

## COMMISSIONER'S COLUMN

### Together, We Can All Help Restore Great Bay

Nobody needs to be reminded why Great Bay holds such a special place in our lives. Featuring great scenery, fishing, boating, birdwatching and other recreation, this gem of an inland ocean boosts the lives and economy for all of southeastern New Hampshire. Unfortunately, like other waters near urban areas, Great Bay also faces major challenges due to a variety of disturbances, especially nutrient pollution.



Part of what makes Great Bay special and unique is because it is an estuary – a place where ocean water meets freshwater. The US Environmental Protection Agency (EPA) designated it as an “estuary of national significance” under its National Estuary Program in 1995.

And since 2004, NHDES has been intensively studying nutrient dynamics in the Great Bay Estuary. We know two important facts: 1) the levels of nutrient loading into the Great Bay estuary are high enough to cause problems, and 2) the estuary exhibits many of the symptoms of excess nutrients. However, determining what actions need to be taken becomes a bit more complicated.

Over the past three years, NHDES and the communities surrounding the estuary have worked closely to better understand the factors causing the problems we witness, such as eelgrass loss, low dissolved oxygen in tidal rivers, and a proliferation of macroalgae. Together we agree that nitrogen is a culprit, but because other factors may also influence water quality, there remains some uncertainty over specifically what level of nitrogen becomes problematic. Now, EPA, NHDES and the communities are developing an adaptive management approach, one in which reasonable investments are made in nutrient reductions, results are measured, and additional actions taken as necessary. Already, great progress in reducing both nitrogen and other pollutants is being made.

Waste water treatment plants (WWTPs) contribute about one-third of the nitrogen entering the estuary. However, they contribute well over half of the more problematic type, the so-called dissolved inorganic nitrogen (DIN), which stimulates undesirable plant and algae growth. Thus far, of the six largest wastewater facilities around the estuary, four are either in the design or construction phase

### MtBE Remediation Bureau's Water Supply Sampling Program

In 2013, the State of New Hampshire obtained \$81,630,000 from MtBE litigation settlements for remediation of MtBE contamination. In October 2013, the Governor and Council and Fiscal Committee of the Legislature established the MtBE Remediation Bureau and approved \$22,316,661 of spending of these funds for the current biennium. MtBE is a gasoline additive banned in New Hampshire since 2007 because of widespread impacts on New Hampshire aquifers. The settlement funds are currently being used for MtBE related release prevention, investigation, cleanup, water supply sampling and infrastructure projects.

The MtBE Remediation Bureau (Bureau) passed several milestones recently. The Bureau just completed its first year of existence, collected its 500<sup>th</sup> drinking water sample and is now fully staffed. With the collection of the 500<sup>th</sup> sample, it's timely to discuss the bureau's water quality sampling program.

The MtBE sampling program efficiently employs the state's geographic information system (GIS) to identify at-risk water supplies and parcel owner contact information. NHDES organizes the at-risk water supplies into sampling districts and sends letters inviting the property owners to participate in a voluntary drinking water quality

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of upgrades. The other two already achieved low nitrogen discharge levels in the summer of 2014 and will be exploring opportunities to do even better in 2015. These improvements will reduce by at least 50 percent the amount of nitrogen (and reduce over 75 percent of the DIN) discharged by these facilities. In addition, the planned upgrade of the Portsmouth facility will vastly reduce other particulates in the water which can shade eelgrass. Importantly, none of the WWTPs has been forced to immediately upgrade to the strictest possible treatment standards, as was once the concern.

The other two-thirds of the nitrogen pollution that reaches Great Bay originates from activities on the lands surrounding it and from air pollution depositing pollutants on the ground. These so-called "nonpoint sources," such as lawn fertilizer, septic systems and urban runoff, are typically difficult to control and track. In 2014, NHDES published the "Great Bay Nitrogen Non-Point Source Study" to provide a useful starting point for towns and watershed groups to prioritize efforts to reduce nitrogen discharges. NHDES has also worked with municipal and community partners to reduce nitrogen in the ring of New Hampshire communities that comprise the shoreline of the estuary. Small projects are sprouting up in many communities and we expect that to

multiply in the coming year. In 2015, a new tracking system will be developed, with funding assistance from EPA and NHDES, to allow communities to account for increases and decreases in pollution loading so that communities can take credit for their reductions.

