

COMMISSIONER'S COLUMN

Green hospitality

As Summer comes to a close, hopefully many of us have had the opportunity to enjoy some vacation time with family and friends. Some of you may have traveled and needed lodging and/or eaten at some of New Hampshire's terrific restaurants. Lodging and restaurants, otherwise known as the hospitality industry, are part of the tourism industry, which is the second largest industry in New Hampshire. From NHDES' perspective, a challenge for the hospitality industry is that as a whole, it uses a considerable amount of energy and water and generates a significant amount of waste. However, with energy efficiency, water conservation and waste reduction strategies, this industry can lessen its contribution to climate change and, as a bonus, save money in the process. That's where the New Hampshire Pollution Prevention Program (NHPPP) steps in, providing technical assistance to New Hampshire facilities to help them implement these strategies.

NHPPP works with small businesses and industries of all types; however, it often periodically chooses a specific sector to focus on. The hospitality sector has been a focus for many years, with the help of EPA, which has supported this effort in New Hampshire by paying for a staff person to lead it. Prior to 2017, NHPPP had partnered with the New Hampshire Lodging and Restaurant Association to support its sustainable hospitality program. When this program was about to sunset in 2017, NHPPP offered to re-invigorate it. A new logo was designed, the applications

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Outdoor wood-fired boilers: wood smoke, health risks and new legislation

During this past legislative session, the New Hampshire Legislature passed HB 336, which focused on the sale of Outdoor Wood Boilers (OWBs), also known as Outdoor Hydronic Heaters. As a result of the new law, only OWBs certified by EPA as low-emitting, efficient units may be bought, sold or installed for residential use. One effect of HB 336, which became effective on July 1, 2017, is to eliminate the market for used, high-emitting, inefficient OWBs. All OWBs that are currently in use, and were installed legally, can continue to be used on site.

HB 336 aligns state law with recent federal regulations that set standards for particulate matter emissions from new wood burning devices. HB 336 and the federal regulations reflect the significant improvement in technology available to manufacturers to make cleaner-burning and more-efficient wood heaters.

One in 12 New Hampshire households relies on wood as a primary heating fuel, while other households use wood as a supplementary heating source. For many people, the sight and smell of wood smoke curling out of a chimney brings back fond memories of hearth and home. Wood is a renewable resource, unlike fossil fuels such as oil, coal and gas. In fact, if firewood is harvested in a sustainable way, woodlots can provide an abundant source of fuel for years to come. Unfortunately, there are downsides to wood combustion. Wood smoke contains particulate matter, carbon monoxide and other organic compounds, such as formaldehyde, benzene and aromatic hydrocarbons. Wood smoke inhalation is hazardous to health, and the smoke can negatively affect local and regional air quality.

Researchers have been increasingly focused on the health impacts of exposure to the particulate matter that is emitted during combustion. These particles, two and a half microns or less in diameter, are referred to as PM_{2.5}. Academic studies on the impacts of inhalation of PM_{2.5} have shown a robust correlation between higher levels of PM_{2.5} and negative health impacts over both the short and long

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for recognition were updated, and promotion of the "New Hampshire Green Hospitality Program," (NHGHP) began.

NHGHP currently has 12 business members that have completed the process for recognition. Several more facilities are in the process of applying. Recognition in the program requires completion of an application and a site visit by NHPPP staff for verification. This site visit also serves as an energy and waste reduction audit, and often NHPPP staff can identify leads to further savings for the facilities.

There's a laundry list of actions these businesses can take to reduce waste and conserve water and energy, and for hotels and inns, it can actually start in the laundry room: from the small step of allowing guests to elect to reuse their sheets and bath linens in order to reduce water consumption to the larger commitment of investing in high-efficiency washing machines that use less water. Other water reduction techniques employed by several businesses in NHGHP include using energy-efficient shower heads, toilet tanks and dishwashers; adding native plants that require less watering;

and employing drip irrigation and installing rain gardens. In addition to water conservation, small businesses can do a number of things to "go green," from small tweaks, such as switching to nontoxic cleaners or organic linen, to major initiatives, like implementing a full recycling and composting system.

