

2017 marked the 30th anniversary of NHDES. Much has changed in the last 30 years to help sustain a high quality of life for all citizens by protecting and restoring public health and our beloved environment. While the work is not complete, NHDES took time this year to recognize 30 accomplishments and achievements that have impacted our environment and public health for the better over the past 30 years. Each of the six issues of our Environmental News newsletter in 2017 contained a description of five of these achievements, under a specific theme for each issue. In the November/December issue, it was:

Our Future

1. Soak Up The Rain

Why it matters: People are often shocked to learn that over 90% of the water pollution problems in New Hampshire are caused by pollutants carried in stormwater runoff (water from rain or melting snow that does not soak into the ground) from the roads we travel, the buildings and parking lots we visit, and even the homes in which we live. While stormwater runoff from roads and large developments is often regulated, runoff from single lots is not. Soak Up the Rain NH (SOAKNH) was created as a tool to inform homeowners about the positive effects of reducing stormwater runoff from their properties. While one homeowner's actions may not make a huge difference, the cumulative effect of neighbors reducing runoff can certainly protect or restore the health of the lake, river, estuary or other water body in their community and beyond.



Progress in 30 years: SOAKNH was created in 2013 and has its roots in the *New Hampshire Homeowner's Guide to Stormwater Management: Do-It-Yourself Stormwater Solutions for Your Home*. The guide was first published in 2011 to promote Stormwater Solutions such as rain gardens, dry wells and vegetated buffers, which capture or slow down stormwater and allow it to soak into the ground. Homeowners and watershed associations became interested in implementing these practices on a wider basis to protect their waterbodies. SOAKNH was created as a tool to answer that interest and comprises a website (soaknh.org), [Facebook page](#), presentations, trainings to interested groups and demonstration installations. It has grown to include almost 15 partners and has installed or facilitated almost 30 stormwater solutions. In 2017, a second edition of the guide was released, incorporating the SOAKNH logo, updated stormwater solution instructions, and all the latest

information about the effects of runoff and why it matters. As we've seen with recycling over the past 30 years, SOAKNH aims to make soaking up the rain an everyday aspect of homeownership over the next 30.



2. New Hampshire Envirothon

Why it matters: The New Hampshire Envirothon is a competition designed to challenge students in crafting creative solutions to contemporary environmental issues. The program emphasizes the overall goal of preparing and educating the environmental leaders and stewards of the future. By participating



in the New Hampshire Envirothon, the students' involvement with examining real world problems that affect their local communities helps to lay the groundwork for preparing active and informed adults for the future.

Progress in 30 years: In 1990, a group of New Hampshire professionals from the environmental and natural resource management fields got together and decided to run the NH Envirothon program. In the fall of 1991, the New Hampshire Association of Conservation Districts assumed sponsorship of

the program, based on a model created by the Pennsylvania Conservation Districts in 1979 and the subsequent development of a national Envirothon program. As a result, the first New Hampshire Envirothon competition was held in 1992 at Fox Park in Plymouth. Since that time, it has provided upwards of 3,000 middle and high school students with exciting, practical challenges outside of the classroom. This experience has inspired these teenagers to make responsible environmental and natural resource decisions and motivated them to pursue careers in environmental studies, environmental law, natural sciences and natural resource management. The competition has served to create the environmental stewards of our future. <http://nhenvirothon.org/>

3. Modernizing the Business of Environmental Protection

Why it matters: If you wonder why you can't do business with government in the same manner that you do business online when shopping, banking, etc., you should know you aren't alone. In fact, there is a group of environmental officials from across the country working hard to enable you to do so when interacting with environmental agencies, and NHDES has been in the forefront of this effort. While their initial scope was fairly narrow, focusing on electronic reporting, it quickly became apparent to the group that there was an opportunity – and a pressing need – to look more broadly at how the “environmental protection enterprise” can move into the 21st Century.

Progress in 30 years: While the work group of State, Tribal and federal environmental officials from across the country was established fairly recently, in 2013, the problems it set out to address were nothing new. The “red tape” and antiquated system of taking in permit applications made it a slog for anyone to muddle through. The frustrations were understandable when someone, for example, would have to submit five different permit applications to five separate programs in the department for one project, and then try to navigate between them all. That's where the E-Enterprise Leadership Council



comes in. The tag line for this effort is “Modernizing the Business of Environmental Protection.” This is being accomplished by streamlining programs, taking advantage of modern technology as appropriate and working in a truly collaborative fashion, and NHDES (and New Hampshire Department of Information Technology) staff are still actively engaged and helping to lead the way. An E-Enterprise Portal has been established that will be a single platform for e-business with the regulated community, sharing environmental information with the public and enabling shared app development among the co-regulators. Other projects include an effort to combine five different reporting requirements for facilities with air emissions into a single, streamlined reporting system – an identity “bridge” that would allow anyone doing business across States, Tribes and EPA to register once and then move seamlessly from one to another; and transforming the hazardous waste manifest system into something similar to what package delivery drivers use. E-Enterprise will not modernize the business of environmental protection overnight but, over time, will fundamentally change how you interact with environmental regulators and how they interact with each other.

