



# THE SOURCE



Newsletter of the NHDES Drinking Water Source Protection Program  
on the web at [www.des.nh.gov](http://www.des.nh.gov)

Summer 2013

## Conserved land helps protect Oyster River—a primary source for UNH and Durham

With funding from federal, state, and local sources, The Trust for Public Land (TPL) has permanently protected 171 acres along the Oyster River in Durham, helping to protect drinking water for the town and the University of New Hampshire (UNH).

“The Oyster River is one of the primary sources of drinking water for both the town and UNH. Protecting Sprucewood Forest will also help safeguard the Spruce Hole aquifer—a future source of water for Durham and UNH—resulting in a clean water supply for almost 16,000 people on the municipal water system,” said Gregg Caporossi, project manager for TPL. “This effort fits clearly with our mission of protecting land for people and is reflected in the way that this community responded to the opportunity to protect their most valuable resource—water.”

“The purchase of this property builds on Durham’s long history of protecting land around the Spruce Hole bog and aquifer. The future well site and the majority of the aquifer will be on properties now owned and/or controlled by the town of Durham,” notes Robin Mower, Durham Town Councilor. “It’s been a terrific project, whose

success reflects the extraordinary coordination, creativity, and dedication of our partners. We count ourselves very fortunate.”

In 2004, the UNH/Durham water system worked with American Ground Water Trust and DES to reclassify the wellhead protection area for the system’s Lee Well (to GAA) and land over the Spruce Hole Aquifer (to GA1). Inspections of potential contamination sources in the reclassified areas are conducted by the town of Durham in cooperation with the town of Lee.

In addition to protecting water, Sprucewood Forest provides excellent wildlife habitat and recreational opportunities. The property is of critical importance, as it contains suitable habitat for New England Cottontail, a state-listed endangered species. Sprucewood Forest is now part of the conservation and recreation corridor along the Oyster River, connecting over 2,200 acres of existing conserved land and trails.

“Working together with partners such as The Trust for Public Land ensures that communities like Durham can maintain a sustainable supply of clean drinking water, abundant recreational opportunities, and unique wildlife habitat for years to come,” said Rick Ellsmore,

New Hampshire state conservationist with USDA’s Natural Resources Conservation Service (NRCS).

TPL raised more than \$4 million to buy the land and is selling it to the town of Durham. Money for the purchase came from NRCS’s Wetlands Reserve Program (\$2.46 million), DES’s Aquatic Resource Mitigation Program (\$500,000), the state’s Land and Community Heritage Investment Program (LCHIP) and the N.H. Moose Plate Program (\$111,700 combined), the Lamprey River Advisory Committee (\$20,000), and the town of Durham’s Conservation Fund (\$375,000). Additionally, more than \$556,000 was donated by 115 private individuals and foundations from Durham and the greater seacoast to protect Sprucewood Forest.

For more information about the Sprucewood Forest conservation project, contact Rodger Krussman at TPL at (802) 223-1373 ext. 13. For information about groundwater reclassification, contact Pierce Rigrod at DES at (603) 271-0688. For a description of wellhead protection classifications, go to [www.des.nh.gov](http://www.des.nh.gov) and search for “wd-dwgb-22-1.” ●

# SPOTLIGHT ON TUFTONBORO



## Private well testing increased due to local effort

Efforts by the Tuftonboro conservation commission to inform residents of potential health risks associated with drinking untreated water from private wells are paying off. Residents have responded by testing their well water and exploring treatment options.

Approximately 40 percent of New Hampshire residents rely on private (domestic) wells as their primary source of drinking water. Yet it's not clear how many private well owners are regularly testing their well water for contaminants commonly found in our state's groundwater. Exposure to some contaminants, such as arsenic, even at low doses can result in serious human health impacts over time.

Steve Wingate, Nancy Piper, and Nancy Byr, members of the conservation commission, attended the 2012 Source Water Protection Conference, which included a presentation on the potential human health effects of low levels of arsenic in drinking water. They were inspired and set to work to increase private well testing in town. Almost all of Tuftonboro's 2,387 residents use private wells as their primary source of drinking water.