Businesses recognized by NHGHP are to be applauded for going above and beyond in their efforts to be good environmental stewards.

This recognition program was developed to engage the hospitality industry in environmentally sustainable strategies and to provide a platform to promote the efforts of its members. While a social media campaign is underway to help advertise the program, NHPPP was looking for other ways to let consumers know where they could actually find "green hospitality" in New Hampshire. The answer is a new searchable map that pinpoints businesses that have been recognized for their sustainable initiatives. You can find a link to the map and more information about the program on the Green Hospitality webpage. Go to

New Hampshire Green Hospitality Program



www.des.nh.gov and search the "A to Z" list for Green Hospitality.

It is important to support businesses that have demonstrated their commitment to our environment. If your business would like to get more information on how it can participate in the Green Hospitality Program, please contact Cynthia Nelson at cynthia.nelson@des.nh.gov or (603) 271-2956. Together we can work to make New Hampshire an even "greener" state. ■

New PFAS website

NH PFAS Investigation

New Hampshire Department of Environmental Services PFAS website



The NHDES PFAS website is moving! In an effort to make information about the continuing investigation into per- and polyfluoroalkyl substances (PFASs) in New Hampshire drinking water more accessible, NHDES has adopted a blog-style website. Users will be able to subscribe for email updates and will even have the option to tailor those updates to specific topics. The site contains links to NHDES' OneStop, GIS sampling maps, water line extension projects, FAQs and much more. Visit <https://www4.des.state.nh.us/nh-pfas-investigation/> to stay up-to-date. ■

ENVIRONMENTAL NEWS



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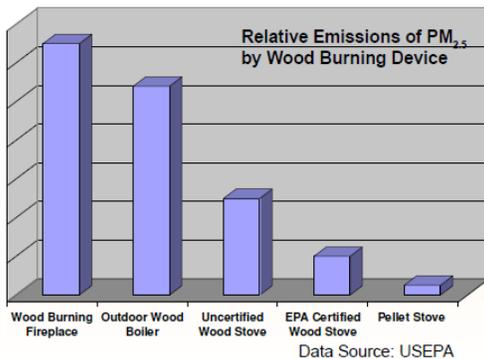
Wood boilers *continued from page 1*

term. Inhalation of PM_{2.5} can increase the risk of heart attacks, lung cancer and asthma attacks, and can cause permanent lung damage. Recent studies have even linked higher levels of particle pollution with an increase in pre-term births. Those at greatest health risk from wood smoke include infants, children, pregnant women, the elderly and those suffering from allergies, asthma, bronchitis, emphysema, pneumonia, or any other heart or lung disease.

Recent advances in outdoor wood boiler and residential wood stove designs have resulted in the availability of cleaner-burning units. The use of these cleaner-burning units, in conjunction with best management practices (most importantly, burning clean, seasoned wood) can reduce some of the adverse health and environmental impacts associated with wood combustion.



Passing bills like HB 336 helps to ensure that outdoor wood boilers being used in New Hampshire are more efficient and less impactful to human health and the environment.



Compliance Assistance and Enforcement

NHDES is responsible for ensuring compliance with HB 336 and the Outdoor Wood Boiler (Outdoor Hydronic Heater) requirements. Violators could face fines of up to \$250 and could be required to remove the illegally installed OWB.

For more information, contact the NHDES Air Resources Division at (603) 271-5629 or visit NHDES' website at www.des.nh.gov.

