

# ENVIRONMENTAL NEWS



Newsletter of the N.H. Department of Environmental Services

July-August 2012

## COMMISSIONER'S COLUMN

### 25 years of progress in the fight to reduce ozone pollution

Ozone, a harmful air pollutant, has probably been prevalent in New Hampshire's air since we began burning large quantities of fuel to power the industrial revolution, but it has only been since the formation of the state's Department of Environmental Services 25 years ago that real progress has been made in protecting the state's residents from the harmful effects of ozone.

At ground-level, ozone is formed as a result of chemical reactions caused by the presence of nitrogen oxides (NOx) and volatile organic compounds (VOCs), which are released from burning fuels in vehicles, power plants, industrial processes, and the use of chemical cleaners, solvents, and coatings. When these compounds react with strong sunlight, they produce ground-level ozone. Ozone irritates, and can damage, the throat and lungs. DES issues an "Air Quality Action Day" for the state when ozone is forecast to reach unhealthy levels. During an Air Quality Action Day, people are encouraged to take precautionary measures to protect their health, especially in the afternoon when ozone levels tend to be the highest.

The establishment of the Clean Air Act in 1970 was our nation's most sig-

*Commissioner's Column,  
continued on page 2*

## UNDERSTANDING OUR PAST

### New gundalow provides a floating classroom along coastal rivers



*The gundalow, Piscataqua, sails the rivers around Portsmouth. Photo by Ralph Morang.*

For centuries, barge-style sailboats called gundalows connected up-river communities with Portsmouth, the region's seaport and primary market town. Harnessing the wind and riding the tide, gundalows moved bricks, hay, firewood and goods crucial to the economy and everyday life.

*Continued on page 3*

## Meet Vicki Quiram, DES's new asst. commissioner

In mid-June, Gov. Lynch swore into office Vicki V. Quiram, P.E., as the new assistant commissioner of DES. Vicki comes to us from Westwood, Mass., where she served as the town's public works director. Vicki has a record of substantial experience and accomplishment in both the private and public sectors, including leadership roles in municipal and county government, and will bring very strong project management skills to DES. During the course of our selection and interview process, Vicki impressed the DES Senior Leadership Team as someone of great energy and integrity, who is committed to working effectively with all of our many stakeholders, who has the ability to inspire others to do their best work, and who is committed to our mission of environmental stewardship.

Welcome to DES, Vicki! ■

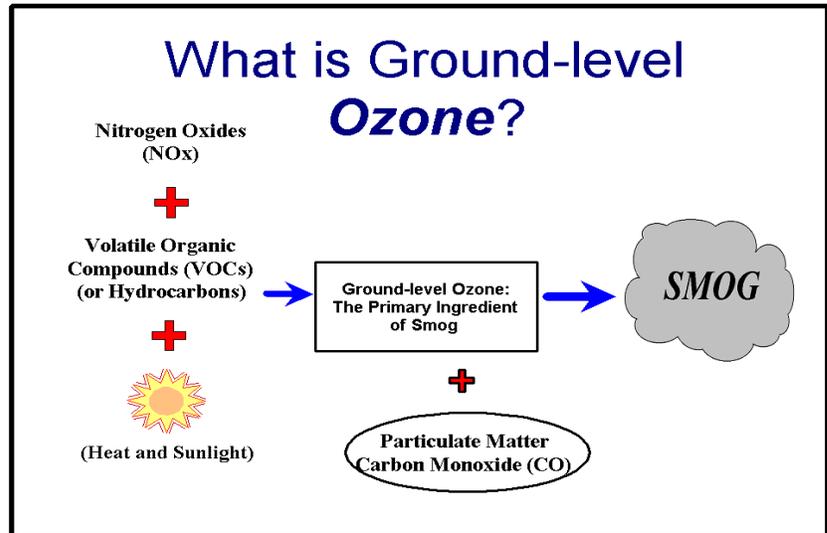


## Commissioner's Column

continued from page 1

nificant effort to reduce air pollution, including NO<sub>x</sub> and VOCs. The Clean Air Act has reduced asthma attacks, heart disease, and numerous other health conditions that affect many Americans. The 1990 amendments to the Clean Air Act set National Ambient Air Quality Standards based on health studies for six pollutants, including carbon monoxide, lead, nitrogen dioxide, particulate matter, sulfur dioxide, and ozone.

