

## COMMISSIONER'S COLUMN

### Wetlands Permitting: NHDES Seeking Broad Input on Significant Program Update

As part of our continuing effort to strengthen New Hampshire's economy and protect the valuable resources of our state, the New Hampshire Department of Environmental Services (NHDES) has initiated a significant, multi-year effort to improve and modernize the technical standards and the effectiveness and efficiency of the processes used by the Wetlands Bureau. Under this effort, referred to as the "Wetlands Program Rulemaking and Process Improvement Effort," NHDES is examining all aspects of the program and undertaking a comprehensive rewrite of the rules governing the program. NHDES hopes that, at the completion of this effort, the Wetlands Program requirements and permitting processes will be more transparent, predictable and consistent for our permit applicants and ensure scientifically-based decisions that protect New Hampshire's important natural resources.



The last complete rewrite of the wetlands rules was in 1991. Over time, due to changes in laws and improvements in engineering practices, the number and complexity of the NHDES application forms has increased, leading to confusion for some applicants. In re-evaluating our current permit application and notification options, NHDES wants to ensure that the level of effort required of applicants, and the allocation of NHDES staff time for technical review, are both commensurate with a project's impacts and threats to the most valuable or threatened resources. Activities expected to have lesser impacts could have reduced submission requirements.

NHDES is also evaluating all of the technical design standards, including those applied generally to all projects, as well as those that are specific to a certain type of project (such as forestry or roadway maintenance) or certain types of resources

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### Long-Time Water Division Director, Harry Stewart, Retires

After 16 years at the helm of the NHDES Water Division, Harry Stewart will retire at the end of May. Harry will leave behind a lasting legacy that epitomizes the phrase,

"water's worth it." His leadership in advancing a statewide water management plan and water infrastructure funding strategy will help to guide New Hampshire's water resource management for the foreseeable future.

Harry leaves NHDES as a recognized national and regional leader in water policy and program implementation. During a long and distinguished career, Harry managed programs for drinking water, wastewater, water resources, dams, development permitting, contaminated site remediation and environmental compliance. He served as President of the Association of Clean Water Administrators (formerly ASIW-PCA; the national state water directors organization), and Chair of the New England Water Pollution Control Commission. He has also served on the executive committees or boards of these organizations and other professional committees for many years.

Beyond his commitment to water, what



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(such as tidal areas).

Given the magnitude and significance of this major overhaul of the Wetland Program rules and procedures, NHDES knows that it will require a substantial amount of time. And, we want to take the time to do this right and provide ample opportunity for discussions with our stakeholders and the public. This effort will involve three phases running through 2015. Phase 1 is the Research and Listening Phase, which runs from October 2013 through May 2014.

During Phase 1, NHDES has been conducting research on a wide variety of topics and soliciting input from the broad array of stakeholders in a series of listening sessions. If you have not been able to attend these sessions, there is still plenty of opportunity for input. Please follow the progress of this effort on our web page. In addition, we are using a new on-line survey tool to accept your input at any time during the process.

In Phase 2, NHDES plans to begin drafting rules during the summer of 2014, and engage in additional stakeholder and public discussions throughout 2014. If all goes well, Phase 3, the formal rulemaking process, will begin in early 2015 and new rules will be adopted by the end of 2015. This schedule will be adjusted to provide more time for public input or to explore new ideas if that proves necessary to reach consensus on the best approach for New Hampshire.

We are committed to working closely with our partner organizations, stakeholders and concerned citizens during this project and will strive to maintain an open dialogue to ensure that we identify the best possible strategies to achieve our goals. Again, please visit our website for additional information. Our Rulemaking and Process Improvement Website has information on the topics under evaluation as well as the very simple survey tool through which you can submit your ideas and comments directly to NHDES: <http://des.nh.gov/organization/divisions/water/wetlands/process-improvement.htm>.

