

COMMISSIONER'S COLUMN

Be Mindful of Wood Smoke Emissions When Heating Homes

Winter is a time when many New Hampshire residents use wood to heat their homes. Although wood is sometimes considered an environmentally friendly fuel for home heating, it can be a significant local source of particulate matter emissions. Particulate matter, especially fine particulate matter (that is less than 2.5 microns in aerodynamic diameter, or $PM_{2.5}$), can aggravate asthma and can cause shortness of breath or difficulty breathing. Exposure to airborne $PM_{2.5}$ has also been linked to cardiovascular disease.

Much of the residential wood burning in New Hampshire occurs in populated low-lying valley areas. These valleys are prone to wintertime thermal inversions which can trap wood smoke, and therefore $PM_{2.5}$ emissions, close to the ground. This phenomenon can greatly increase residents' $PM_{2.5}$ exposure in these locations.

There are important steps, however, that the wood-burning public can take to reduce wood smoke emissions and the associated particulate matter exposure. When possible, people should only burn dry, seasoned hardwood. Storing wood in a shed or other structure can encourage drying and seasoning.

When older woodstoves need to be replaced, it is a good opportunity to purchase and install a newer EPA-certified, cleaner-burning woodstove or an even cleaner EPA-certified pellet stove. Whether old or new, woodstoves should be operated, maintained, and regularly cleaned according to manu-

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NHDES' Real-time Lake and River Level Data Web Portal Gets Major Interface Upgrade

It's been several years in the making, but NHDES Dam Bureau is excited to announce the release of its new and much improved web portal for [Real-Time Data and Information for Watersheds in New Hampshire](#). The old Real-Time Data page served faithfully for almost 20 years, allowing public access to data and graphs of many hydrometeorological parameters, such as lake and river levels, throughout New Hampshire. But time marches on, as do website standards and IT security protocols.

In the new web portal, users will be greeted with a much more dynamic map interface and interactive plot interfaces. The many user options for viewing/downloading data and information are laid out in the [Public Webpage Instructions](#) on the home page. For automated data retrieval, the new web portal has a built-in publicly accessible Application Programming Interface, or API. [Instructions for use of the API](#) are also available on the home page.

The old real-time data webpage will be discontinued in January 2023. ■



WOOD SMOKE AND YOUR HEALTH

Wood smoke may smell good, but it's not good for you. Take steps to protect your health and the air we breathe.

Tiny particles in wood smoke can affect your health



Cardiovascular Effects
Can increase the risk of:
• Heart attack
• Irregular heartbeat
• Heart failure
• Stroke
• Early death.

Respiratory Effects
May cause the following:
• Trigger an asthma attack
• Aggravate other lung diseases
• Early death.

You may be at increased risk if you are in any of these groups:

- Have heart or lung disease, or related risk factors, such as diabetes or obesity
- Are an older adult (65 and older)
- Are a child or teenager
- Are pregnant
- Work outdoors

DID YOU KNOW?
One old inefficient wood stove can pollute as much as 15 old diesel dump trucks.

Four ways to reduce wood smoke

- 1 Use a cleaner heating device like a heat pump, gas stove, or EPA-certified wood pellet stove.
- 2 Burn dry, seasoned wood for a hotter fire and less smoke.
- 3 Test your wood with a wood moisture meter, (20% moisture or less burns best).
- 4 Provide sufficient air to the fire; never let it smolder.

Learn more at www.epa.gov/burnwise

facturer specifications. In addition, fires should be kept hot and brightly burning. A fire that is allowed to smolder emits more particulate matter than a fire that is vigorously burning.

For more information on how to reduce particulate matter from home heating with wood, please see NHDES' [Home Wood-Burning Appliances](#) webpage, the UNH Extension's [Heating Your Home with Wood](#) webpage, or EPA's [Burn Wise](#) webpage. ■

Civil Rights and Environmental Justice

NHDES' Title VI program ensures no person shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination, under any program or activity receiving financial assistance from NHDES on the basis of race, color, or national origin. NHDES staff, applicants for, and recipients of, EPA assistance are also expected to uphold these protections. Learn more from our [Civil Rights and Nondiscrimination Implementation Plan](#) and on the [NHDES Civil Rights and Environmental Justice](#) webpage.