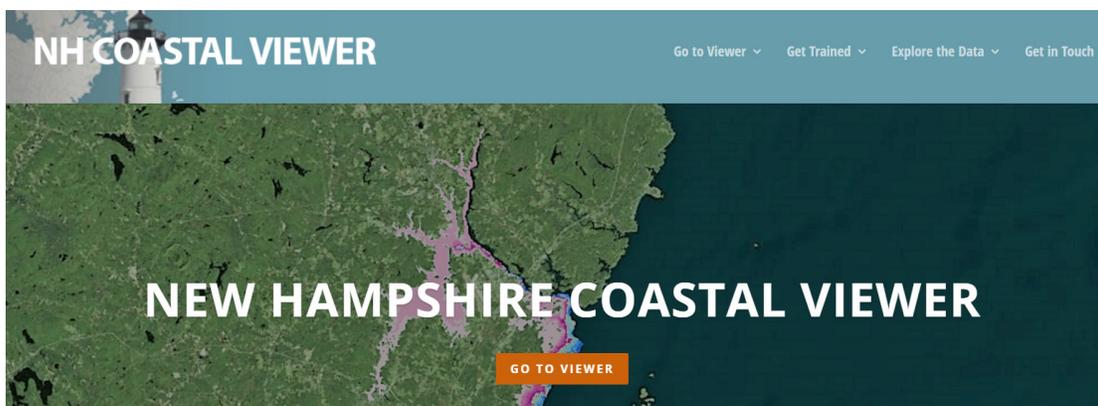
Other resources for information on wood stoves for residential heating are: UNH Cooperative Extension at <http://extension.unh.edu/Energy/Heating-Wood>; and the EPA Burnwise website at <https://www.epa.gov/burnwise>. ■

New NH Coastal Viewer website

New Hampshire GRANIT and the NHDES Coastal Program are excited to launch the new New Hampshire Coastal Viewer mapping tool at www.nhcoastalviewer.org. The NH Coastal Viewer, first launched in 2015, is a web-based mapping tool that makes spatial datasets about community assets, natural resources and hazards within New Hampshire's 42 coastal watershed communities publicly accessible in one place. NH Coastal Viewer users can

explore datasets such as Federal Emergency Management Agency (FEMA) floodplain maps and sea-level rise scenarios; tax parcel boundaries; conserved lands and priorities areas for future conservation; dams and culverts; habitat information including eelgrass, oysters, and salt marshes; aquaculture sites; recreational access points; aerial imagery and topographic information; and much more. Users can analyze data, make maps, and save projects to share with

others. The new website streamlines access to the NH Coastal Viewer, provides new training resources including video tutorials, and displays examples of how the data can be used to tell stories about our coastal resources. Bookmark www.nhcoastalviewer.org on your favorite internet browser and start exploring our coastal watershed! ■



NHDES celebrates 30 years

2017 marks 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 in this effort is not complete, NHDES wanted to take a moment to recognize 30 accomplishments/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 will focus on five of these achievements, under a specific theme for each issue. For this issue, the following five achievements for “Our Communities” will be the focus.

Solid Waste Operator Training

Why it matters: In the late 1980s, it became apparent that materials being dumped into unlined landfills could cause serious public health and environmental issues. Historically, waste would be dumped into unlined pits in the ground and those pits would leach and contaminate the surrounding land and water. The transition to transfer stations created separate waste streams, which in turn, created new challenges. The waste was ever-changing and contained many potentially hazardous materials, and it was determined there was a responsibility to put measures into place that would protect the environment, public health and safety.

Progress in 30 years: The New Hampshire Legislature felt that one of the best ways to ensure protection was to train and certify all solid waste facility operators, and in 1989 it established the NHDES Solid Waste Operator Training (SWOT) Program. The statute authorized NHDES to establish and administer a solid waste certification program with an annual renewal requirement and fee. New Hampshire was a pioneer in this effort; there were no other states in the nation with a program such as this. SWOT provides a certification program for all solid waste operators, regardless of the type of facility in which they work, whether it is a

landfill, transfer station, or processing and treatment facility. The SWOT Program conducts at least 22 workshops and three basic training events a year for the 1,300 operators currently certified in New Hampshire. Trainees are

given the basic knowledge of the world of solid waste, how their facility fits into the puzzle and how to adequately manage the solid waste stream. Workshop topics include: used oil, universal waste, extreme weather events, pollution prevention, heat and winter safety, and electronics waste. The SWOT Program has also created a Manager Series geared primarily toward Municipally-Owned Transfer Station Managers to assist them with the requirements of their solid waste permits. The program has weathered many changes over the past few decades and is stronger than ever.

