

COMMISSIONER'S COLUMN

EPA's New Ozone Standard Means Cleaner Air and a Stronger Economy for New Hampshire Citizens

The Environmental Protection Agency recently issued a final rule lowering the federal air quality standard for ozone. This decision was based on extensive scientific evidence regarding ozone's harmful effects on public health and welfare. Ozone is generated in the atmosphere when emissions from cars and trucks, commercial and industrial facilities, and fossil fuel-fired generation of electricity react with sunlight during hot weather. These emissions occur here in New Hampshire and can also travel long distances from upwind sources due to prevailing weather patterns.

Ozone is a pollutant of concern in New Hampshire that causes respiratory and cardiovascular health issues as well as other environmental impacts. Initial review of the new rule by NHDES suggests that New Hampshire will likely meet this lower standard without the need for the state to adopt any additional regulations. In fact, the new standard will benefit the residents of New Hampshire because even cleaner air will blow into the state from upwind pollution sources. Thus, the revised standard is expected to result in cleaner air for New Hampshire citizens and tourists, lower pollution-

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Many Summer Interns Yield Plentiful Stream Crossing Data

This past summer, the New Hampshire Geological Survey (NHGS) at NHDES was excited to host a total of 10 interns, who collected a suite of data about stream crossings in two areas of the state. NHGS and the NHDES Wetlands Bureau have been working with NHDOT, the Fish & Game Department, Division of Homeland Security and Emergency Management and the regional planning commissions to perform consistent stream crossing assessments. These assessments allow crossings to be rated for their compatibility with river form and process

(geomorphic compatibility), the ability to pass a range of flow levels (hydraulic capacity), and ability to pass fish (aquatic organism passage, or AOP). Stream crossings that are not properly sized for the rivers and streams that contain them can increase the chances of sediment and wood buildup, and pond-

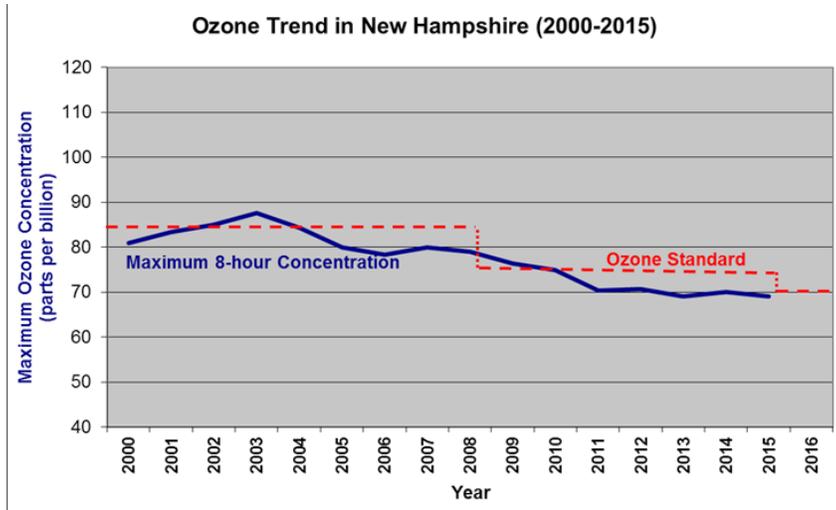
ing of water, which can increase failure risks, while also affecting the ability for fish to pass upstream through such crossings. Data can be used to find crossings most liable for public safety risks, and to select for replacement those that will reduce such risks and improve fish passage. This initiative, the Stream Passage Improvement Program within NHDES, is a partnership between NHGS and the Wetlands Bureau, that have worked closely on this issue during the past several years, and has been a long-term response to failures that have occurred in the state in recent years, such as the 2005 failure in Alstead.

Prior to this summer, multiple partners in the state had amassed data for about 2,000 stream crossings, primarily focused in south-central and southeast New Hampshire, much of which has been included in town hazard mitigation plans. With our 10 interns this summer, we were able to collect data for an additional



Stream crossing assessment interns on field training day - June 1, 2015

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related healthcare costs and increased productivity, all at little to no cost to our New Hampshire economy.

