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Streamlines

A Newsletter for North Carolina Water Supply Watershed Administrators

NORTH CAROLINA'S SOURCE WATER ASSESSMENT PROGRAM (SWAP)

SWAP: A New Tool in the Drinking Water Protection Toolbox

Local governments and communities will soon have a new tool to use in their drinking water protection efforts. This new tool is the Source Water Assessment Program from the 1996 Safe Drinking Water Act Amendments. The SWAP is an U.S. Environmental Protection Agency (EPA) program which requires each state to assess the relative susceptibility of every ground water and surface water public water supply. Program reports will highlight current and potential threats to each public water supply.

The Source Water Assessment Program is unique in its use and enhancement of information from regulatory and non-regulatory resources. Examples include the physical characteristics of watersheds and aquifers and the location and nature of potential contaminant sources. Currently, some of this information may be difficult to access or search. During the assessment process, this information will be integrated. The resulting database and associated GIS (Geographic Information System) maps are expected to be available to the public via the Internet. This information will serve as a needed resource to support local planning and source water protection.

Consumers and local governments, equipped with the SWAP reports and new resources, can act to implement source water protection.

What is a SWAP assessment?

"Source water" refers to the surface and ground water from which we draw our drinking water. More specifically, for SWAP purposes, this term refers to waters which contribute to a public drinking water supply. For each public water supply system, a source water assessment will be performed to:

- delineate the geographic area contributing to the source;
- inventory the significant contaminants in these areas; and
- determine the susceptibility of the source to contamination.

SWAP reports and/or maps will summarize the results of the assessment process.

In North Carolina, the Public Water Supply Section of the Department of Environment and Natural Resources is the agency responsible for performing these assessments and implementing the overall Source Water Assessment Program.

What is North Carolina's Plan for implementing SWAP?

The Source Water Assessment Program is not intended to replace other environmental programs in the state. Instead, the SWAP will allow North Carolina to build upon these existing programs to assess the susceptibility of drinking water supplies to contamination. The results will provide a sound basis for planning future source water protection strategies.

North Carolina's SWAP Plan outlines the details of its approach to source water assessment throughout the state. The plan was approved by EPA in November 1999. This approved plan is available on the internet at: *http://www.deh.enr.state.nc.us/pws/.*

Determining Susceptibility

For a public water supply to be determined susceptible, a potential contaminant source must be present and the public water supply intake location must be vul-

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nerable to contamination. Therefore, North Carolina will determine the Susceptibility Rating of a public water supply by combining:

- the Contaminant Rating: and
- the Inherent Vulnerability Rating.

The resulting Susceptibility Rating will be a qualitative rating of High, Moderate or Low.

The Contaminant Rating will be based on an evaluation of the density of potential sources of contamination, their relative risk potential to cause contamination and their proximity to the water supply intake within the assessment area.

To identify significant potential contaminant sources, the Public Water Supply Section will conduct a review of relevant data at federal, state and local levels. Regulatory databases that identify potential contaminant sources will be the primary source of information used for potential contaminant sources inventories. To identify additional potential contaminant sources, non-regulatory databases (e.g. database of North Carolina manufacturers) may be included.

The Inherent Vulnerability Rating reflects the likelihood of contamination travelling to a public water supply intake. The Inherent Vulnerability Rating is based on physical characteristics and existing conditions of the watershed or aquifer. The Inherent Vulnerability Rating for a surface water intake will be based on factors which influence migration of contaminants in a watershed such as:

- Watershed Classification (Water Supply Watershed Protection Rules);
- Intake Location (stream, Class 1, 2, or 3 impoundment);
- Treatment Plant Raw Water Quality Data (turbidity, total coliform); and
- Watershed Characteristic Evaluation: average annual precipitation, land slope, land use, land cover, ground water contribution.

The Inherent Vulnerability Rating for a ground water intake (a well) will be based on analogous factors affecting the migration of contaminants to and within an aquifer.

Delineation of Assessment Areas:

(See SWAP on page 3)

Division of Environmental Health Considers Repeal or Amendment of Rule .1211

DENR's Division of Environmental Health is inviting comments regarding the Public Water Supply Section's "40,000 Square Foot Rule" (Rule 15A NCAC 18C .1211 Ground Absorption Sewage Collection: Treatment / Disp.Systems).

This rule specifies criteria for the siting of ground absorption sewage disposal systems relative to public water supply reservoir locations. Where it applies, the rule currently limits minimum lot sizes to 40,000 square feet. The complete text of Rule .1211 is available at: *http://www.deh.enr.state.nc.us/pws/rules/15a18c12.htm.*

Environmental Health is currently considering repeal or amendment of this rule. Rule .1211 was approved prior to the development of On-Site Wastewater General Statutes and Rules, Water Supply Watershed Protection Rules requiring local governments to adopt ordinances protecting water supply watersheds and the Source Water Assessment Program.

The Division's goal in changing Rule .1211 (repeal or amendment) is to make the rule more consistent with these more recent rules and program developments. To determine whether repeal or amendment is more appropriate, the Department of Environment and Natural Resources is studying Rule .1211 and inviting written comments.

Watershed administrators and local health department staff are encouraged to email or mail comments and suggestions regarding this proposed rule change by August 1, 2000. Division staff are especially interested in:

- specific suggestions regarding how Rule .1211 could be changed;
- examples of how Rule .1211 was difficult to implement or enforce; and
- scenarios demonstrating how drinking water protection might be diminished if Rule .1211 were repealed.

