

ENVIRONMENTAL NEWS



Newsletter of the New Hampshire Department of Environmental Services

March-April 2017

ASST. COMMISSIONER'S COLUMN

Transparency and Collaboration Key to Rulemaking

Do you ever wonder how all of the legal requirements that affect us are created? I have heard a rumor that some people dozed during high school civics, so here is a reminder: legislative bodies enact statutes to establish programs or policies. Those statutes typically direct or authorize an executive branch agency to adopt rules to implement the programs/policies by filling in details that are too specific for the statutes.

In the environmental arena, the New Hampshire General Court has enacted over 20 statutes to establish over 30 programs that are designed to protect the environment as well as public health, safety and welfare. NHDES adopts rules to implement the statutorily-created programs. Some state environmental programs are designed to be at least as stringent as their federal counterparts so that NHDES can be authorized, delegated or approved (depending on the federal program) to implement the program in New Hampshire in lieu of the federal government operating the program within our state. Some programs do not have federal counterparts, though, and so can be more closely tailored to address state-based concerns.

While it may be too daunting – or too inconvenient – to testify before a legislative committee to provide input on the content of a pending bill, it is easy to provide your input on NHDES rules.

NHDES hears from many stakeholders
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The High Cost and Impact of Emerging Contaminants

Chemicals in widespread use that are water soluble and resistant to biodegradation pose unique threats to New Hampshire's drinking water supplies. This is because of a number of factors:

- Chemicals in widespread use have a much greater probability of release during storage, transportation, use and disposal because of the large number of uses and users;
- Chemicals that are relatively water soluble are released in higher initial concentrations into aquifers. If the chemical does not biodegrade well, natural attenuation processes such as biodegradation will not be as successful in mitigation of the release;
- New Hampshire's geology is susceptible to contamination of its aquifers. The bedrock aquifer is frequently protected by a relatively thin layer of soil and bedrock outcrops are common. The water table is relatively high so that contamination does not have to travel far to impact aquifers. Additionally, much of the state's wastewater is discharged onsite through leachfields;
- New Hampshire has a high density of public and private water supplies that are dependent on groundwater from vulnerable aquifers.

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in the regular course of business, so rules that need to be clarified, revised or even eliminated can be identified. Once in a while, a needed change is significant enough that new rulemaking for a single requirement is initiated – such as was done in 2015 to realign the signature requirement for active solid waste facility annual reports in Env-Sw 1105.13(o) with the signature requirements that already existed in Env-Sw 303. Most of the time, NHDES keeps notes of needed changes until enough have accumulated to justify initiating a rulemaking or the rules need to be readopted to prevent expiration.

If NHDES is contemplating a major overhaul of a set of rules, one or more stakeholder groups will be convened to provide input before the formal rulemaking process is initiated. Invitations to participate in these stakeholder groups are issued to those who are “frequent flyers” in the program or who otherwise have expressed an interest in it. NHDES also sometimes publishes a “Request For Advance Public Comment On Subject Matter Of Possible Rulemaking” notice in the New Hampshire Rulemaking Register, a publication of the Office of Legislative Services, Administrative Rules office that is available online at <http://www.gencourt.state.nh.us/rules/>. NHDES always attempts to have the full range of stakeholders represented in such groups, and is mindful of any gaps that occur despite efforts.

Aside from those notices, NHDES maintains a list of all NHDES rules with expiration dates and notes about pending rulemaking on the Rules/Regulatory page of its website: <http://www.des.nh.gov/organization/>



[commissioner/legal/documents/des_rules_status_list.pdf](#). If you are interested in a particular set of rules, you can check the list to see whether a rulemaking is pending. If there isn't, you can tell from the expiration date when the next rulemaking is likely to be initiated.

When the formal rulemaking process is initiated, the proposed rules, the rulemaking notice and information about the public hearing and deadline for written comments are posted on the NHDES Rulemaking page: <http://www.des.nh.gov/organization/commissioner/legal/rulemaking/index.htm>. Each posting identifies the contact information for the individual at NHDES who is responsible for collecting public comments on the proposed rules. You do not have to attend the public hearing to submit written comments, and comments can be submitted by mail or electronically. NHDES also understands that not everyone is comfortable speaking in public, so written comments are treated with the same consideration as verbal comments. NHDES considers all comments received prior to finalizing the text of final proposed rules, and typically summarizes the comments

and responses in a document posted with the final proposed rules.

