



THE SOURCE



NEWSLETTER OF THE NHDES DRINKING WATER SOURCE PROTECTION PROGRAM
ON THE WEB AT WWW.DES.NH.GOV

WINTER 2012

River Erosion Hazard Mapping for Water Systems

Mapping that is now underway through the N.H. Geologic Survey (NHGS) provides water systems with an important opportunity to better evaluate a system's vulnerability to damage from natural disasters. In cooperation with the N.H. Department of Safety's Division of Homeland Security and Emergency Management, the NHGS is conducting mapping that identifies bank erosion potential along rivers across the state as part of the Fluvial Erosion Hazard Program. This effort includes gathering available data and information on environmental characteristics, such as land slope, soil type, and river grade along rivers and combining this information with field surveys to rank the relative degree of risk for future riverbank erosion. The result is a series of map layers for rivers and their surrounding areas that depict the relative river erosion hazard potential. The mapping ranks erosion potential from very low to extreme using methods originally developed by the state of Vermont. New Hampshire is only the second state to conduct this mapping effort.

Water systems can use erosion hazard mapping information by overlaying it with the locations of their sources, facilities, and distribution systems to see where these structures coincide with high, very high, or extreme erosion hazard areas. Where there appears to be the potential for impact to a water system's infrastructure, consider taking actions to reduce that potential, including:

- Assessing the feasibility of moving the water system component out of the hazard area or bypassing the area in general.
- Evaluating the parts of the system within the hazard area to ensure they can be adequately isolated in case of an event.
- "Hardening" the infrastructure present at the

location. For example, if piping is exposed or thinly bedded at a stream crossing, reinstall the section of piping below the stream bed and install proper isolation devices.

- If it is a facility located near a steeply-sloped area, evaluate the possibility of installing slope stabilization features.
- If it is a structure within a flood zone, consider raising the facility above the base flood elevation and establishing a properly-stabilized slope.
- If it is a source for the water system, consider developing a backup source outside of the hazard area in order to further diversify the sources available to the water system in the event of a crisis.

Mapping, *continued on page 2*

Congratulations, DES!

DES is celebrating its 25th anniversary!



Watch for articles in upcoming issues of *The Source* and *Supply Lines* with *The Source* about changes to drinking water regulations and source water protection over the past 25 years.



Action Plan for Salmon Falls Watershed Stresses Land Conservation and Low Impact Development

The Salmon Falls River presents a number of challenges when it comes to source water protection, particularly the fact that its watershed is divided between two states—New Hampshire and Maine. As defined by the intakes used by two systems—Somersworth, N.H., and Berwick, Maine—the water supply watershed encompasses 18 towns. Consequently, the stakeholders in the source water protection planning process are numerous.

To overcome these obstacles, the Salmon Falls Watershed Collaborative (SFWC) has employed an innovative “collaborative learning process” to develop an action plan, which was finalized in October 2011. The plan emphasizes five strategies to keep source water

protection moving ahead:

1. Conserve land that is most important for producing clean drinking water.
2. Promote low impact development and improved stormwater management techniques.
3. Promote shoreland and aquifer protection ordinances.
4. Identify and address potential sources of contamination.
5. Engage and inspire stakeholders to participate in source water protection.

The action plan is available on the Piscataqua Region Estuaries Partnership website at www.prep.unh.edu/sfwc.htm.

Funding for the Salmon Falls Watershed Collaborative has been provided by DES’s Local Source Water Protection Grant Program, Maine Center for Disease Control and Prevention, and U.S. Environmental Protection Agency. Work pursued by the members of the collaborative, such as the Acton Wakefield Watersheds Alliance, has received support from many other sources, including DES’s Watershed Assistance Grant Program. The U.S. Department of Agriculture’s Natural Resources Conservation Service is providing funding for the planning and implementation of conservation practices in the watershed.

For more information about the Salmon Falls Watershed Collaborative, see the articles in the Winter 2011 issue of *The Source* or visit www.prep.unh.edu/sfwc.htm. •

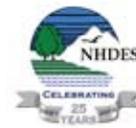
Mapping, *continued from page 1*

Some actions to reduce long-term vulnerability to natural disasters may be eligible for support from Federal Emergency Management Agency (FEMA) program funds. Systems are encouraged to contact their regional representative at the N.H. Homeland Security and Emergency Management office at (603) 271-2231.

Fluvial erosion hazard efforts have been completed for the Exeter, Ammonoosuc and Isinglass rivers, and results will soon be released for assessments from the Cocheco and Lamprey watersheds. Efforts are anticipated to be underway within the next year in watersheds in south-central and west-central New Hampshire, including the Piscataquog, Souhegan and Sugar River watersheds, plus the Soucook and Turkey Rivers in the Concord area.

For information on the status of Fluvial Erosion Hazard Program projects and available map layers, contact Shane Csiki of NHGS at (603) 271-2876 or shane.csiki@des.nh.gov. For a reference sheet on available FEMA program grants that may be applicable to water systems, contact Johnna McKenna at (603) 271-7017 or johnna.mckenna@des.nh.gov, or your regional Homeland Security and Emergency Management representative at (603) 271-2231. •

The Source, the quarterly newsletter of the DES Drinking Water Source Protection Program, is published by the N.H. Dept. of Environmental Services.



29 Hazen Drive
PO Box 95
Concord, NH
03302-0095
(603) 271-3503

Commissioner	Thomas S. Burack
Division Director	Harry T. Stewart
Bureau Administrator	Sarah Pillsbury
Program Manager	Paul Susca
Editors	Pierce Rigrod Holly Green

To subscribe, contact Pierce Rigrod
at (603) 271-0688 or
pierce.rigrod@des.nh.gov
www.des.nh.gov

Printed on recycled paper.

