

# ENVIRONMENTAL NEWS



Newsletter of the N.H. Department of Environmental Services

November-December 2013

## ENVIRONMENTAL QUALITY

### A Good Summer for Air Quality

New Hampshire residents have grown used to a connection between warm weather and poor air quality. Yet in summer 2013, the 15th warmest on record according to the National Oceanic and Atmospheric Administration, there were only three days when the air quality went over the ozone standard; compared to our usual four to five, this was a good year! Ozone, the principal ingredient of smog, is typically a warm weather air pollutant that forms when nitrogen oxides and volatile organic compounds mix in the presence of strong sunlight and warm weather. Once formed at ground level, ozone can aggravate respiratory conditions such as allergies, asthma and emphysema. It can have pronounced effects on all exposed, even healthy individuals.



Despite three official exceedances of the ozone health standard and a warm summer, our air was cleaner than average with regard to ozone. The first exceedance was a single overnight event in April at the summit of Mt. Washington. This was officially counted as two exceedances because it spanned midnight. The third exceedance was in August and was limited to the seacoast area. At times it seemed a little strange to not have corresponding air quality action days issued by NHDES when heat advisories were issued by the National Weather Service but recent events have taught us that hot weather can occur in New Hampshire without accompanying air pollution. While heat acts to speed the chemical reaction that creates ozone, the ingredients needed to form ozone must already be in the air or ozone will not be formed.

It has been a long time goal of NHDES to reduce pollution emissions so that we always meet air quality health standards. Ozone-forming air pollution emissions were down in 2013, but only a portion of that decrease was regulated and locked-in for the future. Emissions were also lower because of the downturn in the econ-

*Air Quality, cont. page 3*

## COMMISSIONER'S COLUMN

### Tools for Adapting to a Changing Climate

You name it – hurricanes, flash floods, ice storms, record heat waves – and, many, if not most of our communities across New Hampshire have seen one or more of these extreme weather events in recent years. The impact of these events affects important public infrastructure, private property, local economies, public health, and our natural resources throughout New Hampshire. The frequencies with which these extreme weather events are occurring gives us reason to consider this as the “new normal” – something for which all of our communities need to plan and prepare.

By preparing now for changing climate conditions and extreme weather events, communities can avoid significant costs, whether economic, social or ecological. In an effort to assist communities in planning for future events and develop strategies for adapting, or in other words, being better prepared for the impacts of our changing climate, the Climate Adaptation Workgroup, a subset of the New Hampshire Energy and Climate Collaborative, has developed and just released an on-line adaptation tool-kit. This tool-kit was developed to guide New Hampshire communities through a logical planning process.

The tool-kit makes it easier for communities to:

- Research and review the state, regional and local plans and assessments for climate change mitigation (decreasing our contribution to greenhouse gas emissions) and adap-

*Commissioner's Column, cont. page 2*

### **To prepare for the impacts from climate change:**

1. Pay attention to warnings for strong storms.
2. Have a preparedness plan for emergencies or storm events.
3. Be prepared to be without electricity (keep jugs for water, non perishable food and batteries on hand).
4. Be aware of neighbors or family members who are dependent on electricity for health reasons (i.e. oxygen).
5. Check your home and driveway for adequate drainage to prevent washouts.
6. Evaluate whether you need to purchase a generator for periods of no electricity.
7. Do regular tick checks after being outside and be aware of early warning signs of Lyme Disease.
8. Have large trees around your house removed to prevent them from hitting your house during storms.
9. Participate in community conversations to support preparedness in your town.
10. Support local initiatives including increased efficiency in municipal buildings, culvert maintenance, tree removal and stormwater management.

### **Commissioner's Column** *continued from page 1*

tation (preparing for the impacts) that already exist;

- Engage community members in conversations around being better prepared for the impacts of the "new normal" climate;
- Perform assessments and evaluations to identify community vulnerabilities and opportunities;
- Begin incorporating adaptation recommendations and actions into community plans; and
- Seek funding to implement and draw upon additional resources as necessary.