This discussion explains how things are done now. NHDES would like to hear from you as to how it can make participating in formulating the requirements with which you (or others) must comply even easier. ■

**ENVIRONMENTAL
NEWS** 

Environmental News is published six times a year by the New Hampshire Department of Environmental Services.

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Printed on recycled paper.

Emerging Contaminants *continued from page 1*

Two examples of chemicals that can cause significant groundwater problems are methyl tert-butyl ether (MtBE) and perfluorinated compounds (PFCs). MtBE was, until 2007, a high concentration component of gasoline and in 2015 (eight years after removal from gasoline) was detected in approximately 10% of randomly sampled southeastern New Hampshire water supply wells (*Trends in Methyl tert-Butyl Ether Concentrations in Private Wells in Southeast New Hampshire: 2005 to 2015, Sarah Flanagan, et. al, Environmental Science & Technology, December 23, 2016*). PFCs, because of their surfactant properties, can be found in a wide variety of consumer, agricultural, firefighting foams and other products. Both MtBE and PFCs are relatively water soluble and resistant to biodegradation and have, as a result, been detected frequently in drinking water wells. PFCs, keep making the news because of the contaminated water supplies that have been reported in Amherst, Bedford, Litchfield, Manchester, Merrimack, Portsmouth and Rochester. More than 1,700 at risk drinking water supplies have been tested for PFCs by NHDES since January 2016 and approximately 13.8% of the water supplies were impacted by PFCs in concentrations above the state water quality standard.

The State's response to drinking water contamination follows a standard, risk reduction oriented path. The immediate response to the detection of drinking water contamination is to investigate the extent of the contamination and to reduce health impacts by a short-term measure, such as the provision of bottled water or a point of entry water treatment system. Since March 2016, the response to the detection of PFCs in drinking water supplies has been the delivery of bottled water to 650 properties, the installation of 28 point-of-entry and 55 point-of-use water treatment systems.

In order to comprehensively address risks, it is important to quickly investigate area water supplies to determine the extent of impacted water supplies. NHDES has a dedicated rapid response sampling team that can sample water supply wells in high risk settings. The NHDES team has sampled approximately 5,000 drinking water supplies to date and has played an important role in the response to the PFC contamination response efforts.

Long term it is important, when possible, to replace the short term response measures with a permanent solution to the drinking water impacts. Ideally, remedial actions would restore contaminated groundwater for use as potable water. In practice, the cost, time required and difficulty involved in restoration can make this an arduous undertaking. In many cases the most practical and cost effective approach is to extend public drinking water service or operate point of entry treatment systems on each of the contaminated water supplies.

Several large projects providing permanent solutions to drinking water supply contamination have been completed, or are under way, in Amherst, Derry, Litchfield, Manchester, Merrimack and Windham. The projects in Derry and Windham are related to MtBE contamination of drinking water wells, and the water line extension costs are being paid by the State's MtBE remediation fund. The Litchfield, Manchester and Merrimack project addresses PFC contamination of water supply wells and is being paid for by Saint-Gobain Performance Plastics; the Amherst PFC project by Textiles Coated International, Inc. Statistics on the four projects are as follows:

- Derry: The Derry project is approximately 50% complete and involved the construction of 3 miles of water line with 16 MtBE contaminated water supplies slated to be connected to public water by this summer. Derry will also connect the Woodlands water system to the Derry "Core" water system. This will save Derry costs related to the operation of a separate water system for the 57 homes served by the current Woodlands water system. Finally, up to 105 additional water service connections will be completed to homes in the MtBE impacted area addressing water supplies that are currently uncontaminated but that may be at risk in the future as water use patterns change.
- PFC Projects: Installation of four miles of water line and connection of approximately 130 homes with PFC contaminated water supplies to the Pennichuck and Manchester Water Systems. The Manchester water supply connections are complete as well as 20% of the Litchfield connections. Initial connections in Amherst and Merrimack are also complete.
- Windham: The Windham project was completed in January 2017 and involves the installation of 4,600 feet of water line and connection of six MtBE contaminated properties to public water.