Methyl tertiary Butyl Ether (MtBE)



Why it matters: New Hampshire is highly dependent on groundwater. Based on a 2006 Behavioral Risk Factor Surveillance System survey, 44% of the state's citizens use private water supply wells for drinking water. Adding public water systems dependent on groundwater, approximately 60% of the state's population obtains its drinking water from groundwater sources.

Due to its high water solubility, historical concentrations in gasoline and resistance to breaking down, MtBE became the most common man made contaminant in the state's groundwater. At peak impact, MtBE was detected in 26.7% of southeastern New Hampshire domestic water supply wells and, even today is estimated to contaminate approximately 10% of the same wells (Flannagan, et al, ES&T, 1/2017).

Groundwater contamination can impact a home or business owner's health, property values, liability and finances. Impacts extend to municipalities if municipal water sources are impacted. Even the State of New Hampshire is impacted because of increased costs to cleanup sites that are reimbursed by the State's petroleum reimbursement funds.

Progress in 30 years: To address MtBE impacts on our communities, New Hampshire sued MtBE manufacturers and distributors on behalf of the state's citizens and businesses. In 2013, all but one defendant settled, resulting in \$82.6 million for MtBE cleanup. After a successful trial and appeals, New Hampshire received a \$305 million payment from the remaining defendant in 2016.

Tremendous progress has been made in addressing the impact of MtBE on our communities. MtBE use was banned in 2007, approximately 20,000 above- and underground storage tanks were closed or replaced with new double-wall storage systems, and 6,550 petroleum contamination sites were cleaned up and closed. The funds obtained from the



MtBE litigation are being put to work. Approximately \$276 million from the lawsuit has been set aside in the Groundwater and Drinking Water Trust Fund to address contamination, drinking water infrastructure and source water protection needs. MtBE settlement funds have already been used to replace Dover's MtBE-contaminated Griffin municipal well and for construction of water line extensions to contaminated properties located in Atkinson, Derry, Rochester, Salem, Tilton and Windham. Settlement funds have been used for gasoline release prevention activities, including the removal of 245 underground storage tanks and 16,500 tons of contaminated soil. Spill prevention equipment assistance has also been provided to over 80 motor vehicle recycling facilities. Actions taken to date mitigated MtBE contamination impacts and the establishment of the Trust Fund will provide sustainable funding for ensuring safe drinking water far into the future.

Drinking Water Source Protection

Why it matters: The need for concerted effort to prevent the contamination of drinking water sources was clear before NHDES was established, and that need has been borne out over the department's 30-year history. Source water protection matters because of known, emerging, and yet-to-emerge types and sources of contamination. In 1987, leaking underground storage tanks had emerged as a groundwater contamination problem nationally and in the region.

Progress in 30 years: In 1986, the Federal Safe Drinking Water Act was amended to require states to develop wellhead protection (WHP) programs. In 1987, New Hampshire towns had begun to adopt aquifer protection ordinances facilitated by new aquifer maps and model ordinances and today, 104 municipalities have adopted some form of aquifer or groundwater protection ordinances. New Hampshire's Groundwater Protection

Act – passed in 1991 – required WHP for new community wells and established best management practices for activities that threatened groundwater. NHDES also developed a system of incentives and technical and financial assistance to help grandfathered water systems implement protection. Today, more than 75% of the state's non-transient public water systems have WHP programs, and 97% of sources



used by community water systems have some form of local- or state-level protection in place. There are also more recent opportunities to better protect drinking water; the legislation that established the Drinking Water and Groundwater Trust Fund with proceeds from the State's successful judgement against a defendant in the MtBE lawsuit calls out drinking water protection as one of the fund's purposes. NHDES is also learning how to best manage contaminants such as per- and polyfluoroalkyl substances (PFAS), and toxins from cyanobacteria (blue-green algae) that have emerged in recent years.

