (1 cent per cubic foot).

Possible Avoided Costs -- Raleigh has received estimates of up to $150 million to install a new water filtration system if impairment in the water supply exceeds certain levels.

How They Did It -- The Initiative helped illustrate the hydrologic connection between upstream communities that impact water quality, and downstream communities that use the water supply. The partners promoted a "beneficiary pays" principle to promote watershed protection, highlighting the fact that watershed protection costs less than watershed restoration and water treatment. The Initiative produced a plan called *Protecting Land and Drinking Water for the Future* that used spatial data and computer modeling to determine which land tracts, if conserved, would be most effective in stemming degradation of the Basin's water quality. As of April 2012, the local governments and land trust partners have protected 63 properties that include 63 miles of stream banks on 6,170 acres.

Ancillary Benefits -- Protected watersheds provide open space for recreation, wildlife habitat, scenic views that enhance property values, and the many economic benefits associated with working forests.

Watershed Characteristics -- The Upper Neuse basin is 770 square miles and contains nine drinking water reservoirs that serve over 700,000 people in six counties.

For More Information

See http://www.ctnc.org/land-trusts/statewide-land-protection-programs/upper-neuse-clean-water-initiative/ *Source: Conservation Trust for North Carolina, www.ctnc.org*

U.S. Endowment for Forestry and Communities

Source Water Protection
and the
U.S. Endowment for Forestry and Communities

The U.S. Endowment for Forestry and Communities (the Endowment) is a not-for-profit public charity that works collaboratively with partners in the public and private sectors to advance systemic, transformative, and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities (www.usendowment.org).

Forested Watersheds are Essential for Water Quality and Quantity

Protecting and improving the management of forested watersheds is important for several reasons, including:

- An estimated two out of three Americans receive their water from a forested watershed;
- Two-thirds of our Nation's fresh-water resources originate in forests;
- Healthy watersheds reduce water treatment and storage costs; and
- Healthy watersheds are the most cost-effective way to provide clean, abundant water.

Although the Endowment is specifically focused on forested watersheds, these same concepts apply to all watersheds.

Water Utility Partnerships

The Endowment is committed to working with the water community, individual water utilities and the customers they serve to help them protect and improve management of their watersheds. The Endowment can provide the following:

- Contacts at water utilities that have successfully supported watershed protection programs;
- Case-studies of successful watershed protection efforts;
- Access to analyses that demonstrate the economic benefits of watershed protection;
- Connections to watershed protection experts who can advise on land protection programs;
- Links to organizations that specialize in public education on watershed protection;
- Information on financial mechanisms useful to generate funding for watershed protection;
- Contacts at federal natural resource agencies with watershed protection expertise and funding;
- Potential for cost-share funding and fund-raising help for watershed protection efforts.

