

Overview of 2013 SWC Pilot Projects

Alignment with National SWC priorities: All three pilots leverage key opportunities in two high priorities of the Collaborative:

- Integrate the Clean Water Act priorities, programs, and activities with those of the Safe Drinking Water Act to protect drinking water sources.
- Leverage USDA's Natural Resources Conservation Service (NRCS) State Conservationist's technical and financial assistance programs to increase conservation practices on lands that affect drinking water sources.

For example:

Lancaster County: Designed to gain support for actions to reduce impaired stream miles, a goal of *Blueprints: An Integrated Water Resources Plan for Lancaster County*. *Blueprints* is the water resources element of the Lancaster County Comprehensive Plan, and addresses stormwater and manure management, and drinking water source protection. The State Conservationist and Lancaster County Conservation District have committed to work with the Eastern Lancaster County Source Water Collaborative (ELANCO) Source Water Collaborative on follow-up outreach to farmers to promote conservation practices.

Wisconsin: While developed using Safe Drinking Water set-aside funding, the pilot project is designed to facilitate implementation through companion Clean Water Act authorities, including linkages to Wisconsin's nutrient reduction framework (sub-watershed nitrate data), watershed assessments and TMDL implementation, and implementation of Wisconsin's new numeric phosphorus standard and pilot nutrient reduction projects under the state's CWA revolving loan fund. Nitrate demonstration project concepts are actively promoted for incorporation in trading and adaptive management projects of dischargers working to meet Wisconsin's new numeric phosphorus water quality standard.

Sheridan, WY: Developing a Watershed Control Plan with action plans to control pollution above a segment of Big Goose Creek listed on the 303(d) list, to help achieve compliance with the Safe Drinking Water Act and the Clean Water Act.

Lancaster County, Pennsylvania

Goal: implementation of best agricultural practices by local farmers to reduce nitrate in groundwater through increased collaboration by key partners.

Initial Results: December 9, 2013 educational workshop, "**Protecting Your Water Begins with Your Land - A one day workshop on the key farming practices that can best protect the drinking water sources you depend on for the health of your family, livestock, and community.**" The workshop promoted agricultural practices that reduce nitrate in groundwater. Speakers included a well-known NRCS soil health expert, Ray Archuleta, and the Pennsylvania NRCS State Conservationist, Denise Coleman, as well as a panel of experienced local farmers, and displays from related local organizations and service and equipment providers. Over 400 participants, majority were Plain Sect and Mennonite farmers.

Next Steps: Leverage high farmer interest through follow up events such as field days and outreach to farmers, working with Amish/Mennonite community leaders, NRCS, the Lancaster County Conservation District, and other partners, to connect farmers with resources and technical assistance to implement targeted conservation practices.

SWC Contribution: Meeting design and strategic planning; workshop flyer design; several ELANCO Collaborative members from organizations represented in the national SWC (NRWA, NACD, ASDWA, GWPC, AWWA, APA, EPA)

Leadership: Eastern Lancaster County Source Water Collaborative (ELANCO), led by the Lancaster County Planning Commission. ELANCO members include:

USDA/NRCS

Lancaster County Conservation District

Lancaster County Conservancy

Pennsylvania Department of Environmental Protection

Pennsylvania Rural Water Association

Chesapeake Bay Foundation

Penn State Cooperative Extension

Pennsylvania League of Women Voters Water Resources Education Network (WREN)

Western Heights Water Authority

Blue Water Authority

Lancaster Farmland Trust

Alliance for the Chesapeake Bay

Susquehanna River Basin Commission

Amish/Mennonite Community Representatives

EPA Region 3

Participation from EPA HQ (OGWDW, OWOW)

Sheridan, Wyoming

Goal: Develop a widely accepted Watershed Control Plan to address Cryptosporidium, E. coli and sediment pollution, and design stakeholder-supported action plans that can be implemented to protect drinking water sources from future contamination. The aim of the action plans will be to control pollution above a segment of Big Goose Creek listed on the 303(d) list, to help achieve compliance with the Safe Drinking Water Act and the Clean Water Act.

Initial Results

- Established Committee of stakeholders and regulators, to create a collaborative approach to the development and implementation of the Watershed Control Plan (WCP).
- Developed and implemented a monitoring plan to collect and analyze water samples from the Big Goose Creek watershed, to determine the source and location of Cryptosporidium entering the creek. A protocol was put in place to send any positive samples to a lab for genotyping. This has been a missing component of past water quality efforts.
- Commitment from Forest Service grazing allottees to be part of the planning process for the WCP.
- All of the agencies sharing some responsibility for overseeing the Big Goose Creek watershed are participating in developing the WCP, essential for successful implementation. All collaborative partners have contributed meaningful data, expertise, and advice and have defined their roles in the planning and implementation process.
- The Wyoming Rural Water Association has already recognized Sheridan's efforts. Sheridan's collaborative partners were invited to present at the Association's annual meeting in October of 2013.