While pollution reductions are underway, monitoring results in the estuary do not yet show improvement. Eelgrass presence continues to decline and the other symptoms of poor health persist. It will likely take at least 10 years to see the full impact of the beneficial actions of today. What is clear today is that the adaptive management approach is one that will significantly reduce pollution over a longer period of time in a manner that makes sense and maximizes the return on the investments made for the residents of the sea-coast. It is also clear that the way forward on improving the health of the Great Bay estuary is through collaborative science, intensive monitoring, reasonable regulation and open dialogue. At NHDES and EPA, we are committed to these tenets and look forward to working with the communities in this fashion.

*Curt Spalding*  
Regional Administrator  
US EPA, New England Region

*Thomas Burack*  
Commissioner  
NHDES

## New General State Permit (GSP) for Internal Combustion Engines – Emergency Generators or Fire Pump Engines

NHDES, Air Resources Division has reestablished the General State Permit (GSP) for Internal Combustion Engines - Emergency Generators or Fire Pump Engines, effective April 30, 2015. Owners or operators of emergency generators or fire pumps that were permitted under the previous GSP are required to re-register in order to be covered under the new GSP and must do so within 90 days.

Applicants can choose from either the electronic or paper application methods when re-registering for the GSP. NHDES strongly encourages all GSP applications to be submitted electronically. The use of Air E-Permitting will make the submission, review and approval of applications more efficient and timely. Nearly all current GSP holders have used the online program, as the information pertaining to currently permitted engines is already in the system. Applicants will simply need to review/confirm the information in the system for accuracy and update their facility contact information.

In addition, NHDES has changed the reporting and fee requirements for GSP holders. In place of the annual emission report and emission-based fee, GSP holders will be required to pay a GSP registration fee that covers the 5-year term of the permit. The GSP registration fee for the 2015 GSP has been established at \$1,279.20 and will be due within 30 days of submittal of a renewal application.

If you have any questions pertaining to the new fee, the online registration process or need to make any updates to the Responsible Official and/or Technical Contact for your facility, please contact Barbara Dorfschmidt at (603) 271-6796, via email at [Barbara.Dorfschmidt@des.nh.gov](mailto:Barbara.Dorfschmidt@des.nh.gov), or visit [http://des.nh.gov/organization/divisions/air/pehb/apps/permit\\_air\\_emissions\\_gsp\\_eg.htm](http://des.nh.gov/organization/divisions/air/pehb/apps/permit_air_emissions_gsp_eg.htm). ■

### ENVIRONMENTAL NEWS

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sampling program. Organization into compact sampling districts minimizes travel time and ensures efficient sample collection.

As of the end of March 2015, 1,592 households have been contacted, 487 samples analyzed and over 500 water supplies have been sampled for MtBE contamination. In addition to the MtBE analysis paid for by the program, NHDES also provides an opportunity for homeowners to have samples collected for conventional and radiological analyses. These non-VOC samples are analyzed at the property owner's expense, due to restrictions on uses of settlement funds. About a third of the households have additional analyses performed because of the convenience of having a trained staffer collect and deliver the samples to the laboratory on their behalf.

Table 1 summarizes the data collected to date. It is noteworthy that the Bureau's sampling program is detecting on average an MtBE contaminated well every day and a water well that exceeds the drinking water standard every month. Approximately 23 percent of the samples analyzed to date contain MtBE contamination.



When the sampling program detects MtBE over the standard, NHDES contractors provide bottled water and install water treatment systems. If a public water supply is nearby, NHDES can extend water lines and connect impacted homes to the water distribution system.