In the spring of 2012, the conservation commission met with DES, N.H. Department of Health and Human Services, and Dartmouth College Toxic Metals Research Program to review the human health effects of low doses of arsenic in drinking water, discuss testing and treatment options, and plan for a community-wide well testing event. Leading up to the event, the conservation committee made water sampling test kits available at the town hall (172 test kits were distributed), wrote articles in the town newsletter and local paper, placed notices on local cable access TV, and discussed plans to hold the event with friends and neighbors.

Over the last weekend in July, residents dropped off their samples at the transfer station. A majority of residents elected to test for nearly all of the contaminants DES recommends for private wells. Commissioners delivered the samples to the lab the following day. Subsequent lab results indicated that 34 percent of the 122 arsenic samples submitted for lab analysis exceeded the MCL (maximum contaminant level) for arsenic, set at 10 parts per billion (Figure 1).

DES assisted in a follow up workshop to review water treatment technologies. Approximately 30 residents attended a November 2012 workshop, where they learned details concerning treatment options, such as

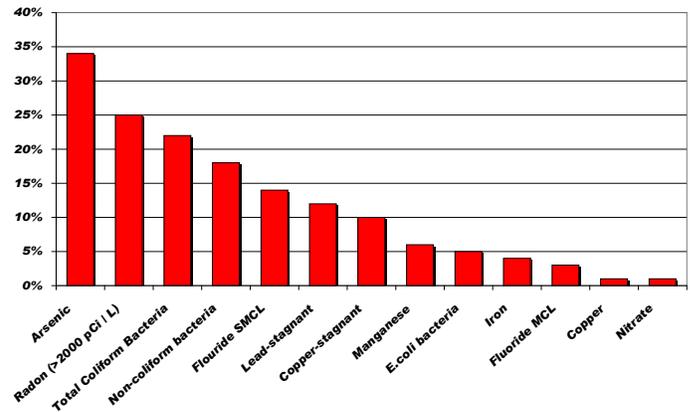


Figure 1. Percent of samples from Tuftonboro well testing event that contained excessive levels of various common contaminants.

point of use versus whole house, the range of treatment technologies, such as adsorption media and reverse osmosis, and associated maintenance issues. This spring, the board of selectman agreed to include private well testing information in tax bills that will be mailed to residents. The commission is planning another community well testing event sometime later this summer.

Congratulations to Tuftonboro for a successful private well testing effort! For more information on private well testing, visit DES's website at [www.des.nh.gov](http://www.des.nh.gov) and search for "private well testing." ●

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
Asst. Commissioner	Vicki Quiram
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](mailto:pierce.rigrod@des.nh.gov)  
[www.des.nh.gov](http://www.des.nh.gov)  
Printed on Recycled Paper

## Plan ahead—apply now for a 2014 Local Source Water Protection Grant

Now is the time to get started on an application for a Local Source Water Protection Grant. Because obtaining support from local stakeholders is important, DES has made the 2014 grant application available to give grant applicants plenty of time to line up support and include support letters in their applications. The deadline to apply is November 1, 2013.

Grant applications are available on DES's website at [www.des.nh.gov](http://www.des.nh.gov) by searching for "lswp grants." Grants are available to public water suppliers, municipalities, regional planning agencies, nonprofit organizations, educational institutions, conservation districts, and state agencies. Grantees can receive up to \$20,000 to protect public drinking water sources through best management practices, social marketing, improved mu-

nicipal zoning and watershed planning, assessment of threats to water supply sources, source security, and conservation-related expenses.

Previous grant projects included:

- Investigating increases in sodium and chloride concentrations in public water supply wells and developing comprehensive mitigation plans that reduce sodium and chloride impacts.
- Coordinating a series of regional source water protection workshops at regional planning commissions in the state.
- Implementing a Lake Conservation Corps program at Lake Waukewan to construct stormwater best management practices to reduce the volume of untreated stormwater

runoff that flows into Lake Waukewan.