Wastewater Trainer of the Year

The U.S. Environmental Protection Agency (EPA) New England Office has selected Anthony Drouin, Residuals Management Section Supervisor at NHDES, as the recipient of the 2022 EPA New England Wastewater Trainer of the Year Award. The EPA award acknowledges Drouin's outstanding work throughout the year, specifically Drouin's outreach and training to further help municipalities as being very instrumental to saving our environment. ■



Anthony Drouin

More than \$3,000 raised for Capital Region Food Program

NHDES employees raised \$3,167 in one month to help the Capital Region Food Program's Holiday Food Basket Project. The CRFP's mission is to help to reduce hunger in the greater Concord area through distribution of food to individuals, families and local agencies. Instead of the traditional food drive, NHDES collected donations electronically, and inspired giving through some spirited challenges and a focus on the need in our communities. ■



Bob Scott (left), Commissioner of NHDES, and Elena Alois, Assistant Chair of the CRFP Board of Directors.

ENVIRONMENTAL NEWS NHDES

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Appolo Vineyards First Winery to Get Sustainability Recognition

The New Hampshire Sustainable Craft Beverage Program is recognizing Appolo Vineyards in Derry, a veteran-owned business established in 2006, for its environmental leadership and sustainable initiatives. It is the first winery to be included in the recognition program.

Appolo Vineyards focuses on sustainability from the ground up. All wines are produced in 100% recyclable containers, and all grape materials such as skins, seeds, stems and leaves are composted or given to local farmers for animal feed. The winery also wrapped its chill tank in insulation to increase efficiency. Appolo Vineyards owner Mike Appolo plans to become LEED Green Building certified and install solar power.

Appolo Vineyards is also on a mission to grow grapes without using pesticides. The 1.5 acres of grape vines are protected through the use of techniques such as pruning properly to prevent moisture, using species-specific noise machines to keep the birds away, and selecting specific disease- and harsh climate-tolerant grape cultivars. These actions have prevented the need for the cocktail of pesticides commonly used to protect grapes, a meaningful impact given that grapes are one of the most heavily treated pro-



duce with an estimated average application of about 25 pounds of pesticides per acre of vineyard.

The Sustainable Craft Beverage Recognition Program is a free, voluntary program offered to environmental leaders in the craft beverage industry who go above and beyond to produce high quality eco-friendly craft beverages. Recognition requires the completion of an application and a site visit by New Hampshire Pollution Prevention Program (NHPPP) staff for verification. This visit also gives NHPPP staff the opportunity to offer additional suggestions for sustainability practices.

NHPPP is a non-regulatory business

assistance program founded in 1991. The program offers free technical assistance to all businesses and organizations throughout New Hampshire by helping them to reduce waste and save money. The new Sustainable Craft Beverage Recognition Program expands on work NHPPP has been doing with the craft beverage industry to improve energy efficiency, conserve water, minimize waste, and reduce the volume and strength of wastewater. The programs' goal is to publicly recognize craft beverage producers who are making sustainable choices, preventing pollution, conserving resources and encourage other producers to implement sustainable practices.

For more information visit the [NH Sustainable Craft Beverages Program webpage](#) or contact Kathy Black at kathryn.black@des.nh.gov or (603) 271-6460.

NHDES provides gifts, raises \$2,500 for Operation Santa Claus

The NHDES Operation Santa Claus (OSC) Team works diligently each year to help address the needs of less fortunate children (and their families) during the holiday season and

beyond. The OSC campaign is sponsored by the State Employees Association of New Hampshire (SEIU Local 1984).

As a result of generous donations, NHDES was able

to provide 61 children with Christmas presents in 2022. Over \$2,500 was raised from a bake sale, basket raffles, a Crock-Pot cook-off and 50/50 drawings. NHDES finds comfort in knowing

that many wonderful children across New Hampshire, who may be living in challenging conditions through no fault of their own, will be smiling during the holidays.



Field Work Photo Journal: Wastewater Treatment Plant Energy Audit

Come on a journey with NHDES field staff! This photo journal follows NHDES Wastewater Engineering Bureau staff and Process Energy Services (PES) as they conducted an energy audit of the Keene Wastewater Treatment Plant in August. PES is under contract to NHDES to perform comprehensive process-level energy audits for wastewater and drinking water systems across the state. PES also provides technical assistance services to assist communities with implementation of the measures identified during the audits. ■



Photos by Hannah Peterson and Kevin Macarelli



Aaron Costa, Superintendent of the Keene WWTF (left), points to an electrical panel of the facility's UV disinfection system while Steve Bolles, of PES, observes. The improved controls included with the new UV system installed during the last upgrade resulted in significant energy savings. After improving the passive step cascade aeration, blower energy use was no longer required to meet post aeration permit requirements.