Based on an analysis of these results, a number of conclusions can be drawn: 1) MtBE is still commonly present in New Hampshire aquifers, 2) bedrock aquifers associated with gasoline release sites can have widely dispersed, low

Table 1 – MtBE Detections in Water Supply Wells

Town	Households Invited to Participate	Sampled & Analyzed	MtBE Less than AGQS	MtBE Exceeds AGQS
Atkinson	150	4		
Belmont	49	24	3	
Danville	150		5	
Derry	154	76	22	4
Epping	28	3		
Hampton Falls	38	16	3	
Kingston	239	46	12	
Londonderry	93	63	9	
Pelham	86	33	9	
Salem	87	19	2	
Salisbury	71	42	7	
Stratham	179	74	12	
Windham	267	87	28	
Totals	1592	487	112 (23%)	4 (1%)

concentrations of MtBE in drinking water wells due to poor biological and dispersive attenuation of MtBE in fractured rock, and 3) plumes can be inadequately characterized for reasons such as failure to investigate vertical gradients or the inappropriate interpolation of bedrock groundwater flow direction from overburden flow direction information.

Data obtained from homeowners' requested analyses also provide very useful information. Approximately three quarters of the water supplies tested had an exceedance of a primary or secondary drinking water standard. The most common problems were: bacteria, arsenic, lead and radon. NHDES has found a number of other concerns related to private wells. Specifically, most homeowners do not know how to maintain their well head, pump and pressure tank system. Most homeowners have never tested their water quality to evaluate whether it is potable. Finally, even the homeowners that had tested their well and installed treatment systems either had inappropriate treatment systems installed or did not properly maintain their system.

The NHDES sampling program will expand to other sampling districts in the future and is participating in a joint randomized study with USGS on MtBE occurrence in southeastern New Hampshire. This joint study follows up on a similar study approximately 10 years ago and will make it possible to evaluate MtBE trends in New Hampshire aquifers. Additional information on the program can be obtained by contacting Derek Bennett at [Derek.Bennett@des.nh.gov](mailto:Derek.Bennett@des.nh.gov).

# New Hampshire Organizations and Residents Recognized by EPA for Environmental Achievements

Five winners in New Hampshire were recognized at EPA's 2015 Environmental Merit Awards ceremony. The environmental leaders were among 27 recipients across New England honored for helping to improve New England's environment.

Each year EPA New England recognizes individuals and groups in the six New England states who have worked to protect or improve the region's environment in distinct ways. The merit awards, given out since 1970, honor individuals and groups who have shown particular ingenuity and commitment in their efforts.

"New England is rich with people who understand the importance of preserving the environment, but the citizens we are recognizing today went above and beyond in working as stewards of our air, land and water," said Curt Spalding, regional administrator of EPA's New England office. "In addition to iconic natural beauty and vibrant communities, we New Englanders are fortunate to have neighbors who care deeply about the environment we share."

The Environmental Merit Awards, which are given to people who have already taken action, are awarded in the categories of individual; business (including professional organizations); local, state or federal government; and environmental, community, academia or nonprofit organization. Also, each year EPA presents lifetime achievement awards for individuals. The Environmental Merit Award Winners from New Hampshire listed by category are:

## Lifetime Achievement

### **The Team of Jeff Kantor and Bob Phelps (posthumous), Auto & Truck Recyclers Association of New Hampshire**



Jeff Kantor and Bob Phelps were instrumental in assisting NHDES in establishing the award-winning Green Yards Program, which promotes and recognizes environmental excellence among auto recycling yards. They educated their peers on the advantages of running a facility that implements

environmentally sound and sustainable business practices. Kantor is currently an environmental consultant for LKQ Car World in Candia, NH and has served on many governmental committees. Phelps served as the regional director at-large and a global ambassador for the Automotive Recyclers Association. Phelps passed away in 2014.

As individuals, Kantor and Phelps demonstrated a commitment to promoting good environmental business practices within the auto recycling industry, and as a team they were a powerhouse dedicated to fostering and encouraging a collaborative working relationship between the auto recycling industry and all levels of government. These two men worked tirelessly with the NH Legislature and the United States Congress to promote legislation reflecting the modernization of the auto recycling industry and its importance to our nation.

