

2013 Source Water Collaborative Pilot Program

Lancaster County, Pennsylvania

Contact: Mary Gattis, Senior Countywide Planner, Lancaster County Planning Commission

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- *Unique Contribution:* Leadership role from county planning commission, involvement of small utilities, connects CWA and NRCS programs to address nutrients in groundwater
- *Priority concerns:* agriculture & stormwater
- *Goals:* promote SWP by facilitating partnerships to implement SWP, working with water systems and other partners in Lancaster County; coordinate with NRCS programs/priorities; integrate Clean Water Act priorities, programs, and activities with those of the Safe Drinking Water Act to protect drinking water sources, building on “Blueprints: An Integrated Water Resource Plan for Lancaster County.”
 - County-level implementation focus, with regional coordination through Lower Susquehanna Source Water Protection Collaborative and PA DEP
- *Outputs:*
 - Increased efficiency and effectiveness in implementing source water protection plans through increased collaboration between water suppliers and with key partners
 - Increased placement of agricultural conservation practices to protect drinking water sources
 - Increased understanding and use of cross-program (CWA-SDWA) implementation actions to protect drinking water sources.
 - More efficient and effective outreach to partners and stakeholders, using web-based materials and social media
- *Partners:* Water suppliers, Susquehanna River Basin Commission, Water Resources Education Network (League of Women Voters), PA. Department of Environmental Protection, PA. Rural Water Association, Chesapeake Bay Foundation, Lancaster County Planning Commission, Lancaster County Conservation District, Lancaster County Zoning & Building Permit Officials Association, Lancaster County Agricultural Council, Penn State Cooperative Extension
- *Needs from SWC:* meeting design/facilitation, SWC federal/state partners, strategic planning assistance. Leverage funding (with support from SWC member, Environmental Finance Center – University of Maryland)
- ***Current Commitments from SWC:***

In addition to EPA/SWC contractor support, key SWC members have agreed to offer the following:

 - The Association of State Drinking Water Administrators commits to using its network of state source water protection experts to share advice, lessons learned in similar projects in other locations, and useful analytical tools to help further the objectives of this project.
 - The Ground Water Protection Council commits to engage its network of state programs to provide support, share lessons learned, and provide communication and outreach support to help further the objectives of this project.

- The National Rural Water Association's (NRWA) State affiliates are already connected to this project, and NRWA expects the Source Water Specialist will be active on-the-ground in this area.
- The Groundwater Foundation is willing to work with the appropriate individuals in more detail to offer the support of the local Groundwater Guardian program.
- The Pennsylvania Department of Conservation and Natural Resources Bureau of Forestry and U.S. Forest Service are primary partners and through this partnership there is growing support the use of trees within a green infrastructure context to address water quality issues, program funding (stewardship and urban forestry) supports BMPs and Urban Tree Canopy assessments /goal setting. FS work with Chesapeake Bay forestry and stormwater working group can help bring better understanding of new BMPs and work in verifying efficiencies. Other excellent resources include the national Forests to Faucets GIS database of the land areas most important to surface sources of drinking water and the forests that protect those sources (http://www.fs.fed.us/ecosystemservices/FS_Efforts/forests2faucets.shtml) as well as the i-Tree tools (<http://www.itreetools.org/>).
- The Environmental Finance Center – University of Maryland agreed to continue their work with the LCPC to ensure that the resources in the County are being utilized and that collaboration exists across local organizations.
- The U.S. Geological Survey is currently adding a public-supply well network to its National Water Quality Assessment (NAWQA) Program that will include public-supply wells in the Piedmont Valley and Ridge aquifers. The wells are being distributed on an equal-area grid, but the design is flexible enough to include a few hand-placed wells to improve understanding of groundwater and public-supply well vulnerability to contamination. Wells will be sampled for a wide range of constituents beginning in 2013, including nutrients, pesticides and multiple age tracers. If the pilot is in an area in which the carbonate rocks are used for public supply, USGS might be able to contribute such samples; samples could be useful for calibrating models used to forecast performance of nutrient reduction. USGS also has several new tools that might be useful to the SWC pilot project team for understanding (1) contributing area uncertainty <http://water.usgs.gov/software/MonteCarloContributingArea/>, (2) the response of wells to changes in nonpoint-source contamination at the water table http://ca.water.usgs.gov/user_projects/TracerLPM/, and (3) redox conditions of groundwater pumped from public-supply wells <http://pubs.usgs.gov/of/2009/1004/>. A new USGS circular titled “Factors Affecting Public-Supply-Well Vulnerability to Contamination: Understanding Observed Water Quality and Anticipating Future Water Quality” by Eberts, Thomas and Jagucki is ready for the printer and will be available soon. A companion online decision-support system is nearly complete. USGS would be happy to provide presentations or trainings related to any of these items, if desired. Existing NAWQA data for Pennsylvania can be found at http://infotrek.er.usgs.gov/nawqa_map/.
- The National Groundwater Association commits to providing: 1) a list of literature on nitrate reduction and nitrate occurrence in groundwater and, as available, copies of or abstracts on relevant articles; 2) a copy of NGWA's best suggested practice on reducing problematic concentrations of nitrates in residential well systems; and 3) networking opportunities with NGWA member professionals.