Nonpoint Source Management Program

Why it matters: Nonpoint source (NPS) pollution contributes to over 90% of the water pollution problems in New Hampshire and impacts from NPSs continue to contribute to declining surface water quality in the state. NPS pollution in New Hampshire is largely related to contaminants in stormwater runoff from developed lands, landscape and turf management activities, road maintenance activities and agriculture. In addition, septic systems and habitat and hydrologic modification have an impact on water quality. Management of NPS problems in New Hampshire relies on a mix of regulatory and voluntary programs that focus on protecting clean water where it currently exists, and restoring it where development and other environmental stressors have made the water unsuitable for fishing, swimming or other uses. The problems caused by NPS pollution are compounded by changing climatic conditions.

Progress in 30 years: Under Section 319 of the federal Clean Water Act (CWA), enacted in 1987, the state receives grant money that supports a wide variety of activities to reduce NPS pollution and improve aquatic habitats. These activities are described in the state-wide NPS Management Program Plan, the first of which was written in 1989. Based on that first plan, money was provided to project partners across New Hampshire to address agricultural and shoreline erosion. Over the years, as more federal money became available through EPA, the diversity of projects has

expanded. Activities now cover technical and financial assistance, training, monitoring and demonstration projects.

Today, the NHDES Watershed Assistance Section (WAS) works closely with municipalities, universities, watershed associations and other organizations to develop watershed-based plans and implement clean-up projects. As a result

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of these partnerships spanning the last three decades, over 11,749 tons of sediment, 31,050 pounds of phosphorus and 7,486 pounds of nitrogen are removed each year from New Hampshire surface waters.

Two current initiatives illustrate novel approaches to NPS problems. The Soak Up the Rain NH Program has trained local volunteers to install pollution reduction practices, such as rain gardens and infiltration steps, in 26 locations. The New Hampshire Salt Certification Program (Green SnowPro) has trained and certified over 800 winter maintenance professionals to reduce salt on parking lots and roads while protecting public safety.

The ultimate measure of success for the NPS program is clean water. To date, the New Hampshire NPS Management Program and project partners have documented the removal of eight waterbodies from the list of impaired waters. Further, 62 watershed-based plans have been written to guide the cleanup of many more lakes and rivers.

Asset Management

Why it matters: The 2017 American Society of Civil Engineers' (ASCE) Report Card for America gave a "D" grade for drinking water infrastructure; New Hampshire received a C-minus. The task of upgrading water systems anywhere is daunting and can seem cost-prohibitive for most communities, and that's especially true for rural water systems where there are fewer rate payers paying in. In New Hampshire, 85% of the water systems are considered rural, serving fewer than 500 people each. Water infrastructure has reached a point of now or never as far as making sure that we are able to replace and rebuild to ensure the reliability and the customer service that ratepayers expect to receive.