Kantor and Phelps worked to improve public perception of the industry through community outreach and an increased understanding of the industry. Both men distinguished themselves as community leaders committed to the idea of dynamic partnerships and collaboration. Kantor is the outgoing "front man" who helps people understand the importance of implementing good environmental practices. He invited students to come into his business and conducted "show and tell" productions at local schools to demonstrate how a well-run motor vehicle recycling facility plays an integral part in environmental protection. Now retired from the business, he continues to guide and support the efforts of his successors to instill a commitment to the environment within the industry. Phelps led with a quiet distinction. He would spend one-on-one time talking about his views on rules, regulations and the state of the industry. Before his untimely death in 2014, he mentored young people, showing them that an environmentally sustainable business can thrive in today's society.

Phelps and Kantor spent their careers working to elevate an industry that is neither glamorous nor especially lucrative, but is vitally important to the sustainability of our society. Their commitment to substantive improvements of environmental performance within the automotive recycling industry is their legacy.

## Governmental

### **Sarah Pillsbury, Brandon Kernen, and Stephen Roy; Drinking Water and Groundwater Bureau at NHDES**

The Drinking Water and Groundwater Bureau at NHDES ensures that the state's 2,400 public water systems provide safe, reliable drinking water. State employees Sarah Pillsbury, Brandon Kernen and Stephen Roy have gone above and beyond. With a history of innovative leadership on



drinking water, these employees have used science as the foundation for policies, and taken a pioneering approach to environmental protection. Work done by Kernan, Roy, and Pillsbury on contaminants in drinking water illustrate the kind of enterprising work they do. NHDES is using data from studies of contaminants to develop siting criteria for wastewater disposal systems at facilities with a higher load of these contaminants in their effluent. This work has led to state legislation allowing police to collect medicine at events and drop boxes, reducing discharges to groundwater and surface water. Kernan and Roy have also worked to prevent drinking water impacts from currently unregulated contaminants such as 1,4-dioxane, and other recent work has also discovered that low concentrations of several metals may be leaching off geothermal heat pumps and impacting drinking water. Enhanced regulations are now in the works to better manage geothermal wells used for potable water. These are but a few examples of this team's innovation and dedication to groundwater and drinking water protection for their state.

### NH Coastal Adaptation Workgroup



A group of government, non-governmental, university, and private organizations in New Hampshire collaborated to provide resources for communities trying to respond to the threats of climate change to the state's coast. The NH Coastal Adaptation Workgroup, formed in 2010, has been led by Steve Miller of the Great Bay National Estuarine Research

Reserve and Sherry Godlewski of NHDES. Now involving a collaboration of 21 organizations, the workgroup is looked at as a national model. The NH Coastal Adaptation Workgroup received more than \$2.75 million in grant funds for municipal projects. It sponsors an Annual Climate Summit, now in its fourth year, and numerous workshops, attracting hundreds of participants. The workgroup also provide resources through a website, newsletter, speaking engagements and a quarterly radio spot. It has educated legislators and was instrumental in establishing the Coastal Risks and Hazards Commission in the NH Legislature. The workgroup model has already been replicated by several other groups throughout New England. The NH Coastal Adaptation Workgroup is an example of what can be done with few resources and dedicated, hard-working people.

### Individual

#### Lori Sommer, NHDES



Lori Sommer, who has worked for NHDES for over 25 years, oversees the Wetlands Mitigation Program. Sommer developed and oversaw a comprehensive new watershed approach to protecting high quality aquatic habitats. She created a new mitigation mechanism, called the In Lieu Fee Aquatic Resource Mitigation – or ARM – Fund, which gives applicants a cost-effective, balanced approach to mitigation while ensuring long-term environmental benefits. The fund has been highly successful, receiving regional and nation attention. Since it began, it has awarded \$6.9 million that has protected 10,840 acres; restored 84 acres of wetlands; and restored and enhanced 4,200 linear feet of streams. Over the last year, Sommer also led an effort to work on climate change and aquatic organism passage. Working with the state Department of Transportation, she spearheaded a process to inventory deficient culverts, or crossings, that fragment streams. These crossings will be replaced or rehabilitated as mitigation for other stream impacts. The culvert mitigation program, a new and promising model of collaboration that uses limited funds for environmental gains, can benefit other state programs.