The Clean Air Act (CAA) requires EPA to review the ambient health standards for certain pollutants every five years. As part of that review, EPA convenes a panel of independent scientific advisors to review the latest health information and make a recommendation. Most recently, this panel advised EPA that the current ozone standard of 75 parts per billion (ppb) is no longer fully protective of public health and recommended a new stricter standard between 60 and 70 ppb. The CAA further requires the EPA Administrator to make a policy decision as to what standard would provide an adequate margin of safety to protect public health. Here,

the EPA Administrator determined that a revised standard of 70 ppb would provide an adequate margin of safety for at-risk groups including children, older adults, people with lung diseases, such as asthma, and those who work outdoors.

It is important to note that the CAA, as upheld by the Supreme Court, does not allow EPA to consider cost impacts in setting this kind of health-based standard. Cost is, however, an important and allowable factor in determining how to meet a new standard. EPA and the states will work together with businesses and citizens to develop a plan for meeting a new health standard that considers a broad range of concerns. Importantly, EPA estimates a public health benefit (reductions in asthma, hospitalizations and lost work days) of two to four dollars for every dollar of cost associated with the new standard. Since money not spent on healthcare can be spent in other economic sectors, our state's economy will see an overall benefit.

The NHDES Air Resources Division must now review New Hampshire air quality data and make a recommendation to EPA as to whether our state is in compliance with the new standard. EPA will then review the state recommendations and designate areas as either in compliance or not. Areas that are not in compliance are called nonattainment areas and are required to meet the standard as soon as possible. The allowable time before an area has to meet the standard is based on how the current ozone levels compare to the new standard. As noted above, New Hampshire is anticipated to achieve the standard barring any unexpected decline in air quality in the 2016 ozone monitoring season (i.e., April-September 2016).

Over the last 40 years, there is a well-established history demonstrating that the benefits of clean air standards (including the prevention of premature deaths, increased worker productivity, and reduced health care costs) far outweigh the costs of cleaning the air. While we are all cognizant of the costs of air pollution controls, there is a proven track record of technological innovation being driven by the CAA. This consistently results in much lower costs of compliance than initially projected when CAA standards are first proposed or released. This experience has confirmed that emissions reductions, cleaner air and a healthy economy are not mutually exclusive, but in fact are mutually supportive.

We can all take steps to help reduce the emissions that cause ozone to form. These steps include: conserving electricity at home and at work; carpooling, riding your bike or taking public transit; avoiding excess idling and keeping your car well maintained. In the long run, these steps will also save you money. Working hand-in-hand with our regulated community and our residents to reduce emissions from our vehicles, businesses, homes and sources of electricity will ensure a strong New Hampshire economy and a safe place for residents and visitors to breathe.

To learn more about ozone, visit our website and look on the A to Z list for "ozone" or see EPA's information at <http://www3.epa.gov/airquality/ozonepollution/>. ■

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NHDES Welcomes New Assistant Commissioner, Clark Freise

On October 19, NHDES welcomed Clark Freise (pronounced “fry-zee”) as its new Assistant Commissioner. Clark was an oceanographer in the US Navy and as a civilian Federal employee. Clark studied oceanography and engineering at the United States Naval Academy. He also holds a Master of Science degree in physical oceanography from the Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program and completed the course work for a doctorate in marine, estuarine, and environmental sciences from the University of Maryland. Clark served for seven years as a scientist at the United States Naval Research Laboratory where he was project manager for the Environmental Task Force established by former Vice President Al Gore. Clark has held prior leadership positions at BAE Systems and Elbit Systems of America (Kollsman).



Clark brings with him a wealth of scientific and technology-based skills, as well as substantial administrative and managerial experience. NHDES is pleased to welcome Clark to the agency’s leadership team as a key asset for advancing its mission of protecting and preserving the environment and public health of New Hampshire. ■

Ted Diers to Serve on National Ocean Council

Ted Diers, NHDES’s Watershed Bureau Administrator, has been appointed to serve a two-year term as the Northeast representative on the Governance Coordinating Committee (GCC) of the National Ocean Council. The GCC provides guidance on the development of strategic action plans, policy and research priorities, and the implementation of the National Ocean Policy. The first meeting of the GCC took place on Oct. 19-20 in Washington, DC, where after two days of intense and often emotional discussion, the GCC members chose Ocean Change, (e.g. temperature, sea-level rise, and coastal erosion) as their focus for the next year. For more information on the National Ocean Council visit: <https://www.whitehouse.gov/administration/eop/oceans>. ■