The magnitude and the costs of the problems being addressed this year points out the need for and value of release prevention efforts and drinking water source water protection programs. It is much more cost effective to prevent problems from occurring than to address large-scale water contamination problems once they occur. Examples of NHDES release prevention programs include the successful effort to upgrade all single wall underground petroleum storage tanks and piping by December 2015 and our critically acclaimed motor vehicle recycling Greenyards Program. Grant funding to help protect source waters is also part of our multi-pronged efforts to reduce the potential for impacts to key drinking water aquifers. ■

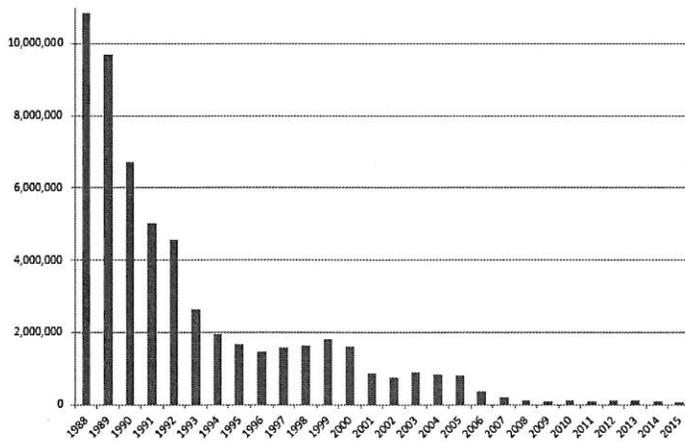
NHDES celebrates 30 years

2017 marks the 30th anniversary of NHDES. Much has changed in the last 30 years to help sustain a high quality of life for all citizens by protecting and restoring public health and our beloved environment. While the work in this effort is not complete, NHDES wanted to take a moment to recognize 30 accomplishments/achievements that have impacted our environment and public health for the better over the past 30 years. Each of the six issues of our Environmental News newsletter will focus on five of these achievements, under a specific theme for each issue. For this issue, the following five achievements for "Our Health" will be the focus.

Air Toxics Control Program

Why it matters: The USEPA defines toxic air pollutants as "those pollutants that, at sufficient concentrations and exposure, cause or may cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental and ecological effects." Today there are more than 70,000 chemicals used by business and industry in the U.S. with over 1,000 new compounds introduced each year. Many of these chemicals are emitted into the atmosphere from various processes operated by business and industries in New Hampshire. These chemical emissions may result in adverse environmental and human health impacts.

Total Air Emissions Reported to TRI



USEPA (2017) TRI Explorer (2015 Dataset) (released October 2016) [updated 11/29/16] [Internet database] Retrieved from <https://www.epa.gov/triexplorer/>, [February 01, 2017].

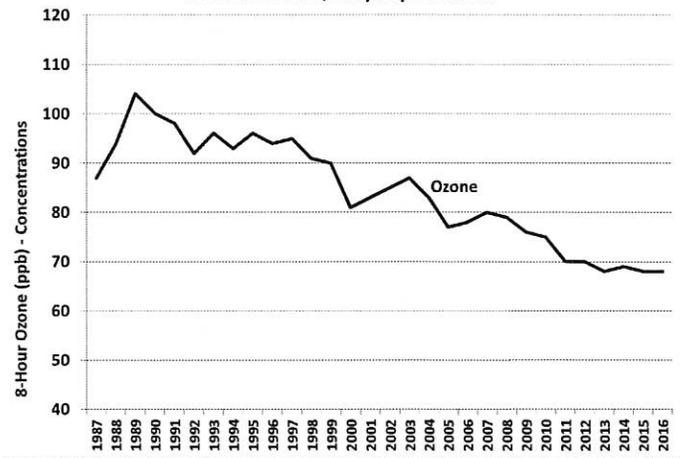
Progress in 30 years: The New Hampshire Air Toxics Control Program was established in 1987 to prevent, control, abate and limit the emissions of toxic air pollutants into the ambient air in order to protect the health of New Hampshire residents, and the environment. Any business or industry that emits any of the more than 700 chemicals listed in the air toxic rule must demonstrate that their air toxic emissions do not impact the ambient air beyond the facility boundary above the established Ambient Air Limit (AAL). The Air Toxics Control Program works with the state air permitting bureau and the USEPA air toxics program to help reduce emissions of these toxic chemicals. An examination of the chemical emissions reported to the USEPA Toxic Release In-

ventory (TRI) between 1988 and 2015 shows that emissions of hazardous chemicals into the ambient air in New Hampshire have decreased by 99%.

