Supply Lines with The Source

Newsletter of the NHDES Drinking Water & Groundwater Bureau
on the web at des.nh.gov

Spring 2015

70 Year Anniversary of Community Water Fluoridation

Cynthia Klevens, P.E., DWGB Water Treatment Engineer

Community water fluoridation in the United States began in 1945 in Grand Rapids, Michigan, and now is available to approximately 75 percent of the United States population receiving water from community water systems. In New Hampshire, 46 percent of the population served by community water systems receives fluoridated water based on local voter choice to prevent tooth decay. As of 2012, New Hampshire ranks 43rd in the nation with respect to fluoridation coverage.[1]

For every dollar spent on fluoridation, up to $38 is saved in treatment costs for tooth decay.[2] Oral health is important to general health and benefits people of all ages, not just children. Studies estimate that water fluoridation has reduced childhood dental caries by 18-40 percent.[3]

Tooth decay in the US affects:[4]

- 1 in 4 elementary school children
- 2 out of 3 adolescents
- 9 out of 10 adults

Fluoride occurs in the natural environment in soil, water and in our food. New Hampshire's groundwater has varying levels of naturally occurring fluoride. While an optimal amount is important for dental health, too much can have negative impacts. If you have a private well drilled into bedrock, it is important to test your well water to determine the natural fluoride levels before making any decisions with your physician or dentist regarding fluoride supplements. Fluoride that is naturally occurring is used by our bodies the same way that fluoride added to public water systems is used by our bodies to strengthen teeth. Water supply fluoridation in New Hampshire is overseen by the NHDES Drinking Water and Groundwater Bureau and the DHHS Oral Health Program. Public water systems that add fluoride to drinking water at the water treatment plant are extremely diligent at maintaining the optimum fluoride level of 0.7 mg/L each day. If you receive your water from a community or non-transient non-community water system, information on your fluoride levels may be obtained online at NHDES One-Stop, Public Water System Query, and by contacting NHDES at 603-271-2513 or DWGBinfo@des.nh.gov.

New Guidance on Ensuring Potable Well Water

NHDES recently published a new guide to help municipalities protect public health by adopting a minimum standard for "potable water" within local building codes. Potable water is currently required for all housing in New Hampshire under New Hampshire's State Building Code which requires water from a faucet or other fixture to be "free from impurities in amounts sufficient to cause disease and harmful physiological effects." Often municipalities adopt the State Building Code but the code's potable water definition has been interpreted differently, leading to questions about how municipalities might ensure that new housing with private wells meets the potable water requirement. The new guidance provides model language to refine and clarify the potable water definition within municipal codes. To learn more, download the new guidance from NHDES' website at http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-15-1.pdf

Long time Bureau member, Linda Thompson, is leaving. Unfortunately, she is leaving for medical reasons. We plan to put together a scrap book for her. If you'd like to send her a message or pictures, please send them to DWGBinfo@des.nh.gov by June 30. Put "Linda" in the subject line.

SPOTLIGHT ON MEREDITH

From "Cess" to Success!

Pat Tarpey, Lake Winnipesaukee Association

Protecting the water quality of Lake Waukewan is a high priority for the town of Meredith. Not only is the lake a recreational and economic asset, it is also the primary drinking water supply serving over 3,000 residents including the Meredith Village business community.

Lake Waukewan's water quality is impaired due to low levels of dissolved oxygen and experiences elevated concentrations of cyanobacteria (blue-green algae). A watershed-based plan completed in 2010 identified numerous nonpoint sources of pollution to the lake, including septic systems. A recent risk analysis indicates that nutrient loading from septic systems may have been underestimated, and that as many as 30 percent of the septic systems near the shore of Lake Waukewan are failing.

***Steel septic tank with rotten baffles**. The tank is completely non-functional, allowing septic waste to go directly through the tank and into the leachfield.*

In response to the findings presented in the watershed-based plan, the Town of Meredith adopted a health regulation that requires properties located within 250 feet of Lake Waukewan to have their septic systems certified as functioning.

With financial assistance from NHDES, the LWA implemented the Septic System Improvement Initiative (Initiative), which provides cost sharing grants to property owners to evaluate and repair or replace systems in failure. Priority is given to septic systems identified as high risk within 250 feet of Lake Waukewan.

Since implementing the program, seventeen evaluations have been completed. Nine septic systems or 53 percent were found to be in failure. Another four property owners bypassed the program, independently replacing their failing systems, meaning 13 of 21 systems (62 percent) were in failure. "In failure" meant that the effluent disposal area was in the seasonal high water table, the leach field was caved in, stone pits were plugged, outlet baffles rusted and passing solids, and more. All of the systems found in failure were over 30 years old.

Numerous residents have expressed their appreciation for the program, even those whose systems were found to be in failure. Meridian Land Services did a great job working with the property owners. As one property owner commented: "Tom Carr arrived at the appointed time, did a thorough and professional inspection, and kept us informed of each aspect of the inspection. We're very glad we took advantage of your program and very pleased with the outcome as well as the process."

Funding for the Initiative was provided by a Local Source Water Protection Grant and a Watershed Assistance Grant (Section 319) from the New Hampshire Department of Environmental Services.

