



In New England, Source Water Protection Just Makes Sense

By Chain-Wen Wang, Ed. D., NESC Contributing Writer

When more than 450 people showed up at a June 2003 U.S. Environmental Protection Agency's (EPA) National Source Water Protection Conference in Washington, DC, the intense interest in the topic surprised the agency. Besides the number of attendees, the diversity and number of presentations indicated the complexity that protecting our drinking water sources entails.

Source water protection is not a new concept. But, the reality of limited resources and the increasing demand for both quality and quantity of drinking water makes it more important than ever.

Protecting source water makes sense for several reasons: it improves public health, reduces treatment challenges and costs, and enhances overall environmental stewardship. What is new to source water protection, however, is its expanding scope. It has gone beyond the watershed level and has developed into a strategy that emphasizes partnerships, coordination, technology, and communication. The completion of 165,000 source water assessments across the country means that implementation of these protection programs is at hand.



Photo by Chain-Wen Wang

Members of the New England Interstate Water Pollution Control Commission discuss ways to implement source water protection in their region.

Group Epitomizes Teamwork

Implementation is exactly what the member states of one interstate agency are doing. The New England Interstate Water Pollution Control Commission (NEIWPCC) member states, which includes Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont, have not only worked together sharing information while developing their source water assessment program (SWAP) reports, but they also



Photo by Julie Black

Many source water areas in New England need to be protected not only for drinking water, but for recreation activities as well.

plan to continue working together when the time comes to implement plans and provide public education.

To demonstrate the degree of collaboration among its members, Kara Sergeant, NEIWPCC's groundwater and source water protection workgroup coordinator, uses a SWAP interstate data gathering grant as an example. In 1998, NEIWPCC received an EPA grant to assist the New England states and New York with interstate source water assessments. NEIWPCC gathered data and coordinated information exchange among the states, including SWAP-related geographic information system (GIS) reports, wellhead protection programs, and information about local efforts to protect interstate drinking water sources.

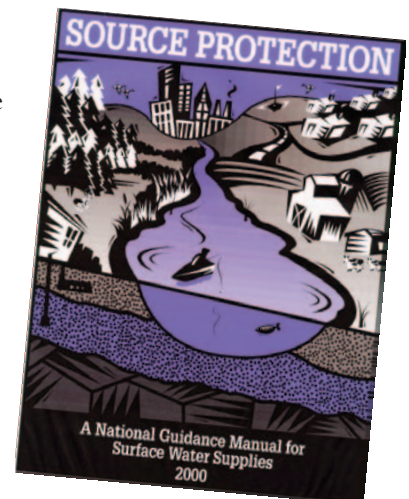
"It was a big effort to get states to share resources and data, especially in source protection areas that overlapped into other states," says Sergeant.

"They discussed everything from how they ranked water systems to recalculating protection zones," she recalls. "Although the data gathering project was primarily aimed at interstate uses, the information was useful for all SWAPs."

Project Produces Guide

The project produced several documents that state source water protection coordinators can use as guides to help them understand and compare state and local source water protection efforts, including the *New England States' and New York's GIS Coverages Index: A Guide to States SWAP Related GIS Coverages*; *Susceptibility Assessment and Contaminant Inventory Summaries*; and *Source Protection Program Summaries*.

According to Sergeant, even though the project is finished and most member states have completed their SWAP reports, the states continue to work together through the NEIWPCC workgroup. They are now working with each other on ideas for implementation and getting communities to understand and use the information in their SWAP reports.



Coordination and communication has long been a tradition among NEIWPC's member states. Even so, the workgroup faced some tough challenges along the way. Sergeant explained that underground storage tank programs (USTs) were one of the group's most daunting challenges.

"USTs are a major threat to drinking water supplies, yet most states continually find it difficult to coordinate UST programs about source protection issues," she says. "[But, because of the SWAP reports] the state groundwater workgroup is able to document and identify that USTs are one of the top five threats to drinking water supply in our region."

In May 2004, the groundwater workgroup held a joint session with the NEIWPC UST workgroup to discuss ways to work together on source water protection issues. The groups identified successful communication efforts and also looked for areas they could improve. As a result of the workgroups' efforts, the program directors of EPA's Office of Groundwater and Drinking Water (OGWDW) and UST programs became interested in the idea and issued a memo discussing ways the two national programs could work together.