Contacts

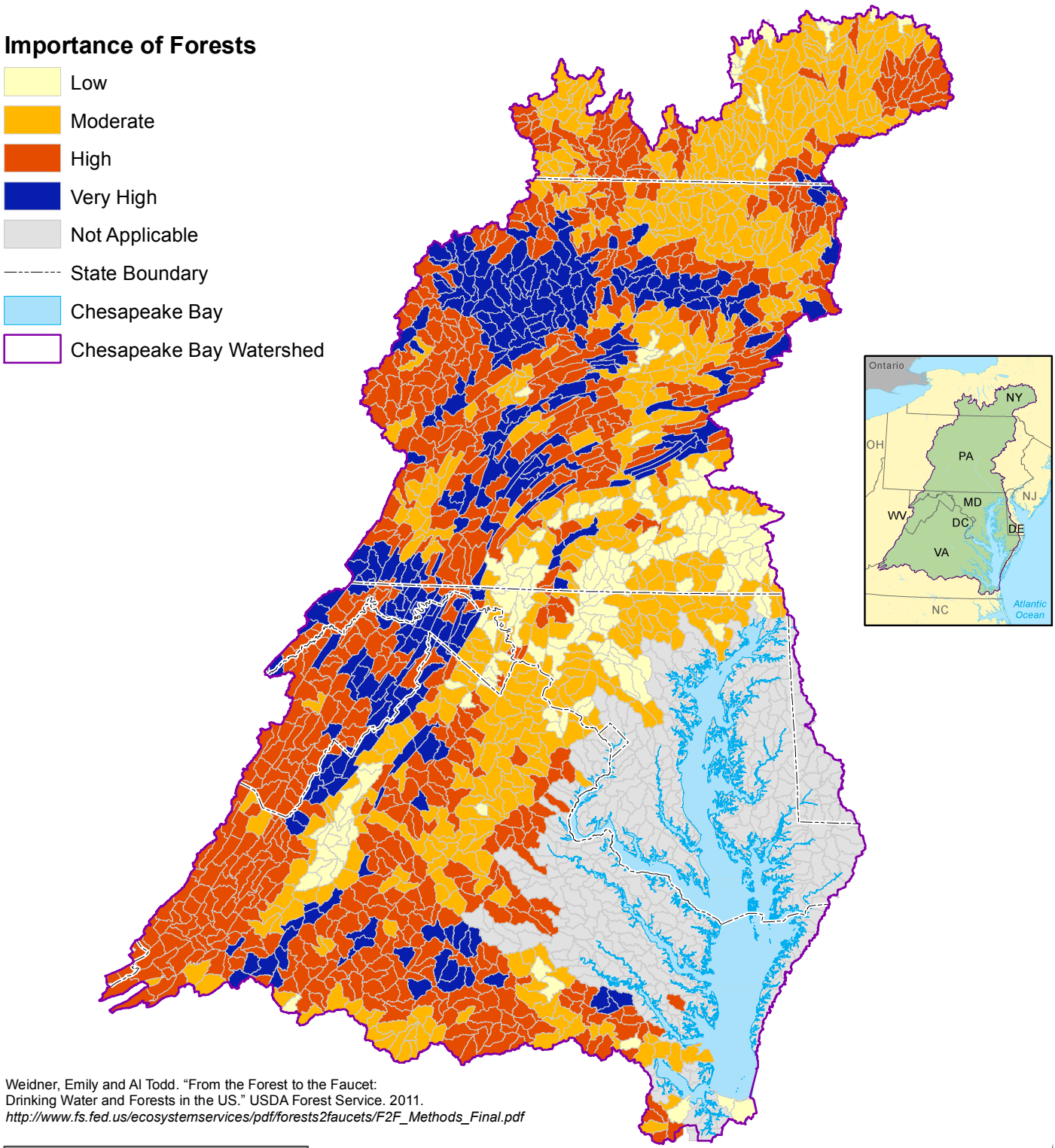
Tracy Mehan, Principal, The Cadmus Group, and Source Water Protection Coordinator for the Endowment; Tracy.Mehan@cadmusgroup.com;

Peter Stangel, Senior Vice President, Peter@usendowment.org.

U.S. Endowment for Forestry and Communities

Importance of Forest to Surface Drinking Water Supplies

Chesapeake Bay Program
A Watershed Partnership



Weidner, Emily and Al Todd. "From the Forest to the Faucet: Drinking Water and Forests in the US." USDA Forest Service. 2011. *http://www.fs.fed.us/ecosystemservices/pdf/forests2faucets/F2F_Methods_Final.pdf*

Data Sources: Chesapeake Bay Program

For more information, visit *www.chesapeakebay.net*
Disclaimer: *www.chesapeakebay.net/termsofuse.htm*

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U.S. Endowment for Forestry and Communities

NEWS

ENDOWMENT ADVANCES WATER AND WATERSHED PROTECTION PROGRAM

U.S. Endowment for Forestry and Communities, Greenville, SC
For IMMEDIATE RELEASE (February 21, 2013)

The U.S. Endowment for Forestry and Communities (the Endowment) today announced that Tracy Mehan, a principal with The Cadmus Group, Inc., of Waltham, Massachusetts, has been retained to coordinate the Endowment's source water protection efforts.