In its early years, the Clean Air Act approached air pollution as a local or state concern and directed areas exceeding the health standard to develop plans to reduce air pollution within a defined time period. In 1977 portions of New Hampshire were not meeting the health standard for ozone. To come into compliance, the State expanded its air monitoring program to track air pollution levels in all areas of the state. We worked with industry to reduce pollution, and the legislature enacted a mandatory motor vehicle inspection and maintenance program. Since then,



New Hampshire has shown improvements in air quality for nearly all pollutants.

Unfortunately, ozone problems continued within the borders of many eastern states. We now know that a significant portion of the ozone in New Hampshire comes from outside the state. Winds transport ozone in from states to the south and west of us. These states often resisted limiting their pollution because the ozone they created did not affect them, and they did not wish to be held accountable for contributing to high ozone levels in other states.

To address this issue, in the mid-1990s, the US Environmental Protection Agency studied the transport issue with the help of states and stakeholders. This resulted in a program requiring 22 states to reduce nitrogen oxides from power plants. This program was a success and set the precedent for how to address air pollution transport. This brought all of New Hampshire into compliance with the health standard by the late 1990s. In 1997, EPA lowered the ozone standard to be more protective, which put southern New Hampshire above the limit. With improved understanding about ozone, the Northeast has made progress toward cleaner cars and fuels and more pollution con-

trol equipment on power plants. New Hampshire successfully met the new ozone standard in 2007.

EPA lowered the ozone standard further in 2008 based on new health studies, but our entire state continues to pass the test. New Hampshire has worked regionally as a member of the 13-state Ozone Transport Commission and participates in other regional and national forums to study and develop solutions to ozone transport. When appropriate, New Hampshire adopts pollution control plans not only to keep our own air from getting worse, but also to keep from polluting those who live downwind of us.

As we look to the future, DES expects to see EPA set lower health based standards for ozone. We need to continue to build a strong economy while taking advantage of technical advances that allow us to maintain our clean air. New Hampshire is considered one of the most livable states in the nation due in part to our clean air and clean water. We all can continue to enjoy the high quality of life in New Hampshire by working together to ensure that a healthy environment and a strong economy continue to go hand-in-hand.

Tom Burack, *Commissioner*

## ENVIRONMENTAL NEWS



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## A SUPERFUND UPDATE

# Remedy for Mottolo Superfund site comes in ahead of schedule and under budget

The Mottolo Pig Farm in Raymond was placed on the National Priorities List (Superfund) in 1987 after the EPA removed over 1,600 containers of chemical wastes that had been disposed of in an open pit. EPA continued cleanup actions from 1993 to 1996, selecting natural attenuation as the remedy for residual groundwater contamination.

In 2008, EPA completed a review of the site remedy to address lingering contamination concerns, which revealed persistent and slightly increasing concentrations of several contaminants in the site's groundwater. In response to EPA's review, DES expanded the residential sampling program in 2009. It found that site contaminants had migrated via the fractured bedrock to private drinking water wells in a newly-completed housing development west of the site. As soon as this was discovered, DES provided bottled water to the impacted residences and continued to do so throughout the extensive investigation that followed.

In 2010, as a result of these investigations, EPA and DES formally agreed to amend the original remediation plans, which included extending the town of Raymond's water system to the affected area and implementing new administrative controls. DES would also continue to provide water to residents until the water main was completed.

The two-mile water main extension was designed by Underwood Engineers Inc., and awarded to American Excavating Corporation for construction in the fall of 2011. In-home connections are scheduled to be completed in July, while the entire project is anticipated to reach substantial completion ahead of schedule and under budget.

