ENVIRONMENTAL NEWS

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Newsletter of the N.H. Department of Environmental Services November-December 2014

COMMISSIONER'S COLUMN

New Salt Applicator Certification Law a Win for Business and the Environment

Wintry weather is here, and with it comes the need to keep our pavements safe for vehicles and pedestrians. Municipal public works departments and the state Department of Transportation have long trained their employees on proper use of salt, adopted winter maintenance policies, and are exempt from liability under state law if they follow those policies.

But what about commercial and institutional parking lots and driveways?

Until recently, we had not quantified the impact of road salt used to maintain parking lots at our stores, offices, and schools. The need to look more closely at commercial contributions to road salt arose in four impaired watersheds in the southern I-93 corridor in which we need to reduce salt by 25 percent to 45 percent. Unfortunately, there is no economically viable way to treat chloride in stormwater runoff, nor are there economically viable salt alternatives at this time. After detailed study, we found that as much as 50 percent of salt loading in impaired watersheds comes from commercial parking lots and driveways.

One of the first things we heard from both public and private sector winter maintenance professionals was that in order for commercial salt applicators to reduce salt loading, liability concerns would need to be addressed. Commercial applicators explained that they were induced to use more salt, rather than less, due to concerns over liability for slip and fall claims.

We heard the message and conveyed the details to the Legislature, which, in 2013, approved legislation creating a commercial salt applicator certification program and a liability limitation on claims arising from winter conditions. Following Governor Hassan's signature, this became the first law of its kind in the nation.

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Report Examines Health Impacts of Arsenic in Drinking Water from Private Wells in NH

Hundreds of cases of cancer of the lung, bladder, or skin could be avoided in New Hampshire by convincing private well users to test and treat their water to remove naturally occurring arsenic, according to a report prepared by Dartmouth College for the New Hampshire Department of Environmental Services (NHDES) and New Hampshire Department of Health and Human Services (NHDHHS). The study was conducted by a team of researchers from Dartmouth's Thayer School of Engineering, Geisel School of Medicine, and Superfund Research Program. Funding for the study came from the U.S. Centers for Disease Control and Prevention.

