

COMMISSIONER'S COLUMN

Drinking Water and Groundwater Trust Fund update

Drinking water infrastructure and its urgent need for improvement have come to the forefront over the last year, both nationally and right here in New Hampshire. For example, in December in Manchester, a 129-year-old water main broke, resulting in a street closure and a sinkhole large enough to swallow a car. Stories are common on contaminants, such as MtBE, dioxane and perfluoro hydrocarbons (PFCs), that threaten to or have contaminated drinking water wells. Less frequently featured, but probably more important from a public health perspective, are the naturally-occurring contaminants, such as arsenic, radon and uranium, that are commonly above standards in homeowner drinking water wells.

The New Hampshire Drinking Water and Groundwater Trust Fund (Trust Fund), established in 2016 with \$276 million in funds from the ExxonMobil MtBE lawsuit verdict, provides New Hampshire with a unique opportunity to provide long-term, sustainable funding for drinking water infrastructure, ensuring safe, reliable drinking water for our citizens.

The Trust Fund is administered by a 19-member Drinking Water and Groundwater Trust Advisory Commission (Commission). The Governor, Senate President and Speaker of the House appoint the members for staggered two-year terms. Senate President Chuck Morse currently serves as Chair of the

Commissioner's Column, cont. page 2

Why is recycling so confusing?

It happens to us all: you're away from home and you find yourself with a container or package that you'd like to recycle. Which bin does it go in? Cap on or off? Is it even really recyclable? Recycling often isn't as simple as we would like, and the rules seem to change from town to town, and region to region. So, why is recycling so confusing?



Recycling is a system. Recyclable wastes go into the system, are processed into a marketable material, and are shipped to market for reuse. Recyclable wastes have to be prepared to enter the system: they need to be sorted and collected, contamination (i.e., non-recyclable items) has to be removed, and the recyclables need to be containerized for the processing facility. Processing facilities typically further sort the recyclables: changing the physical properties of the materials, such as reducing plastics to pellets, and containerizing the material for market. At the end of the process, a market for the material has to exist, otherwise, recycling is not economically viable and the whole system falls apart.

Product packaging comprises a significant portion of the recycling stream. However, companies that make containers for consumer goods are primarily concerned with safely getting a product from point A to point B; the actual recyclability of the packaging is a secondary concern. This is evident in the wide variety of plastics used in modern packaging. If you look on the bottom of most plastic bottles or containers, you'll see a "chasing arrows" symbol with a number. Although you might assume that this means the item is recyclable, this is NOT always the case.

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Commission.

The Commission has only met four times since its inception but already it has taken significant action to improve drinking water infrastructure in New Hampshire. During its September meeting, the Commission decided to fund high-priority, time-critical projects for 2018 while developing rules and procedures for long-term operation of the Trust Fund. The Commission put former Senator Rick Russman in charge of a rules/process subcommittee and requested that NHDES identify 2018 high-priority funding needs. At the Commission's November 2, 2017, meeting, the Commission approved \$35 million in projects that were recommended by NHDES.

- Nine municipal drinking water infrastructure projects were approved for grants (\$11.3 million). These projects were where the municipalities were typically contributing significant amounts of the required funds through loans from Rural Development (RD) or the state's drinking water revolving loan fund (SRF) program. The projects addressed public health-related issues such as lead service lines or lead pipe joints, contamination (dioxane, PFCs and MtBE contamination related projects) and aging infrastructure.
- Eleven municipal drinking water infrastructure projects were approved for loans (\$23.2 million). These municipalities and water systems had applied for SRF loans but had been turned down solely due to funding constraints. The Trust Fund assistance makes it possible for these important projects to proceed. Some additional projects were approved to provide funding for better definition of emerging contamination problems in New Hampshire, such as PFCs, and for a source water protection project.

A budget for funding the approved projects will need to be approved by the fiscal committee of the Legislature

and then the individual projects will need to be approved by the Governor and Executive Council. The highest priority will be given to approval of the grant projects, since those projects are time-critical as well as public health-related. Rapid approval of the grants will ensure that funding gaps are addressed by the Trust Fund monies.

The Commission subcommittee is meeting regularly and working to map out the future processes and rules for the Trust Fund. An important part of their efforts is stakeholder outreach. Recently, a stakeholder survey was distributed to obtain feedback from water systems, and there was a meeting in December with land trusts and other entities that would participate in source water protection efforts. Input is critical since there are important issues to be tackled, including managing the Trust Fund so that existing funding programs such as SRF and RD are minimally-impacted, and determining what are the priorities for funding and what projects are worth providing inducements or incentives (i.e., grants, ranking priority, etc).