If you would like more information on the Wetlands Program Rulemaking and Process Improvement Effort, please contact Collis Adams, Wetlands Bureau Administrator, at (603) 271-4054 or [Collis.Adams@des.nh.gov](mailto:Collis.Adams@des.nh.gov), or Mary Ann Tilton, Assistant Wetlands Bureau Administrator, at (603) 271-2929 or [MaryAnn.Tilton@des.nh.gov](mailto:MaryAnn.Tilton@des.nh.gov). ■

## Online Training Course Coming Soon...



The NHDES Green Yards Program has created an interactive online training course on motor vehicle recycling facilities. The first module of the course discusses why well-run facilities are important to a community including past practices and the growing trend to become environmentally sustainable. The second module outlines RSA 236, the local licensing statute, offers compliance assurance tips and discusses good enforcement techniques. The training, is geared to municipal officials but will be made available to all interested parties. Stay tuned for upcoming announcements on where and when this training will be released! ■

### Air Quality Awareness Week

April 28–May 2, 2014 is National Air Quality Awareness Week! There are a variety of steps we can take to protect our air quality and reduce our contribution to air pollution. As the weather gets warmer we tend to be outside more. Although New Hampshire's air quality is generally good, there are days when we have levels of ozone that can affect our health – especially people with asthma or other respiratory conditions. If you'd like to learn more about air pollution or want additional information about Air Quality Awareness week please see <http://www.epa.gov/airnow/airaware/> ■



## ENVIRONMENTAL NEWS

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most of his colleagues and friends will remember about Harry is his love of soccer and his commitment to the people of Haiti. It is expected that after retirement, Harry will continue to be one of the leading scorers for the NHDES indoor soccer team – SPRAWL. Harry also hopes to return to Haiti, with Foundation for Fundamentals, to continue his work on construction and education projects.

On behalf of the people of the State of New Hampshire and for all of his current and former colleagues, we want to thank Harry for his dedication and service to the New Hampshire Department of Environmental Services. ■

## New Marine Mammal Rescue Team

The Seacoast Science Center was granted authorization by the National Marine Fisheries Service to lead New Hampshire's marine mammal rescue effort, effective January 1, 2014. The Center's Marine Mammal Rescue Team responds primarily to stranded, injured, sick or deceased seals, but also responds to whales, porpoises and dolphins in NH's coastal region. You can find more information about the marine mammal rescue program at: <http://www.seacoastsciencecenter.org/mmrt/>

All marine mammals are protected by the Marine Mammal Protection Act, enacted by the Federal government in 1972. Fulfilling this requirement, the Center's Marine Mammal Rescue Team staffs a 24/7 hotline and deploys first responders. Collaborating with New England Aquarium and the Marine Animal Rehabilitation and Conservation (MARC) Program at the University of New England in Biddeford, Maine, the Center leads the rescue; the Aquarium conducts necropsies, and MARC manages rehabilitation and release.

What should you do if you spot a seal or other marine mammal on a beach?

- Watch quietly from at least 150 feet away.
- Keep dogs away from the animal.
- Do not offer the animal food or water.



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

### Bike and Walk to Work

On May 16, we will be celebrating National Bike-to-Work Day. Besides biking or walking to work, NHDES supports carpooling, taking the bus and even roller blading! We encourage you to do whatever you can do to drive a little less this summer. Biking and walking to work gets the blood flowing early in the morning and are a great way to start the day. You can log your green commuting miles all year long on the Commute Green NH website. See <http://commutegreennh.org/> to participate! ■



**24-Hour Hotline!**  
**(603) 997-9448**

- Do not pour water on the animal or cover it with a towel/blanket.
- Do not try to move the animal.
- Call (603) 997-9448 and report the animal's location, size, coloring and behavior.

You can also follow the Rescue Team on Facebook (New Hampshire Marine Mammal Rescue) to learn about the most recent sightings.

Source: Shared by the Seacoast Science Center. ■



## Ticks in New Hampshire

Did you know that New Hampshire was number one in the nation for incidence of Lyme disease cases (number of cases per 100,000 population) in both 2008 and 2012? You can and should protect yourself from ticks.

New Hampshire has about 15 species of ticks. The most common is the American dog tick. It CANNOT spread Lyme disease. The second most common tick in New Hampshire is the black-legged tick, formerly called the deer tick. The black-legged tick spreads a type of bacteria called spirochetes that cause Lyme disease. Spirochetes are a group of spiral-shaped bacteria, some of which are serious pathogens for humans, causing diseases like Lyme.

The most important way to reduce the risk of getting a tick-spread disease like Lyme disease is to check yourself for ticks daily during tick season (you must remove clothing for a thorough tick check). The black-legged tick is most active from March through mid-July (NOW). They are active again in early October through November. Protect yourself by wearing light-colored clothing (you can see the ticks better) and tucking your pants into your socks. Yes, you may feel like a dork, but this can prevent ticks from getting to your skin and latching on. You can also wear rubber boots, avoid tall grass and thick brush and wear repellants on your socks and lower pant legs. Ticks generally wait low on vegetation for a host to brush by. When it does, they climb on. They cannot jump.

