

# ENVIRONMENTAL NEWS



Newsletter of the N.H. Department of Environmental Services

September-October 2014

## COMMISSIONER'S COLUMN

### Taking the Mystery and Misery out of Environmental Permitting



One of our primary functions at the New Hampshire Department of Environmental Services is to issue permits for various types of activi-

ties that, if not properly conducted, could cause major damage to the environment or threaten public health. In fact, across NHDES we are responsible for over 100 different types of permits or approvals, ranging from permits for new or replacement septic systems to licenses for asbestos abatement contractors, from approvals for public swimming pools to permits for municipal landfills, and from permits for rock crushing machines to the full array of wetlands, shoreland and terrain alteration permits that may be needed for a large shopping mall, factory or residential development. Because this is such a major part of the duties assigned to us under state and federal laws, we devote a great deal of time and attention to finding ways that we can make permitting processes more understandable, streamlined and user-friendly, while at the same time ensuring full compliance with all legal standards for protection of the quality of our environment and health of our citizenry. Let's take a look, from start to finish, at some of the things we're doing to make these permitting processes work as well as they can for all concerned.

One thing we learned early on is that regardless of the project type, and

especially with large, complex development projects, it can be very helpful to applicants to meet with NHDES subject matter experts before spending a lot of time and money developing detailed plans and designs. By discussing the plans for development early, an applicant can learn how the proposed project can best be designed to avoid, minimize and mitigate for impacts to wetlands and other resources, and identify the permits (federal, state and local) that may be needed. NHDES' Public Information and Permitting Unit will, at the request of an applicant, arrange a pre-application meeting at which the project proponent can present an overview of the project to staff from an array of NHDES programs who will provide feedback and guidance on applicable regulatory requirements, processing timeframes, pitfalls to avoid, and ways to ensure efficient and effective communications and engagement with other entities that may have a regulatory or other interest in the proposal. Parties who have availed themselves of this service invariably tell us that it exceeded their expectations and enabled them to make much better informed decisions about their project. More information about pre-application meetings may be found at <http://www4.egov.nh.gov/DES/PreApp>.

*Commissioner's Column, cont. page 2*



Employer Support of the Guard and Reserve, a Department of Defense office, announced in July that the New Hampshire Department of Environmental Services is one of 15 recipients of the 2014 Secretary of Defense Employer Support Freedom Award. The Freedom Award is the Department's highest recognition given to employers for exceptional support of Guard and Reserve employees. This year's recipients were selected from 2,864 nominations received from Guardsmen and Reservists for going far beyond what the federal law requires of employers in support of their employees who serve in the military. The 2014 Freedom Award recipients will be honored at a ceremony in the Pentagon September 26. ■

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

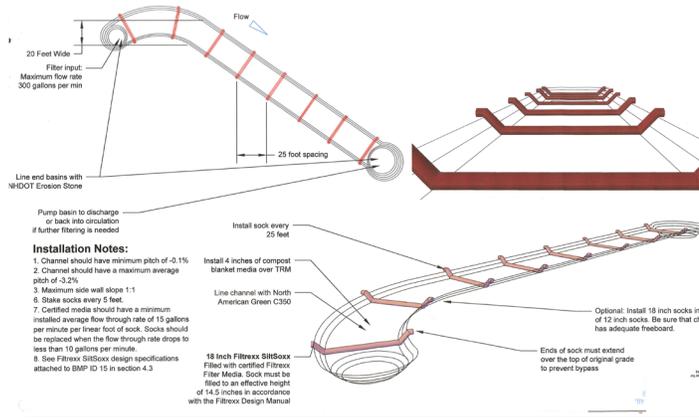
Parties seeking guidance regarding smaller projects may also call or email NHDES anytime to request information that will help them better understand whether a permit is required and, if so, what the process entails.