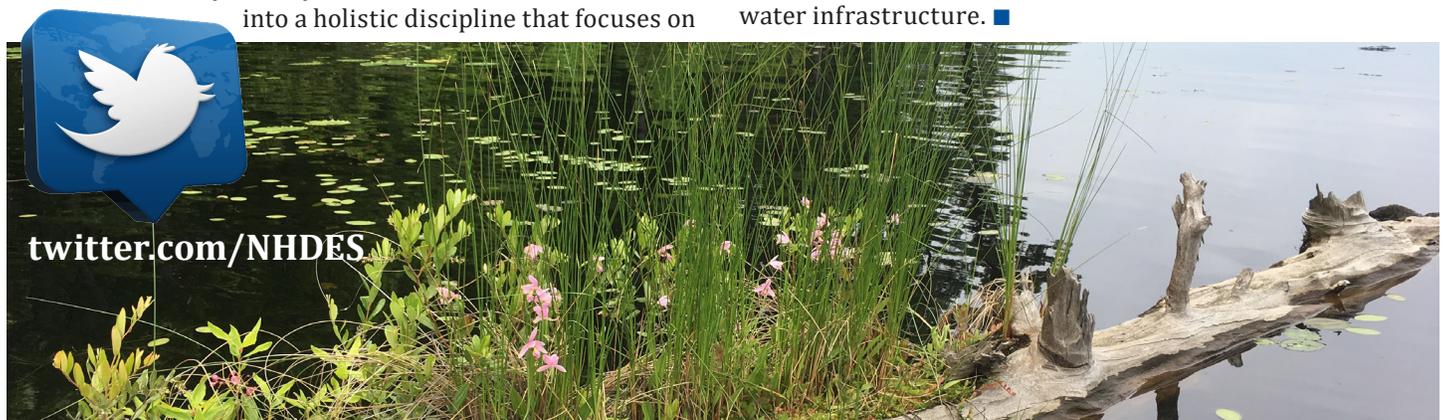
Progress in 30 Years: The water industry has identified Asset Management (AM) as the potential savior as we move into the future. Initially strictly a financial term, AM has evolved into a holistic discipline that focuses on



Installing a rain garden at the Woodman Museum in Dover, NH

the culture, actual job functions and responsibilities of the stakeholders in the industry. AM's evolution has made the biggest leaps and bounds over the last decade or so with the help of technology. Recently, NHDES has seen technology provide decision makers with data-driven tools that allow efficiency and sustainability. Water utilities have adopted smart technology solutions, such as Smart metering and other wireless technologies, to streamline their operations and proactively address issues with the nation's water infrastructure.

In the last five years, NHDES has made AM a priority. Over the course of that time, the agency has issued 52 grants in 48 communities for a total of \$817,885 for Drinking Water Asset Management Programs. Although the AM grant is a newer tactic provided by NHDES, the agency has always been heavily involved in our communities, aiding them with technical, financial and managerial assistance. NHDES has provided technical assistance to 687 communities dating back to 1997, involving 1,070 site visits for the drinking water communities. These figures are expected to grow as NHDES continues with the effort to improve the quality of the drinking water infrastructure. ■



Groundwater and Drinking Water Trust Fund-related legislation

The Groundwater and Drinking Water Trust Fund (Trust Fund) was created in 2016 by SB 380, using \$276 million of MtBE trial judgment funds. The Trust Fund intent is to provide sustainable, long-term funding to help address New Hampshire drinking water and source water protection needs. The Legislature passed three bills this session related to the Trust Fund. This session's legislation clarifies how the Trust Fund will operate, establishes funding for the first project and creates a related Seacoast drinking water study commission. The three key bills are HB517, SB57 and HB431. In HB 517, the following changes were made to the Trust Fund's statute, RSA 485-F.

- **Advisory Commission Membership:** An Advisory Commission was established to provide guidance to the State on Trust Fund use. The Advisory Commission membership was expanded by HB 517. These new representatives were added to 10 existing members representing the legislature, state government and the public. Nine representatives were added; these new representatives are likely to have backgrounds or an interest in: a) source water protection, b) development, c) new or existing public water systems and d) drinking water infrastructure. The expanded Advisory Commission ensures that decisions on Trust Fund money use will be made by New Hampshire citizens representing all key stakeholder groups.
- **Advisory Commission Authorities Expanded:** The Advisory Commission was given the authority to award grants, revolving loans and matching funds. Clarification was included in HB 517 that all expenditures shall be approved by Governor and Council; criteria were also established for the types of eligible projects. Revisions

to the statute authorized the establishment of a revolving loan fund with Trust Fund money. The original legislation did not explicitly contain this provision.