Arsenic, cont. page 3

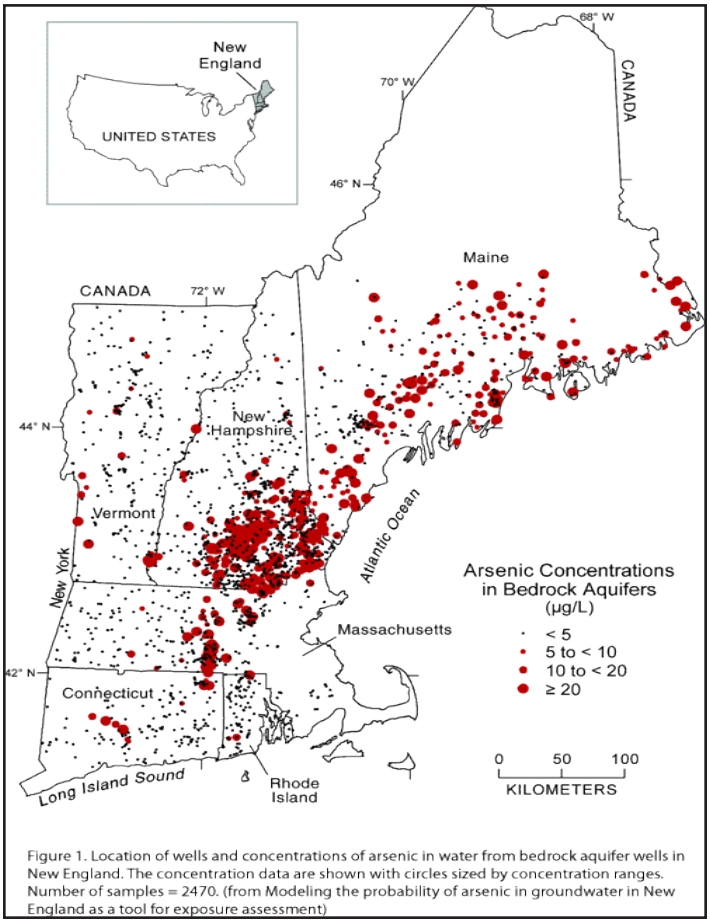


Figure 1. Location of wells and concentrations of arsenic in water from bedrock aquifer wells in New England. The concentration data are shown with circles sized by concentration ranges. Number of samples = 2470. (from Modeling the probability of arsenic in groundwater in New England as a tool for exposure assessment)

Commissioner's Column *continued from page 1*

The law became effective in time to begin certifying qualified salt applicators last winter, resulting in 230 certified applicators. To qualify for certification, applicants must complete a full day of salt reduction training provided by the University of New Hampshire Technology Transfer Center and pass an exam. The goal of the training is to teach salt applicators how to maintain safe surfaces using salt efficiently, because excess salt is wasted salt and money, and can pollute water. The course focuses on the chemical properties of salt, application rates and techniques, environmental impacts, and the proper calibration of equipment.

In addition to providing certified salt applicators with limited liability protection, the new law also provides limited liability to property owners who hire certified salt applicators to maintain their lots. In short, using a certified salt applicator is good business and good for the environment. For more information, see our web site at des.nh.gov and click "Salt Reduction" on the A to Z list. ■

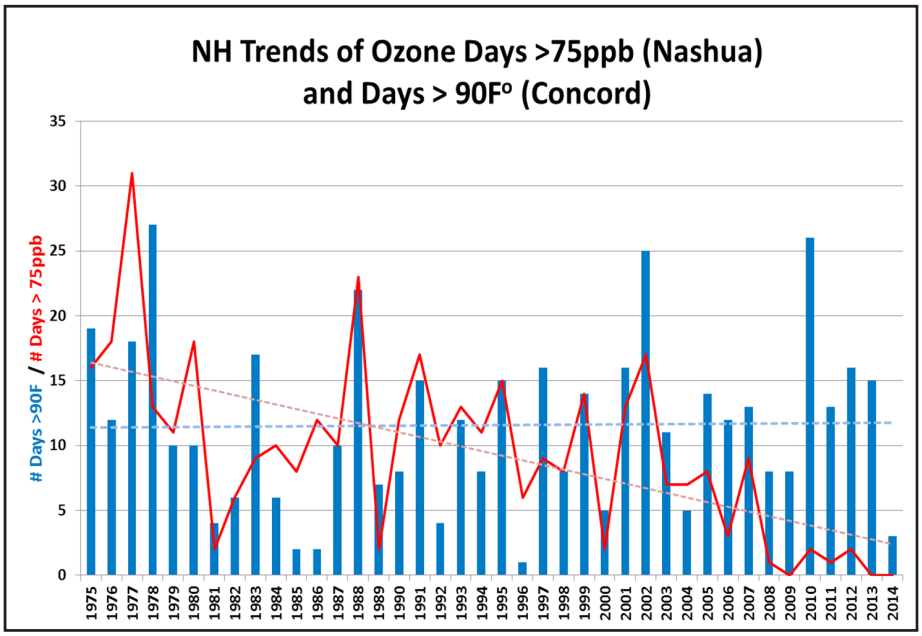
2014 Ozone Season – the best!

Ozone air pollution levels during the summer of 2014 were the lowest ever recorded in New Hampshire, in part due to cooler than normal weather. Ozone concentrations in New Hampshire only exceeded the federal ozone standard of 75 parts per billion (ppb) once this year, reaching 79 ppb at the summit of Pack Monadnock Mountain in Peterborough on June 3. Because of the way the ozone standard is tracked, one day over the standard does not create a violation; the entire state continues to meet all current federal health standards.

