

New Hampshire Pollution Prevention Program



Biennial Report

2021-2022

THE NEW HAMPSHIRE
POLLUTION PREVENTION PROGRAM
BIENNIAL REPORT
2021-2022

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November 2023

New Hampshire Pollution Prevention Program

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Pollution prevention, also called P2, refers to activities or strategies that reduce or eliminate waste at the source by modifying production processes, promoting the use of non-toxic or less-toxic substances, implementing conservation techniques and reusing materials rather than putting them into the waste stream.

The New Hampshire Pollution Prevention Program (NHPPP) has provided free and confidential, compliance and pollution prevention assistance to the state's businesses, municipalities, public agencies, organizations and residents since 1991. The program has worked with hundreds of New Hampshire businesses, helping them save millions of dollars on everything from material purchases to water and energy savings, and from hazardous and solid waste management to disposal costs. NHPPP provides assistance in the form of educational outreach, site assessments, technical research and compliance assistance.

This report highlights the program's activities for 2021 and 2022. During the reporting period, NHPPP focused on specific business sectors and projects, including hazardous waste generators and craft beverage manufacturers.

In the spirit of Pollution Prevention (P2), this biennial report is offered electronically to minimize paper use and printing costs. If you would like a paper copy or additional information about any of the projects discussed, contact the P2 staff at nhppp@des.nh.gov. You can also visit the [New Hampshire Pollution Prevention Program webpage](#).

We look forward to hearing from you!

Kathryn Black

Pollution Prevention Program Manager

Craft Beverage Program



When NHPPP first started working with breweries in early 2016, there were 37 breweries in New Hampshire and now there are over 100 established breweries and more in the planning stages. Breweries, wineries, cideries and distilleries are part of the growing craft beverage

industry in New Hampshire that consumes large quantities of water and energy.

In October of 2018, NHPPP received an EPA grant to launch a project working with breweries in the Granite State; a second and third EPA grant were received in October of 2020 and October 2022 to continue this vital work and expand it to include all craft beverage producers. The goal of this grant work was to reduce greenhouse gas emissions, conserve water, limit energy consumption, reduce waste and eliminate the use of toxic cleaners. Work was conducted through on-site visits, phone calls or online meetings, outreach materials, presentations, webinars and training events. The original goal was to work with a minimum of five breweries each year to track energy and water use and help them to reduce usage.

During this biennium, NHPPP staff visited 21 craft beverage producers and assisted six others by phone or online. Utilizing partnerships with local utility companies, NHSaves, New Hampshire Brewers Association and New Hampshire Craft Spirits Association provided increased opportunities for technical assistance. Staff responded to technical assistance requests related to wastewater issues (which can be problematic for municipalities and septic systems) and provided resources (including new technology) to improve energy efficiency, water conservation and waste reduction.

NHPPP continued to be a guest lecturer at four virtual class periods for the Advanced Principles of Brewing class at the University of New Hampshire. NHPPP staff instructed the students in principles of Pollution Prevention, which apply to the brewery industry as well as any other field of employment the student chooses in the future.

The biggest addition this biennium was the [Sustainable Craft Beverage Recognition Program](#), which recognizes facilities that are leaders in reducing their impact on the environment. Recognition in the program requires a verification visit and efforts for continuous improvement. In exchange, NHPPP provides free technical assistance and promotes facilities' efforts using social media, a program map and website.

Throwback Brewery Recognized as New Hampshire's First Sustainable Brewery

Right from their start in 2011, sustainability has been a core value of Throwback Brewery in North Hampton, New Hampshire. This woman-owned brewery, restaurant and farm is the first brewery to be recognized in the New Hampshire Sustainable Craft Beverage Recognition Program for its strong sustainability initiatives.

Founded on the principle of sustainability, the brewery's company policy is "to always strive to improve business operations to lessen the impact on the local and global environment by conserving energy, water and other natural resources, reducing waste generation, recycling, and reducing our use of toxic materials." The brewery saves more than 65,000 gallons of water a year through reuse and is an innovator in treating brewery wastewater on-site. Its 174 solar panels produce 20% to 50% of its electricity needs depending on the season, while preventing 33 metric tons of greenhouse gas from being released into the atmosphere – that's equivalent to planting 2,530 trees! Throwback's commitment to making great food and beer sustainably is shown in all that they do.