Institutional controls will also be implemented as part of the water main extension remedy. These controls are administrative mechanisms that help to minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. It's anticipated that Raymond will restrict groundwater use in the vicinity of the site through a town ordinance. Continued monitoring will ensure that the contaminant plume does not move or shift and impact other area residential wells. ■

*Gundalow, cont. from page 1*



*The commissioner trawls for plankton aboard the Piscataqua. Photo by Barbara McMillan.*

The newest replication of the historic sailing barge, named *Piscataqua*, recently took its maiden voyage and is now open for a summer of sailing and educating. The Gundalow Company, a non-profit group dedicated to preserving New Hampshire's maritime history and environment, built the new boat, using the same materials and methods of centuries ago.

Using the *Piscataqua* as a floating classroom, the Gundalow Company offers educational sailing trips for school groups, locals and tourists. On a recent sail aboard the *Gundalow*, DES Commissioner Tom Burack had the opportunity to trawl for plankton—a life form that provides food for larger marine life in coastal rivers like the *Piscataqua*, where salt and fresh water mix together.

Thanks in part to funding from the DES Coastal Program, the Gundalow Company can bring alive the story of 400 years of life on the river, the human impact on our coastal environment, and what we can do to protect it into the future.

For more information, contact the Gundalow Company at [www.gundalow.org](http://www.gundalow.org) or (603) 433-9505. ■



*The DES Senior Leadership Team poses with Gov. John Lynch at Assistant Commissioner Vicki Quiram's swearing-in ceremony in June. From left to right are Mike Wimsatt, Craig Wright, Sue Carlson, Vicki Quiram, Gov. Lynch, Tom Burack, and Harry Stewart.*

## REWARDING EXCELLENCE

# Governor recognizes state efforts to reduce energy

## WRBP takes state program category

On May 18, the Governor's Excellence in Energy Efficiency Awards were presented to one agency, one employee and one program for their exemplary efforts to reduce energy usage within state government.

The awards were presented during the state's energy conference to the DES Winnepesaukee River Basin Program, the Department of Transportation, and Tom Roberts of the Adjutant General's Department. The conference is held annually for state agency energy coordinators and facility managers, as well as other state employees interested in reducing energy use and energy costs on the job.

The DES Winnepesaukee River Basin Program's main operations are at the Franklin Wastewater Treatment Facility. The facility treats wastewater from 10 surrounding communities, processing over 11 million gallons daily. The WRBP has recently taken a large leap in improving the energy efficiency of its operations. Funding from various sources was used to perform a facility-wide retrofit. Major features of the Franklin project include an innovative blower technology designed to reduce aeration energy consumption by approximately 50 percent and overall facility energy use by almost 20 percent, while providing better system controls. Power costs have been reduced by approximately \$63,000, and annual carbon dioxide emissions reduced by approximately 300 tons. The WRBP also replaced the original roof on its main building with a new "green roof" that minimizes storm water runoff and reduces building heating and cooling loads, and installed energy-efficient lighting.

The Department of Transportation was chosen as this year's model state agency because of its continued commitment to reducing energy in its daily operations. DOT owns nearly 200 small facilities and tracks energy data for all of them. In addition, DOT utilized American Recovery and Reinvestment Act funds to install 21 wood boilers equipped with state-of-the-art emission control technology on DOT properties. These boilers have allowed DOT to heat facilities using free, waste wood collected through roadside tree trimming efforts. Many sheds were also weatherized this year by putting in windows, and air sealing and insulating attic spaces.

Tom Roberts is the energy manager for the Adjutant General's Department. In the past year, Tom has completed numerous energy efficiency projects, including replacing outdated lighting in the Concord Hangar with newer, more efficient lighting. Tom is currently working with the Office of



At the State Energy Conference WRBP accepts their energy efficiency award. Pictured here, from left to right, are DES Commissioner Tom Burack; WRBP staff Sharon McMillin, Stan Mitchell, Marc Trendell, and Craig Shippee; DAS Commissioner Linda Hodgdon; and DAS Director of Plant and Property Management Mike Connor.

Energy and Planning on an innovative program to help soldiers returning from active duty. With \$100,000 in federal stimulus funds, Tom and OEP are putting together energy efficiency kits to be used in the National Guard members' homes. Provided with energy efficient power strips, watt meters, low wattage light bulbs and other materials, Guard members will use energy more efficiently and save money. Tom is truly committed to the energy goals of his department.