Next Steps:

- Draft Watershed Control Plan, and gather initial input from key partners, including Forest Service grazing allottees (Best Management Practices), Wyoming Game and Fish Department and the Natural Resources Conservation Service (potential impacts of Plan).
- Stakeholder meetings to discuss any concerns, comments, and necessary revisions. The draft will also be sent to the Wyoming Department of Environmental Quality and EPA Region 8 for their input and expertise.

- Weather permitting, more water samples will be taken from the Big Goose Creek in the spring and summer. If any samples test positive for Cryptosporidium, they will be sent for genotyping.

SWC Contribution:

- AWWA and EPA HQ staff played a pivotal role in connecting us with expertise on identifying Cryptosporidium sources, addressing a crucial missing component in past efforts.
- Assistance in identifying possible funding sources from government and non-government sources.
- Assisted in the development of targeted public outreach to key population segments.
- The federal and state regulatory agencies have been instrumental in the program's success to date.
- Connected Sheridan with other agencies that had experience with similar programs such as Helena, Montana. This was instrumental for developing an outline to follow that would meet EPA and Wyoming DEQ standards for an approved Watershed Control Plan.

Leadership: City of Sheridan & Sheridan Area Water Supply

Partners include:

- City of Sheridan, WY
- Sheridan County WY
- Sheridan County Conservation District
- US Forest Service
- Wyoming Association of Rural Water Systems
- Wyoming Department of Environmental Quality
- EPA Region 8
- Wyoming Game and Fish Department
- Natural Resources Conservation Service
- Forest Service Grazing Allottees

Wisconsin

Goal: Develop a transferrable, collaborative response, with participation of partners and key stakeholders, to reduce the number of sub-watersheds with drinking water sources approaching unsafe levels of nitrate. The project will include a comparison of the costs and benefits of preventing nitrate contamination versus managing contaminated groundwater resources through remedial treatment, blending or the installation of new deeper wells to avoid nitrate contaminated groundwater.

Initial Results:

- Statewide assessment of all sub-watersheds (groundwater nitrate condition, sensitive drinking water receptors, wastewater discharge collaboration opportunities, hydrogeologic model availability)
- Identification of geographic priority areas (conductive hydrogeology and local project management capacity)
- Refinement of wellhead protection area delineations for priority areas
- Development of monitoring and modeling scope of work and identification of partner capacity
- Initial landowner recruitment effort (through land conservation department using traditional methods)

Next Steps:

- Continue landowner recruitment effort (tailored methods based on in-depth producer advice)
- Final design and implementation of baseline groundwater quality and nitrogen use and fate monitoring for selected site
- Predictive groundwater modeling to guide design of nitrogen use system needed for public water system wells to avoid violation of the SDWA nitrate standard
- Implementation and monitoring of demonstration nitrogen use system and groundwater condition
- Compare cost of providing drinking water that meets nitrate standards by water supply infrastructure (new well or treatment system) and implementation of optimal nitrogen efficiency practices.

SWC Contribution:

- USEPA Region V has worked to structure and oversee the project so that it complies with all set-aside funding requirements. Region V hosts the project information sharing site (QUICKR).
- U.S. Geological Survey (USGS) is contributing not only monitoring advice, but also predictive modeling and collection of real-time water quality data on the water supply well. Leveraged over \$800K in USGS monitoring, analysis, and mapping services over 8 years.
- Wisconsin Rural Water Association is a day-to-day partner, from reaching out to public water systems to delineating wellhead protection areas.
- AWWA and NGWA source water committees have been briefed on the project; have offered advice and encouragement and offered further assistance as needed.

Leadership: WI Dept of Natural Resources' Bureau of Drinking Water and Groundwater. In addition to USEPA, USGS, Rural Water, Sauk and Rock Counties, active members of the advisory group are:

Natural Resources Conservation Service, U.S. Department of Agriculture
Wisconsin Department of Health Services
Wisconsin Geologic and Natural History Survey
Center for Watershed Science and Education, UW-Stevens Point
Wisconsin Department of Agriculture, Trade and Consumer Protection
Wisconsin Water Association
Wisconsin Land and Water Conservation Association