Wastewater Engineering Bureau Planning, Protection and Assistance Supervisor Sharon Nall (center) takes notes while Steve Bolles of PES (left) is preparing to take kilowatt (kW) measurements to determine the amount of energy a specific piece of equipment is using.



In addition to energy efficiency upgrades, the WWTF has added renewable energy to its portfolio with the installation of a large solar array (background).



And this transpired wall collector warms outside air to supplement building heating during the winter months.



2022 Employee of the Year – Jana Ford

The NHDES 2022 Annual Awards took place December 16, 2022, at which time the agency's Employee of the Year was named.

Jana Ford was nominated not once, but by three separate people from outside of her program. It is easy to understand the impact that Jana has on both NHDES' internal and external communications efforts. One of Jana's significant efforts has been to help programs migrate their websites from WordPress to Drupal. Often juggling the conversion of numerous sites at once. What is appreciated is Jana's willingness to listen to what staff want to accomplish, her positive attitude and her ability to be calm during sometimes tense conversations. A quote from one of the nominations said, "She has made the process of reviewing 800+ documents, ensuring they are ADA compliant, designing the website, and uploading the documents individually a relatively painless process."

What is clear is Jana's impact on multiple programs across all divisions. Her willingness to brainstorm ideas from promotional campaigns, webpage designs, video content, and press releases, creates an atmosphere of can-do spirit.



Additionally, Jana is responsive to answering questions on new technology, such as the new Meeting Owl and Mevo cameras. She was instrumental in drafting guidance and instructions on how to manage remote meeting technology and how to host successful remote and hybrid meetings, and regularly volunteers to work after hours assisting programs run hybrid meetings.

For those achievements and many more Jana was recognized as the 2022 NHDES Employee of the Year Award. Congratulations Jana! ■

About the award

The Employee of the Year Award highlights the outstanding work performed by NHDES staff throughout the year. This year we have seen numerous examples of staff members going the extra mile in performing their jobs. The criteria for the Employee of the Year Award are: significant impact or innovation within NHDES or the State; initiative and leadership; improved efficiency; and improved interagency cooperation.

Service Time Awards

These NHDES employees celebrated a milestone in years of service to the State of New Hampshire in 2022. Congratulations!

35 YEARS

Gail Timmins
Laura Martel
Steve Doyon
Stephanie Larson

Johnna McKenna

David Price
Beth Malcolm
Amy Smagula
Pam Monroe
Sharon Nall
Tammy Calligandes
Mike Fitzgerald

Robert Bishop

Elizabeth Stark
Jeffrey Blecharczyk
Matthew Jones
Jeffrey Marcoux
Alexis Rastorguyeff
William Thomas
Wade Pelham

James Weber

Tracy Wood

10 YEARS
Katherine Zink
Sheila Rydel
Suzanne Beauchesne
Michael Timmons
Christina Buckman

Russell Lagueux

Cynthia Nelson
Scott Ashley
Lori Sommer
Nancy Lesieur
Bethann McCarthy
William Comstock
Bruce Harless
Robert Tardif
Robin Mongeon
Jeffrey Underhill
Paul Susca
Carolyn Guerdet
Margaret Foss
James Gallagher

30 YEARS

Steve Landry
David Bowen
William Nash
Kent Finemore

20 YEARS

Jennifer Drociak
Sara Steiner
Jennifer Marts
Chad Hayes
Pamela Werner
Muriel Lajoie

15 YEARS

Parashuram Shrestha
Tara Albert
Kristen Svendsen
Trista Coulter
Suzanne Picone
Kelsey Marquez

RETIREMENTS

Bruce Harless
Timothy White
David Kelly
Michael Juranty
Bruce Harless

25 YEARS

Gary Milbury, Jr.
Darlene Forst
Shelley Marshall

David S. Chase Award for Extraordinary Achievements in Science – Lori Sommer

Lori Sommer has been a leader in Wetlands Compensatory Mitigation science since the late 1990s and created the first New England In-Lieu Fee Mitigation Program, the Aquatic Resource Mitigation Fund in 2007. As the Mitigation Coordinator at NHDES, Lori has successfully used the current science on ecological integrity, wildlife habitat, wetlands science, and landscape ecology to strategically guide permitting decisions on wetlands loss and steer compensation in areas of high-ecological significance. Lori successfully partnered with leading conservation scientists in New Hampshire to include data on wildlife habitat, rare, threatened, and endangered plants, exemplary communities, and vernal pools in wetlands decision-making.