The tool-kit is designed so that a community can enter it from any point in their planning process, even if they haven't started planning at all.

To use the tool-kit visit: [www.des.nh.gov/organization/divisions/air/tsb/tps/climate/toolkit/index.htm](http://www.des.nh.gov/organization/divisions/air/tsb/tps/climate/toolkit/index.htm).

or go to the A-Z section of the NHDES website at [des.nh.gov](http://des.nh.gov) and look under A for Adaptation Tool-kit.

Many communities across the state are discussing and becoming engaged in adaptation planning. Research shows the truth in the old adage that an ounce of prevention is worth a pound of cure. A recent study by the Multi-Hazard Mitigation Council of the National Institute of Building Sciences shows that every \$1.00 spent up front on adaptation saves \$4.00 in recovery costs. The protective value of many proactive measures, such as elevating existing structures out of predicted floodwaters, greatly exceeds their initial expense. As communities move forward with adaptation planning, this tool-kit can help guide their process. As more information becomes available, the tool-kit will be updated to incorporate new case studies and research.

NHDES looks forward to continuing our support for proactive planning that supports our economy, the environment and the public health of our citizens. ■

## **New Publications for Recreational Boating Along Northeast Coast**

**E**conomic impact charts, downloadable data and dozens of interactive maps that help describe marine recreational boating for each state in the Northeast, including New Hampshire are now available. Using information from a recent survey, the online publications are user-friendly tools for ocean planners, the boating industry and others interested in better understanding inshore and offshore recreational boating in the region.

Thousands of boaters participated in the 2012 Northeast Recreational Boater Survey of marine recreational boat owners registered in Connecticut, Maine, Massachusetts, New Hampshire, New York and Rhode Island. Through monthly online surveys, boaters mapped their trips and identified areas where they participated in activities such as recreational fishing and wildlife viewing. Boaters also reported their boating expenditures including fuel, supplies and other items, and shared their opinions on a variety of boating issues, such as safety and whether boaters could continue to enjoy boating near other new and emerging ocean uses, such as offshore wind farms. Survey data was used to estimate the economic impacts of this spending on state and regional economies.

Learn more and connect to the new resources at [www.neboatersurvey.org](http://www.neboatersurvey.org). ■

### **ENVIRONMENTAL NEWS**

*Environmental News* is published six times a year by the N.H. Department of Environmental Services.

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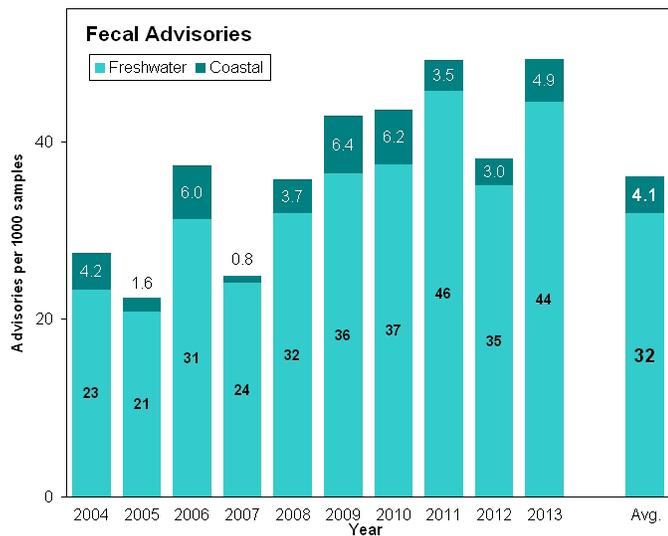
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*Printed on recycled paper.*

# The 2013 Freshwater and Coastal Beach Season

The NHDES Beach Inspection Program routinely collects water samples at public beaches during the swimming season and tests these samples for fecal bacteria to ensure protection of the public's health. These fecal bacteria are indicator organisms that show the potential presence of hard-to-detect, disease-causing organisms, also called pathogens. *E. coli* are the indicator organisms for freshwater beaches and Enterococci are the indicator organisms for marine beaches. In addition, samples of blue-green scums at freshwater beaches and lakes are examined for potential toxin-producing cyanobacteria. When test results are above state standards, NHDES issues an advisory until test results come back within an acceptable standard. Although not required, beach owners may choose to close the beach until an advisory is lifted.