## New Hampshire Silver Jackets Formalizes Partnership

From the damage wrought by large events such as major flooding in 2005 through 2007, to Tropical Storm Irene in 2011, to intense summer thunderstorms that have affected parts of the state virtually every year since, New Hampshire has been experiencing many flood events in recent years.



After the flood waters subside, towns often struggle to deal with the damage and river bank erosion that results, and in particular, navigating the myriad of permits needed for repairs, and grants that can be available to not only recover

from flooding, but also to reduce risks from these hazards before such events occur. In the aftermath of Tropical Storm Irene, NHDES, in partnership with the NH Division of Homeland Security and Emergency Management (NH HSEM) formed a partnership of state and federal agencies to coordinate the recovery efforts in the North Country. At the same time, the Army Corps of Engineers was establishing an effort, the Silver Jackets, to form such multi-state and federal agency teams in every state to connect local communities with agency technical and hazard mitigation assistance to help reduce flood risks. In December, the New Hampshire Silver Jackets team was pleased to formalize its three-year partnership of providing a multi-agency approach to flood risk issues through the completion of its interagency agreement. In partnership with NH HSEM and the Floodplain Management Program at NHOEP, the New Hampshire Silver Jackets is managed by the Flood and Geologic Hazards Program in the New Hampshire Geological Survey at NHDES.

To date, the Silver Jackets team has been working with towns affected by floods and river erosion to assist in guiding them through the recovery process. Moving forward, Silver Jackets will also be directing its efforts toward working with towns on greater flood awareness, and identifying assessment and mitigation opportunities to reduce injuries, loss of life, and property damage during floods.

For more information, please contact Shane Csiki, Flood Hazards Program Administrator, at (603) 271-2876, or [Shane.Csiki@des.nh.gov](mailto:Csiki@des.nh.gov). ■

## Air Quality Awareness Week

Nearly every day each of us contributes to air pollution – but we don't always realize it. Thinking about our individual contribution to air pollution can help bring about change. Air Quality Awareness week was celebrated from April 27 – May 1. We are not stopping there!

We all do a lot to keep ourselves healthy. We eat right, we exercise and we practice moderation for our not-so-healthy habits. Let's add to that list the idea of being "air aware." As spring and summer arrive, we tend to be outside more. We are hiking, running, gardening and watching our kids play soccer and other outdoor activities. If you or a family member has asthma, it is even more important to be air aware.



Visit the NHDES website to keep up with daily air quality forecasts. On the A-Z list, go to Air Quality Forecast to get information about your county's air quality. Or call our hotline at 1-800-935-SMOG for a voice recording of the state-wide air quality.

In New Hampshire, we are fortunate to have

really great air quality but there are some hot summer days when the ozone levels can become "moderate" or "unhealthy for sensitive groups." Sensitive groups of people include elders, children or individuals with heart or lung issues. Knowing the air quality and associated activity recommendations can help sensitive individuals understand the best time of the day for activities.

Take a few minutes to think about how you contribute to air pollution then come up with a plan to make some changes. Some simple ideas include:

- Carpool with friends or co-workers and combine errands and trips.
- Raise your air conditioner temperature and use a ceiling fan. Ceiling fans are more efficient than most air conditioners, cheaper to use and can make you feel cooler from the breeze they produce.
- Buy a fuel efficient vehicle and keep all vehicles tuned.

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## NHDES' Vicki Quiram Confirmed as Commissioner of the Department of Administrative Services



At its April 22 meeting, the Executive Council unanimously confirmed Governor Maggie Hassan's nomination of Vicki Quiram, the current Assistant Commissioner NHDES, to serve as the new Commissioner of the New Hampshire Department of Administrative Services (NH DAS).