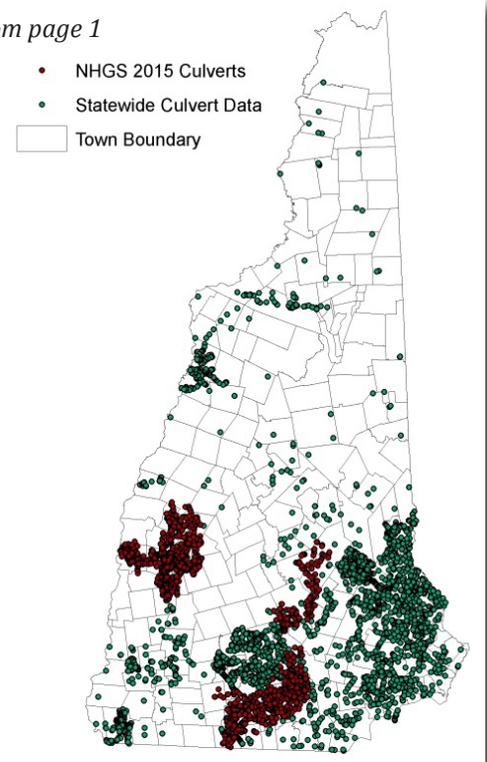
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1,320 crossings, focused in the Souhegan and Sugar River watersheds, plus the Concord area. This summer project was a large achievement for not only NHGS, but NHDES as a whole, in both the number of interns working on one initiative, and in the quantity of data collected in one summer. Of the 10 interns, 8 of them were divided into teams of two, who collected the data at each stream

crossing in the watersheds. Two interns were trained on the stream crossing data quality control review process, and performed quality control review on all of the incoming data in real-time so that, today, the review process is already complete, with base data available. This fall, NHGS staff will perform the geomorphic and AOP compatibility rankings and make those available. Over the winter, NHGS will calculate the ability to pass a range of flow levels, based on a model developed by Professor Tom Ballestero at the University of New Hampshire.

This initiative could not have been a success without the detail orientation and professionalism of the interns that worked on this project. In fact, we received several positive comments from citizens the interns encountered in the field this summer. Continuing to build on the success of this summer’s work, NHGS and the Wetlands Bureau are already gearing up for next summer! We are planning to hire additional interns next year to continue this data collection and build upon the foundation that has been established, in order to continue to work with towns in addressing flood risks and their infrastructure concerns. ■



Locations of stream crossings assessed by NHGS interns, Summer 2015 (in red), relative to total statewide dataset (green).

Wood Stove Changeout Program in Cheshire County

As the leaves begin to display their vibrant colors and the nights become colder, many New Hampshire residents begin to start a fire in their wood stoves. In valley communities, wood burning can become problematic on cold and calm winter nights. Keene is one of those valley communities that experiences wintertime “temperature inversions” where warm air rises above the cold ground and traps the cold air in the valley along with particle pollution emitted from heating devices. Because of this, winter-time particle pollution from wood smoke is a concern for the Keene Valley. The Southwest Region Planning Commission, Greater Monadnock Public Health Network, Cheshire Medical Center, the City of Keene and Keene State College have been working with NHDES to decrease particle pollution emissions. Raising awareness about this issue has been an ongoing educational effort for the past several years. Particle pollution has been linked to both respiratory and cardiovascular diseases and is regulated under the Clean Air Act as a criteria pollutant.

In January of this year, NHDES worked with the American Lung Association to launch a wood stove changeout program for Cheshire County. The program offers vouchers for area residents to purchase EPA-certified wood stoves, which burn wood more efficiently than models built before 1988. Because these stoves burn more efficiently, they emit less particle pollution. The Changeout Program started with \$425,000 worth of vouchers, and to date has issued 238 vouchers, totaling \$291,600.

The vouchers are \$1,000 to change out an old wood stove for a new one, and \$1,500 to switch from a wood stove to a pellet or gas stove. A \$300 voucher is available to retrofit an existing non-EPA-certified wood stove, and low-income residents may qualify for a \$3,000 voucher for an EPA-certified wood, pellet or gas stove, or indoor gas furnace. A voucher will not cover all costs associated with a household wood-burning upgrade. Vouchers are still available for this heating season. To participate in the program, contact the American Lung Association.