Integration Leads to Cooperation

Another challenge the workgroup faced was integrating Clean Water Act (CWA) programs with Safe Drinking Water Act (SDWA) programs so that the outcome would lead to adequate source water protection measures.

"Clearly, some CWA programs impact drinking water quality," observed Sergeant. "However, these programs view water resources from a different perspective, which includes supporting aquatic life and recreation activities. Because of this, they do not always view drinking water as the highest priority."

To overcome this challenge, Sergeant's group, as well as many other state agencies and organizations, have been exploring links with CWA-associated programs, such as the Total Maximum Daily Load (TMDL) program and the Non-Point Source (NPS) program in an integrated watershed management approach to protect water quality.

Can't Work Alone

In addition to the help that NEIWPC provides, other organizations, such as state Rural Water Associations and local universities, provide source water protection technical assistance to the New England states.

The Rhode Island Department of Health is partnering with the University of Rhode Island to develop the Rhode Island Source Water Protection Program.

New Hampshire partners with numerous state and regional organizations to promote effective source water protection plans. These organizations include the Northeast

Rural Water Association (NeRWA), the Society for the Protection of New Hampshire Forests, Northeastern Rural Community Assistance Partnership (NeRCAP), the New Hampshire Department of Agriculture, and the New Hampshire Water Works Association. The state also looked into how to use key federal and state programs, such as the non-point source program and agricultural programs to benefit source water protection activities.

Kevin McGraw, a source water protection specialist with NeRWA, sees things from a slightly different perspective. Unlike Sergeant, McGraw doesn't deal with source water protection at the interstate level. Working within the state of Vermont, McGraw regards source water protection as a more personal experience.

"When we talk about source water protection now, we are talking about a source water protection plan," McGraw says. "And the plan is to identify the sources of potential contamination, which is what the source protection assessment is about."

"In Vermont, source water protection plans are required for many public water systems. These plans identify potential contaminants pose, and present a management plan to help reduce the risk to drinking water sources. At this point, most of the plans have been completed, and we are now focusing on helping water systems implement their water management plans."

"We want to have a management plan—a plan that will help us reduce the risk of contamination and ensure the quality of our source waters. Then, we should have an implementation plan that will lead to the actual protection of our source waters." Sounds simple. But reality proves otherwise.

Small Systems Face Biggest Challenges

One of the biggest challenges small Vermont drinking water systems faced was that it was too hard for them to make source water protection a priority.

According to McGraw, "[small systems] don't even have enough personnel or resources to do what they are supposed to do as is—not to mention the lack of support from local officials on something that is not required by law."

"As I already mentioned, these source water protection plans are required for many public Vermont water systems. It is true, however, that many systems do not have the resources or know-how to prepare a source water protection plan or implement the protection strategy."

So what's the solution?

"Education," McGraw explains. "Educating the public, educating the local officials, and



Photo by Julie Black

People not only contribute to environmental deterioration, they also are its potential victims. Teaching people how to take care of the water they drink, and use for recreational activities is fundamental to environmental protection.

educating the land owners. They need to understand where their drinking water comes from, how their actions affect its quality, and to support efforts to protect it.

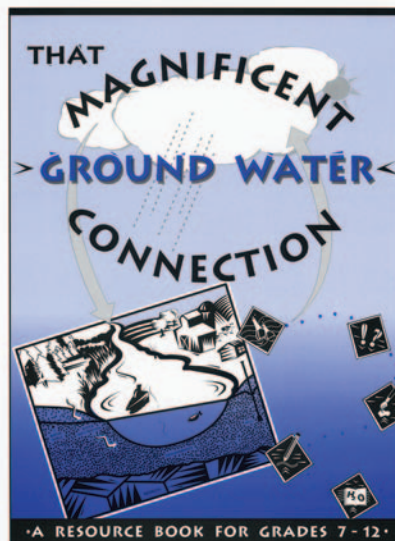
“We’ve been lucky.

In Vermont, we haven’t had the developmental or population pressures that often make source water protection difficult, if not impossible.”

Rodney I. Pingree, water resources section chief, Vermont Department of Environmental Conservation, shares McGraw’s view and says that the biggest chal-

lenge for Vermont will be “to act now to prevent potential impacts from future development” because land-use activities directly affect water quality.