Governor Maggie Hassan stated, "Vicki Quiram brings a wide range of management experience from both the public and private sectors to NH DAS. She has managed hundreds of staff, multi-million dollar budgets, environmental and engineering projects in Texas and California, and now New Hampshire. Vicki has also reviewed and improved internal operating processes for various organizations throughout her career. I applaud the Executive Council for its unanimous and swift confirmation, and I look forward to working with Vicki to continue improving the efficiency of the State's efforts to protect taxpayer dollars and maintain fiscal responsibility."

"I am grateful that Governor Hassan has entrusted me with this important responsibility, and I look forward to working with her and all of our State agencies to improve efficiency in state government. It is critical to manage taxpayer dollars in a fiscally responsible manner and I intend to honor that pledge." Quiram said.

Vicki has done an outstanding job at NHDES. Her attention to detail, her steady hand during times of stress, an ability to effectively manage a 470-member staff composed of administrators, planners, engineers and scientists, as well as her dedication to the Lean process for continuous improvement, will certainly benefit those at NH DAS as she takes the helm of that important agency. The staff and management of NHDES wholeheartedly congratulate Vicki on her confirmation. We wish her well in her new position and look forward to working closely with her on a series of common interests over the coming months and years. ■

## Rick Berry Receives Award from USCG

The United States Coast Guard (USCG) recently recognized NHDES' Rick Berry with the Meritorious Public Service Award. Berry dedicated more than thirty-six years of his career to detecting, responding and cleaning up accidental spills of various chemicals released to the environment of New Hampshire. Most notably, the last twenty-five years at NHDES were devoted to leading multi-disciplined oil spill response teams and the NHDES Spill Response and Complaint Investigation Section in the cleanup and disposal of petroleum products, as well as accidental releases of potentially toxic materials, including hazardous and solid wastes. USCG described Berry as "a dedicated and inspirational co-chair of the Northern New England Area Committee. For over twenty years he provided leadership and vision to the principal body charged with balancing environmental stewardship and facilitating the millions of tons of cargo entering the numerous terminals along the busy Piscataqua River." The Coast Guard ended by saying "Mr. Richard Berry's actions are most heartily commended by the United States Coast Guard and are in keeping with the highest traditions of public service." Rick Berry retired in March of this year. All of his friends at NHDES wish him the very best. ■



**Air Aware** *continued from page 6*

- Use energy efficiently. Unplug appliances and computer equipment when not in use.

You've heard these tips before. Start to act on them and think about how you can reduce air pollution and keep yourself "Air Aware." ■



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

# Bike or Walk to Work



For the 13<sup>th</sup> consecutive year, NHDES is sponsoring Bike/Walk to Work Day. This year's event is on May 15, 2015.

Whether it's to get fit, save money, or pollute less, biking or walking to work will accomplish all three. A refreshment table, sponsored jointly this year by NHDES and

NHDOT will be set up on Hazen Drive in front of the DMV building from 7-9 AM for walkers and bicyclists. The warm weather is back and Bike/Walk to Work Day is a perfect time to try leaving your car at home; maybe one day in the spring turns into one Friday a month during the summer, or even once a week! Walking and bicycling have added stress reduction and wellness benefits too; you can burn approximately 400 calories by cycling for just 30 minutes. Perhaps your commute can become part of your weekly aerobic physical activity. In addition, biking or walking uses no petroleum fuel and produces no air emissions!

The goal of Bike/Walk to Work Day is to encourage you to try leaving your car at home and hop on a bike or walk to get where you need to go. Bike to Work Day was originated

in 1956 by the League of American Bicyclists. The event has grown since then, and the League now promotes the entire month of May as Bike to Work month. ■

## NHDES Training Reaches 10,000



NHDES' Hazardous Waste Coordinator Certification (HWCC) Program celebrated the arrival of its 10,000<sup>th</sup> attendee at its March 18 training event. Since 2003, the HWCC Program

has been training staff from hazardous waste-generating businesses, ensuring that there is always at least one person on-staff at the facility who is familiar with the rules that apply to them.

Joe Freni of PCC Structural in Franklin was the lucky guest who claimed the award, along with all rights, privileges and responsibilities that accompany this prestigious title. ■



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