Ozone

Why it matters: There is an old saying that goes; "You can go for days without eating, but see how long you can last without breathing." Clean breathable air is an important part of maintaining good health, a strong economy and sustainable ecosystems. While there are many different types of air pollution, reducing ozone has proven to be the most challenging, even in New Hampshire. Breathing high levels of ozone causes respiratory irritation including asthma, bronchitis and other lung diseases, and it damages and stresses foliage and crops and thus reduces their yield and life span.

30 Years of Air Quality Improvement



Progress in 30 years: New Hampshire failed to meet the national ozone standard for 15 of the past 30 years, but thanks to the Clean Air Act and New Hampshire state statutes, ozone in the state has been reduced by 40 to 66% and now meets the Clean Air Act standards. Controls on power plants, cars using cleaner technology, better formulations of gasoline and wider-spread use of natural gas are among the measures that have brought us cleaner air. NHDES issues emission permits and ensures compliance through an inspection program to maintain the progress we have achieved. Ozone is not the only air pollutant being reduced in New Hampshire. Carbon monoxide (CO), nitrogen dioxide (NO2), particulate matter (PM2.5 and PM10), and sulfur dioxide (SO2) are other "criteria pollutants" now present in much lower concentrations than existed 30 years ago. Emissions of toxic air pollutants are also down significantly throughout the state. Comparatively, progress in removing ozone from our air has been slower than for the other pollutants, partially because some of it is natural (about 20-30%), but mostly because large amounts can be transported into New Hampshire from states to our south and west (upwind states). Ozone can be transported into New Hampshire from thousands of miles away. Getting upwind states to reduce their air pollution emissions to help northeastern states like New Hampshire has been a challenge, which has slowed progress.

Ensuring Safe Drinking Water

Why it matters: If not properly tested and treated, drinking water can contain any number of contaminants, ranging from disease-causing organisms to naturally-occurring toxic minerals, to industrial chemicals. These contaminants can make people ill, and even cause death, if present at unhealthy levels. A number of natural contaminants commonly occur at unsafe levels in surface water and wells used for water supply in New Hampshire.



Progress in 30 years: Public water systems (PWSs) provide water to 54% of New Hampshire residents at home and to the entire population when they are away from home at schools, places of work, restaurants and other public places. NHDES administers the federal Safe Drinking Water Act (SDWA) in New Hampshire, overseeing approximately 2,500 PWSs to ensure that they comply with both the federal and state SDWAs. The 1986 and 1996 amendments to the federal SDWA improved public health protection by driving many of the improvements to water supplies during the past 30 years. Under the 1986 amendments, new standards were established for approximately 100 contaminants, and filtration and disinfection requirements were added for PWSs that use surface water. Consequently, NHDES ensured that 35 water systems either added filtration systems or replaced their surface water sources with wells. Changes to the SDWA also emphasized preventing contamination of water supply sources, rather than relying as heavily on treatment and monitoring as in the past. Water systems struggling with aging infrastructure and the need to address additional contaminants received financial assistance from the Drinking Water State Revolving Fund (DWSRF) beginning in 1997. Since then, NHDES has provided \$260 million in low-interest loans for 250 drinking water infrastructure projects thanks to federal grants and state match funds through the DWSRF. For the 46% of NH residents who have private wells at home, progress has been made in understanding the prevalence of naturally occurring contaminants; making home buyers aware of the most common contaminants, radon and arse-

nic; encouraging testing; and making it easier for well owners to determine what kind of water treatment would work for them.