To further help identify what permits may be needed, I encourage

you to visit our website. There you will find, for example, that for each type of permit administered by the Land Resources Management Program (LRM), we've developed an interactive series of questions that walk you through the decision making process. With this information, a party can usually develop its design plans and then prepare and submit the necessary application(s) to NHDES. Be sure to consult our LRM website (<http://des.nh.gov/organization/divisions/water/lrm/index.htm>) for the latest version of our LRM forms because we've also been working to simplify application forms where we can and to make it easier to find the forms and helpful fact sheets on our website. Moreover, NHDES has streamlined its internal processing of many application types, so we can now determine, within one business day of receipt, whether an application is administratively complete and contains all the components necessary so that it can be submitted to staff for technical review. This process used to take as many as 14 days in some programs. In addition, the Legislature this year, at NHDES' request, simplified the filing process for wetlands permit applications, so that they now are filed directly with NHDES rather than through the town or city clerks, making this part of the process consistent with other NHDES permitting processes.

And in this era of computers and the Internet, we're also striving to make it as easy as possible to submit an application electronically rather than in hard copy. By this fall, we expect that licensed septic system designers and installers, as well as licensed land surveyors, will be able to deal with all aspects of septic system design and construction approvals, as well as subdivision approvals, through an online system specially designed to meet their needs. NHDES is also participating in Governor Hassan's statewide initiative to make all possible major application forms available for online filing by the fall of 2015. This is a significant undertaking that will include process reviews and streamlining for all of the programs involved, and should result in online application processes that are easy to follow and understand. An applicant will then be able to track the progress of the application through the NHDES review and approval process.

Once all necessary permits or approvals have been obtained, a party may commence construction or begin the new business activity. But if anything is unclear about the permit or approval conditions, or guidance is needed in moving forward with the activity, NHDES subject matter experts are available to answer questions and provide assistance. At NHDES, we view the regulated community as our partners in ensuring the protection of the quality of our water, air and lands, and keeping people healthy. In our experience, when permitting programs' processes and related communications are clear, understandable, direct and efficient, compliance is achieved and the necessary environmental and public health protections are ensured. Our goal is to take the mystery and misery out of environmental permitting, and while there's always more to do to achieve this goal, we believe we've made great strides in this effort over the past 27 years since NHDES was formed, and we're committed to continuing to do even better in the future. ■



*The Stormwater swale above is an example of application design to permitted implementation.*



## ENVIRONMENTAL NEWS

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29 Hazen Drive • Concord, NH 03301  
603-271-3503  
[www.des.nh.gov](http://www.des.nh.gov)  
[editor@des.nh.gov](mailto:editor@des.nh.gov)

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## MtBE Remediation Bureau

The State of New Hampshire initiated MtBE litigation in 2003. Ten years later, all defendants except one settled with the State. The first project using settlement funds was completed in March 2014 – a soil remediation at the Richmond Four Corners Store.

The Richmond Four Corners Store is located at the intersection of the two main roads in town, near the Fire Department and Library. This country store/gas station has operated since the early 1900s. At least five underground storage tanks (USTs) have been located at the property. In 1992, high levels of gasoline contamination were detected in a neighbor's water supply well. Five point of entry treatment systems (POEs) were installed on impacted water supplies. Previous cleanup efforts include a 225 cubic yard soil excavation in 1995 and the operation of a pump and treatment system from 2004 to 2008. Full remediation was impossible during this time period because the contaminated soil surrounded the active, remaining UST.

In 2013, the Richmond Four Corners Store closed. In 2014, the property mortgage holder commissioned an environmental due diligence investigation as part of their foreclosure process. The property is currently in the mortgage "workout phase" according to the mortgage holder; the owner also owes back taxes to the town. In early 2014, the Town, the property owner and the Southwest Regional Planning Commission worked together to apply for brownfields assistance to remove the existing underground storage tank system from the property. The Town of Richmond was very engaged because of the back taxes, the central location of the property and the boarded-up/in-foreclosure nature of the store. The MtBE Bureau quickly entered into these discussions and collectively, the decision was made to proceed with a joint project to remove the tank system and excavate the soil contamination.