The Trust Fund principal is being invested to provide additional revenue to the fund. Given its size, the Trust Fund principal is large enough to generate significant income. Additionally, the loan repayments will also be returned to the Trust Fund. Leveraging this new funding source with existing



The Advisory Commission voted to provide additional funding of \$1.15 million in Colebrook to address lead service lines and additional water main work that was not anticipated by the Town.

RD and SRF funding as well as local match money will ensure that the Trust Fund plays a major role in the long-term solution of the drinking water infrastructure funding needs in New Hampshire. ■

ENVIRONMENTAL NEWS

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29 Hazen Drive • Concord, NH 03301
(603) 271-3503
www.des.nh.gov
editor@des.nh.gov
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The 1-7 plastics numbering system located inside the chasing arrows only indicates the type of resin used to make the plastic item, but it does not guarantee that there are recycling systems in your area that can process that type of plastic or packaging. Recyclability of most materials is subject to whether local infrastructure is capable of handling them, and whether there are reliable resale markets for the material. This can vary regionally. Moreover, the packaging industry tends to develop new types of packaging much more quickly than recycling infrastructure and markets can adapt. For example, the recycling industry is still adapting to aseptic cartons (e.g., milk cartons), which are made with a combination of plastic and paper, and can only be recycled in certain municipalities.

Further complicating the recycling landscape is the advent of single stream recycling. Many experts would agree that this system of mixed recycling has decreased consumer engagement with what is and is not recyclable. Additionally, because everything goes in the same bin, single stream invites contamination, as many people engage in “wishful recycling” – hoping they are doing the right thing by placing

shopping bags or plastic tarps in the bin and keeping them out of the regular trash. Ultimately, this creates a compromised recyclables stream that is only suitable for certain markets, most of which are overseas. Recently, those export markets are reacting to the contamination. China has announced that it will impose much tighter contamination thresholds and will outright ban certain categories of recyclables.

The change in China’s acceptance protocol has sent shockwaves throughout the recycling industry, and has left many recycling haulers scrambling to clarify standards and find alternative markets. For the near term, if you have questions, the best thing you can do is check with your local transfer station or recycling service to see what they accept and how they want it sorted. For the long term, the packaging and recycling industries will need to put their heads together to establish a standardized system.

In the end, China’s ban will probably be a good thing for recycling as it forces a critical conversation about what’s broken so that, perhaps, we can figure out a recycling system that is less confusing for everyone. ■

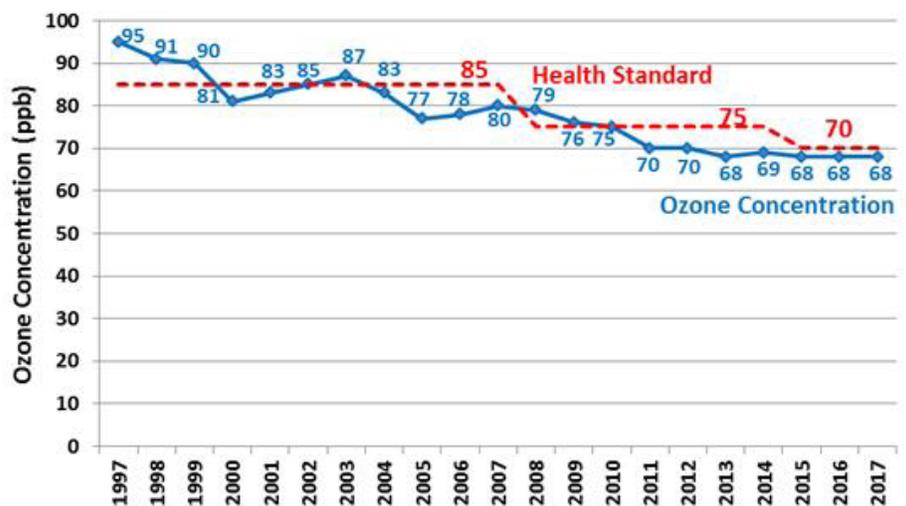
EPA makes final attainment designations for the ozone standard

Consistent with NHDES’ recommendation, EPA designated all of New Hampshire in “attainment” – meeting the air quality standard of 70 parts per billion (ppb) for an 8-hour exposure to ozone – that was set in 2015.

