

# STREAMLINES

A Newsletter for North Carolina Water Supply Watershed Administrators

## LOCAL SOURCE WATER PROTECTION PAYS

The Public Water Supply Section of the Department of Environment and Natural Resources is currently assessing the susceptibility of each the state's public water supply sources as part of the Source Water Assessment Program (SWAP) described in Streamlines, Summer 2000 issue. This article explores the Source Water Protection (SWP) program, which will succeed the SWAP.

As the Public Water Supply Source Water Protection Program staff prepare to provide public water systems with local assessment reports, they are looking ahead to how the SWAP reports can be useful to local water suppliers and their communities. It is hoped that these assessments will encourage local governments to adopt more effective drinking water source protection programs. To encourage and support such efforts, the Public Water Supply Section is currently developing a voluntary Source Water Protection (SWP) program.

This emerging SWP program provides local governments the opportunity to strengthen their existing water supply watershed protection ordinance based on information in their local assessment. It complements the existing regulatory Water Supply Watershed Protection (WSWP) program and provides another way to pursue additional, locally-appropriate watershed protection.

### SAFEGUARDING THE WATER YOU DRINK



The Source Water Protection Program (SWP) and the WSWP programs share a common goal of protecting drinking water sources from contamination. The SWP program is a voluntary program focused on protecting both surface water and groundwater used for public drinking water supplies. It provides information and technical assistance to a broad range of local protection efforts.

The WSWP program was established in 1992 to ensure that surface water drinking water supplies were protected from source contamination by uncontrolled stormwater runoff and non-point source pollution. The major component of this program is local government adoption of codes and ordinances that meet state-wide minimum standards for land development in water supply watersheds. In addition, the program was established to provide technical assistance to participating local governments.

Through working in combination, the SWP and WSWP programs can identify, plan for, support local governments and incorporate these efforts into existing watershed protection ordinances to further the protection of drinking water resources of the state.

### WHAT IS SOURCE WATER?

Source water is the untreated water from streams, rivers, lakes, or groundwater aquifers that is used to supply public drinking water. Source water undergoes many treatment processes before it reaches the consumer. The Source Water Assessment Program (SWAP) Reports highlight factors that could potentially influence the quality of this source water.

While the quality of drinking water is regulated through a federally mandated treatment and monitoring program, source water protection is a *voluntary*, and *locally initiated* effort that includes the development of a local *Source Water Protection Plan*.

### WHY IS SOURCE WATER PROTECTION (SWP) IMPORTANT?

Protecting your public drinking water source can benefit your community in many ways:

- Safeguard public health
- Prevent pollution incidents, and costly clean-up
- Reduce water treatment cost passed on to consumers
- Promote economic development

Many communities across North Carolina are taking action to prevent contamination of their drinking water supplies. These communities have recognized that if the water going into their treatment plant is

*(See SWP on page 2)*

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less polluted, the efforts needed to safeguard the public's health will be less expensive.

**AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE**

Whether a public water system relies on a lake, a river, a stream or an aquifer, protection of this source is important for several reasons:

- If source water becomes contaminated, public health threats are increased.
- Expensive treatment of the water supply or replacement or relocation of the source may be required. These costs are passed on to consumers.
- Water is a limited resource. If a source becomes contaminated, there may not be another one available.

**CONTAMINATED DRINKING WATER COSTS YOU MONEY!**

The benefits of Source Water Protection might best be understood by describing the costs of failing to protect your drinking water source.

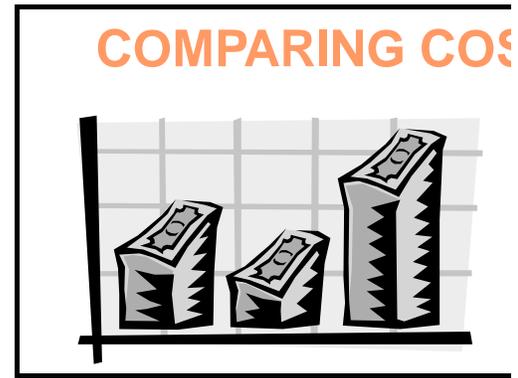
Costs that can be quantified include:

- Additional water treatment,
- Finding and developing new drinking water sources or providing emergency replacement water,
- Public information campaigns when pollution incidents arouse public and media interest,
- Payment for consulting services and staff time, and
- Legal action against responsible parties.