NHDES' Pollution Prevention Program, with the help of the New Hampshire Brewers Association, launched the Sustainable Craft Beverage Recognition Program as a way to publicly recognize craft beverage producers who are making sustainable choices, preventing pollution and conserving resources, while also encouraging other producers to implement these practices.

Hazardous Waste



NHPPP provided assistance to schools in identifying hazardous chemicals in their science, art and shop classrooms. Janitorial cleaning supplies are also examined to determine if any of the products contain toxic chemicals. During this two-year period, NHPPP assisted nine schools for compliance assistance and helped with chemical cleanouts. Suggestions were made to switch,

where possible, to non-hazardous alternatives, and NHPPP provided information about proper hazardous waste disposal.

In addition to providing compliance assistance through site visits, NHPPP wrote articles for a Small Quantity Generator (SQG) newsletter titled “SQG News” to provide answers to many questions that are frequently asked by SQGs.

NHPPP continues to teach Pollution Prevention principles to hazardous waste generators by teaching a class as part of the Hazardous Waste Coordinators Certification program. In 2021 and 2022, NHPPP provided pollution prevention strategies to reduce the amount of hazardous waste generated to more than 100 hazardous waste coordinators.

Core Activities

NHPPP helps businesses examine their processes, look at the waste they generate, and use the Pollution Prevention hierarchy to “avoid, reduce, reuse or recycle” that waste. If none of those options work, NHPPP helps them to make sure the waste is disposed of properly. NHPPP continues to offer free and confidential compliance assistance and Pollution Prevention strategies to all requesting New Hampshire businesses, institutions, municipalities and agencies. Without the risk of enforcement, these facilities can schedule a site visit or virtual meeting, during which NHPPP staff will assist with compliance issues and offer suggestions to reduce waste, energy use and water consumption. After the visit, a confidential report containing observations and suggestions is generated and sent to the company.

NHPPP also provides support by phone and email. In 2021 and 2022, NHPPP responded to 161 requests for technical research, product information and answers to regulatory questions. Staff conducted site visits at four schools and five businesses (in addition to the sector-based site visits to various facilities) to provide compliance assistance and waste reduction strategies.

P2 Case Study in Refrigeration

This case study demonstrates a pollution prevention approach to increase the energy efficiency of refrigeration units at a brewery. The brewery conducted an energy audit that identified energy savings opportunities for optimizing refrigeration through evaporator fan controls, anti-sweat door heater controls, and upgrading evaporator fan motors to energy efficient electronically communicated (EC) motors for the brewery’s two walk-in coolers.

Manufacturers design coolers to handle the hottest day of the year, so the fans run continuously at full load, day and night. The energy efficiency upgrades included replacing the eight evaporator motors with EC motors and installing CoolTrol controllers to efficiently run the compressors and evaporator fans. These controllers are networked to optimize the efficiency and effectiveness of the refrigeration system. The controls cycle the fans off when not needed to reduce energy usage and reduce the runtime of anti-sweat heaters.

It is estimated that by integrating these controls, the facility’s compressors will run up to 46% less saving \$1,637 and 10,912 kWh annually. Additionally, the controls reduced wear on the fan motors, extending their life. Typically, there would be a 50% incentive from the energy provider for this upgrade, but due to COVID-19 there was a 70% incentive available. With this incentive, the brewery received \$4,592 in product and services with the cost to the brewery being just under \$2,000. Payback for the project is anticipated to be 1.2 years with a \$1,637 annual savings and additional energy use reduction.

Outreach

NHPPP has enjoyed many opportunities to reach out to the community and younger generations to share the principles and importance of source reduction. During this biennium NHPPP shared pollution prevention ideas for businesses and homeowners at the Keep NH Brewing Festival in 2021 and 2022. In addition, NHPPP taught a class on pollution prevention to two New Hampshire Technical Institute Environmental Science classes. These classes included an interactive lecture and hands-on activity designed to help students look for creative solutions to the assigned pollution problem.