Wood stoves made before 1988 weren’t certified by EPA, and weren’t subject to the current cleaner-burning standards. Switching from a pre-1988 wood stove to a current EPA-certified stove reduces particle pollution emissions by 220 pounds per year; changing to a pellet stove or gas-powered stove decreases emissions by 360 pounds per year.

A woodstove change out program is not only beneficial for keeping the air we breathe healthy, it is good for retailers because it brings them new business, and it’s great for homeowners because it provides them with a cleaner and

more efficient-burning unit. The Cheshire County program is funded through a voluntary agreement with Bridgewater Power under the New Hampshire Renewable Portfolio Program. Prior to the current wood stove changeout program, the City of Keene sponsored one in 2008-09, during which 90 vouchers were claimed.

The intent is that through a two-pronged approach of a continued educational campaign on the links between wood burning, temperature inversions and particle pollution, along with a woodstove changeout program, we can make a meaningful difference in the Greater Keene area. ■



NH Soak up the Rain Water Quality Level 2 training on Permeable Paver Installation at Interstate Landscaping, Londonderry, NH. Bill Gardocki (Interstate) and Margaret Hagen (UNH Cooperative Extension) provided hands-on training and installation of Techno-Bloc permeable pavers on Interstate’s driveway for 14 landscapers. See article on page 8.

The 2015 New Hampshire - Section 319 Nonpoint Source Pollution BMPalooza Tour A Huge Success!

Participants from NHDES, EPA Region 1, Piscataqua Region Estuaries Project and NH Great Bay National Estuarine Research Reserve were recently hosted by Section 319 Nonpoint Source Pollution (NPS) project partners for the 2015 BMPalooza Tour in the New Hampshire coastal watershed. Tour participants were provided with an opportunity to inspect best management practices (BMPs) including: new technology and partnerships from an urban stream restoration project, a rain garden installation designed for a museum, innovative space saving bio-retention systems in parking lots and technology to mitigate nitrogen pollution from septic systems.

The first stop on the tour was Berry Brook Restoration Project in Dover. This is a watershed-wide project located in a highly urbanized area and addresses a brook impaired for recreation and aquatic life use. The tour hosts from the city of Dover and UNH Stormwater Center showcased multiple restoration activities, including stormwater management installations, stream day lighting and channel restoration, and water quality monitoring stations to measure and quantify restoration success. The final stop and highlight in the Berry Brook watershed was an innovative BMP nick-named the “Boulanginator.” Named in recognition of Dover’s DPW Superintendent, Bill Boulanger’s work on the project, this BMP was designed to address city staff BMP maintenance concerns.

The next tour stop was a rain garden installed by Soak up the Rain Great Bay at the Woodman Museum in Dover. The SOAK Great Bay team and volunteers showcased how they carefully designed and installed a rain garden to absorb rain water from the museum’s roof as well as fit in with the



Danna Truslow, PRB Project Manager, Truslow Resource Consulting; and Mark Kelley, PRB Project Engineer, Haley and Aldrich; explain PRB functionality and design features to representatives from EPA and NHDES.

museum’s early 20th century history and architecture. The museum hosts highlighted how partnering on this project provides a new prospective to their natural history exhibits.

Tour participants then traveled to UNH in Durham to see how the UNH Stormwater Center addressed water quality impairments associated with stormwater runoff from the large commuter parking lot – “A lot.” The BMPs include innovative changes to median strips for nitrogen removal bioretention systems designed to fit in areas where space is limited, and constructed to promote ease of maintenance.

The tour concluded with the installation site of Permeable Reactive Barrier (PRB) at a condominium complex septic system in Brentwood. Representatives from the Rockingham and Strafford County Conservation Districts and their consultants demonstrated their work on this site to design and install PRB technology to prevent nitrogen migration from the septic system to sensitive watershed areas.