Ozone requires heat and sunlight to form, so to fully assess the efficacy of the state's air pollution reduction programs we must also consider year-to-year variations in weather, particularly summer temperatures. During the summer of 2014, only three days were over 90 degrees in Concord; this is well below the average of 12 days.

The chart below shows the longer term record from the NHDES ozone monitor in Nashua (solid line) compared to the number of 90 degree days recorded by the National Weather Service in Concord (bars). A clear downward trend in the number of high ozone days per year continues from 1975 to the present (dashed line), even during recent years such as 2010 through 2013 when the number of 90 degree days was above average.

EPA is expected to lower the ozone standard to a level more protective of public health in early 2015. New Hampshire's recent and historical ozone levels give us confidence that the state is well positioned to meet clean air standards into the future. ■



ENVIRONMENTAL NEWS

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29 Hazen Drive • Concord, NH 03301
603-271-3503
www.des.nh.gov
editor@des.nh.gov
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Arsenic *continued from page 1*

The study looked only at arsenic in private wells; water provided by public water systems is highly regulated under federal and state law. The study was prompted in part by the publication of statewide estimates of the occurrence of arsenic in private wells by the U.S. Geological Survey in 2012.

The report estimates that potentially avoidable cases of cancer from arsenic in private wells in the current New Hampshire population number from 450 to 600, based on federal government risk assessments published through 2001. The report also notes that a 2010 draft federal report, once finalized, would lead to an increased estimate. "We believe our estimate based on the currently available information is more likely to underestimate health effects in New Hampshire than overestimate them," said Professor Mark Borsuk of the Thayer School, project leader for the Dartmouth study. "Over the last 25 years, the number of diseases associated with arsenic has increased, the parts of the body affected by arsenic-mediated diseases have increased, and estimates of what constitutes a safe long-term arsenic dose have decreased." he added.

Borsuk cited a long-term study of over 2,000 people in Bangladesh to suggest that exposure to arsenic at levels comparable to what is found in untreated drinking water from New Hampshire private wells may contribute to several hundred deaths per year in New Hampshire. He was quick to note, however, that results from the Bangladesh study might not be applicable to the New Hampshire population for a number of reasons.

NHDES Commissioner Thomas Burack noted, "It has been clear for a number of years that drinking water from untested, untreated private wells is a significant public health issue in New Hampshire, where nearly half of the population uses private wells, and about one in five of those wells have unhealthy levels of arsenic. Radon is even more prevalent than arsenic, and there are other contaminants of concern as well. NHDES urges all private well users to have their water tested, consult water treatment professionals, and then install and operate appropriate treatment systems."

"Unfortunately arsenic is a triple negative – odorless, colorless, and tasteless – so it is easy for people not to think about it," said Dr. José Montero, Director of Public Health at NHDHHS. "It's important, however, that residents of New Hampshire take the time out of their busy lives to test their water if they have a private well. We are not sure of the scope of the problem in the Granite State, but we do know what the impact is and it is a problem we need to address."

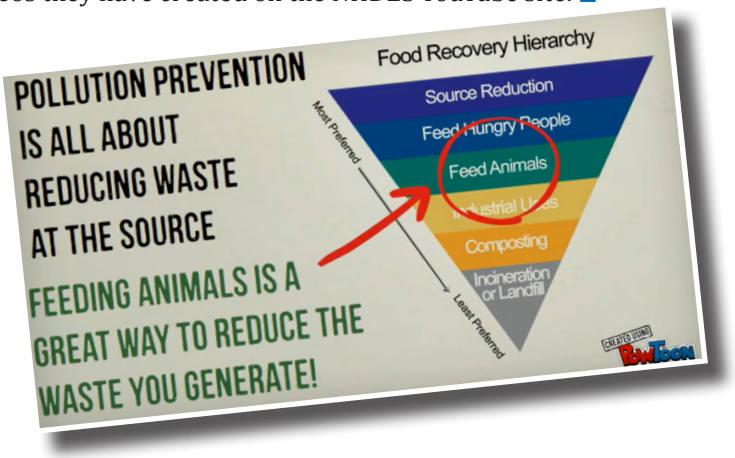
The report goes on to recommend "intervention" measures aimed at increasing the number of New Hampshire well users who test their water and then use appropriate treatment to remove contaminants. The Dartmouth team will recruit local officials and health organizations to pilot those measures over the coming year.