**HOW TO PROTECT YOUR DRINKING WATER SOURCE**

Drinking water source protection activities vary depending on your local needs and concerns. Approaches taken by local water suppliers in North Carolina include:

- **Public education** – for example, storm drain stenciling and class room presentations
- **Contingency planning** – developing a current and effective plan for emergency response to contamination incidents
- **Best Management Practices (BMPs)** - hosting customized workshops for local industries to raise awareness about BMPs to protect source water
- **Land acquisition** – for example, obtaining state and federal funds to pay farmers for maintaining undisturbed



- **Zoning** - developing local land use and zoning ordinances to protect source water for future development needs

Clearly, approaches to source protection may require no funds, or may involve grants or loans for implementation; they can be non-regulatory or regulatory – it is up to your community to decide.

**THREE STAGES IN LOCAL SOURCE WATER PROTECTION**

Protecting your drinking water source from potential contamination typically involves three stages:

- **Information Gathering:** Information is needed to identify potential threats and understand local concerns

**SOURCE WATER PROTECTION AND COST SAVINGS IN BURLINGTON, NORTH CAROLINA**

Officials in Burlington, NC chose source water protection over treatment and saved a great deal of money in the process.

When Atrazine was found in the water supply, Burlington worked to eliminate the pollutant rather than treating it. Using water quality monitoring and guidance from the Water Resources Research Institute (WRRI), Burlington was able to trace this pesticide to agriculture in parts of the water supply watershed. With the help of Agricultural Extension agents, farmers came to understand that the water treatment plant did not remove Atrazine. With subsidies from the city, they transitioned to other pesticides and practices.

This approach resulted in a total cost of \$30,000 to Burlington (for lab analyses and subsidies to farmers). Contrast that one-time expense with an estimated cost of \$108,000 *per year* for activated carbon. By implementing source protection, Burlington has not only produced clean drinking water again but has eliminated the source of the problem.

Has your community taken steps to protect your drinking water source? If so, we'd like to hear from you!

Contact:

Surabhi Shah, Source Water Protection Coordinator 919-715-9563 or email to: [surabhi.shah@ncmail.net](mailto:surabhi.shah@ncmail.net)

**SHARE YOUR COMMUNITY'S SUCCESS STORY!**

## AND BENEFITS

Responding to contamination can be as much as 200 times as costly as prevention

- **Planning:** The information gathered is used to develop protection measures and an overall plan of action
- **Funding and Implementation:** The written protection plan is used to request the required funding and to guide implementation.

### RESOURCES AVAILABLE FOR LOCAL SOURCE PROTECTION

#### A LENS FOR DRINKING WATER SOURCE PROTECTION

The North Carolina Department of Environment and Natural Resources' Public Water Supply Section aims to support local efforts in each of these three stages, through the Source Water Assessment Program and the Source Water Protection Program.

These programs serve as a "lens" for drinking water source protection: meaning they help to focus resources for the protection and preservation of the environment in support of local source water protection efforts. Support is available for each stage of local source water protection.

#### INFORMATION GATHERING

To help communities get started, in NC DENR Public Water Supply Section will provide each public water supply system with a Source Water Assessment Program report in Fall of 2002.

Your SWAP report can be a springboard for action – a starting point for discussions between public water suppliers, local planners, and public water consumers in your area.

This assessment report will provide useful planning information for protec-

tion of drinking water sources. For your convenience, this report will include information collected from many state databases and other sources, presented in a map-based format.

#### PLANNING ASSISTANCE:

Local discussion of your assessment results can aid in development of a source water protection approach that is right for your community. Public Water Supply Section staff and their contractors can assist you in using your assessment results to develop your local Source Water Protection Plan.

#### WHY DEVELOP A WRITTEN SOURCE WATER PROTECTION PLAN?

A written Source Water Protection Plan has many benefits:

- It can help your community to organize ideas into an action plan.
- When seeking funding to implement local source protection, it can greatly strengthen your grant application.
- It can qualify you for priority points when applying for state funding programs for water and wastewater infrastructure improvements.

Depending on the approach you choose, you can also get support from related state programs, your Council of Government, and from local resource professionals such as the Resource Conservation and Development (RC&D) program and the USDA Natural Resources Conservation Service (NRCS). Many communities in North Carolina have benefited from such assistance.