In July 2014, the Southwest Regional Planning Commission removed the 12,000 gallon tank. During the piping removal, the contractor discovered that the piping was likely to be a type that is incompatible with gasoline service.

If NHDES had been aware of the presence of this type of piping, it would have required its removal sooner due to that incompatibility. The outer pipe was blackened and stained indicating the presence of gasoline between the inner and outer walls of the double walled piping.

When the excavator reached the impacted soil, petroleum vapors from the soil ignited as the excavator bucket scraped against a cobble. This suggested a recent gasoline release from the piping in the same area as the larger, older gasoline release. Approximately 600 tons of contaminated soil were removed, including contaminated soil below the building's dirt floor cellar. The excavation project generated a great deal of community interest and one gracious nearby land-owner provided freshly baked corn muffins and lemon bars to the hungry work crew.



NHDES will continue to reimburse the costs for the POEs at the five contaminated water supplies. Replacement groundwater monitoring wells will be installed to evaluate the impact of the removal of the contaminated soil and UST. The Southwest Regional Planning Commission will conduct a hazardous building material survey and indoor air survey to assist with site redevelopment. NHDES hopes that the remedial progress at this site will help revitalize this crucial town business and focal point. ■



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

## Updated Rainfall Data Incorporated into NHDES' Programs

After the storms of 2006 through 2008, there was talk in the industry that the storms are changing," said Ridge Mauck, who manages the Alteration of Terrain Bureau at NHDES.

"The industry" is the construction, engineering and development companies that work in New Hampshire. And the talk is true: parts of New Hampshire have seen up to 10 times more extreme precipitation events since 1960. Many remember the Mother's Day storm of 2006 that dumped between 10 to 15 inches of rain over 4 days, or the 4-inch 24-hour Patriot's Day storm of 2007. But it's not just storms—New Hampshire is seeing more total average annual rainfall, with the rate of increase quadrupling over the last forty years. The trend will continue; climate change is expected to cause between 13 and 20 percent more rainfall by 2100 with more falling in extreme events.

So why are developers paying attention to rain? One reason is that when a developer plans to disturb an area bigger than 100,000 square feet, or any area with a 25 percent grade within 50 feet of surface water, for a project such as a housing development or big box retail store, NHDES requires an Alteration of Terrain (AoT) Permit, which factors in the amount rainfall that will need to be managed on the site. The permit requires management of rainwater on-site to maximize infiltration and decrease the amount of runoff.

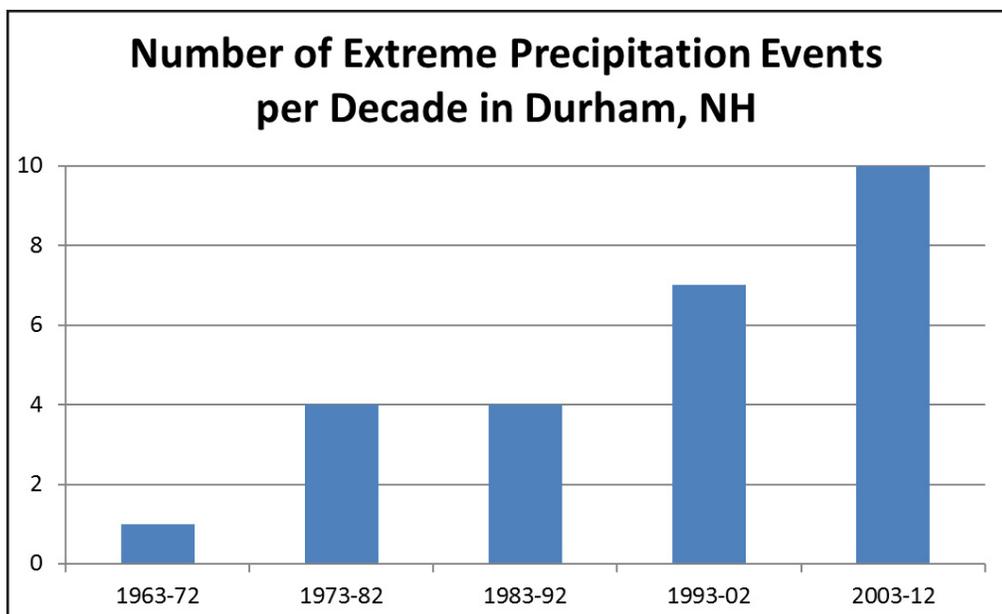
Up until recently, a developer was required to use average annual precipitation data from an index developed by the National Weather Service (NWS) that is based on historical data from the 1930s to the 1970s to figure out how much rain falls on their property every year. But the old rainfall data doesn't reflect today's realities. To fix this, in January 2013 the NHDES Alteration of Terrain Bureau made a switch, now requiring the use of a new Northeast precipitation dataset that includes historical rainfall data up to 2008. The dataset was created by the Northeast Regional Climate Center at Cornell University because researchers recognized that the outdated NWS dataset meant that decisions were being based off of old, incorrect information.