Arsenic in private well water was a key concern of the New Hampshire Arsenic Consortium, which met on October 16 in Concord. More information about the arsenic consortium – a group of academic, government, and health organizations – is available from NHDES at (603) 271-7061 and Dartmouth at (603) 643-1868.

The report is available at http://des.nh.gov/organization/divisions/water/dwgb/well_testing/index.htm under "Hot Topics." For more information about the study, please contact Paul Susca, NHDES, at (603) 271-7061 or Mark Borsuk, Dartmouth, at (603) 646-9944. ■

Animated Video Promotes Food Waste Reduction

The New Hampshire Pollution Prevention Program (NHPPP) recently created an animated video to promote the "Food Scraps for Animals" project. This short video, which is targeted to restaurants, explains the benefits of saving pre-consumer food scraps for local farmers to feed to their pigs, chickens and cows. NHPPP is using this video format to reach audiences they may not be able to reach through other media outlets. Check out this video (https://www.youtube.com/watch?v=rpW7qO1-txE) and other videos they have created on the NHDES YouTube site. ■

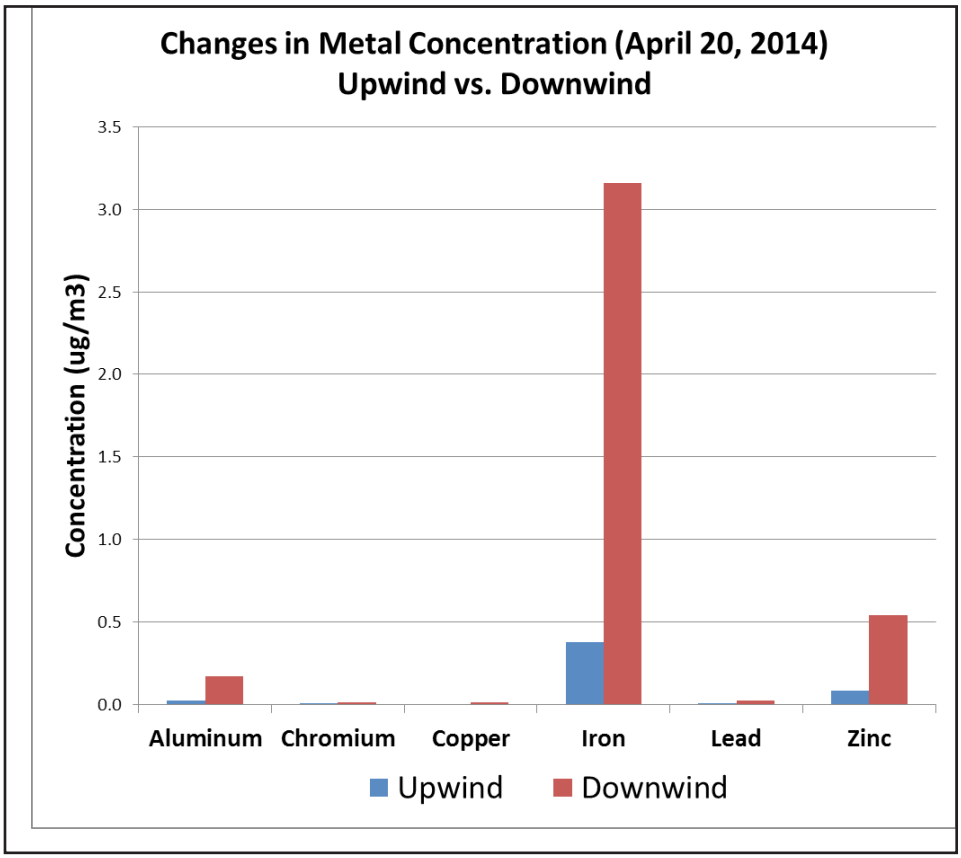


Air Monitoring at the Portsmouth Scrap Metal Pile

At the request of the City of Portsmouth following numerous complaints from neighboring residents, NHDES conducted air monitoring around the Pease Development Authority, Division of Ports and Harbors Market Street Marine Terminal in Portsmouth. Grimmel Industries, L.L.C. operates a scrap metal recycling facility at the Terminal, where scrap metal is stockpiled and periodically bulk loaded onto ships.

NHDES designed this special study to determine if fugitive dust and/or particle pollution emissions from site operations were leaving the site and potentially impacting nearby areas. NHDES has Environmental Rules governing the control of air pollution specific to fugitive dust (Env-A 1002). Fugitive dust is small airborne particles called particulate matter. These smaller airborne particles have the potential to adversely affect human health and the environment. EPA defines fugitive dust as "particulate matter that is generated or emitted from open air operations (emissions that do not pass through a stack or a vent)."

NHDES set up two monitoring locations to capture air upwind and downwind of the Terminal between September 2013 and May 2014. Among other parameters, NHDES sampled airborne particulate matter smaller than 10 micrometers in diameter (PM10) and analyzed some of the particulate matter for metal content.



Metal Concentrations Upwind and Downwind of the Market Street Terminal during a spike in particle pollution concentrations.