Ozone in the air we breathe can harm our health – even relatively low levels of ozone can cause health effects. EPA, under the Clean Air Act, determines at what levels air pollutants can safely be tolerated and sets standards. After EPA establishes or revises an air quality standard, it follows a process, dictated by the Clean Air Act, by which states recommend area designations to EPA. It evaluates the state’s recommendations prior to making final designations.

New Hampshire has not always been in attainment for ozone. When the first ozone standard was set in 1979, a portion of southern New Hampshire did not meet it. This led to the adoption of rules to limit emissions of the pollutants that form ozone: nitrogen oxides and volatile organic compounds. These rules mandated controls on various sources of emissions, including gasoline-dispensing facilities and vehicle inspection and maintenance programs. When the ozone standard was revised in 1997, it was converted from a 1-hour to an 8-hour exposure to provide for better health protection. Portions of southern New Hampshire again failed to meet it. Subsequently, additional State and regional efforts were introduced to reduce the formation and transport of ozone. Because of these efforts, New Hampshire was able to meet

Maximum New Hampshire 8-Hour Ozone Values



ozone standard revisions in 2008 and most recently, in 2015 through today.

Since the Clean Air Act Amendments of 1990, passed with bipartisan support to address concerns with regard to pollutants, there has been tremendous progress in implementing these reforms. National monitored levels of ozone have dropped 22%, with New Hampshire’s dropping over 40%, all while population, energy use and GDP have increased.

Despite this success, New Hampshire is required to maintain the pollution controls that achieved this great progress and work with its regional partners to ensure that emissions and ozone concentrations don’t start to rise again. ■

NHDES 2017 Employee of the Year – Barbara McMillan



L-R: Assistant Commissioner Clark Freise; Barbara McMillan; Commissioner Robert Scott.

Barbara McMillan, Watershed Outreach Coordinator in the Water Division, has always demonstrated exceptional dedication and initiative, but 2017 was a heroic performance! Shortly after the Watershed Assistance Section lost its Stormwater Coordinator, Barbara assumed leadership for the statewide Soak Up the Rain (SOAK) program by filling a supervisory role for SOAK staff. She provided technical oversight for residential stormwater management projects from conception through construction. Coordinating this program is completely outside the scope of her normal duties, but Barbara stepped up willingly despite an already mammoth-sized workload. Through SOAK, Barb engaged multiple partners from outside the agency, which made the work exceptionally challenging. Her

ability to bring diverse partners together to achieve a common goal was critical to the program's success. The U.S. Environmental Protection Agency awarded an Environmental Merit Award to SOAK during the Spring of 2017— in large part due to Barb's dedication, infinite patience, resourcefulness, and passion for collaboration.

Additionally, Barbara provided assistance to three regional stormwater coalitions, whose membership includes 60 municipalities. The coalitions implement initiatives to advance municipal stormwater MS4 permit compliance but, in 2017, they needed more technical assistance than previous years due to new, complex permit requirements. To meet these needs, Barbara facilitated multiple coalition meetings to provide resources and identify path-

ways to make stormwater compliance smoother for communities. She developed a compliance tracking matrix template for communities to visualize and track multiple stormwater management requirements including monitoring, outreach, and mapping. She provided assistance to help communities identify specific actions to populate the matrix. The matrix saves communities resources, money, and time by organizing existing materials to meet the compliance requirements for public outreach.

Every day, Barbara demonstrates what it means to put the customer first by sharing knowledge, facilitating interaction across long-standing boundaries, and empowering stakeholders and agency colleagues alike to apply what they learn through collaboration and communication. The Watershed Assistance Section, NHDES, and the thousands of stakeholders with whom she works are indebted to Barbara for her diligence and for the incredible workload she managed so adeptly throughout 2017.

The Employee of the Year Award is part of the NHDES Rewards & Recognition program and highlights the outstanding work performed by NHDES staff throughout the year. Nominations for this award all come from entries submitted by NHDES employees. The criteria for the Employee of the Year Award include:

- Significant impact or innovation within NHDES or the state.
- Initiative leadership.
- Improved efficiency.
- Improved interagency cooperation.

Save the date! FREE Fugitive Dust Workshop

Something's in the Air: Controlling Fugitive Dust Workshop

March 15, 2018, 8 AM-12 PM

**NHDES, 29 Hazen Drive
Concord, NH**

**Information/registration:
des.nh.gov > NHDES Calendar**

Did you know that one car travelling one mile per day for one year on a dirt or gravel road creates one *ton* of dust? Fugitive dust is more than just a nuisance – it is air pollution that affects respiratory health, erodes dirt and gravel roads, pollutes surface water and reduces visibility. Managing fugitive dust is also a regulatory requirement. Find out how to control fugitive dust by attending this FREE workshop! *Something's in the Air: Controlling Fugitive Dust* is for public works officials, contractors, landscapers and erosion and sediment control inspectors. Certificates of attendance and 3.5 EnviroCert Professional Development Hours will be provided.