"It just makes sense to use the most current data—but prior to the Cornell project, it just didn't exist," Mauck said.

### Accounting for the rain

When a development adds impervious surfaces, like pavement and roofs, rain runs off as stormwater instead of soaking into the ground and uptake by vegetation. The stormwater enters town drainage systems and, eventually, nearby water bodies. The increase in extreme rainfall we have experienced, coupled with increases in impervious surfaces, cause flooding, erosion and water pollution—conditions that are costly to repair and remediate and much less costly to prevent.

"Large developments that cause disturbances in within the existing landscape have to meet certain stormwater treatment criteria so that they don't cause more flooding and pollution," Mauck explained.



*Trends in extreme precipitation events per decade (greater than 4 inches of precipitation in 48 hours) at the GHCN-Daily station in Durham, New Hampshire, 1963–2012. Data source: [Climate Change in Southern New Hampshire: Past, Present, and Future](#) published by Climate Solutions New England*

To get an AoT permit, developers use computer models to compare pre- and post-development runoff. The permit requires demonstration of keeping peak stormwater runoff at the same levels that existed prior to development in both a 10-year and 50-year, 24-hour storm—or rather storms that have a 10 percent chance and a two percent chance, respectively, of occurring in any given year. Developers can design for these storms using water detention structures like basins and swales, rain gardens and barrels, more pervious, absorptive surfaces, and other low impact development strategies at the site of the building.

*Rainfall, continued on page 5*

## Rainfall *continued from page 4*

So what does new rainfall data really mean for these development site plans? Because more rain is falling and big storms are becoming more common, in some cases developers may have to enhance their stormwater retention capacity. Mauck says some developers have adjusted their site plans slightly to make more room for stormwater infrastructure. Overall, he says the transition to the new rainfall data has been quite seamless. Following some communication efforts, members of the industry quickly understood that they needed to use the new data. He estimates that the Bureau approves about 150 to 170 permits per year (prior to the recession the number was more like 360 to 380, and it's slowly recovering).

### A Moving Target

Although the AoT permits now require more current data, they're still based on historical rainfall information that is already six years old. Since precipitation in New Hampshire is expected to continue increasing by up to 20 percent by 2100, new permits will once again underestimate current rainfall and developers will underestimate their stormwater footprints in the not-too-distant future. Additionally, many existing development projects that were permitted under the historic NWS data and even the new Cornell data will likely continue to underestimate their stormwater contributions in the coming decades.