The monitors recorded several brief periods of high PM10 concentrations, but none long enough to exceed federal health standards. However, the data strongly suggest fugitive dust from scrap operations was leaving the site, in violation of Env-A 1002.

During most spikes in PM10 concentration:

- The scrap metal facility was operating, winds crossed the terminal property and wind direction did not correspond to the location of power plants in the area.
- Chemical analyses of the samples eliminated soils, road salt, cars, trucks and boats/ships as other potential sources of the particulate matter measured. The particle pollution was high in iron (see chart), which is the dominant component of scrap metal.

These results support the department's conclusion that "it is highly likely that fugitive dust emissions from scrap operations are the dominant source of PM10 concentration spikes in the Market Street area." The Port Authority recently voted not to renew the lease for scrap operations at the Terminal location, which NHDES anticipates should bring the area back into compliance with Env-A 1002. ■

Commissioner Burack Recieves ECOS President's Award

In September, NHDES Commissioner Tom Burack received the 2014 Environmental Council of the States (ECOS) President's Award. The President's Award is given to an ECOS member who has made a significant contribution to the initiatives undertaken by the ECOS President, and who is instrumental to achieving success of an important initiative during the President's tenure. Commissioner Burack was recognized for being a visionary, his work on the ECOS E-Enterprise for the Environment effort and his efforts to builtd and advance ECOS' relationship with EPA.

ECOS is the national non-profit, non-partisan association of state and territorial environmental agency leaders. The purpose of ECOS is to improve the capability of state environmental agencies and their leaders to protect and improve human health and the environment of the United States of America. Learn more about ECOS at ecos.org. ■

Soak Up the Rain New Hampshire

As the leaves begin to fall across the state, the Soak Up the Rain (SOAK) program is wrapping up a successful field season. True to its name, the program and its partners literally soaked up over 120,000 gallons of stormwater in 2014, preventing an estimated 11,500 pounds of sediment, 3.2 pounds of phosphorus, and 6.3 pounds of nitrogen from washing into the state's lakes, streams, and coastal waters.

This season, the SOAK program partnered with the Great Bay Stewards, Silver Lake Land Trust, Green Mountain Conservation Group, Massabesic Audubon, and the Town of Washington to complete projects and teach residents about the connection between land use and water quality. Too much runoff from our roofs and driveways can wash fertilizer, pet waste, or eroding soils into nearby lakes and streams, polluting the water.