David S. Chase Award – Wayne Ives

Over the past 15 years, Wayne Ives, NHDES Instream Flow Specialist, has led the way when it comes to ensuring that our rivers and streams continue to flow. When he began working on the Instream Flow Pilot Program, the science of determining minimum stream flows was in its infancy. His assignment was to find the single low flow number for each river that would provide water for both people and fish. Instead, Wayne pioneered the application of a science-based management approach, the natural flow paradigm, which recognizes that a healthy stream depends not only on flow volume, but also on the duration, frequency, and timing of river flows. Wayne then successfully applied this approach on the Lamprey and Souhegan rivers, overseeing the process of calculating the protected flows and developing water management plans with every significant water user and dam owner in each watershed. To date, because of Wayne's persistence and scientific aptitude, ours is the only state that has converted the natural flow paradigm from theory into practice.

Wayne has also successfully converted community members, initially opposed to having their lake used to augment downstream flows, into ardent supporters. Wayne took the time and effort to explain how water released from a lake can protect downstream fish, wildlife and plants, and also benefit water quality in the lake, resulting in a partnership that expands beyond lake science. This hard work culminated in 2015 when the legislature accepted a report from NHDES about the success of the program and passed a bill to allow the program to spread statewide.

The importance of Wayne's work was highlighted during the 2016 drought. Because of the program, water users on the Lamprey and Souhegan rivers were



L-R: Assistant Commissioner Clark Freise; Wayne Ives; Commissioner Robert Scott.

managing flows for drought resiliency months ahead of anyone else. The jump start allowed more water to remain in those rivers longer. Wayne's instream flow science not only helps to ensure that fish survive, but also that there is enough drinking water for people.

This award is named in honor of David S. Chase, the NHDES Radon Program Manager who passed away very unexpectedly in November 2008. Dave served as the Radon Program Manager at NHDES and the Department of Health and Human Services for 16 years. Dave was extremely dedicated and devoted to the radon program and, under his guidance, New Hampshire's radon program received national recognition by the Conference of Radiation Control Program Directors in 1994.

Recognition of such scientific achievements continues today and has been institutionalized as the annual David S. Chase Award for Extraordinary Achievements in Science. ■



twitter.com/NHDES

Claremont: former manufactured gas plant site remediation

As of November, the finishing touches were all but complete on an EPA-led remediation project at the former Claremont Gas Light Co. site, located adjacent to the Sugar River in downtown Claremont. The site is one of about

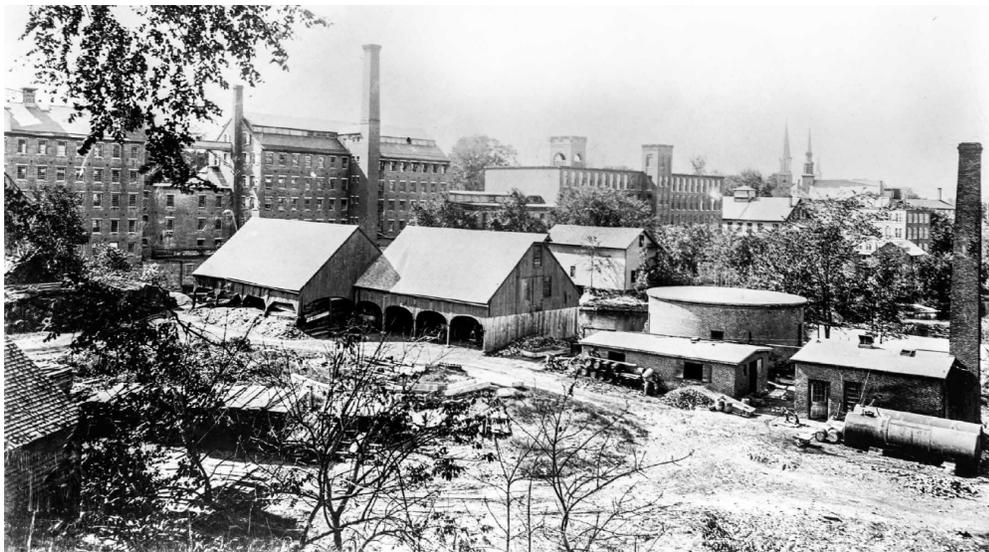
a dozen former manufactured gas plant (MGP) utility sites in New Hampshire. The Claremont facility was active from 1859 until 1948, and primarily served the former Monadnock Mills manufacturing facilities on the opposite side of the Sugar River. As was typical of MGP sites, gas was generated by the reaction of coal in high-temperature ovens (called a gas retort house) in the absence of oxygen, to generate coal gas. The raw coal gas was then subjected to several treatment steps to improve its purity, and most of these steps generated wastes, including creosote-like coal tar and related materials.