"An estimated two out of three Americans receive their drinking water from a forested watershed," noted Carlton Owen, the Endowment's President and CEO. "Protecting, restoring, and improving management of these working forests is the most economical way to ensure clean, abundant supplies of drinking water. If the forests are lost or degraded, water quality diminishes, triggering expensive treatment and storage costs. We could not be more pleased to add Tracy to our team to help advance protection of forested watersheds, which will, in turn, save money for everyone."

Mehan was Assistant Administrator for Water at the U.S. Environmental Protection Agency from 2001-2003. In that capacity he directed both the Clean Water and Safe Drinking Water Acts programs and developed new policies and guidances on watershed-based permitting and water quality trading. Mehan also served as director of the Michigan Office of the Great Lakes and as director of the Missouri Department of Natural Resources.

Mehan will focus on working with the water utility industry and individual utilities to help advance watershed protection in a systemic, transformative, and sustainable way, which is a hallmark of the Endowment's approach. "The Endowment's goal is to help water users protect the watersheds upon which they depend," Owen said.

"My colleagues and I are both pleased and privileged to work with the Endowment, water utility managers, and local communities to protect both forests and drinking water, two of our most important assets. We appreciate this opportunity to enhance greater collaboration between these two key sectors," said Mehan.

Mehan's position is being co-funded by the Weyerhaeuser Family Foundation and the American Water Works Association (AWWA). "AWWA is excited about the opportunity to collaborate with the Endowment to further source water protection so that the water entering utility treatment plants is of the highest possible quality," said David LaFrance, AWWA Executive Director.

Mehan's activities will be guided in part by the recommendations presented in the *Source Water Protection Vision and Roadmap*, published by the Water Research Foundation in 2012.

For more information, contact:

U.S. Endowment for Forestry and Communities
Peter Stangel, Senior Vice President, 404-915-2763; Peter@usendowment.org. The U.S. Endowment for Forestry and Communities (the Endowment) is a not-for-profit public charity working collaboratively with partners in the public and private sectors to advance systemic, transformative, and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities – www.usendowment.org.

American Water Works Association
Alan Roberson, Director of Federal Relations, 202-326-6127, aroberson@awwa.org. Founded in 1881, the American Water Works Association (AWWA) is an international, nonprofit, scientific and educational society committed to the safety and improvement of water quality and supply. With more than 50,000 members, AWWA represents professionals from the full spectrum of the water community -- www.awwa.org.

The Cadmus Group, Inc.
Chi Ho Sham, Senior Vice President, 617-673-7156; ChiHo.Sham@cadmusgroup.com. Cadmus is an employee-owned consultancy committed to helping our clients address complex challenges by applying diverse skills and experiences in a highly collaborative environment. By assisting our clients in achieving their goals, we create social and economic value today and for future generations. Founded in 1983, we leverage exceptional expertise across a staff of more than 400 professionals who provide an array of research and analytical services in the United States and abroad -- www.cadmusgroup.com.

AWWA and U.S. Endowment for Forestry Source Water Protection Survey -

Survey Introduction (Page 1 of 4)

If this survey was passed to you as a PDF or on paper, please go to https://www.surveymonkey.com/s/SourceWater2013 to complete the survey before June 21, 2013. If you are viewing this on the survey website, please continue after reading the message below.

An estimated two out of three Americans receive their drinking water from a forested watershed. Protecting, restoring, and improving management of these working forests is among the most economical ways to ensure clean, abundant supplies of drinking water.

AWWA is collaborating with the U.S. Endowment for Forestry and Communities to advance source water protection. AWWA and the Endowment are excited to collaborate to further source water protection, so that the water entering utility treatment plants is of the highest possible quality. AWWA is implementing this survey to:
1) notify its members of this new collaboration,
2) garner support, and
3) gather input on the potential of forested watershed management and conservation efforts to improve source water quality.