American Dog Tick



The relationship between deer and Lyme disease is complex. Deer show no symptoms of the disease. Deer may carry small numbers of the spirochete that causes Lyme disease but they are dead-end hosts for the bacterium. Deer are hosts for adult ticks and provide them with a place to mate and a blood meal for the female tick prior to production of eggs. Infected ticks that drop from deer present little risk to humans or other animals since the ticks are now at the end of their life cycle and will not feed again. The eggs, on the other hand, will grow into larva then nymphs and then adults. They look for blood meals



during each of these stages of growth, often starting with smaller hosts such as mice.

Areas of patchy woods, which are very common in cities, suburban and rural areas, may have higher populations of Lyme-disease carrying ticks. White-footed mice are the main carriers of Lyme disease. They are abundant in patchy woods, likely because fewer predators and competitors remain there. These mice are particularly abundant in patches smaller than about five acres, which could spell trouble for people living nearby. Black-legged ticks that feed on infected mice ingest blood and the spirochetes. The ticks can then transmit the spirochetes when they bite people.

The buildup of the spirochetes in the tick's blood takes time. As the tick digests the blood, the spirochetes multiply and become more concentrated. When a tick bites its host, the spirochetes get injected into the host with the tick's saliva. Nymphs of the black-legged tick can transmit the disease in about 24 hours of feeding; adults can take up to 30 hours. That is why it is important to check for ticks every day!

To remove a biting tick: grab as close to the tick's head as possible with tweezers. Slowly increase the pressure until it comes out. Do not cover the tick with Vaseline, nail polish or touch it with a hot match!

To manage ticks around your property keep your grass mowed, avoid thick brush and keep trails wide, cleared and mowed.

You have the power to greatly increase or decrease your risk of getting Lyme disease.

This information was derived from Dr. Alan Eaton's work at UNH Cooperative Extension. For more information see Dr. Eaton's publication on ticks and their management at [http://extension.unh.edu/resources/representation/Resource000528\\_Rep1451.pdf](http://extension.unh.edu/resources/representation/Resource000528_Rep1451.pdf) and <http://extension.unh.edu/Integrated-Pest-Management/Public-Health-IPM>. ■

## UNH's Clean Sustainable Industry Internship

Is your business looking for assistance with energy efficiency or waste reduction projects? The University of New Hampshire's Clean, Sustainable Industry Internship (CSI2) program just might have what you are looking for. This program, which has been in place since 1993, was formerly known as the UNH/NHDES Pollution Prevention Internship Program. Under the direction of UNH Chemical Engineering Professor Dr. Ihab Farag, this program has placed 135 students at 65 facilities and achieved significant environmental benefits including waste, water and energy reductions, and savings of more than \$3.3 million a year for the businesses that participated. For his efforts, Dr. Farag was just awarded a "Lifetime Achievement Award" from the US Environmental Protection Agency. After many years of dedicated service, he retired from UNH last year. The CSI2 Program, with a new name and a new professor, James P. Malley, Jr., Director of The Environmental Research Group, is a continuation of his efforts. This year's students consist of undergraduates who are on their way to becoming Environmental, Civil or Mechanical Engineers. Along with their regular classes, these motivated students voluntarily attend eight weeks of training in waste reduction techniques to prepare for this internship opportunity. Their focus is on green, sustainable operations with projects ranging from reducing energy use, water consumption or waste generated, to eliminating or reducing the use of hazardous chemicals. The benefits for both the companies and the students are great: students acquire real-world experience promoting sustainable practices, and companies have the opportunity to save money while promoting a safe and environmentally-sustainable workplace.



If your company would like to participate in this program, please contact, James Malley at [jim.malley@unh.edu](mailto:jim.malley@unh.edu) for more details. If you would like to see results from past projects, go to [www.des.nh.gov](http://www.des.nh.gov) and search for pollution prevention internships under the "A to Z List." ■

## Saying Goodbye to the Cocheco Watershed Coalition & Lorie Chase



The last week of March saw the final meeting of the Cocheco River Watershed Coalition. It was a bitter-sweet evening. Friends of the river, many of whom have dedicated their lives to its protection, came out to say goodbye and to honor Lorie Chase, the Coalition's founder and leader, in her retirement.

Over the years, Lorie accomplished amazing things. From annual river clean-ups, river education programs and stormwater partnerships in several communities, to an extensive volunteer water quality monitoring program, leadership for the Gulf of Maine Institute, and taking an instrumental role in nominating the river for protection under the state's Rivers Management and Protection Program. Lorie embraced

every project with a powerful mix of enthusiasm, intelligence and persistence.