Her work with NH Fish and Game, the University of New Hampshire, and The Nature Conservancy on wildlife corridors and landscape connectivity issues has brought new GIS-science tools to the regulatory community. Most recently, she has worked with UNH to develop a science model to predict Blanding's turtle mortality-risk at wetland road crossings to target restoration projects that will support turtle passage.

As the Stream Crossing Initiative Steering Team Co-chair, Lori has integrated the current scientific methods and analyses



on stream connectivity to advance New Hampshire's stream crossing program and enable scientists and water resource managers to make data-driven decisions on culvert upgrades to support aquatic organism passage and flood resiliency. Over the years she has sat on numerous grant review boards, advisory committees, and steering teams as a leading expert in land conservation and wetlands mitigation in New Hampshire.

Since 2007, the Aquatic Resource Mitigation Program has funded 141 land protection, and wetland and stream restoration projects across the state under Lori's leadership. Under Lori's direction and collaboration with a team of science and regulatory experts, the ARM Fund has achieved significant results in wetlands and stream mitigation, including protection of 28,000 acres of land, 4,000 acres of high-value wetlands, 120 miles of stream, and over 400 vernal pools. Lori is leaving a legacy of landscape resiliency and sustainability in New Hampshire and a model for effective compensatory mitigation to guide other New England States.

For those achievements and many more, Lori has been recognized as the recipient of the 2022 David S. Chase Award! Congratulations, Lori!

About the award

This prestigious award is presented to a deserving NHDES scientist who possesses the special skills and dedication necessary to continue the pursuit of scientific discovery at the agency. This award is named in honor of the late Dr. David S. Chase, who served as the Radon Program Manager at NHDES and the Department of Health and Human Services for 16 years. His devotion to his work made a significant impact on our understanding of radon, and how the public can mitigate the risks associated with this compound. After Dr. Chase's passing, this award was established to recognize other NHDES employees who have made important accomplishments in the field of science.



twitter.com/NHDES

Rising Tides Photo Contest returns January 21-24, 2023

People who live, work, and recreate in New Hampshire's coastal communities are already experiencing impacts from high tide flooding. High tide flooding occurs several times a year when tidal waters flow above the natural landscape onto roadways, driveways, and yards, and interrupt daily routines. These tides offer a glimpse into what daily water levels could be like in the future as sea levels rise.

The Rising Tides Photo Contest is a unique opportunity to use photography to learn how places are already being impacted by high tide flooding and will be affected by rising sea levels. This year, the Rising Tides Photo Contest will focus on documenting higher-than-normal tides and showcasing the area's resilient ecosystems, economies, infrastructure and communities.

We hope you will participate in the upcoming Rising Tides Photo Contest, January 21-24, 2023, and help document the impacts of rising seas and flooding along New Hampshire's tidal shoreline!

Contest Details

What to Enter: Photos must be taken during the contest period along New Hampshire's tidal shoreline. Additionally, photos must be entered into one of four contest categories:

- Picturing Change- Atlantic Coast
- Picturing Change- Great Bay
- Picturing Resilience- Atlantic Coast
- Picturing Resilience- Great Bay

Examples of eligible images in each category and a list of communities in each geographic area are available on the Coastal Adaptation Workgroup Website.

How to Enter: Photo entries must be submitted via the online entry form available on the CAW website during the Contest Submission Period, January 21-24, 2023. Entries submitted via mail, email, or social media will not be accepted.

Prizes: One winning entry will be selected in each of the four Contest Categories through a public voting process. The entries that receive the most votes by the end of the voting period will win a \$50 gift card to a local restaurant of the winner's choosing.



Contest Events

New this year, CAW will host Guided Flood Tours during the contest period. These tours will provide a guided opportunity to take photos of high tide flooding and learn about the impacts of sea level rise in your community from lived and diverse perspectives. Volunteer boards and municipal staff, technical assistance providers, natural resource professionals, researchers and students, elected officials, interested residents or community leaders, and Rising Tides Photo Contest participants are especially encouraged to attend.

Visit the [CAW Website](#) for official contest rules. Questions? Contact Lucy Perkins at Lucy.L.Perkins@des.nh.gov or (603) 559-9101.

NHDES INFRASTRUCTURE FUNDING UPDATES



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