The SOAK program provides resources to people who want to reduce stormwater runoff and pollution from their properties. Good housekeeping practices and do-it-yourself fact sheets for rain gardens, dry wells, and other practices can help people protect the pond in their back yard, the beach where they swim, or the bay where they paddle. Financial and technical assistance is available to local organizations interested in starting a Soak Up the Rain program in their communities.

This summer, the SOAK program was awarded a grant from the National Oceanic and Atmospheric Administration (NOAA). The grant includes working with the University of New Hampshire Cooperative Extension and the Great Bay Stewards to expand the program and develop training for professional landscapers to install stormwater management practices suitable for small sites, and to consider site drainage when designing and performing other landscaping services. Work under the grant will kick off in November.

SOAK is a voluntary program, managed by the New Hampshire Department of Environmental Services, with the goal of protecting and restoring clean water from the negative impacts of stormwater pollution. More information on the SOAK program is available at www.soaknh.org or by contacting Jillian McCarthy at (603) 271-8475. ■

<< King Tide Photo Contest

Maren Bhagat won the people's choice award at an event hosted by the NH Coastal Adaptation Workgroup. Maren shot this photo in a residential neighborhood in Hampton, New Hampshire at 12:17 PM, on October 9, the peak of the King Tide.

When the Moon, Earth and Sun are aligned, it results in the largest tidal range seen over the course of a year, known as the King Tide. As sea levels rise, today's King Tide could be tomorrow's routine high tide. Daily high tides, monthly lunar tides and intermittent storm surges are all moving steadily higher. Events like the King Tide Photo Contest vividly demonstrate the magnitude and inevitability of sea level rise and the importance of planning and adaptation.

Tales from the Field: Recovery of Submerged Seaplane

One day before "Ice Out 2014" on Lake Winnipesaukee, a pilot was practicing touch-and-go alightings and take offs on the water when he crashed in an area in Alton known as "the Broads" where the water is 110 feet deep. The New Hampshire Marine Patrol rescued the pilot, who was clinging to the plane, only minutes before the plane sank to the bottom. Because the plane carried about 96 gallons of aviation fuel and 12 quarts of engine oil at the time of the crash, Marine Patrol contacted the NHDES Spill Response & Complaint Investigation Section (SRCIS).

When Ray Reimold of SRCIS arrived, he arranged to have scuba divers from Dive Winnipesaukee attach air-filled float bags to raise the single engine seaplane from the bottom while he placed oil booms around the area to contain any oil or gasoline that might be released into the water. The dive was a dangerous one due to the depth, cold temperature and lack of visibility of the water, but the weather had at least been calm. As the divers worked below the surface, however, the force of the wind and waves increased dramatically, and they were only able to get the plane to breach the surface before its size and weight pulled it back to the lake's bottom. The dangerous conditions prompted officials to call off operations until it was safe to return.

It took two days for the weather to cooperate, but when NHDES, Marine Patrol and the divers returned, they brought with them a barge and a crane from Winnipesaukee Construction. With another containment boom around the surface area, divers dove down and attached a bridle on the plane so it could be carefully lifted onto the barge. The boom captured the minimal amount of engine oil that had been released to the water, and the gasoline and remaining oil were pumped out once the plane had been transported to dry land.

Close coordination among the NH Marine Patrol, NHDES Spill Response & Complaint Investigation Section, Dive Winnipesaukee and Winnipesaukee Construction was key to this successful recovery operation. ■

Oil Spill Preparedness Exercise

The Portsmouth Oil Spill Response Workgroup held an oil spill exercise on October 16, 2014. The exercise provided the roughly 200 participants with an opportunity to assess capabilities, plans, policies, procedures and a focus on decision making, coordination and integration with other organizations during a significant coastal oil spill. The exercise will help to improve working relationships between various local, state and federal agencies, as well as the local oil industry. Part of the exercise was a field component, placing approximately 2,500 feet of oil spill boom in the area of Pierce's Island in Portsmouth, Jamaica Island (Portsmouth Naval Ship Yard) and Spruce Creek in Maine. The deployment tested the capabilities of local, state, federal and contracted response assets to successfully place spill protection strategies and to work together. ■