Pingree points out that many source water protection issues are not related to land-use activities, such as naturally occurring contaminants, source construction, and water shortages, and they also will need to be incorporated into any source water protection strategy. But, he argues that many of Vermont’s source water threats point straight to common, land-use activities, such as septic systems and agricultural practices.



Drought Causes Changes

Sergeant also cites the issue of water quantity as a future challenge New England states will have to face. Although New England states are historically water-rich areas, the region experienced a fairly intense drought a few years ago. That experience caused the states to increase their focus on water quantity issues, such as how to enhance the amount of water available and how to keep water resources local.

The drought was one of the main reasons that NEIWPC’s workgroup

started looking into the possibility of artificial recharge. To date, she points out that none of the states have policies managing artificial recharge. “It will be an ongoing process, we’ll continue to invite states and other experts to share what they know with us.”

Security Sets Off Alarms

But does having a designated source water protection area jeopardize system security? “EPA was concerned this posed a security issue because maps in the SWAP report show the location of drinking water wells,” Sergeant replied. “EPA was being careful after 9/11 to protect water supplies

from possible terrorist attack. Because of this, some states decided not to post their SWAP reports on their Web sites, others chose to remove the actual location from the map and just have a delineated protection area, or they placed the report online, but not the map.”

McGraw explains that Vermont has no specific requirement for security issues to be part of the source water protection plan—at least not directly.” But, he pointed out that systems still have to take any security threat seriously, “even if it is just an act of vandalism by some high school kids—the system still has to treat it like any potential terrorist attack.

“Source water protection plans in Vermont need to include a contingency plan for responding to emergency loss of the water supply,” he explains. “These contingency plans outline steps that the water systems should follow in the event that their drinking water sources become contaminated, are at risk of becoming contaminated, decline in yield, or need mechanical repair. The contingency plan also can help systems respond to vandalism or possible terrorist threat.”

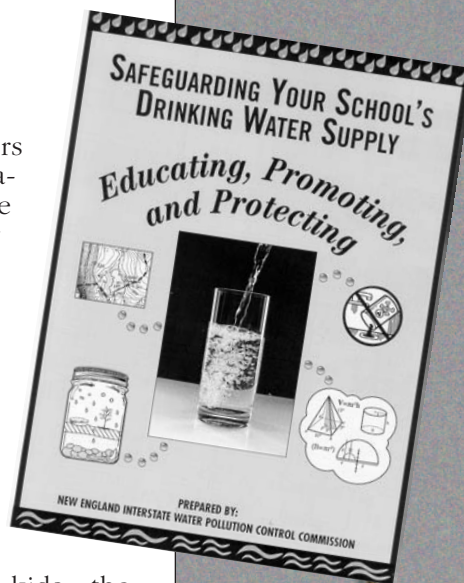
New Hampshire promotes security in a number of ways, according to Sarah Pillsbury, program supervisor, New Hampshire Office of Environmental Services. The state assists water systems with vulnerability assessments and emergency response plans, provides planning grants to large systems to address mutual aid/interconnection needs, establishes protocols for roles in an emergency, and funds security measures.

Efforts Create Framework

Between the New England states’ efforts, combined with assistance from NEIWPC and NeRWA, the region is in good shape when it comes to source water protection resources. And the organizations that supply the region with so much support vow to be there when they are needed.

“The workgroup is not done with source protection,” says Sergeant. “It has a long history of collaborating and tackling source protection issues. In the future, the workgroup will be looking for ways to expand its federal, state, and local partnerships to bring home the message on source water protection.” She says that good old “Yankee ingenuity” will help the states cope with future challenges.

The major messages that come out of New England’s successful source water protection programs provide the framework for other states or regions that may



Source: www.photos.com

New England systems have to take security threats seriously. Vulnerability assessments help small drinking water plants evaluate the chance of a real threat.

need a little help in developing their own programs. Those messages convey that partnerships are priceless, coordination is essential, outreach and education are imperative, and communication is key. Putting those ingredients together creates a recipe that won’t disappoint even the most finicky tastes.

New opportunities to support source water protection are just starting. The efforts of the New England states provide a testimony to the truth of the statement “shared problems, shared solutions.”💧

Contributing writer **Chain-Wen Wang** is actively involved with watershed groups, including the Downstream Alliance, in northern West Virginia.