Lorie spent much of her time working on various river projects. Deep in the forests of the farthest flung reaches of the watershed, she would share some of her most treasured and beautiful little streams with fellow river enthusiasts. Recognizing their significance to the greater whole, she was fighting to protect these tiny waterways. She also cared for the unloved places – the urban streams full of stormwater and trash, areas where people turned their back on the river. She fought for those places too.

Lorie worked tirelessly for the good of the river and its watershed. Her work and legacy serve as an inspiration to those of us who love our rivers. We will miss Lorie, but wish her well in this next phase of her life. ■

## NHDES Improves the Online General State Air Permitting Process

NHDES is proud to announce that the Air Resources Division is rolling out a new and enhanced online permit application system to aid in the application process for current and future air permit holders. The newest feature added to the system is a more streamlined General State Permit (GSP) application process for owners of emergency generators. The system allows owners to submit a more complete and easier-to-update application for the GSP. This system can be used now for owners who wish to install a new emergency generator and be covered under the GSP.

This is the first of a two-phase process to update the online permit application system. The Air Resources Division is currently evaluating further streamlining efforts, including a second phase of enhancements to the online application system for registration under the GSP for Emergency

Generators, as well as potential rule amendments to reduce reporting requirements. Once these efforts are completed, the Air Resources Division will contact current GSP holders regarding any changes to the GSP for Emergency Generators and changes to the reregistering process. No action for current GSP holders is required at this time.

The online application system currently enables facilities to register under the General State Permit for Emergency Generators, as well as the Permit-by-Notification for Non-Metallic Mineral Processing Plants (rock crushing operations). It also enables facilities to electronically submit requests for Administrative Permit Amendments, and allows facilities to register under the NH Code of Administrative Rules, Env-A 625, Limitations on Potential to Emit. ■

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## Citizen Science Lecture Series

The New Hampshire Department of Environmental Services' Jody Connor Limnology Center is pleased to offer a Citizen Science Lecture Series. This series aims to provide citizen scientists with current information in the fields of limnology, biology, ecology, wildlife and environmental science. New Hampshire supports a large network of citizen scientists through various organizations. The goal is to reach across organizations and bring together citizen scientists to learn, discuss and share experiences.

The 2014 series includes one lecture in the spring, summer, fall and winter in different areas of the state. The New Hampshire Fish and Game Department's Reptile and Amphibian Reporting Program will be the topic of the spring lecture. On May 7, from 6-7 PM, Michael Marchand will summarize the reptiles and amphibians that are found in New Hampshire and discuss how citizens can become involved in tracking their distribution and abundance. The lecture will be held at NH Fish & Game headquarters, located at 11 Hazen Drive, Concord.

If you have any questions about this program or would like to receive future announcements about the citizen science lecture series, please contact Sara Steiner, Volunteer Lake Assessment Program Coordinator, at [sara.steiner@des.nh.gov](mailto:sara.steiner@des.nh.gov) or (603) 271-2658. ■



# Reduce, Reuse, Peecycle

## Student Project Diverts Nitrogen-Rich Urine From Great Bay to Farm Fields

By Beth Potier, UNH Media Relations

On weekend nights this spring, four UNH seniors approach their classmates with an unusual pitch: “Want to donate some nitrogen?”

The donation doesn’t involve needles or personal sacrifice; rather, donors simply relieve themselves in a custom-built porta-potty dubbed the Peebus.

Officially called Durham Urine Diversion & Recycle, it’s the senior capstone project for three environmental engineering students and a business major. They’re eliciting the help of their well-hydrated fellow students to divert nitrogen-rich urine from Durham’s wastewater treatment plant and onto actual plants, where it could be used as fertilizer.

Along the way, the students – environmental engineering majors Taylor Walter, Alyson Packhem, and Adam Carignan, and business major Liz McCrary – are educating their classmates to think beyond the flush.

“This is a feasibility study to see if people are accepting of the concept of urine diversion,” says Walter, the group’s project manager. “Everybody pees and nobody thinks about where your pee goes.”

In fact, it goes to the town’s wastewater treatment plant, where human urine comprises 80 percent of the nitrogen entering the plant. There, much of it must be filtered out before entering the Great Bay Estuary, where too much of the nutrient can fuel excess algae growth and upset the balance of the estuary by robbing it of oxygen.