In 2013, NHDES issued 80 fecal advisories and eight cyanobacteria advisories; more total advisories than ever issued in a single summer. We suspect the increase in advisories was caused by the increased rainfall in June and July that washed fecal contamination from the surrounding land into rivers and lakes. The rate of advisories for the number of samples conducted has been increasing during the last five

years. Fewer than 32 advisories were issued for every 1,000 freshwater samples collected between 2004 and 2007. However, more than 34 advisories were issued for every 1,000 freshwater samples collected since 2009. The last five years have, on average, been rainier than the previous five years, so the increase in advisory rates was expected.

The rate for coastal advisories does not show an increasing trend. Since 2004, no more than 6.4 coastal advisories have ever been issued per 1,000 saltwater samples collected. The tide and currents mix the coastal waters well to help keep annual advisory rates low. In the past ten years, eight cyanobacteria advisories have been issued on average each year. Clear trends do not appear to be emerging from cyanobacteria events, other than increased awareness after the initial advisories most likely encouraged more people to recognize cyanobacteria blooms as an issue. To stay current on beach advisory information during the summer months, visit [http://www2.des.state.nh.us/WaterShed\\_BeachMaps/WaterShed\\_BeachMaps.aspx](http://www2.des.state.nh.us/WaterShed_BeachMaps/WaterShed_BeachMaps.aspx) or [twitter.com/nhdes\\_beaches](https://twitter.com/nhdes_beaches). ■

## Air Quality *continued from page 1*

omy and the rapid advancement of the shale gas industry in providing inexpensive natural gas as a cleaner-burning fuel. Industry and electrical companies have found it cheaper to burn natural gas rather than oil or coal. No one knows for sure how long this will last or when a shift back to dirtier fuels might happen, but for 2013 we benefited.

New Hampshire also benefited from wind patterns that did not bring the worst of upwind pollution to our state. This year, the state experienced a pattern where the air flows came more from the west than southwest which bypassed the largest upwind air pollution sources. ■

## Winter Green Tip



Avoid scraping frost from your car's windshield by misting its windows the evening before a freeze with a solution of three parts vinegar to one part water.



[twitter.com/NHDES](https://twitter.com/NHDES)

## Creating a WWEB Database

This summer and fall, the NHDES Wastewater Engineering Bureau (WWEB) has taken the first steps toward developing a database and a comprehensive climate change plan for wastewater treatment plants (WWTPs).

By visiting each WWTP and collection system in New Hampshire in a relatively short period of time, there is a unique opportunity to do some important outreach on climate change while also collecting valuable information from the operators who know their WWTPs inside and out.

The information collected will be used to build a database for WWEB to better serve operators, municipal officials, regional planning commissions, NHDES and the general public. This database will also help to retain the valuable knowledge that has been accumulated by veteran NHDES and municipal staff before they retire. In addition, this database can be used to connect operators to each other for mutual aid assistance and for wastewater treatment-specific training workshops and roundtable discussions.

During each interview with the WWTP operators, quite a bit of time is spent talking about energy audits, energy efficiency, asset management, emergency operation and flooding. These topics are all related to climate change in one way or another. As part of this climate change outreach effort, several fact sheets have been prepared for reference. These fact sheets are provided during the interview but are also available at: <http://des.nh.gov/organization/commissioner/pip/factsheets/wwt/index.htm>. Staff will prepare additional fact sheets to provide information relative to commonly asked questions once the data collection portion of this project has been completed. The climate change related-data will also be incorporated into a NHDES Climate Change Plan for Wastewater Utilities. This plan will include climate change-related revisions to the NHDES Standards of Design and Construction for Sewerage and Wastewater Treatment Facilities.