- **Rulemaking authority:** The NHDES rulemaking authority is laid out in the revisions to RSA 485-F. Rules will be developed establishing a competitive grant and loan program.

The statutory changes to RSA 485-F will facilitate the implementation of the new Trust Fund and will ensure valuable input from a broad cross section of the State on critical drinking water infrastructure and protection needs.

SB 57 provides funds to pay for state aid grant (SAG) obligations. The State of New Hampshire awarded matching funds for wastewater and drinking water projects via the SAG grant program. SB 57 provides those multi-year obligations from the General Fund. SB 57 also approves funding for a water line extension project loan to address PFAS contamination in Amherst. The loan will be made from the Trust Fund and will be the Trust Fund's first project.

HB 431 establishes a commission to plan for long-term goals and requirements for drinking water on the Seacoast. The commission is comprised of representatives from all of the Seacoast municipalities, Aquarion Water Company, the US Geological Survey and UNH. The commission is tasked with developing mutual aid agreements for firefighting, drought, emergency replacement of contaminated drinking water supplies as well as with the evaluation and monitoring of threats to groundwater quality. No funding is provided for the commission; however, high-value projects identified by this new commission are likely to seek funding from the new Trust Fund. ■

Annual NHDES summer food drive

Summertime can be a difficult and stressful time for families struggling with food insecurity. Children who usually receive free breakfast and lunch at school are without these provisions, putting their families in need of an alternative source of nourishment.

In early July, NHDES held a food drive benefiting Friends of Forgotten Children, a Concord-based organization that helps to provide food to families in need during summer vacation. This year's theme, "The Great Food Drive Race," brought out the competitive spirit among NHDES staff as they divided into four teams to collect food items that counted as "miles" toward winning a "race," in which the team with the most "miles" at the end of the food drive was crowned the winner.

After a fun and eventful two weeks, NHDES raised a total of \$796 and over 1,000 pounds of food to donate to Friends of Forgotten Children, which was delivered to their facility on July 13. ■





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New Hampshire Coastal Cleanup

Become a part of the world's largest volunteer event on behalf of the oceans! Join the NH Coastal Cleanup, held in conjunction with the Ocean Conservancy's International Coastal Cleanup, on **Saturday, September 16, 2017**.

The Blue Ocean Society for Marine Conservation will host cleanups at over 20 sites along the New Hampshire coast and Great Bay. Cleanup hours vary by site. Individuals, small and large groups, and families are all welcome to participate.

Last year, 965 volunteers removed over 4,948 pounds of debris from 11 miles of coastline. Shoes, a bed frame, a television, a backpack, fake nails, and a bike seat were among the unique things found. The top five items were: cigarette butts (25,706), plastic pieces (4,692), foam pieces (2,516), food wrappers (1,717) and glass pieces (1,700).

Picking up trash helps whales, birds, fish and other marine life. These animals often mistake it for food or get caught in it, hurting their ability to move and eat. Removing trash also makes the beach safer and more fun for people to visit. In addition, the impacts of plastic in the ocean are far reaching. Plastic never really "goes away," but breaks down into smaller and smaller pieces, eventually being dubbed "microplastic" – something that's less than 5mm long and still able to cause problems for marine life.

More info on cleanup sites and times will be posted on



<http://www.blueoceansociety.org/beachcleanup/new-hampshire-coastal-cleanup/> and <https://www.facebook.com/BlueOceanSociety>. You can also get more info or sign-up for the cleanup by contacting the Blue Ocean Society at: info@blueoceansociety.org or (603) 431-0260.

More information about plastics in the ocean is available at: https://marinedebris.noaa.gov/sites/default/files/OR%26R_Plastic_In_the_Ocean_Infographic_FINAL.pdf

The NHDES Coastal Program helps fund the NH Coastal Cleanup. ■