The tour projects were partially funded by Watershed Assistance Grants from NHDES with Clean Water Act Section 319 funds from the US Environmental Protection Agency. We thank our Section 319 project partners for making time to host NHDES, EPA and other guests at their project sites during the 2015 BMPalooza. All attendees came away from the tour feeling energized, rejuvenated and highly encouraged by the tremendous success achieved in New Hampshire watersheds through the stellar partnerships forged by the Section 319 Watershed Assistance Grants program. Great work, everyone! ■



Jamie Houle, UNH Stormwater Center, entertaining EPA and NHDES staff in Dover at the Berry Brook section of the 319 NPS projects tour.

Energy Efficiency! It's What's "On Tap" for New Hampshire's Wastewater and Drinking Water Facilities

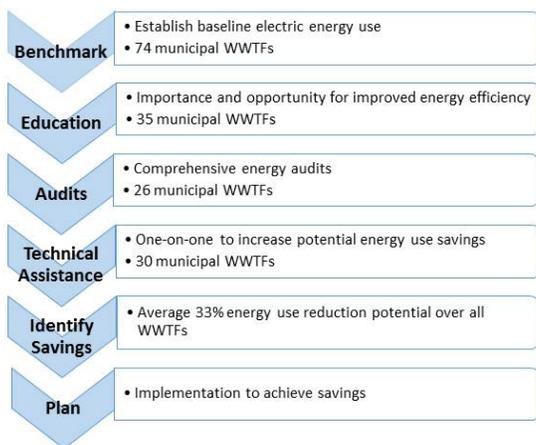
New Hampshire Department of Environmental Services (NHDES) has breaking news that will benefit New Hampshire's wastewater and drinking water systems!

Wastewater

Through a USDOE grant, NHDES and NH CORE Utilities (Eversource, Unitil, Liberty Utilities and NH Electric Coop) will work to benchmark the electric energy use for each municipally-owned waste water treatment facility (WWTF). The grant consists of \$360,000, with \$300,000 direct from USDOE and \$60,000 from the NH CORE Utilities.

The benchmarking will be used as a discussion and learning tool during an initial round of workshops. Facilities will also be selected for comprehensive energy audits based on interest and commitment to improving the facility's energy efficiency. NHDES and an independent technical service provider will work with WWTFs one-on-one to develop implementation plans for energy saving projects. Prior to the end of the three year grant period, another round of workshops will be held to share lessons learned, audit findings and plans going forward. To summarize the steps and goals of this USDOE grant, refer to the following graphic:

The Project and Goals:



How does 33% energy savings **impact** 26 municipal WWTFs?



For additional information on this grant program, please contact Sharon Rivard at sharon.rivard@des.nh.gov or (603) 271-2508.

Drinking Water

A recent study conducted by the Water Research Foundation estimates that almost all water utilities could experience between 10 and 30 percent savings, regardless of the utility size, by taking steps to reduce energy costs and consumption. Energy efficiency could be the financial relief your water utility needs. The most important step in reducing energy costs is to have a good understanding of where the energy is being used in the facilities. Energy audits are the best and most effective way to gain this knowledge.

The Drinking Water and Groundwater Bureau (DWGB) is currently developing a grant program to assist community water systems (CWS) to perform energy audits. This new program will allow up to a maximum of \$7,500 per CWS to perform preliminary energy audits. In the coming year, NHDES intends to provide a dozen or more grants based on interest and commitment to improving the facility's energy efficiency.

Over the next few months, DWGB will be working hard to identify communities that may benefit from this program. If you and your CWS are interested in participating in this program, please contact Luis Adorno at luis.adorno@des.nh.gov or (603) 271-2472. ■



NH Certified Green SnowPro Facebook Page

Since November 2013, NHDES has been providing individuals who complete the Green SnowPro training course with a Certified Salt Applicator Certificate, which brings with it liability protection from slip and fall claims under RSA 508:22. Currently, 400 individuals have been certified by the state and NHDES has been working hard to increase that number. Through outreach to New Hampshire non-profits, business owners, insurance agents, and snow removal contractors, NHDES learned that a high percentage of these groups are using Facebook

to promote their own organizations. Creating the NH Certified Green SnowPro Facebook page has provided another tool we can use in order to connect with our audience. To date, the page has a post reach of nearly 4,000 people. Please check us out on Facebook! <https://www.facebook.com/pages/NH-Certified-Green-Snow-Pro/1632174587051348> ■