Yet that same high nitrogen makes urine a very productive fertilizer; a secondary goal of the project involves working with two local farmers to explore the use of pasteurized urine as a fertilizer for hay crops.

Urine diversion and recycling begins with urine collection: Over four weekends, starting March 20, the students have parked their Peebus at a well-traveled campus crossroad (a parking lot at the corner of Strafford and Garrison Avenues) between 11 p.m. and 1:30 a.m. to solicit “donations.”

The response, they say, has been overwhelmingly positive, with more than 200 students visiting the Peebus each weekend. “We had a feeling it would catch on, and it has,” says Walter. They generated significant buzz through word of mouth, news articles, and on Twitter (@peebus2014). “I



donated my nitrogen” stickers, printed with a yellow droplet, spread the word as they become the spring’s must-have fashion accessory in Durham bars.

After three weekends, the students have collected about 40 gallons of urine. They hope to bring the Peebus to major events like the outdoor concert SolarFest, Durham’s Memorial Day Parade, and even UNH’s commencement. Farmers Dorn Cox of Lee, a Ph.D. student at UNH, and Ray LaRoche of Durham, who also works in the

town’s public works department, are interested in testing the urine fertilizer on their hay fields.

The Durham Urine Diversion & Recycle students have been working closely with Durham town engineer David Cedarholm ‘94G, who initiated the project after noticing spikes in nitrogen entering the plant weekend evenings. Stricter environmental standards for reducing nitrogen into the estuary have the town considering a costly upgrade to the plant; Cedarholm wondered if there was another way to reduce nitrogen. He approached his former professor Nancy Kinner, professor of environmental engineering, who in turn pitched the project to the students.

“It takes eight gallons of water to transport one gallon of urine,” says Cedarholm, who drew inspiration for this project from the Rich Earth Institute of Brattleboro, Vt., a larger-scale urine reuse project. “People don’t realize that urine is actually a valuable resource.” In addition to mentoring the students, Cedarholm has supported the project from his budget.

“I’ve never worked with a group of students who are so engaged, all four of them,” he says.

As the project progresses, the students acknowledge that they’re unlikely to collect the 1,000 gallons needed to fertilize one acre of hay crop. But they’re upbeat that they’ve hit their goal of helping a wide audience understand the complex environmental issues behind the flush.

“People think this is cute and funny,” says Walter of the Peebus donors. “We’re doing them a service, they’re doing us a service, so it’s a win-win. And they learn something.”

And, she adds, “they get a sticker.” ■

## NHDES Red Cross Blood Drive Team Recognized

For more than a decade, Ray Walters and the NHDES Red Cross Blood Drive Team have hosted and assisted the American Red Cross with its regular drawings of life-saving blood here at NHDES Headquarters in Concord. The importance of these blood drives and the many blood donors and volunteers cannot be overstated. Whether enabling elective surgical procedures to proceed as planned, or supplying critical blood transfusions in times of medical emergencies, Ray's NHDES Red Cross Blood Drive Team has provided the "extra hands" needed by the Red Cross phlebotomists, nurses and technicians to safely and efficiently collect hundreds of gallons of blood of all types from generous donors.

Although the cross-section of NHDES staff volunteers varies from time to time, the staff assisting with the February 28, 2014 drive was typical and, in addition to Ray Walters, included, in alphabetical order:

Gloria Andrews, Jeff Andrews, Anne Bailey, Joyce Bledsoe, Owen David, Dick de Seve, Lauren Dethlefs, Melanie Doiron, Barbara Dorfschmidt, Tim Drew, Sheri Eldridge, Carolyn Guerdet, Walter Henderson, Barbara Hoffman, Anne Keach, Selina Makofsky, Dennis Pinski, Dean Robinson, and Debra Sonderegger.

## National Guard Presents NHDES with U.S. Flag

Several members of the NH Army National Guard's Charlie Company, 3rd Battalion, 238th Aviation Regiment recently presented Commissioner Burack with a U.S. flag flown in Afghanistan. The event took place during a recent town meet-



ing. NHDES employee, Steve Couture, is part of the National Guard group affectionately known as "Bucko" MEDEVAC. They wanted to express their gratitude for the continuous support provided to them during their recent deployment. During a five-month period, support from NHDES and others included 35 care packages ranging in nature from hot plates and cooking utensils to allow them some hot meals in tight times, to the infamous fully-supported 41-gift Yankee Swap. While providing MEDEVAC coverage in southern, eastern and northern Afghanistan, Bucko MEDEVAC performed 238 medical evacuation missions and transported 309 patients.



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