For more information, see AWWA's press release.

We estimate that this survey will take approximately 15 minutes to complete, and should be completed by someone familiar with your utility's source water protection efforts. A partially completed survey cannot be saved to continue at a later date. Your answers will be recorded only if you finish the entire survey. **We suggest you print off a copy of the survey here** to help prepare your answers before beginning.

The survey is comprised mostly of multiple choice questions; however, there are some open-ended questions. We are particularly interested in your answers to these open-ended questions and hope that you are able to take the time to answer them. If you have any additional questions or comments, feel free to list them in the final question. We look forward to reading your responses.

Please complete this survey by **Friday, June 21, 2013**. If you are an operator of more than one utility, please complete one survey per utility or forward the survey to a local contact at each utility to complete. Thank you in advance for sharing your watershed conservation and source water protection knowledge and experiences.

Your individual information will not be shared publicly or with any regulatory agencies without your permission. Aggregate statistics and insights may be shared, and some results may be displayed as dots on maps or in graphs and tables without identifying specific utilities.

Should you have any difficulties with this survey or have questions that must be answered immediately, please contact Adam Carpenter at 202-326-6126 or acarpenter@awwa.org.

Demographic, Utility, and Watershed Information (Page 2 of 4)

AWWA and U.S. Endowment for Forestry Source Water Protection Survey -

***1. Please provide us with your contact information and basic information about your utility. Your contact information will only be used for the purpose of this survey to reach you should we have questions about your responses or should you request that we follow-up with you.**

Contact Name:

Utility Name:

Utility Address:

Utility PWSID:

City/Town:

State:

ZIP:

Country (if not USA):

Contact Email Address:

Contact Phone Number:

2. Retail and Wholesale population served by your utility (enter without commas)

Approximate **retail population served** by your utility (Not number of accounts).

Approximate **wholesale population served** by your utility (Not number of wholesale accounts).

3. Please name the top three watersheds you source water from and provide approximate acreage if known:

First Watershed

Second Watershed

Third Watershed

4. Do forested lands play a role in protecting water quality in your watershed(s)?

- ◯ Yes, forested lands play a very significant role in protecting water quality in our watershed(s).
- ◯ Yes, forested lands play a somewhat significant role in protecting water quality in our watershed(s).
- ◯ Yes, forested lands play a minor role in protecting water quality in our watershed(s).
- ◯ No, forest lands do not play a role in protecting water quality in our watershed.
- ◯ I do not know.

5. What percentage of these watershed(s) are on public lands?

- ◯ 75%-100%
- ◯ 50%- <75%
- ◯ 25%- <50%
- ◯ <25%
- ◯ I do not know

6. Do you have an established source water protection program?

- ◯ Yes
- ◯ No
- ◯ No, but one is currently under development

Watershed Information, Continued (Page 3 of 4)

7. What are your primary source water protection challenges or concerns? (check all that apply)

- ☐ Stormwater runoff from impervious surfaces
- ☐ Point source pollution (such as industrial discharges, sewer overflows or CAFO discharges)
- ☐ Agricultural non-point source pollution
- ☐ Urban non-point source pollution
- ☐ Mining, oil, natural gas, or other mineral extraction

Please specify known contaminants from these concerns:

8. Are you concerned about the effect of lost forest cover on source water quality in your utility's wastershed(s)?

- ◯ Yes
- ◯ No

Please explain if needed:

9. Is there information suggesting loss of forest cover is affecting source water quality in your utility's watershed(s)?

- ◯ Yes
- ◯ No

Please explain if needed:

10. If you answered yes to the previous question, please select all problems that may be contributing to loss of forest cover in your utility's watershed(s)

- ☐ Development (urban)
- ☐ Expanding row crop / grassland agriculture
- ☐ Invasive Species, insect pests, or disease
- ☐ Forest fires
- ☐ Failure to implement, or lack of forest management practices
- ☐ Drought
- ☐ Changing Climate
- ☐ Other (please specify)

11. Have you considered performing a cost-benefit analysis on the merits of source water protection via forest conservation, restoration, and/or management?