The annual conference reported on progress being made to reduce energy use in state buildings and fleets, and opportunities for additional and future energy efficiency improvements. In 2011, Gov. Lynch issued an Executive Order directing all state agencies to lead-by-example in reducing their fossil fuel use by 25 percent by 2025. Between fiscal year 2005 and 2011, the State reduced its fossil fuel use, on a per square foot basis, by 17.5 percent and, through an electric energy contract, also significantly increased the amount of renewable energy meeting the State's power demand. These energy efficiency initiatives save the state several million dollars annually. ■



## New data provides an unprecedented view of state's landscape

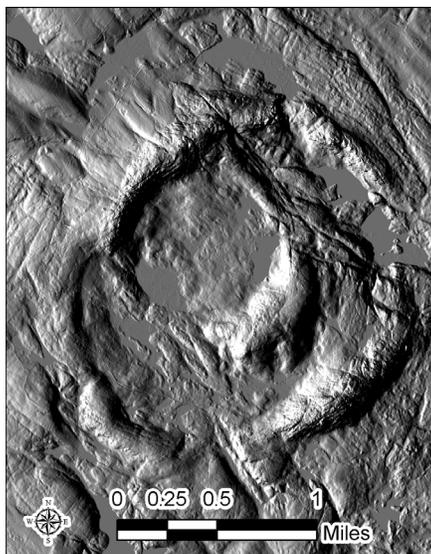
New high-resolution topographic data covering approximately 900 square miles of New Hampshire's coast show the elevation and shape of the landscape stripped of all trees and buildings. The data were collected using an airborne, light detection and ranging system, abbreviated to LiDAR. Mounted in a small airplane, this new laser system scans the landscape with thousands of pulses of light per second. The coastal New Hampshire data represent part of a much larger project area encompassing approximately 9,000 square miles, extending from New York City to Eastport, Maine. Funding was largely provided by the US Geological Survey, but included a contribution from DES to expand the New Hampshire footprint.

Projects that take advantage of this rich data resource are already well underway. The New Hampshire Geological Survey is using the data to map the location of valley walls along rivers to improve the identification of

areas vulnerable to flooding and erosion hazards. NHGS is also using LiDAR to delineate small headwater stream channels that are important in controlling runoff during major storms. UNH scientists are using the data to produce updated floodplain maps for coastal communities, and to model potential future inundation areas in the Lamprey River watershed. The detailed elevation data will support a host of other potential uses, including emergency preparedness, transportation planning, watershed protection, aerial photo processing, land cover mapping, shoreline change modeling, air mass modeling, wireless signal transmission, and mapping of relict shoreline features that record changes in sea level as the last ice sheet melted over ten thousand years ago.

The data may be ordered from GRANIT (email [granit@unh.edu](mailto:granit@unh.edu) for details) or acquired from the USGS ([www.usgs.gov](http://www.usgs.gov)). For a quick look at the data for any one of the 45 towns in coastal NH, go to links under Hot Topics for NHGS (<http://des.nh.gov/organization/commissioner/gsu/index.htm>) or use the GRANIT interactive data viewer (<http://granitview.unh.edu>) for further exploration.

Because LiDAR technology provides a cost-effective way to obtain precise and accurate topographic data over large geographic areas, efforts are ongoing to identify resources to support collection of LiDAR data for the remainder of the state. For further information on this important initiative, contact Rick Chormann, State Geologist, at (603) 271-1975 or [frederick.chormann@des.nh.gov](mailto:frederick.chormann@des.nh.gov). ■



Shaded relief image produced by LiDAR of Mt. Pawtuckaway, Rockingham County, N.H., showing the elevation and shape of the landscape stripped of all trees and buildings.