Response crew on Piscataqua River

New Hampshire Superfund Site Clean-up Completed

Londonderry Town Garage/Radio Beacon Superfund Site Delisted From National Priorities List

Score one for New Hampshire's environment. The U.S. Environmental Protection Agency (EPA) Region 1 recently officially closed the books on the Town Garage/Radio Beacon Superfund Site in Londonderry. This is the first New Hampshire Superfund site to be delisted by EPA from the National Priorities List (NPL), a list of sites throughout the United States having known or threatened releases of hazardous substances, pollutants or contaminants that require long-term cleanup. This action reduced the official number of Superfund sites in New Hampshire to 20.

Aerial view of the Londonderry Town Garage

The Site was discovered 30 years ago, in 1984, when groundwater sampling results revealed the presence of volatile organic compounds (VOCs) in water collected from the Londonderry Town Garage well and several residential drinking water wells. The EPA and the State of New Hampshire began investigating the area in 1985. A defined source of the contamination was not identified but the source area was believed to be on the Londonderry Town Garage property. During 1988 and 1989, the Southern New Hampshire Water Company extended public water supply service to the area. In March 1989, the site was placed on the National Priorities List. Restoration of groundwater quality by monitored natural attenuation (MNA) and implementation of institutional controls via issuance of a Groundwater Management Permit (GMP) were implemented by NHDES and the Town of Londonderry. By 2006, only one monitoring well continued to exhibit VOC levels in excess of federal and state drinking water standards; standards were met at all monitoring locations in 2009. The results of continued groundwater sampling events documented that drinking water standards were met for at least three consecutive years in November, 2012. As part of the delisting process, EPA and NHDES conducted a Final Site Inspection in January, 2014 and the Town of Londonderry properly decommissioned all groundwater monitoring points in August, 2014. ■

First Annual New Hampshire Salt Symposium

Salt Shaker Awards were presented at the first annual New Hampshire Salt Symposium, sponsored by NHDES and the UNH Technology Transfer Center, in October. The awards recognize achievement in the commercial salt applicator industry in three categories. The award recipients were:

Senate President Chuck Morse presents a Salt Shaker Award to Justin Gamester.

The Salt of the Earth Award – for the salt professional who best exemplifies a workingman's approach to salt reduction.

Eric Brand, P&L Landscaping

The Shaken, not Stirred Award – for the James Bond of the salt profession, exemplifying a fearless, confident approach to salt reduction.

Justin Gamester, Piscataqua Landscaping

The Salt-n-Peppa Award – for the salt professional exemplifying the best blending of stakeholders in a salt reduction stew.

Alan Cote, Town of Derry

look for WaterSense Meets EPA Criteria

NHDES encourages residents to "Shower Better" with WaterSense Certified showerheads. http://www.epa.gov/watersense/products

<< Freedom Award

The New Hampshire Department of Environmental Services recently was presented with the 2014 Secretary of Defense Employer Support Freedom Award. The Freedom Award is the highest recognition given by the Department of Defence to employers for exceptional support of Guard and Reserve employees. NHDES is one of 15 recipients from across the country to receive this year's award, and was selected from among 2,864 nominations submitted by Guardsmen and Reservists for going far beyond what the federal law requires of employers in support of their employees who serve in the military. U.S. Secretary of Defense Chuck Hagel presented NHDES Commissioner Tom Burack with the award at a ceremony held recently at the Pentagon in Arlington, Virginia. Standing next to the Freedom Award (left to right) prior to the award presentation: Rob Livingston, NHDES; Steve Couture, NHDES; Tom Burack, NHDES Commissioner; Steve Landry, NHDES. Steve Landry and Rob Livingston spearheaded NHDES staff support of Steve Couture's unit during his deployments to Afganistan and Iraq. ■

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