- Developing groundwater protection zoning ordinances for four towns in the Ossipee watershed.
- Removing heating oil underground storage tanks within a system's sanitary radius and replacing them with aboveground storage tanks placed inside a building with secondary containment.
- Reducing nutrient and pathogen impacts from stormwater discharges to Paugus Bay by installing stormwater treatment systems at eight different locations adjacent to the bay.

These are just a few of the many source water projects that have been completed since the grant program began over 16 years ago. For more information, contact Johnna McKenna at (603) 271-7017 or [johnna.mckenna@des.nh.gov](mailto:johnna.mckenna@des.nh.gov). ●

## Wrapping up the 2013 Source Water Protection Conference

On May 1, DES held its annual Source Water Protection Conference at the Grappone Conference Center in Concord. More than 200 water works operators, land use planners, conservationists, municipal staff, and exhibitors attended a variety of sessions focused on improving local source protection. The morning plenary session focused on sustainability, climate, and energy development impacts while the four concurrent tracks in the afternoon presented cases studies, panel discussions, and technical training by state and regional leaders involved in source protection.

During the plenary, DES Commissioner Thomas Burack presented awards to recognize the extraordinary work of two local leaders. John Bergeron, a resident of Canaan, received the Source Water Protection Award for his contributions in planning and implementing a series of local actions to protect the water quality in Canaan Street Lake, the town's primary source of drinking water. Richard M. Meleski, Superintendent of Winchester Water and Wastewater Treatment Facility, received the Source Water Sustainability Award for his work to implement a leak detection survey and repair program to control water losses.

You can read more about the award winners and find speaker presentations at [www.des.nh.gov](http://www.des.nh.gov); search for "source protection conference." ●

### Stay in touch!

Electronic correspondence is an easy way for DES to contact you with news and information for your water system.

Register your email address with us by contacting Linda Thompson at (603) 271-3544 or by email at [linda.thompson@des.nh.gov](mailto:linda.thompson@des.nh.gov).



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## Beating the peak—reduce customer water use

During a short window of time in the summer, community water systems are put to the test with peak daily water demands often doubling or tripling that of the cooler months. A well-managed water system balances system-side management with customer consumption to assure the system is able to meet peak demands without jeopardizing the longevity of infrastructure and the water resource. Community water systems often focus only on system-side management, such as leak detection and infrastructure upgrades, to reduce water lost in the distribution system. Although important, these measures only represent a fraction of the tools available to a water system to reduce demand and help “beat the peak.” Unfortunately, overlooking consumption by customers can lead to unnecessarily high peak water demands and the need for new water sources to meet a one- or two-week period in the summer. The good news is that many water systems in New Hampshire are embracing the importance and benefits of consumption-side management.

Here are a few ideas for water systems to help curb excessive consumption by customers:

1. Partner with the EPA WaterSense Program and promote WaterSense-certified water fixtures, irrigation controllers, and irrigation specialists using the many tools the WaterSense Program has to offer ([www.epa.gov/watersense](http://www.epa.gov/watersense)).
2. Adopt ordinances or bylaws related to efficient landscape design.
3. Limit irrigation to two or three days per week during normal conditions and more restrictive measures during periods of drought or stressed supply.
4. Install new metering technology to collect consumer use data in real-time and notify residents when leaks are suspected.
5. Offer incentives to customers such as free water efficient showerheads or dye tablets to detect leaky toilets.
6. Implement a well-designed increasing block rate structure to provide an incentive for customers to not waste water and to ensure those using significantly more water pay the cost of additional demand along with wear and tear on the system.
7. Include usage trends on customer bills depicting how much the customer has used in gallons, a unit they understand, and how current use compares to previous months and the prior year.

For more information or for assistance related to water efficiency and consumption-side management for community water systems, contact Stacey Herbold, DES Water Conservation Program, at (603) 271-0659 or [stacey.herbold@des.nh.gov](mailto:stacey.herbold@des.nh.gov). ●