Energy Efficiency Can Save Water Systems Money

Providing safe drinking water consumes a large amount of energy. Energy costs represent a large portion of most water systems' overall operating budgets, second only to personnel costs. DES recently developed a guidance document—referenced at the end of this article—to help water utilities identify energy efficiency improvements, implement those improvements, and connect with available financial assistance and incentives to help pay for them. Additionally, several other federal and regional agencies are developing programs to assist water utilities with implementing energy efficiency improvements. Keep an eye out for upcoming events.

Studies suggest that water utilities can reasonably achieve energy savings of between 15 and 30 percent by instituting efficiency measures. But, the upfront cost of implementing energy efficiency improvements is often the biggest deterrent for water and wastewater systems. Fortunately, electrical utilities in New Hampshire offer a variety of programs and incentives that can help to reduce these costs, including rebates for equipment replacement. Additionally, electrical utilities can assist with understanding a system's electric bill, conducting energy use assessments, and identifying available equipment replacement costs. Energy efficiency improvements should be a key component of planned capital improvement projects.

For example, the city of Concord recently invested \$490,000 to upgrade the water treatment plant's original pumps and motors to more efficient, properly-sized models. The improvements resulted in increased efficiency and an annual cost savings of \$11,800. From

the beginning of the project, Concord worked with its electrical utility, Unitil, to identify potential energy savings and rebates. Once the new equipment was installed and proven to meet efficiency criteria, Unitil issued Concord a rebate check exceeding \$125,000.

It has been estimated that over the next 10 years, \$2.3 billion will be needed for water infrastructure improvements in New Hampshire. By reducing energy costs, water and wastewater systems may be able to use those funds towards other system repairs or improvements.

Additional information and resources on energy efficiency improvements and available financial assistance are available in the guidance document "Energy Efficiency Planning, Funding and Improvements for New Hampshire's Drinking Water and Wastewater Systems," available at <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-11-25.pdf>. Contact your utility to learn more and start saving today! •

Utility	Website	Phone
National Grid	www.nationalgrid.com	1-800-322-3223
New Hampshire Electric Cooperative	www.nhec.com	1-800-698-2007
Public Service of New Hampshire	www.psnh.com	1-800-662-7764
Unitil	www.unitil.com	1-800-852-3339

DES Publishes New Guide to Groundwater Reclassification

Check out DES's new "A Guide to Groundwater Reclassification," designed to help municipalities and water systems reclassify important groundwater resources, such as aquifers or wellhead protection areas. To reclassify important groundwater resources, an application must be submitted by a local entity, such as the board of selectman or city council, and then approved by DES. This guide provides important details and instructions to help complete the application process.

Established by New Hampshire's Groundwater Protection Act (RSA 485-C), reclassification allows water systems and municipalities to limit certain high-risk

land uses, institute a local best management practice inspection program to minimize mismanagement of harmful contaminants, and require greater monitoring of groundwater discharges within reclassified areas.

Reclassification is an effective way to coordinate groundwater protections across town boundaries and build greater local awareness of local sources of drinking water. Today, nearly 70,000 people in New Hampshire benefit from protections established through state reclassification.

Contact Pierce Rigrod at (603) 271-0688 or pierce.rigrod@des.nh.gov to learn more about reclassification. Download the new guide at www.des.nh.gov; go to <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-11-24.pdf>. •

Free 2012 NH Public Works Mutual Aid Program Membership for New Water System Members

Was your community affected by tropical storm Irene or another recent extreme weather event? You never know when an emergency is going to affect your community, so it is important to have access to vital resources for an effective emergency response. One resource is the N.H. Public Works Mutual Aid Program, a network of communities that assist one another during emergencies. This network currently includes 162 members who provide access to trucks, personnel, water operators, and many other resources statewide. Many communities have used this network during recent floods, tornados, and ice storms. The Mutual Aid Program is now available to all community water systems.

In an effort to support membership in the Mutual Aid Program, DES, with funding from EPA, is sponsoring the cost of a 2012 membership fee (\$25) for any

new community water system. The new member must be a community public water system or a municipality that operates a community water system. Also, any existing member that works with a new water system to join the Mutual Aid Program through the "Refer-A-Friend" option will have its membership fee waived for the following year.

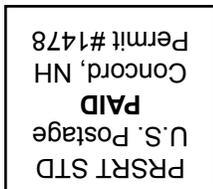
To become a new member and benefit from this program, contact Johnna McKenna at (603) 271-7017 or johnna.mckenna@des.nh.gov to request a membership form. The membership form and a signed Mutual Aid Program agreement must be submitted to DES. The DES member sponsorship is for a limited time and is first-come, first-served until funding has been exhausted. Information about the program and the agreement can be found online at www.t2.unh.edu/ma. •

Regional Source Protection Workshops Planned for 2012

Beginning in the spring of 2012, DES's Source Water Protection Program will sponsor two regional source protection workshops designed for planners, water works operators, and other municipal leaders. The workshops will focus on how to develop effective source water protection plans, identify and prioritize water quality threats, and select appropriate protection measures. Each workshop will feature regional experts involved in local protection efforts and staff from DES's Drinking Water Source Protection Program. Re-

gional workshops will be held in or near Manchester, Meredith, and Rochester. New Hampshire Water Works Operator training credits will be available.

If you are interested in obtaining more information about upcoming workshops, hosting, or participating as a speaker, contact Pierce Rigrod at (603) 271-0688 or pierce.rigrod@des.nh.gov. •



DRINKING WATER SOURCE PROTECTION PROGRAM
29 HAZEN DRIVE, CONCORD, NH 03301