Oil Spill Boom Deployment Drill



On August 12, NHDES, in conjunction with the Portland Montreal Pipeline Corporation, conducted an oil spill containment equipment drill on the Israel River in Lancaster to exercise deployment techniques, equipment and

responder effectiveness. The deployment consisted of placing approximately 200 feet of oil booms across the Israel River at each of three locations to verify boom connection points, angles and lengths. The exercise also provided an opportunity for the various entities that will be involved in an oil spill response to work together and to share equipment and techniques. Participating in the exercise were NHDES; Portland Montreal Pipeline Corporation; and Beattie Enterprises, an oil spill response cleanup contractor. The exercise included a total of 600 feet of deployed oil boom, 4 boats and approximately 35 attendees.

The exercise was an overall success and there were a number of positive lessons learned. An assessment of the deployments indicated that the two proposed locations should be very useful in collecting oil in the event of a spill. The use of local boat ramps was also tested and they were found to be adequate to launch the vessels necessary to respond to an oil spill. ■

NHDES Hosts Conference with Aim for Safer Streets

On September 30, NHDES hosted the “Bicycle and Pedestrian Transportation Conference,” a day-long program that brought together a diverse group of bicycling and pedestrian constituents, including town and regional planners, public works staff, public health practitioners and bicycle and pedestrian advocacy groups. They shared experiences, learned about best practices and networked. The keynote speaker was Craig Della Penna, a nationally-recognized rail trail expert who has helped build over 1,000 miles of rail trails in the past 15 years. Bill Nesper, vice president of programs for the League of American Cyclists, lead a discussion on “Complete Streets,” a design concept that aims to develop integrated, connected networks of streets that are safe and accessible for all. Included in the discussion were Ed Roberge, Chief Engineer for the City of Concord, and Juliet Walker, transportation planner for the City of Portsmouth, representing two New Hampshire communities that have adopted Complete Street policies. Attendees also heard about how Manchester and Keene have accepted the USDOT’s “Mayor’s Challenge for Safer People, Safer Streets,” on how to work with local and state government to develop a rail trail, how to start a bicycle coalition, and how to collect and use pedestrian and bicycle counting data. Charles Martin, author of *New Hampshire Rail Trails*, gave an update and preview of his book’s second edition, due out in the spring of 2016.

The conference was a project of the NH Department of Transportation’s (NHDOT) Bicycle and Pedestrian Transportation Advisory Committee (BPTAC), a group comprised of representatives from NHDOT, other state agencies, local and regional planners, and community organizations, whose mission is to “support bicycling and walking as safe, convenient, and sustainable forms of transportation.” BPTAC advises the NHDOT Commissioner on policies, programs and recommendations to support its mission. ■

EPA 2015 Excellence in Education and Outreach Award



NHDES utilized information in WaterSense materials to develop the New Hampshire We’re for Water campaign tailored specifically for state residents. NHDES also promoted the WaterSense label statewide and encouraged water behavioral changes through a social marketing campaign. NHDES held a New Hampshire “Cute Kid Photo Contest” within the de-

partment to compile photos for marketing the WaterSense program. The winner was featured on the cover of a “Saving Water Is in Your Future” brochure featuring WaterSense’s simple steps to save water.

In addition to its outreach to residents, NHDES educated utilities, municipalities, and other stakeholders about WaterSense and encouraged them to become partners. NHDES collaborated with the NHSaves program, a partnership program between several electric and gas utilities in New Hampshire, to update its catalog in 2014 with WaterSense labeled products and a Shower Better infographic. ■

Soak UP the Rain.

New Hampshire



A recent workshop hosted by the NHDES Soak Up the Rain program and UNH Cooperative Extension provided landscape professionals an opportunity for hands-on learning about plant selection and design for residential rain gardens. This workshop is one of a series of Soak Up the Rain workshops for landscape professionals to incorporate water quality practices into their services.

The Soak Up the Rain NH program recently released a Rain Garden how-to video to teach viewers the steps involved in building a residential rain garden. Rain gardens are a type of site level stormwater best management practice designed to capture and absorb rain water to reduce stormwater pollution. ■



See the SOAK Rain Garden Installation video at <https://www.youtube.com/user/NHDES>



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