- ◯ We have already performed an analysis
- ◯ We are considering / planning to conduct an analysis
- ◯ We have not considered performing an analysis

12. Would you be interested in acquiring technical assistance to perform or update such an analysis?

- ◯ Yes, we are interested in acquiring technical assistance to perform an analysis.
- ◯ Yes, we are interested in acquiring technical assistance to update our analysis.
- ◯ No, we are not interested.

13. Please describe your source water quality:

	Decline significantly	Decline somewhat	Neither decline nor improve	Improve somewhat	Improve significantly
Quality change experienced over last 5 years?	◯	◯	◯	◯	◯
Expected quality change in the near future?	◯	◯	◯	◯	◯

14. Have you undertaken or are you planning to undertake studies on the impacts of any of the following mitigation measures on source water quality?

- ☐ Floodplain/riparian zone reforestation
- ☐ Forest management practices
- ☐ Reduced sediment loads
- ☐ Reduced nutrient loads
- ☐ Flood reduction
- ☐ Road management/decommissioning
- ☐ Fire risk mitigation
- ☐ Other (please describe)

15. If you checked any of the boxes in the previous question, please briefly describe the study/studies below. Please also describe any additional resources, documents, or tools you are familiar with or find useful.

Other Information (Page 4 of 4)

16. Is your utility currently implementing projects to improve source water quality, and if so, what funding sources are you using for those projects? (check all that apply)

	User or watershed management fees	Water rates	Local government general fund	State grant funds	Federal grant funds	State loan program	Federal loan program	Philanthropic funds	Volunteer Efforts	Not Applicable
Floodplain/riparian zone reforestation	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Forest management practices	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Reduced sediment loads	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Reduced nutrient loads	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Flood attenuation	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Road management/decommissioning	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Fire risk mitigation	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vegetation Buffers	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other (please describe)

17. Are there efforts, being undertaken by others, within your watershed(s) to help improve source water quality?

	Yes	No	I don't know
Floodplain/riparian zone reforestation	○	○	○
Forest management practices	○	○	○
Reduced sediment loads	○	○	○
Reduced nutrient loads	○	○	○
Flood attenuation	○	○	○
Road management/decommissioning	○	○	○
Fire risk mitigation	○	○	○
Vegetation Buffers	○	○	○

Please specify known outside groups or list other types of activities here:

18. Please indicate on a scale of 1 to 5 how likely your utility or the community you serve is to utilize the following tools for source water protection (1 = very unlikely, and 5 = very likely or already in use).

	1	2	3	4	5
User or watershed management fee	○	○	○	○	○
Land trusts for purchase of land or conservation easements	○	○	○	○	○
Land trusts for reforestation or forest stewardship	○	○	○	○	○
Bond issue	○	○	○	○	○
Cost share, such as with a USDA/NRCS program	○	○	○	○	○

19. Please check any of the following that you may be interested in working on with AWWA and the Endowment or other utilities. The goal of these projects would be to improve water quality in your watershed by promoting and financing best practices in forest management, ultimately providing cost savings to utilities and consumers.

- ☐ Revenue streams for forest protection and management
- ☐ Outreach to private landowners
- ☐ Forest management and/or protection
- ☐ Floodplain/riparian zone reforestation
- ☐ Reducing sediment and/or nutrient loads
- ☐ Flood attenuation
- ☐ Road management/decommissioning
- ☐ Fire risk mitigation
- ☐ Climate change adaptation

20. Please list any other questions or comments in the space provided:

Please hit "done" below to submit your answers. If you checked any of the boxes in Question 20 or if we have any questions about your answers, AWWA and/or the Endowment may contact you using the contact information you provided in Question 1. Thank you for your participation!