Terms such as energy audits, energy efficiency, asset management, flooding and climate change are becoming part of everyday language for those in the wastewater industry. We are all impacted by climate change and we should make every effort to both mitigate and adapt to “the new normal” climate. Since WWTPs are typically one of the largest energy users in a municipality and are typically located along riverbanks, WWTPs are a great place to make positive changes toward climate change mitigation and adaptation.

To help encourage municipalities get started or continue improvements, the NHDES Clean Water State Revolving Fund program is now offering partial loan forgiveness for energy audits and asset management programs this year. For more information on loan forgiveness, contact James Tilley at (603) 271-3249 or [james.tilley@des.nh.gov](mailto:james.tilley@des.nh.gov).

For more information about the 2013 Climate Change Outreach and Data Collection project, please contact Sharon Rivard at 271-2508 or [sharon.rivard@des.nh.gov](mailto:sharon.rivard@des.nh.gov). ■



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## Grant Funding Available to Protect Drinking Water Supply Lands

Just over \$2.2 million is available this fall for grants to protect drinking water supply lands in the southern I-93 corridor communities of Salem, Windham, Derry, Londonderry and Manchester and in the Lake Massabesic Watershed, which includes portions of Auburn, Hooksett, Candia and Chester.

The money comes from a fund established to offset impacts to wetlands and streams associated with the widening of Interstate 93 between the Massachusetts border in Salem and the I-93/I-293 interchange in Manchester. Through an agreement with the N.H. Department of Transportation, this grant money is administered by NHDES's Water Supply Land Protection Grant Program.

More information on these grants, including a map of the eligible land, and copies of application forms are available on-line at [des.nh.gov/organization/divisions/water/dwgb/dwspp/land\\_acqui/](http://des.nh.gov/organization/divisions/water/dwgb/dwspp/land_acqui/) or by contacting Holly Green at (603) 271-3114 or [holly.green@des.nh.gov](mailto:holly.green@des.nh.gov). ■

## New England Air Monitoring Programs Share Information

On September 25, 2013, NHDES hosted the Inaugural Technical Information Exchange Forum for information sharing between air monitoring technical (field) staff in EPA Region I. Twenty technicians from Maine, Massachusetts, Connecticut, Rhode Island and New Hampshire attended the Forum. Vermont could not send a representative, but sent some helpful information prior to the Forum.

NHDES Air Monitoring Program staff designed this one-day Forum to amplify operational efficiency and effectiveness by promoting open exchange among air monitoring technical staff in Region I. The day's activities included information exchange, a presentation about helpful shareware, and a tour of NHDES' Londonderry air monitoring station.

The Forum proved worthwhile for the entire Region. Information gathered during the forum has already led to resource savings within NHDES' Air Monitoring Program and NHDES has received significant interest from attending states regarding hosting similar events in the future. ■

## Building Resilient Communities in the Upper Valley

On September 30, the Upper Valley Adaptation Workgroup (UVAW) hosted its first public forum at the Dartmouth-Hitchcock Medical Center in Lebanon. UVAW is a collaborative formed to help communities prepare for the impacts of a changing climate. The Forum was a tremendous success – a full capacity 100+ person audience with highly prepared speakers, comments and discussions. A thought-provoking overview by Alex Jaccaci of Hypertherm, set the stage for the evening. UNH's Dr. Cameron Wake presented the Climate Assessment he recently completed for the Upper Valley, which included data on what changes we have already seen in terms of increasing temperatures, extreme weather events and increases in precipitation. A panel presentation and discussion followed, including Dr. Robert McClellan from Dartmouth-Hitchcock Medical Center who focused on the health impacts from a changing climate; Michael Simpson of Antioch University addressed the impacts to built infrastructure including bridges, roads and culverts; and Anne Duncan Cooley Esq., Chair of Upper Valley

Strong and Executive Director of the Upper Valley Housing Coalition, highlighted the importance of community organizations in disaster response and recovery. Based on feedback and questions from the audience, it was very clear that the topics of climate change adaptation and building resilient communities are highly important to the Upper Valley communities and business.