If you have questions regarding this proposed rule change, please contact Surabhi Shah of the Public Water Supply Section, DEH, Central Office at (919) 715-9563. Please send responses to surabhi.shah@ncmail.net or to: Rule .1211, Surabhi Shah, 1634 Mail Service Center, Raleigh, NC 27699-1634. To be included on the "Rule .1211 Updates" mailing list, please provide your email address (preferred) or other contact information.

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To determine the geographic area contributing to a given public water supply intake (surface water intakes on watersheds or well), Public Water Supply staff will delineate a SWAP assessment area. The Contaminant Rating and Inherent Vulnerability Rating, described above, will be determined based on this assessment area.

For Watersheds: North Carolina will use the established water supply watershed boundaries and methods established by the Water Supply Watershed Protection Program to delineate source water assessment areas for public water surface water intakes.

For Wells: North Carolina will use the methods described in the state's approved Wellhead Protection Program to delineate assessment areas for public water supply wells.

Use of Geographic Information Systems: In North Carolina, approximately 12,000 intakes are subject to the requirements of the SWAP: delineation, contaminant inventory and susceptibility rating. On average, this amounts to approximately 14 intakes per day assessed over the 3-1/2 year project timeline.

Due to the large number of intakes requiring assessment, staff will conduct assessments using GIS. The GIS will be used to create maps showing the locations of potential contaminant sources. It will allow these sites to be linked electronically to a particular public water supply intake thus allowing for more efficient revisions and updates to the databases as needed.

Public Participation

Broad public participation was ensured throughout the SWAP Plan development by the following efforts:

- A DENR Steering Committee, created to foster intra-agency discussions about the SWAP;
- A 65 member Technical and Citizens Advisory Committee provided input during the development of the SWAP Plan;
- Statewide SWAP Informational Public Meetings and a Notice of the availability of the SWAP Plan document published for public review and comment; and
- The SWAP Plan was made available on the Internet.

How and when will SWAP assessments be available?

Draft Phase I SWAP assessments, based on statewide information, will be provided to public water supply systems by December 2001. The systems will have an opportunity to verify information in the draft assessments and to provide additional information. Revised Phase I assessments, incorporating this local input, are expected to be available beginning June 2002. The Phase I procedure does not provide for any evaluation of individual potential contaminant sources. Therefore, for intakes with a "higher" susceptibility rating in Phase I, a more thorough Phase II assessment will be performed.

Completed SWAP reports will be sent to each public water supply system. These systems will, in turn, provide key assessment information to their customers in annual Consumer Confidence Reports.

Want to learn more about how your local government and community can use SWAP assessments to protect drinking water? Email us at surabhi.shah@ncmail.net, and we'll add you to a mailing list for our upcoming SWAP Workshop!

In North Carolina, SWAP assessments are also expected to be available via the Public Water Supply Section web site (*www.deh.enr.state.nc.us/pws/index.htm*). This will enable the public to access SWAP results from home, office or a public library. Statewide press releases and outreach efforts will publicize the availability of SWAP assessments.

How will SWAP assessments encourage Source Water Protection?

Local governments and communities, working in cooperation with state agencies, can use the information from the SWAP assessment process to create a broader source water protection program. Examples include strengthening water supply watershed protection ordinances, addressing current problems and preventing future threats to the quality of their drinking water supplies. Source water assessments will allow the state to identify issues of potential contamination of public water supplies. The results will also enable EPA and state agencies to establish priorities in addressing such issues.

Additional Information

Contact Person: For more information about North Carolina's Source Water Assessment Program contact Surabhi Shah, Source Water Engineer, Public Water Supply Section, Div. of Environmental Health, NC DENR, surabhi.shah @ncmail.net, 919-715-9563.

Web Sites: North Carolina's SWAP Plan *http://www.deh.enr.state.nc.us/pws/* and EPA's web sites about SWAP *http://www.epa.gov/OGWDW/swp/swappg.html, http://www.epa.gov/safewater/protect.html.*

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North Carolina Stormwater Management Initiative 2000

The State is seeking broad-based stakeholder input to frame a statewide stormwater management strategy. The Department of Environment and Natural Resources has convened a diverse stakeholder team to look comprehensively at stormwater program development throughout the state. This team was given a three-fold charge by the state Environmental Management Commission: (1) protect the best uses of surface waters, (2) allow for consolidation of existing Division of Water Quality stormwater programs, and (3) provide for regional flexibility.

The team will provide recommendations on a comprehensive and consolidated stormwater program framework that may incorporate existing programs such as NPDES (National Pollution Discharge Elimination System) Stormwater, Water Supply Watershed Protection, State Stormwater Management and others. The team will meet from April through September of this year and present their recommendations at the Environmental Management Commission meeting in October.

For more information on this process and how you can get involved, log on to *http://h2o.enr.state.nc.us/su/stormwater.html*

DID YOU KNOW?

- Water Supply Watershed Protection **Workshops** have been scheduled! To participate in one of the workshops, please send in the registration form enclosed in this month's Streamlines. The registration form can also be downloaded from our website at: *http://h2o.enr.state.nc.us/wswp/factform.html.*

- **BasinPro** is a custom desktop GIS project that features a comprehensive set of geospatial data related to water quality. The project, created by the Center for Geographic Information and Analysis for the Clean Water Management Trust Fund, is now available to you. BasinPro allows non-GIS or infrequent GIS users to easily navigate a multitude of spatial data without needing GIS expertise. For more information check out: *http://cgia.cgia.state.nc.us:80/cgia/.*

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