The site was a priority for cleanup due to the presence of coal-tar residuals, as free product and heavy sheens, which would often appear during low-water conditions in the adjacent river. Prior environmental investigations found coal-tar free product above the water table in portions of the site, and detected volatile organic compounds (VOCs) and other higher molecular weight poly-aromatic hydrocarbon (PAH) compounds common to MGP sites at elevated concentrations in site soil and groundwater.

Field construction activities for the remediation project, performed as a joint effort with NHDES and the City of Claremont, were completed during the Summer of 2015. This work included excavation and off-site treatment of 9,000 tons of contaminated soils and dredging/removal of impacted shallow sediments from the shoreline of the river. Soils were generally removed down to the underlying bedrock surface; however, bedrock over about a third of the site was too deep for direct excavation of the overlying soils. In these areas, contaminated soils were remediated via In-Situ Stabilization (ISS), wherein a cement/grout additive was mechanically mixed throughout the soil column to create a monolithic mass and solidify the soils and any entrained contamination in-place. Approximately 5,000 cubic yards (CY) of contaminated soils were remediated at the site via the ISS method.

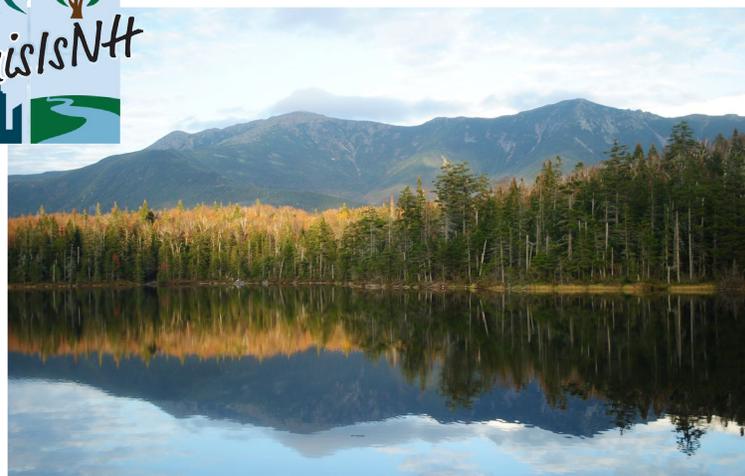
As part of the final project close-out during the Summer of 2017, EPA constructed a historical monument at the site, which included several panels describing the history of the site and the prior manufacturing processes that were performed there. A comprehensive historical survey was

also prepared for the site, and the site has been included within the National Register-listed Monadnock Mills Historic District. ■



Late 1890s view of Monadnock Mills, showing the Gas Works in the foreground. From left to right: two open coal storage sheds, the Storage House, the round 1859 Gasholder House behind, and the original 1859 Retort House and draft chimney. The two long metal tanks outside the Retort House stored oil added to the gas to make it burn with a brighter flame.

Courtesy: Claremont Historical Society.



Franconia Ridge from Lonesome Lake, R.M. Levasseur

It was a successful summer for the nascent “This is New Hampshire” story map, with nearly 200 photos submitted from the public and placed on the map. Now, we’d like to see all of your wintertime photos, again showing us what you love about the environment in New Hampshire, how you enjoy it and/or what you do to protect it! Submitting your images is easy and fun – just go to www.des.nh.gov and click on the #ThisIsNH icon. Be sure to share your submissions on social media using the hashtag, #ThisIsNH. ■

Food Drive



NHDES employees once again helped the Capital Region Food Program's Holiday Food Basket Project by collecting 1,189 food items and donations in the amount of \$1,442.24. Bob Scott, NHDES Commissioner, is pictured here with Maria Ma-

nus Panichaud of the Capital Region Food Program, at the State Armory on December 15. ■