UVAW is a bi-state collaborative (including Vermont) focusing on building resiliency in the Upper Valley by providing educational and technical resources to communities in that region. Sherry Godlewski of NHDES serves as co-chair, along with Alex Jaccaci, illustrating the importance of partnerships among communities, government and businesses in addressing this important issue. See the complete UVAW membership as well as information from the forum at [www.uvl-srpc.org/resources/uvaw/](http://www.uvl-srpc.org/resources/uvaw/). ■



What is Pollution Prevention?

[youtube.com/NHDES](http://youtube.com/NHDES)



It's good for the environment!

## Underground Storage Tank Inspections Move into 21st Century

The NHDES underground storage tank (UST) program is required to inspect federally-regulated facilities that store motor fuels such as gasoline and diesel every three years. The purpose of these inspections is to ensure compliance with training, recordkeeping, and testing requirements. Also during their visits, inspectors verify various components of operation (e.g. properly functioning equipment) to reduce the chances of spills that could contaminate the groundwater. These risks could affect two-thirds of the people in New Hampshire, who rely on wells for their drinking water. With over 1,800 registered UST facilities to inspect and only four NHDES inspectors, the program turned to technology to accomplish its inspection goals.



Partnering with Mobile Wright Solutions of Wakefield, MA, the NHDES UST program developed a software application to manage its workload using tablet computers. The tablet displays data specific to each underground storage tank facility, allows for standardized inspections, reduces file loss and simplifies the inspection process. The touch screen tablet application is designed for collecting UST compliance results and can electronically capture a facility representative's signature. The application can also capture GPS coordinates as well as attach on-site photos and notes. Following the inspection, a battery powered printer allows inspectors to print reports or violation notices that instruct the facility owner how to achieve or maintain compliance. Once back from the field, the tablets upload data and documents about the visit directly to the NHDES database. The updated information can be viewed by the public within 24 hours.

By standardizing the required violation reports, UST inspectors and administrators can more effectively, fairly and efficiently perform their routine inspections. The new approach has enabled the program to improve data quality and reduce the file review time required beforehand, allowing time for more inspections. While streamlining the process, the system also now ensures consistent, complete and even-handed enforcement of regulations. ■

## Best Management Practices at Solid Waste Facilities

NHDES recently completed a series of workshops for rural town officials and solid waste facility operators to aid them in making environmentally sound and cost saving decisions for reducing their solid waste stream. The workshops were the culmination of a \$50,000 grant awarded by the U.S. Department of Agriculture, and focused on Best Management Practices ("BMPs") at Solid Waste Facilities. Nine workshops were held in Grantham, Lincoln, Stratford, Tuftonboro, Lempster and Portsmouth during the last two weeks of September.

These BMPs are clear and direct guidelines for managing solid waste in a way that protects public health and the environment. They cover requirements in the Solid Waste Rules, but usually go beyond the regulations to ensure maximum protection. They also allow the facility to develop methods that work for them. For example, the BMP might address how to keep a particular waste protected from precipitation, but it would be the responsibility of the operator to determine whether it was best to store the waste indoors or stored outside covered with a tarp.

The BMPs and other information, including financial incentives for increasing diversion of the waste stream, are contained within a manual that was distributed to all workshop attendees and the towns they represented. Following the grant period, NHDES will continue to offer the workshops. There is still space at the December 5 workshop that will be held at the NHDES offices in Concord. For further information and to register, call NHDES at (603) 271-2925. ■



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

# Pemigewasset River Restoration Success Story

**F**ishable and swimmable. These shortcut words for the condition of our waters neatly illustrate the objectives of the Clean Water Act. Trout Unlimited (TU), one of NHDES' many partners in clean water, reported direct evidence of these objectives being restored to the Pemigewasset River as a result of a NHDES-funded watershed restoration project completed in 2009.

Gerry Crow, of New Hampshire Rivers Guide Service, is a professional fishing guide whose livelihood depends on clean water. He regularly brings both new and experienced clients to New Hampshire rivers to learn how to fly fish or to work on their technique. Active in many conservation projects, Gerry is past president of the Merrimack River Valley Chapter of TU.