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Wisconsin: Targeted watersheds

Contact: Mary Vollbrecht, Groundwater Section Chief, Bureau of Drinking Water and Groundwater, Wisconsin Department of Natural Resources

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- *Unique Contribution:* state source water program leadership, state dept. of ag involvement (potential model to enhance this partnership nationwide), address rising nitrate in groundwater, focus on key CWA, NRCS, & conservation district partners
- *Priority Concerns:* nitrates in groundwater, especially systems approaching MCL, targeted sub-watersheds; have baseline data
- *Goal:* Develop a routine response that reduces the number of sub-watersheds with drinking water approaching unsafe nitrate levels. Partnerships with CWA programs, NRCS, conservation districts
 - Participating in USDA/NRCS National Water Quality Initiative, State 590 Nutrient Management Standard
 - Establishing the technical groundwork for nutrient reduction: baseline data, nitrogen fate/transport, treatment cost.
- *Outputs could include:*
 - Strategic plan, including communications
 - Consensus on scientific basis and methods
 - Identification and involvement of additional key partners
 - Outreach materials to engage stakeholders and to transfer lessons learned
- *Partners:* EPA Region 5; Wisconsin Department of Agriculture; NRCS; Wisconsin Department of Health Services; Wisconsin Geologic and Natural History Survey; Center for Watershed Science and Education, UW-Stevens Point; Wisconsin Rural Water Association; Wisconsin Water Association; Wisconsin Land and Water Conservation Association
- *Needs from SWC:* strategic planning advice from experienced SWP players (e.g., Salmon Falls); partnerships: facilitation of work with national and regional agricultural & water industry partners; communications (graphic design, message development)

- **Current Commitments from SWC:**

In addition to EPA/SWC contractor support, key SWC members have agreed to offer the following:

- The Association of State Drinking Water Administrators commits to using its network of state source water protection experts to share advice, lessons learned in similar projects in other locations, and useful analytical tools to help further the objectives of this project.
- The Ground Water Protection Council commits to engage its network of state programs to provide support, share lessons learned, and provide communication and outreach support to help further the objectives of this project.
- The National Rural Water Association's State affiliates are already connected to this project. NRWA anticipates the Source Water Specialist will be active on-the-ground in this area.