Upper Valley Adaptation Workgroup



Dr. Erich Osterberg of Dartmouth College presented the "Latest Research on Climate Change in the Upper Valley" to over 100 people in attendance at a November Forum. The Forum, entitled "Protecting Land and Wildlife in a Changing Climate: Strategies for the Upper Valley," highlighted efforts of the Nature Conservancy in VT, UNH Cooperative Extension, NH Fish and Game, local consultants and the City of Lebanon to protect land and wildlife in the Upper Connecticut River Valley. Participants were interested in learning about local and regional efforts underway. They were able to take away ideas for action at the community and individual land owner level. This event was brought to the region by the Upper Valley Adaptation Workgroup. NHDES staff serve as co-chair on this important workgroup in the Upper Valley Region. ■

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 96 children with Christmas presents in 2017. In addition, over \$3,100 was also raised from basket raffles, a bake sale, 50/50 drawings and the annual Chili/Chowder Bowl contest.

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. ■

Longevity Awards, Retirements

The following NHDES employees celebrated a milestone in years of service to the State of NH in 2017. Congratulations!

30 YEARS

Steve Doyon, WD
Stephanie Larson, WD
Laura Martel, CO
Joyce Sawicki, WMD
Gail Timmins, WD

25 YEARS

Peter Beblowski, WMD
David Bowen, WMD
Kent Finemore, WD
Stephen Landry, WD
William Nash, WD
Robert Tardif, WD
Spruce Wheelock, WD

20 YEARS

Anthony Brown, WD
Tammy Calligandes, WMD
David Degler, WMD
Ted Diers, WD
Darlene Forst, WD
Mark Ledgard, ARD
Beth Malcolm, WD
Shelley Marshall, ARD
Johnna McKenna, WD
Gary Milbury, ARD
David Price, WD
Sharon Rivard, WD
Amy Smagula, WD
Jeff Underhill, ARD

15 YEARS

Anne Bailey, ARD
Bob Bishop, WMD
Jeff Blecharczyk, WD
Tim Carney, WD
Jen Drociak, WD
Keith DuBois, WMD
Chad Hayes, WMD
Matt Jones, WMD
Muriel Lajoie, CO

15 YEARS, Continued

Jeff Marcoux, WD
Jennifer Marts, WMD
Kathryn Michener, CO
Tim Nowack, CO
Elizabeth Stark, WMD
Sara Steiner, WD
Don Watson, WMD

10 YEARS

Tara Mae Albert, WMD
Suzanne Connelly, WMD
Trista Coulter, WMD
Peter Demas, CO
Kimberly Durgin, WMD
Liz Knowland, WD
Evan Mulholland, ARD
Kristen Svendsen, WD
James Weber, WD
Pam Werner, WMD
Tracy Wood, WD

RETIREMENTS

John Regan
Kevin Whelan
Michael Rainey
Leonard Raposa
Dennis Pinski
Wesley Ripple
Mary Power
Thomas Fazzina
Jeffrey Winchell
Debbie Libby
Stephanie D'Agostino
Richard Schofield
Richard de Seve
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2018 ARM Fund grant round

The Aquatic Resource Mitigation (ARM) Fund was established to provide wetland permit applicants the opportunity to make a payment into a watershed account; payments are aggregated on a watershed basis and are then disbursed to significant restoration or land conservation projects through a competitive grant application process.

As part of the restoration program, with a focus on stream resources, NHDES has been working in partnership with the New Hampshire Department of Transportation (NHDOT) on a statewide stream crossing database, and an enhanced process to update stream crossings. To update the public on this and several other initiatives, three outreach sessions will be held in January 2018. Topics to be covered include: available funds in 2018, updated tools to submit applications and the Stream Crossing Initiative. Potential ARM Fund grant applicants from all service areas including: municipalities (conservation commissions, road agents and town engineers), regional planning commissions, non-profit groups, land trusts and consultants are encouraged to attend. Given the significant amount of funds available in the Salmon Falls and Merrimack service areas, these sessions will be held in Concord, Londonderry and Rochester. Please visit <https://www.des.nh.gov/organization/divisions/water/wetlands/wmp/index.htm> for more information.

The 2018 grant round will kick off in late January with an



announcement noting new web resources, updated application materials and improvements made through the work with project partners. Over \$4 million is anticipated to be available in the 2018 grant round, across the nine service areas. Outreach sessions will enable communities to discover and present meaningful restoration projects that will be competitive for these funds. If you are unable to attend one of the workshops, application information is available on the website.

For more information on the NHDES Aquatic Resource Mitigation Program, contact Mitigation Coordinator, Lori Sommer, at lori.sommer@des.nh.gov or (603) 271-4059. ■