***Septic tank full to the top.** This system failed as the trench bottom was interfacing with seasonal high groundwater, which was at 24" depth.*

The Source, the quarterly newsletter of the NHDES Drinking Water Source Protection Program, is published by:

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

29 Hazen Drive
PO Box 95
Concord, NH
03302-0095

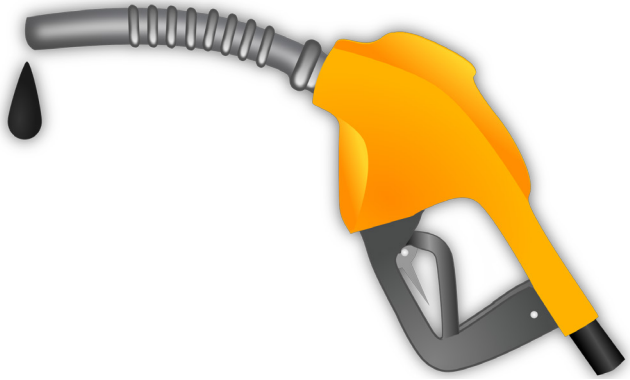
Commissioner	Thomas S. Burack
Asst. Commissioner	Vicki Quiram
Division Director	Eugene J. Forbes
Bureau Administrator	Sarah Pillsbury
Program Manager	Paul Susca
Editors	Pierce Rigrod
	Holly Green
Design Editor	Vacant

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

Chronic Small Fuel Spills at Gas Stations May Contaminate Groundwater and Runoff

"A new study suggests that drops of fuel spilled at gas stations – which occur frequently with fill-ups – could cumulatively be causing long-term environmental damage to soil and groundwater in residential areas in close proximity to the stations. . . Researchers with the Johns Hopkins Bloomberg School of Public Health, publishing online Sept. 19, 2014 in the Journal of Contaminant Hydrology, developed a mathematical model and conducted experiments suggesting these small spills may be a larger issue than previously thought. . . Over the lifespan of a gas station, [senior scientist Mark Hilpert] says, concrete pads underneath the pumps can accumulate significant amounts of gasoline, which can eventually penetrate the concrete and escape into underlying soil and groundwater, potentially impacting the health of those who use wells as a water source." According to Patrick N. Breysse, a professor in the Department of Environmental Health Sciences at Johns Hopkins, "There is an urgency to look more closely, especially since the new trend is to build larger filling stations with many more pumps. These stations continue to be located near residential areas where soil and groundwater could be affected."

NHDES regulates gas stations under RSA 146-C and the UST Rules, Env-Or 400, which establish standards for the design, installation, operation, maintenance, and monitoring of such facilities. The statute is available at http://www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-X-146-C.htm and the UST Rules are available at http://des.nh.gov/organization/commissioner/legal/rules/documents/env-or400.pdf.



You may also contact the UST Program at orcb.wmd@des.nh.gov or (603) 271-3899 for more information.

NHDES' fact sheet, "Preventing Groundwater Contamination at Gas Stations—What Municipalities and Water Suppliers Can Do," outlines a number of additional steps that municipal officials and water suppliers should consider taking to minimize the source water contamination risk of gas stations. Among the suggestions are siting restrictions (e.g., prohibiting gas stations in aquifer protection areas and/or wellhead protection areas), additional design requirements, and groundwater protection plans. The fact sheet is available at http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-22-20.pdf

Quoted passages above were excerpted from "Small spills at gas stations could cause significant public health risks over time," October 7, 2014, Science Daily, accessed 1/23/2015 at http://www.sciencedaily.com/releases/2014/10/141007103102.htm

Next Round of Infrastructure Improvement Funding: 2015 Drinking Water State Revolving Loan Fund (DWSRF)

Is your water system in need of some improvements? Maybe your storage tank needs to be rehabilitated, water mains replaced, or meters upgraded. If your system needs to make infrastructure improvements, consider the Drinking Water State Revolving Loan Fund (DWSRF) to help you fund your project. The DWSRF is a low-interest loan program available to any community water system or non-community, non-profit water system. Pre-application forms for the next round of loans are now available and must be completed and returned to NHDES no later than June 27, 2015. Disadvantaged water systems that meet affordability criteria will be eligible to receive subsidies in the form of principal forgiveness on loans. Applicants that apply in 2015 have until June 2016 to obtain the authority to borrow. For more information on the DWSRF, visit www.des.nh.gov, A to Z list, then click on "Grants & Loans" or contact Rick Skarinka at (603) 271-2948 / richard.skarinka@des.nh.gov or Johnna McKenna at (603) 271-7017 / johnna.mckenna@des.nh.gov.

How the Revised Total Coliform Rule Affects Seasonal Systems

The new Revised Total Coliform Rule (RTCR) furthers the goal of protecting public health by requiring monitoring for the presence of microbial contamination and ensuring the integrity of public water systems. Total coliform bacteria can be an indicator for the presence of other illness causing contaminants (such as E. coli bacteria and viruses). The RTCR focuses on a "find it and fix it" approach instead of treating a positive total coliform sample result as a violation. There is no longer a total coliform maximum contaminant level or the need for public notice based on positive total coliform results. NHDES started implementing the RTCR in February of this year.

For the first time, the RTCR establishes monitoring requirements specific to seasonal systems. A seasonal system is defined as a "non-community water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operation season" such as a campground. Seasonal systems represent a special case in that the shutdown and start-up of these water systems present additional opportunities for contamination to enter and/or spread through the distribution system.

The RTCR establishes monthly monitoring requirements for seasonal systems and requires that start-up procedures be completed and documented. The new monitoring requirements went into effect in February. Starting in January 2016, systems will be required to certify that they have performed start-up procedures. Seasonal systems that do not depressurize during the "off-season" are exempt from the monthly monitoring and start-up procedures.

For additional information and/or questions about the RTCR as it pertains to seasonal systems, please contact Amy Rousseau at DWGB: (603) 271-0893 or amy.rousseau@des.nh.gov.

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

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

PRSRT STD
U.S. Postage
PAID
Concord, NH
Permit #1478