After many trips this summer to the stretch of the Pemi in Woodstock, near Exit 31 west of I-93, Gerry said in an email to the local TU chapter, "Many of my clients caught fish in that area, even though almost all were beginners who only learned to fly fish that day. More importantly, I noted that there are a tremendous amount of saddle case and other caddis flies on the rocks near each of the large boulder structures. As we all know, that area was quite sterile prior to the project being implemented. I am sure we will see increased amounts of various insects in the future. Most days the water temp ranged between 62F and 66F, even when there was a heat wave."

The project Gerry mentioned is the Pemigewasset River Restoration Project completed by the Pemigewasset Chapter of TU under the direction of then-Chapter President Todd



*A new angler lands a trout in the restored Pemigewasset River.*

*Photo credit: Gerry Crow, N.H. Rivers Guide Service.*

Baldwin. TU successfully competed for funds in response to NHDES's annual solicitation for Watershed Assistance Grants, which are funded through Section 319 of the Clean Water Act by the U.S. Environmental Protection Agency.

This nearly half-mile long reach of the Pemi was characterized by ongoing bank erosion, which led to channel widening, formation of multiple channels, and degradation of cold water fisheries habitat. The primary focus of the project included stabilizing the channel and banks, plus returning the river along this reach to a state of equilibrium, which means a balance between erosion and deposition attained by mature rivers. The river was reconnected with its floodplain so that flood waters can disperse over a broad floodplain as the river wants to do naturally.

In addition to Todd's expertise in project management and construction, the project was made possible by the technical skills of project engineers and river scientists Sean Sweeney of Headwaters Hydrology and Tyler Phillips of Horizons Engineering. We all benefit from validation of our work from time to time, and sometimes it's hard to know when we succeed in meeting our environmental goals. We are thankful for, and inspired by, our partners on the Pemi, whose success in restoring a river was documented first-hand. ■



*Rock veins on the banks direct flows during high flows while a lower rock sill creates riffle and pool habitat during low flows.*

## Tales From the Field: A Nice Gesture that got Out of Hand

He was trying to be a nice guy by helping an elderly woman save \$25 – he accepted her old TV monitor for free. He thought he could dismantle it, scrap the metal, make a little money and figure out how to dispose of the cathode ray tube (CRT) later. Slowly, word got around that “this guy” would accept TV monitors for free. A few years later, the “guy” had over seventy-five TV monitors in his backyard. Sometimes another guy would arrive and take the CRTs, which contain lead and other heavy metals, but the first guy wasn’t sure who the second guy was or where he was taking them. Hmmm, sounds like a problem – and the problem came to the attention of NHDES. The Spill Response and Complaint Investigation Section (SRCIS) and the Small Business Technical Assistance Program (SBTAP) responded to the complaint to determine compliance with solid and hazardous waste rules.

NHDES first contacted the town to determine any history on the property owner accepting appliances or other electronic items. After speaking with the property owner, it was agreed the old TV monitors were too much for him to manage. The property owner would stop accepting old TVs and have them recycled through a universal waste hauler. NHDES wanted the property to be “cleanly” in order to reduce the chance of the CRTs breaking and potentially releasing heavy metals in the soil or air. No one was in any immediate danger but there was also a need to clean it up before winter arrived. NHDES was able to help the property owner find a vendor to remove and properly dispose of over 6,600 pounds of universal waste for just \$300. Since the property was cleaned very quickly after the initial request, no enforcement actions will be sought. The partnership between NHDES programs brought a potentially messy situation to a happy ending. ■



## 2013 N.H. Waste Management Seminar

The Business & Industry Association and the NH Department of Environmental Services will present an all-day seminar devoted to waste issues and regulation in New Hampshire.

The New Hampshire Waste Management Seminar is a unique conference that brings consultants, engineers and key business leaders together with regulators.

The conference, which includes continental breakfast and lunch, will be held:

**November 20 – 8:00 AM-5:00 PM**

Radisson Hotel Manchester  
700 Elm Street, Manchester NH 03101

The cost to attend is \$135 for BIA, Capitol Connect and NH Municipal Association members and \$160 for non-members.



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