4. Project WET – Water Education for Teachers

Why it matters: Where there is water, there is life. It is all around us but only 2.5% of the world’s water is drinkable freshwater. Most of this precious 2.5% is inaccessible to us, frozen in ice caps and glaciers – we can only get to roughly 0.6% of it. Are you thirsty yet? Why didn’t we run out of water a long time ago? Because water is a renewable resource. It is cleaned as it moves through the environment in a process called the hydrologic cycle. Sadly, our waters are being polluted at an ever-increasing rate. Complex chemicals, in very small amounts, have made large amounts of water undrinkable. Some pollutants are prohibitively expensive to clean up while others simply cannot be removed. This further reduces the small amount we have to drink.

Progress in 30 years: Teachers to the rescue. In 1997, NHDES joined Project WET, an internationally-recognized leader in water education. Since then, NHDES has trained over 2,000 New Hampshire teachers and environmental educators in water science education. Considering the average number of students in a classroom, those 2,000 teachers have, throughout the years, been force multipliers of impressive proportions. Many thousands of New Hampshire’s students have benefitted from this essential education.

Today, New Hampshire Project WET is a member of New Hampshire Education and Environmental Team (NHEET). NHEET facilitators have developed a comprehensive curriculum and offer hands-on training to K-8 educators. Teachers entering this program admit to being intimidated by science and to having taught very little or no science. The three-year-long NHEET program is unique in the United States, providing inter-disciplinary professional teacher development in water, wildlife habitat, soil, weather, atmosphere and climate. As a result of this training, these teachers now understand how issues like unlined landfills, air toxins, ozone and solid waste operator training can impact water health. In the end, these teachers are “pumped” – they cannot wait to share what they have learned with their colleagues and start teaching science. The intimidation is a forgotten memory, replaced by enthusiasm to teach about the importance water plays in our lives, today and in the future.



5. Resilience in New Hampshire

Why it matters: Every New Hampshire resident lives in a county that has been affected by at least one federally declared weather disaster since 2010. Not only are these disasters inconvenient, they are very expensive from which to recover. The National Weather Service declared that the winter of 2015/2016 was the warmest winter recorded in New Hampshire history. Last year, we experienced a long and serious drought. This took its toll on our surface waters and groundwater, which are our sources of



drinking water. Sea level is rising, causing sunny-day flooding on the Seacoast. These gradual trends and extreme weather events, which indicate our increasingly changing climate, affect our economy, our tourism, our infrastructure, and our health and safety. But our ability to bounce back and learn from these trends and events is what makes us resilient.

Progress in 30 Years: In 1987, when NHDES was first formed, scientists were discussing the accumulation of greenhouse gases in the atmosphere causing the climate to warm and

cause potentially significant changes to sea levels. They weren't sure about the magnitude or timing of these changes, but they warned that planners should begin to think about adapting, so we could be resilient to these changes. Much has happened since 1987, and we know a lot more than we did then. Today, more than 99% of all climate scientists agree that climate change is real, is already occurring, and is caused by human activity. This level of consensus is greater than the percentage of physicians, cardiovascular scientists, and public health experts who agree that cigarette smoking causes lung cancer.

Here in New Hampshire we published our State's Climate Action Plan in 2009; bringing people from across the state together to be a part of its creation and implementation. NHDES contributes to the regular updates of the State's Multi Hazard Mitigation Plan. State and local decision makers agree that we need to make our communities and infrastructure more resilient to the increases in flooding and winter storms. The NH Coastal Risk and Hazards Commission, established in 2013, published a vulnerability assessment alongside 35 recommendations for action that received unanimous bi-partisan support. NHDES works with our sister state agencies to increase awareness of the need to be prepared for storms and to design more resilient transportation projects. We also work directly with communities to help build resilience into their infrastructure projects (including culvert replacements), to protect buffers and wetlands because they help to absorb flood waters, and to incorporate adaptation priorities into their Master Plans. We have made many changes over the past 30 years that give us confidence that we can help New Hampshire stay resourceful, ready, and resilient in the face of the changes we know are coming.