- The National Groundwater Association commits to providing: 1) a list of literature on nitrate reduction and nitrate occurrence in groundwater and, as available, copies of or abstracts on relevant articles; 2) a copy of NGWA's best suggested practice on reducing problematic concentrations of nitrates in residential well systems; and 3) networking opportunities with NGWA member professionals.
- The Groundwater Foundation is willing to work with the appropriate individuals in more detail to offer the support of the local Groundwater Guardian program.
- U.S. Forest Service Northeastern Area State & Private Forestry has staff in their St. Paul area that would be interested in this pilot and might be willing to engage their partners in the effort.
- The American Water Works Association Source Water Committee reached out to Wisconsin and is considering how best to support the effort.
- U.S. Environmental Protection Agency Region V has made the project possible through Safe Drinking Water Act set-aside funding. EPA is also facilitating key coordination with similar efforts across states and regions as well as potential economic analysis assistance.
- The U.S. Geological Survey is currently adding a public-supply well network to its National Water Quality Assessment (NAWQA) Program that will include public-supply wells in the glacial aquifer system. The network will be sampled in 2013. The wells are being distributed on an equal-area grid, but the design is flexible enough to include a few hand-placed wells to improve understanding of groundwater and public-supply well vulnerability to contamination. Wells will be sampled for a wide range of constituents, including nutrients, pesticides and multiple age tracers. If the pilot is in an area in which the glacial aquifer is used for public supply, USGS could contribute such samples; samples would be useful for calibrating models used to forecast performance of nutrient reduction. USGS also would be willing to be a more active partner, if desired, and could contribute to local understanding and (or) extrapolation of findings to other parts of Wisconsin. We will be constructing multiple models at a variety of scales in the glacial aquifer system over the next 10 years and have yet to finalize locations. In addition, USGS will be resampling a number of its NAWQA well networks in Wisconsin over the next decade, including agricultural and urban land-use networks and several domestic-well networks. We would be happy to provide details; the data also may be of interest to the greater Wisconsin Nitrate Initiative. USGS also has several new tools that might be useful to the SWC pilot project team for understanding (1) contributing area uncertainty <http://water.usgs.gov/software/MonteCarloContributingArea/>, (2) the response of wells to changes in nonpoint-source contamination at the water table http://ca.water.usgs.gov/user_projects/TracerLPM/, and (3) redox conditions of groundwater pumped from public-supply wells <http://pubs.usgs.gov/of/2009/1004/>. A new USGS circular titled "Factors Affecting Public-Supply-Well Vulnerability to Contamination: Understanding Observed Water Quality and Anticipating Future Water Quality" by Eberts, Thomas and Jagucki is ready for the printer and will be available soon. A companion online decision-support system is nearly complete. We would be happy to provide presentations or trainings related to any of these items, if desired. Existing NAWQA data for Wisconsin can be found at http://infotrek.er.usgs.gov/nawqa_map/.

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Sheridan, Wyoming

Contact: Daniel Roberts, City of Sheridan Utilities Manager Email: droberts@sheridanwy.net

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- *Unique Contribution:* Utility leadership, diverse capabilities/perspectives of partners, solid CWA data (TMDL, other), using CWA and USDA tools
- *Priority concerns:* sediment, E. coli, Cryptosporidium
- *Goal:* Demonstrate how to integrate CWA programs addressing sediment, E.coli with SDWA regulation of Cryptosporidium.
 - 2010 TMDL, plus additional data/watershed plans
- *Outputs:*
 - Identify and develop BMPs to reduce turbidity contributed from the watershed above Sheridan's drinking water intakes
 - Develop an approved watershed control program plan; implement watershed projects recommended by the plan and designed to protect Sheridan's drinking water sources; assess progress through water quality monitoring and ability to engage affected stakeholders in a transparent and collaborative process.
- *Partners:* EPA Region 8, WY Game & Fish Dept, WY DEQ, USDA (Forest Service), Trout Unlimited, Nature Conservancy, WY Association of Stockgrowers
- *Needs from SWC:* AWWA (technical support to pinpoint sources of Cryptosporidium), NRWA (strategy for local regional adoption and implementation measures), EFCN (expertise in solving funding challenges for environmental programs); advice for engaging key partners, e.g., NRCS
- ***Current Commitments from SWC:***

In addition to EPA/SWC contractor support, key SWC members have agreed to offer the following:

 - The Association of State Drinking Water Administrators commits to using its network of state source water protection experts to share advice, lessons learned in similar projects in other locations, and useful analytical tools to help further the objectives of this project.
 - The Ground Water Protection Council commits to engage its network of state programs to provide support, share lessons learned, and provide communication and outreach support to help further the objectives of this project.
 - Bill O'Connell with the National Rural Water Association will contact the Wyoming Rural Water Source Water Specialist who may be able to provide active, on-the-ground support.
 - The Groundwater Foundation is willing to work with the appropriate individuals in more detail to offer the support of the local Groundwater Guardian program.
 - The Forest Service offered to reach out to their network for case study examples and/regulatory measures if the plan determines they are needed. Forests to Faucets GIS database of forests the land areas most important to surface sources of drinking water and the forests that protect those sources (http://www.fs.fed.us/ecosystemservices/FS_Efforts/forests2faucets.shtml).
 - Steve Via with the American Water Works Association's Government Affairs offered to share information about the various experts in the drinking water community Sheridan may want to contact. Steve compiled a list of seven resources on Cryptosporidium occurrence and source tracking to share with the Sheridan team.