"The challenge," Mauck says, "is it's a moving target. At some point you have to pick what to base the permit on. We could try to project into the future but we've always been using data based on yesterday's storms." Basing the AoT permits on future climate projections would be more complicated and would require a rewrite of the Bureau's rules. The switch to the Cornell data was fairly simple for the Bureau because it was consistent with our mandate to use the best available rainfall information. NWS is planning to update its data for the Northeastern United States by 2017, but in the meantime, the Cornell data will continue to be used, helping the state minimize mounting risks from the bigger floods and the polluted water bodies that are an unfortunate consequence of the climate-influenced rains. ■



## << NHDES Photo Contest

Craig Rennie was the winner of the NHDES 2014 Photo Contest, in the category *Close Quarters*, as well as in the Commissioner's Choice. The photo well represented what this year's contest was looking for; a more intimate and personal photo, getting close up shots of people enjoying the beautiful New Hampshire outdoors. It was a tough choice for the judges this year with all the great submissions from NHDES employees and their families.



At the end of June, NHDES completed a cereal box food drive for the Community Action Program.

504 boxes of cereal were donated to the Belknap-Merrimack county Community Outreach

## NHDES Cereal Drive >>

Program facility to help needy families with children who are without free or reduced price school lunches during summer vacation.

# NHDES Continues Work on Regional Ocean Planning in the Northeast

People use the ocean's resources for food, energy, shipping, recreation and more. In the last few years, major advances have been made in understanding and mapping these resources and uses of the Northeast region's coastal and ocean waters. So far, the information shows that few unused areas exist and that many uses happen in the same places. Conflicts already exist and will likely increase as new uses, such as offshore oil and gas leasing activities and wind energy, are considered.

NHDES is involved with an ongoing regional ocean planning initiative to work with stakeholder groups, including federal and state agencies, environmental organizations, industry representatives and the public, to identify opportunities to improve the coordination and use of New England's regional ocean information. The goal is to protect coastal and ocean resources, reduce potential user conflicts and facilitate compatible uses.

The work is made possible by two federal and multi-state partnerships: the Northeast Regional Ocean Council (NROC), formed in 2005 by the Governors of the New England states, and the Northeast Regional Planning Body (RPB), which is one of nine planning bodies established by a Presidential Executive Order in 2010 under National Ocean Policy. New Hampshire is represented on NROC by the NHDES Coastal Program, and on the RPB by NHDES Commissioner, Tom Burack, and New Hampshire Fish and Game Executive Director, Glenn Normandeau.

NROC's work directly supports the RPB, which is charged with leading a cooperative effort to develop a regional approach to ocean planning by 2015. The RPB does not have any regulatory authority.

NROC has worked extensively with marine-based indus-

tries, including aquaculture, commercial fishing, energy, maritime commerce and recreational boating to identify key issues and trends relevant to ocean planning in the region. An example of that planning effort is the 2012 Northeast Recreational Boater Survey, which showed that most boating occurs close to shore and along major transit routes, such as those around Portsmouth and the Isles of Shoals. Additionally, the survey estimated that marine recreational boating

contributed \$69 million to New Hampshire's economy in 2012. A summary of the survey results in New Hampshire is available at <http://www.seaplan.org/boating/wp-content/uploads/sites/5/2012-NE-Boater-Survey-NH.pdf>.