Wastewater

Why it matters: Healthy water bodies such as our lakes, rivers and streams are vital to New Hampshire and its way of life. The ability to set water quality standards for all contaminants in surface waters and regulate pollutant discharges from wastewater treatment facilities (WWTFs) is essential to maintaining the designated uses that New Hampshire residents and tourists have come to expect of its water bodies for fishing, swimming and other recreational purposes. The connection between properly operated and maintained wastewater treatment facilities and the quality of our water bodies is undeniable and continues to be an important focus for the environment and public health of New Hampshire's residents.



Progress in 30 years: Thirty years ago, the construction grants program was phased out and was replaced with the State Water Pollution Control Revolving Fund, more com-

30 for 30, cont. page 5

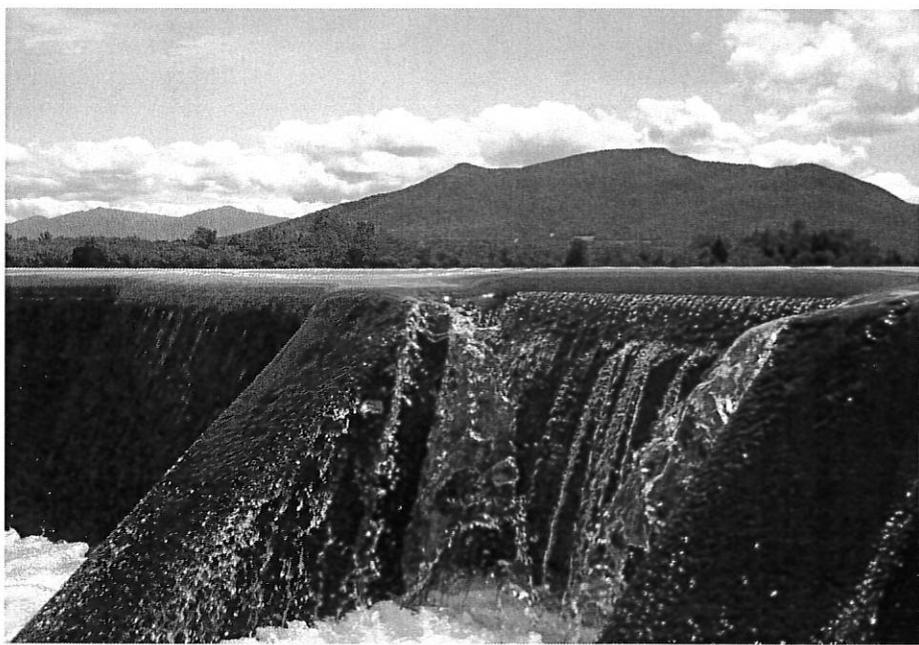
30 for 30 continued from page 5

monly known as the Clean Water State Revolving Fund (CWSRF). In thirty years, the CWSRF program has helped fund more than \$765 million in wastewater infrastructure projects including wastewater treatment, new sewers, sewer rehabilitation and replacement, combined sewer overflow (CSO) abatement, landfill closures, and stormwater and non-point source pollution. WWTFs and related infrastructure has unquestionably benefited the entire state in the form of a healthy and clean environment.

Dam Inspection and Maintenance

Why it matters: Construction or reconstruction of unregulated dams poses a risk of significant property damages, personal injury or death. While some dams provide a public benefit, there are others that do not. In 1996, a significant dam failure in Alton caused major flooding of a residential area, killing one resident.

Progress in 30 Years: After the failure in Alton, the State implemented several changes to its dam safety statutes, regulations and practices. In 2000, the legislature passed a law that would allow construction or reconstruction of Significant or High Hazard Dams (i.e., dams that pose a threat to public health and safety) only if they serve a public purpose by providing one or more of the following public benefits: public water supply; flood control; storage and treatment of liquid industrial, agricultural, commercial wastes or municipal sewage; hydropower production for the public; public recreation; or preservation of historic or cultural resources. Low Hazard dams may still be permitted, even absent a public purpose. The rules on designing and inspecting dams



Airport Marsh Dam, Whitefield, NH

were also revised. One new requirement is that both the design and construction engineers have a minimum of five years of engineering experience related to the design and construction of similar dam projects, as determined by the NHDES Dam Bureau after a review of the engineer's resume. The NHDES Dam Bureau must also be provided updated information on the dam from start to finish. In addition, all construction inspections of Significant Hazard and High Hazard dams must be conducted continuously by on-site inspectors unless specifically exempted by the approved inspection plan for particular items of work. With these changes, some of the human factors that led to the failure of the dam in Alton have been eliminated. ■

2017 New Hampshire Water & Watershed Conference

March 24, 2017

Plymouth State University, Plymouth, NH

8 AM-4 PM

This year's conference theme is all about what has transpired during the past ten years and what we might expect during the next ten and beyond. Over time, this conference has explored a variety of topics and this year we will focus on key issues related to pollutants, river and streams, water infrastructure, climate change, mitigation and restoration, technology and tools, and outreach.