#### FUNDING AND IMPLEMENTATION:

North Carolina water suppliers have used some of the following funding sources for protection activities, depending on their approach to protection:

- *Clean Water Management Trust Fund* – funds a variety of activities that protect surface water quality
- *Section 319 grants program* – supports projects addressing non-point source pollution
- *Z. Smith Reynolds Foundation* – funds a broad range of environmental issues in North Carolina including protection of natural areas.
- *NC National Heritage Trust Fund* – can fund land acquisition
- *Section 205(j) grants program* - Limited competitive funding available to Regional Councils of Governments for water quality planning efforts
- *Clean Water State Revolving Fund* – assists in funding of wastewater treatment facilities and projects associated with estuary and non-point source programs

**For more information** about Source Water Assessment and Protection, explore the resources listed below:

- *Source Water 2000: Drinking Water Protection Strategies for Small Towns and Rural Counties*  
<http://www.natat.org/ncsc/>
- *Source Protection: A National Guidance Manual for Surface Water Supplies*  
<http://www.neiwpc.org>

The NC Public Water Supply Section gratefully acknowledges EPA's Drinking Water Academy as a source of many national case studies and statistics in this article.  
<http://www.epa.gov/safewater/dwa.html>

## THE END OF INNOCENCE

In 1993, a fatal outbreak of *cryptosporidium* in Milwaukee's river water sickened hundreds of people and required the city to upgrade its water system. The cost of the system improvements, along with costs to the water utility, city, and Health Department associated with the disease outbreak were \$89 million.

Milwaukee's water treatment included disinfection and filtration. Consequently, this incident ended America's previous trust and reliance on technology to make any and all water safe to drink.

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Check us out at:  
<http://h2o.enr.state.nc.us/wswp/>



Due to budget constraints, Streamlines may no longer be mailed out. Please continue to look for it at: <http://h2o.enr.state.nc.us/wswp/>.

Streamlines is published quarterly in January, April, July and October.

## WHAT'S HAPPENING?



**Source Water Assessment and Protection Workshops:** To help you learn more about the resources available to support your local Source Water Protection efforts, the NC Public Water Supply Section is planning to host free regional SWAP Workshops.

If you are interested in these workshops send us an email at: [surabhi.shah@ncmail.net](mailto:surabhi.shah@ncmail.net), and we'll add you to our mailing list.

**Community Success Forum:**  
Land Use and Development Standards Program  
Raleigh Chamber of Commerce  
June 27, 2002, 10 a.m. – 2 p.m.  
Embassy Suites Hotel, Cary, NC  
[www.raleighchamber.org](http://www.raleighchamber.org)

**Environmental Management Committee**  
July 11, 2002  
Archdale Building, Raleigh  
<http://h2o.enr.state.nc.us/admin/emc/>



**Water Quality Committee**  
July 10, 2002  
Archdale Building, Raleigh  
<http://h2o.enr.state.nc.us/admin/emc/committees/wq/index.htm>

### DID YOU KNOW?

The Centers for Disease Control estimate that nearly one million Americans fall ill every year because of polluted drinking water: 900 of them die. From 1992 to 1994, nearly 36 million people in the US consumed water from systems violating EPA contaminants standards for drinking water. EPA studies of several small to medium sized communities have shown that the cost of dealing with contaminated water supplies was, on average, 30 to 40 times more (and up to 200 times greater) than preventing their contamination.

### ❖ STREAMLINES LISTSERV ❖

In order to conserve resources and reach a wider audience, we would like to provide you with Streamlines via notification of new issues through a listserv. It's also likely that in the future we will not be able to print and mail copies of the informative newsletter to you. We encourage you to sign up to receive notice of new Streamlines releases through our listserv. Occasionally we may also send out notices of events or topics of interest related to water supply watershed protection. You may sign up by visiting our website at

<http://h2o.enr.state.nc.us/wswp/listserve.htm>

### ❖ THANK YOU MEGAN! ❖

Community Planner, Megan Owen, leaves us after a year and a half worth of valuable service to move to the greener pastures of Annapolis, Maryland. Megan has accepted a job with Anne Arundel County, and is engaged to be married later this year.