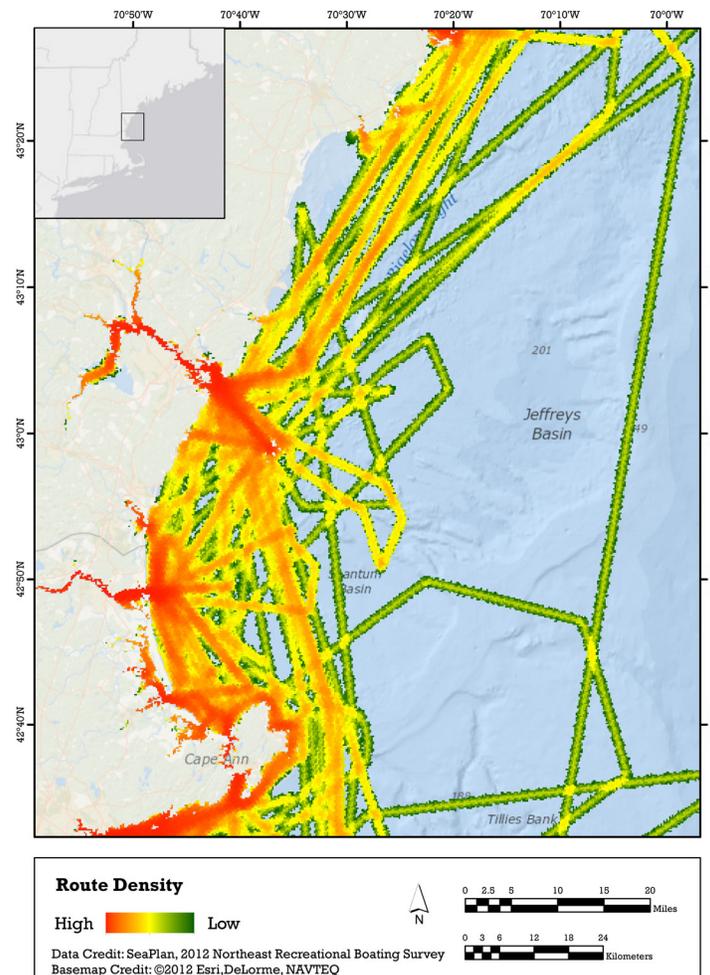
Due primarily to the efforts of NROC and the RPB, there is now a variety of publicly-available data on ocean resources and the interactions between these resources and uses. Collectively, these data provide the best picture to date of what is taking place in our coastal and ocean waters. The majority of these data can be found on the Northeast Ocean Data Portal at <http://www.northeastoceananda.org/>.

## Fall RPB meeting

The next RPB meeting is scheduled for November 13-14, 2014 at the Wentworth Marriott in New

Castle, New Hampshire. This will be the first time that that the RPB will meet in New Hampshire since it started meeting in 2012. All are welcome to attend and provide input into the process.

The RPB's goals and framework can be found at <http://neocanplanning.org/about/goals-objectives/>. For additional information, including how to get involved and webinar and meeting announcements, visit the Ocean Planning in the Northeast website at <http://neocanplanning.org/>. ■



# New Hampshire Coastal Risks and Hazards Commission releases its Science and Technical Advisory Panel's report on Sea-level Rise, Storm Surge, Increased Precipitation and Coastal Flooding



Portsmouth, NH king tide event, 2011

Climate change is expected to have significant impacts on critical infrastructure and natural and cultural resources in our seacoast region over the next century and beyond. In 2013, the New Hampshire Legislature created the New Hampshire Coastal Risks and Hazards Commission to consider key scientific research concerning future risks and provide recommendations to help New Hampshire communities and businesses prepare for these effects. The Commission created a Science and Technical Advisory Panel (Panel) to assist with reviewing National Oceanic and Atmospheric Administration and other scientific agency projections of coastal storm flood risk to determine the appropriate information, data and property risk. The Panel has released a new report with projections for New Hampshire sea-level rise, storm surge risks, increased precipitation and coastal flooding. The Panel's report and its recommendations are based on scientifically based, peer-reviewed literature. No additional original research was done by the Panel. The Commission's Steering Committee agreed that the basis of the Panel's work must be in peer reviewed science and consistent with a scientific approach.

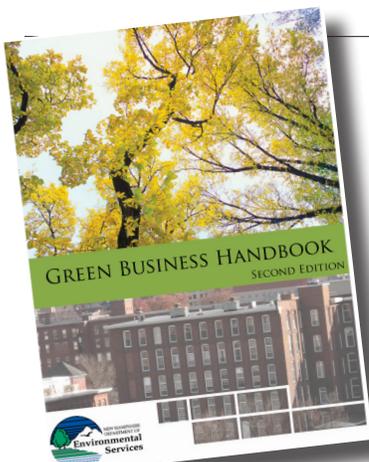
The Panel's report examines why global sea levels have been rising for decades and are expected to continue to rise well beyond the end of the 21st century. The report presents plausible conclusions that sea level will rise between 0.6 and 2 feet by 2050 along New Hampshire's coast, and between 1.6 and 6.6 feet by 2100, based on 1992 conditions.