NHPPP also provided waste reduction ideas to attendees at the Discover Wild NH Day events in 2021 and 2022. NHPPP is an active participant in New Hampshire Hospitals for a Healthy Environment (NH3E), which supports sustainability in health care facilities. Last, NHPPP taught pollution prevention principles to New Hampshire water managers, hazardous waste generators and solid waste operators. Altogether, NHPPP has instructed more than 300 individuals during this two-year period.

Other Activities

Mercury NHDES is a member of the Interstate Mercury Education and Reduction Clearinghouse (IMERC), which is an organization that provides:

- Ongoing technical and programmatic assistance to states that have enacted mercury education and reduction legislation.
- A single point of contact for industry and the public for information on mercury-added products and member states' mercury education and reduction programs.

New Hampshire's mercury reduction statute ([149-M:52 – 58a](#)) restricts the sale of certain mercury-added products. NHPPP staff participate in calls and activities to ensure businesses are working to reduce the use and sale of mercury-added products in IMERC member states. During this period, New Hampshire identified sources selling mercury containing products that had been reported as phased-out in states with a ban on the sale of these devices. IMERC, working with member states, contacted these companies to inform them that it was illegal to sell in these states. As a result, companies immediately stopped selling the mercury-added products in member states.

Toxics in Packaging NHPPP is also a member of the Toxics in Packaging Clearinghouse (TPCH), which coordinates implementation of state legislation on behalf of its member states, with the goal of promoting consistency across states. TPCH is a resource and single point of contact for companies seeking information on toxics in packaging requirements or an exemption. NHPPP staff participates in calls and activities that ensure businesses adhere to the requirements of our Toxics in Packaging legislation. ([149-M:32 - 40](#))

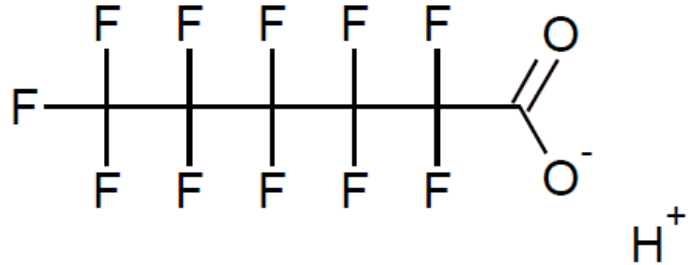
In 2022, the TPCH created a Technical Testing Committee to develop testing and analytical guidance for the regulated community on Per- and Polyfluorinated Substances (PFAS) and ortho-phthalate provisions adopted by TPCH in their 2021 Updated Model Legislation. Although New Hampshire has not adopted TPCH's Updated Model Legislation, NHPPP

staff participated in this work which is important given the enactment of laws in several New England states addressing PFAS in food packaging.

PFAS Awareness During this biennium NHPPP played a larger role within NHDES related to PFAS awareness, specifically related to PFAS in products. Staff continued to collaborate with NHDES' Sludge and Septage Program to help businesses reduce and eliminate the use of PFAS. NHPPP also participated in NHDES' PFAS Coordination Team, providing internal support related to PFAS in products, toxics in packaging legislation and extended producer responsibility. NHPPP responded to PFAS in consumer products legislation by drafting letters of testimony, attending public hearings and committee meetings, as well as, responding to questions from legislators.

NHPPP participated in several regional workgroups hosted by the Northeast Waste Management Officials Association (NEWMOA) related to PFAS in products and PFAS legislation as well as attended NEWMOA's two-day PFAS Conference.

Additionally, NHPPP was a member of the PFAS in Consumer Products Steering Committee for NEWMOA's project to educate residents of Maine, New Hampshire and Vermont on consumer products containing PFAS, their impacts on public health and the environment, and commercially available safer alternatives. The project resulted in the creation of five fact sheets which were distributed by NHPPP and NEWMOA staff at farmers market events in Littleton and Lancaster, New Hampshire.



For more information, visit the [New Hampshire Pollution Prevention webpage](#), or contact Kathryn Black at nhppp@des.nh.gov or [\(603\) 271-6460](tel:(603)271-6460).