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## DES hosts 23<sup>rd</sup> annual NPS Conference

Nearly 200 watershed practitioners from throughout New England and beyond attended the Nonpoint Source conference held May 15 and 16 at the Sheraton Harborside Hotel in Portsmouth. Sponsored by New England Interstate Water Pollution Control Commission, the conference featured case studies and presentations on stormwater management and watershed restoration, as well as field trips, including one to the University of New Hampshire Stormwater Center (see photo), where Dr. Tom Ballestero explains ongoing research at the Center. ■



## There was no idling at this workshop

### *Petroleum reduction strategies highlighted*

The Green Your Fleet! workshop, held recently at Nashua Community College, helped inspire area fleet managers to take steps toward “greening” their fleets. Information on alternative fuels, advanced technology vehicles, and other petroleum reduction strategies were high-



*An impressive display of light, medium and heavy duty alternative fuel and advanced technology vehicles were parked strategically in front of the automotive building during the Green Your Fleet! Conference.*

lighted. The event was co-hosted by the DES Granite State Clean Cities Coalition and Nashua Community College’s Transportation Technology Department.

Over 100 attendees perused a host of vendor displays and an impressive display of light, medium and heavy duty alternative fuel and advanced technology vehicles parked strategically in front of the automotive building.

Bill McIntyre, director of Learning Resources at the college, welcomed participants, and Stephen Normandin of Braun’s Express was the event’s keynote speaker. The morning featured panels on electric, hybrid electric and natural gas vehicles. Panelists (all fleet managers) presented their successes and missteps as they worked toward greening their fleets and offered money saving tips. The afternoon featured a dozen breakout sessions on various topics from idle reduction to biodiesel and propane use in transportation.

To learn more about the Granite State Clean Cities Coalition, please contact Dolores Rebolledo at [dolores.rebolledo@des.nh.gov](mailto:dolores.rebolledo@des.nh.gov). ■

## Landowners assessed \$110,000 penalty for alleged asbestos violations

A settlement was recently reached between the State and M&E Jespersen Realty, LLC; Holgate Limited Partnership; Harrington Irrevocable Trust and William Hopkins, Jr. in resolution of claims of unlawful asbestos removal and disposal at a property located in Dover.

The State alleged that no notice was given to the state prior to the destruction of a former commercial building at 125 Stark Avenue in Dover. This notice is required by state law regardless of whether asbestos is known to be present. The State also alleged that the defendants knew or should have known that the building contained a significant quantity of asbestos because they had obtained an environmental report prior to demolition. Nevertheless, the building was demolished without first removing the asbestos-containing materials, thus increasing the risk of asbestos becoming airborne and posing a health threat to site workers and neighbors.

Under the terms of the settlement, the settling defendants will be assessed a penalty of \$110,000. \$25,000 of this penalty will be suspended provided these defendants do not violate asbestos laws or the terms of the agreement for two years. The remaining \$85,000 shall be paid to the State within sixty days of the date of the Court’s order.

To read the entire press release, see <http://doj.nh.gov/media-center/press-releases/2012/20120614-asbestos-penalty-dover.htm>, or more information, contact K. Allen Brooks, Senior Assistant Attorney General, at (603) 271-3679. ■

### 2012 Envirothon winners

Keene High School students Chris Penny, Cameron Goller, Peter Murphy, Ashley Yarus and Shelby Redfield pose with Natural Resources Conservation Service Assistant State Conservationist Jim Spielman, after winning the 2012 New Hampshire Envirothon.



## Pemigewasset River Restoration Project in Woodstock



PRERESTORATION



POSTRESTORATION

The Pemigewasset River restoration project, in Woodstock in the vicinity of Exit 31 on I-93, is one of the largest river restoration projects completed in New Hampshire. The project, which was completed in 2009, restored a reach of river that had experienced an avulsion that re-routed the river channel through a pond. The successful design and construction of in-channel grade control and floodplain

structures withstood the flood-of-record-flows associated with Tropical Storm Irene in 2011. The project was funded by the DES Watershed Assistance Section (319 funding), Pemigewasset Chapter of Trout Unlimited, NH State Conservation Committee, Horizons Engineering, and Headwaters Hydrology. For more information, contact Steve Landry, DES, at (603) 271-2969 or [stephen.landry@des.nh.gov](mailto:stephen.landry@des.nh.gov). ■