For coastal locations where there is little tolerance for risk in protecting new infrastructure or existing coastal settlements, the report recommends infrastructure or ecosystems, that the range of 1.3 to 2.0 feet be used for the year 2050 and 3.9 to 6.6 feet be used for 2100. In planning for a future condition, a relatively narrow range of numbers is the most useful, yet to have relative certainty that the estimate will be right, we have to accept a wider range.

The report summarizes the varying scientific information on the anticipated future coastal flood hazards attributed to sea level rise, storm surge and increased precipitation. The Panel's report also includes advice on the planning parameters that the Commission should use in framing its recommendations. The conclusions reached by the Panel regarding future coastal flood hazards are consistent with the Third U.S. National Climate Assessment, completed in 2013-2014.

The coordinating lead authors are UNH professors Paul Kirshen and Cameron Wake. Matt Huber (UNH), Kevin Knuuti (US Army Corps of Engineers), Mary Stampone (UNH and NH Climate Office) are contributing lead authors.

The report is a tool for the Commission; the trends, projections and conclusions related to sea level rise, storm surge and precipitation contained within the report will be used as a foundation for the Commission's work through November 2016. The report is intended to specifically advise the Commission, which will in turn develop specific recommendations for projected sea level rise and other coastal and coastal watershed hazards such as storms, increased river flooding, and storm water runoff that will impact New Hampshire. The full report, as well as information about the Commission, is available at <http://nhcrhc.stormsmart.org/>. ■



In honor of Pollution Prevention Week (September 15 – 21), the NH Pollution Prevention Program, in collaboration with other NHDES programs, has created a new edition of its Green Business Handbook. This updated version is designed to not only help businesses reduce the waste they generate, but to view environmental issues as an economic plus, not just a regulatory burden. Links and website references are included to provide further information on many different topics. Pollution prevention is the first step in taking a proactive approach to managing environmental impacts –by reducing waste at the source!

Celebrate Pollution Prevention Week by checking out this handbook at <http://des.nh.gov/organization/commissioner/p2au/pps/ppp/index.htm>.

## District Tour



On August 14, NHDES helped coordinate a District Tour for State Senator Jeanie Forrester to several environmental sites around the Newfound

Lake area. Involved in the tour were Senator Forrester and NHDES Commissioner Burack, as well as State Representatives Suzanne Smith and Tom Schamberg, Bristol Town Administrator Mike Capone, Newfound Lake Region Association Executive Director Boyd Smith, and NHDES staff including David Neils, Darlene Forst, Eric Williams, Becky Williams and Jim Gallagher. The tour around Bristol began at the site of the former Mica factory, stopped at the Newfound Lake Dam Automation Project, and then headed to Cummings Beach, where Smith and three NHDES program staff discussed water quality improvement projects, overall state water quality and the status of shoreland protection. ■

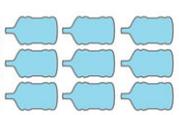
## NHDES Assistant Commissioner Recognized

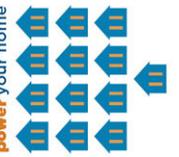
Congratulations to NHDES Assistant Commissioner Vicki Quiram, who was recently presented with the 2014 Charles Walter Nichols Award for Environmental Excellence from the American Public Works Association. This distinguished national award recognizes outstanding and meritorious achievement in the environmental field. ■



Celebrate October as National Energy Awareness Month by "Showering Better." <http://xml2.des.state.nh.us/NHisForWater/>

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