Please visit the conference website for more information: <https://www.plymouth.edu/center-for-the-environment/2017-nh-water-watershed-conference/>

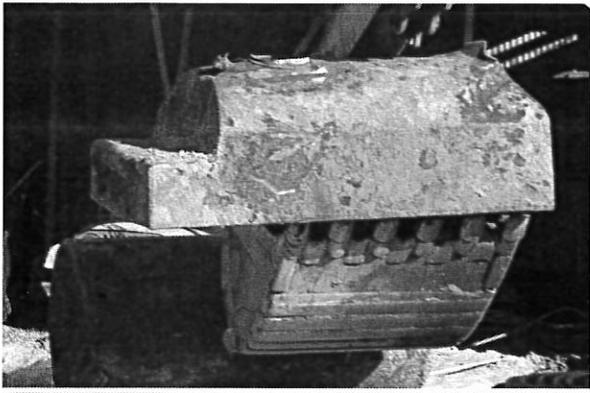
Registration cost includes all talks, parking, continental breakfast, and lunch.

Don't wait – spots are limited! Please share this information with anyone who may be interested.

Questions? Email nhwwc2017@gmail.com.



word art credit: Carolyn Greenough



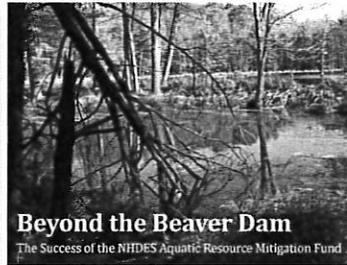
Guess the Date!

Over the past 30 years, NHDES has performed countless environmental remediation projects. During one such project in Conway, what is believed to be one of the oldest underground storage tanks ever found in the state was unexpectedly unearthed. The flat bottom and riveted seams indicated it was likely used to transport oil via horse-drawn carriage in the late 1800s. Can you guess the date it was discovered?

Photo source: Private Family Archive



Answer: November 20, 2012



The Aquatic Resource Mitigation Program published a book of success stories for its 10th anniversary – available online at: <http://www.des.nh.gov/organization/divisions/water/wetlands/wmp/documents/arm-fund-web.pdf>

Drinking Water Source Protection Conference – May 18

Don't miss this year's annual Drinking Water Source Protection Conference at the **Grappone Center in Concord, New Hampshire** on **Thursday, May 18** from **8:30 AM-3:30 PM**. The event offers a wide array of topics, involving drought, emerging contaminants, land conservation and best practices to protect local drinking water resources. Registration will be available online at the American Ground Water Trust's website, www.agwt.org. New Hampshire Water Works Operator Technical Contact Hours will be available for certified operators.

Consultant's Day – May 24

On **Wednesday, May 24, 2017**, please join the Business and Industry Association (NH BIA) and NHDES, in partnership with the New Hampshire Municipal Association, for an all-day conference focusing on the issues associated with hazardous and solid waste, and contaminated site management. The **New Hampshire Hazardous Waste Management Conference** will run from **8 AM-4 PM** at the **Radisson Hotel in Manchester**, with a networking reception to follow. Register for the conference at the NH BIA website: <http://www.biaofnh.com/>

Cost to attend:

- \$125 per person for BIA, Capitol Connect and NH Municipal Association Members.
- \$160 per person for future BIA members.

Walk-ins accepted with addtl. \$10 surcharge. Pre-registration is encouraged. *Please note, pre-registration will close at 12pm Tuesday, May 23.*



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Discover Wild NH Day

April 29, 2017



Celebrate Our Environment!
Admission to this family-friendly event is FREE.
Event location: 11 Hazen Drive, Concord, NH



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