## State benefits from the federal Diesel Emissions Reduction Act

Since 2011, over \$640,000 has been provided to New Hampshire communities and businesses to support projects that decrease the impact of harmful diesel exhaust. This funding was provided by the federal Diesel Emissions Reduction Act. These projects include:

- Funding assistance for the purchase of nine compressed natural gas, or more commonly “CNG,” refuse trucks for the city of Nashua. Compared to their diesel-powered equivalents, the CNG trucks release lower amounts of harmful vehicle pollutants, such as nitrogen oxides, particulate matter and carbon dioxide. The investment in CNG vehicles leveraged a private sector investment for a CNG fueling station in Nashua.
- Funding assistance to New England Southern Railroad Company to purchase and install a coolant heating system and battery charger that enables the operator to turn off the engine during cold weather months. They were previously left idling throughout the night to protect the engine.



One of Nashua's CNG refuse trucks.

- Funding to purchase fuel-operated heaters for school busses. These heaters use only a small amount of fuel to maintain engine and passenger comfort while the bus is not running, thus almost eliminating idling completely. To date, 71 of these heaters have been installed in school buses operating throughout the state. This project built on DES's existing voluntary school bus idling reduction education program by supplying technology that further reduces idling.

- Providing the town of Rollinsford with 25 percent of the cost of a new truck that meets EPA 2010 emission standards. This will replace their 1989 International dump and plow truck.

These projects have the estimated potential to save 12,000 gallons of fuel per year and reduce annual emissions of nitrous oxide by 10 tons, particulate matter by 100 tons and carbon dioxide by 900 tons. DES has additional diesel emission reduction projects in development. For more information, please contact Felice Janelle at [felice.janelle@des.nh.gov](mailto:felice.janelle@des.nh.gov). ■

## REWARDING EXCELLENCE

### Coastal Adaptation Workgroup recognized for its significant contributions to community planning

The New Hampshire Coastal Adaptation Workgroup, of which DES is a member, was recently awarded the Daniel Quinlan Award by the Rockingham Planning Commission. The award is given in recognition of those who have made significant contributions to sound community and regional planning, and have fostered cooperation and collaboration. Barbara Kravitz from Seabrook presented the award to Steve Miller from the Great Bay National Estuarine Research Reserve and Sherry Godlewski from DES; they serve as co-chairs of the Workgroup.

The Workgroup is 19 organizations, agencies and communities working together in the coastal watershed to help communities have access to current scientific data, available maps and planning tools to assist them in being better prepared for increased flooding and coastal storm surge. In addition to DES and the NH Coastal Program, participating organizations include: Portsmouth, Seabrook and Newington; Institute for the Study of Earth, Oceans and Space at UNH; Antioch New England; Piscataqua Region Estuaries Partnership; Sea Grant; UNH Cooperative Extension; NOAA; The Nature Conservancy; Clean Air-Cool Planet; Rockingham Planning Commission; Strafford Regional Planning Commission; UNH Stormwater Center; Carbon Solutions New England; Natural Resources Outreach Coalition; and Great Bay National Estuarine Research Reserve's Coastal Training Program. For more information, please visit the CAW blog at <http://nhblog.stormsmart.org>. ■



Co-chairs Sherry Godlewski (left) and Steve Miller receiving the Daniel Quinlan Award from Barbara Kravitz of the Rockingham Planning Commission.



Get up-to-date, air quality messages through EnviroFlash – a nationwide notification system that provides instant information, customized for your area of New Hampshire.

EnviroFlash is a personalized delivery system that provides air quality forecasts and alerts via email, text or pager messages. This is especially helpful for people who are at greater risk from air pollution. EnviroFlash alerts people to unhealthy air quality conditions, allowing them to make safe decisions about their day's activities.

Sign up today at [www.enviroflash.info/](http://www.enviroflash.info/). For information on air quality forecasts and current levels in New Hampshire, visit [www.airquality.nh.gov](http://www.airquality.nh.gov). EnviroFlash is a free service of DES and the US Environmental Protection Agency.



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