



State of New Hampshire
Department of
Environmental Services

Biennial 2007-2008 Report

NH Pollution Prevention Program Biennial Report to the Legislature 2007-2008

Introduction

Pollution prevention (P2) refers to activities or strategies that reduce the volume or toxicity of raw materials used in a process, or change the way materials are used within a process, to reduce or eliminate the volume or toxicity of wastes. It is a building block for proactive organizations moving toward sustainability. The New Hampshire Pollution Prevention Program (NHPPP) has provided free, 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 to save millions of dollars in materials purchases, and hazardous and solid waste management and disposal costs. The NHPPP provides assistance in the form of site assessments, technical research, compliance assistance, workshops and conferences and the DES-UNH Pollution Prevention Summer Intern Program.

This report highlights the program's activities for calendar years 2007 and 2008. During the reporting period, NHPPP focused on specific sectors and projects, including ski facilities, auto salvage facilities, hospitals, lodging facilities, lean manufacturing, mercury reduction and green business practices.

In the spirit of pollution prevention, this biennial report has been designed to minimize paper use and printing costs. If you would like additional information about any of the projects discussed, contact the P2 staff (nhppp@des.nh.gov) or go to the DES web page at www.des.nh.gov. We look forward to hearing from you!

Green Initiatives

Green Hospitality

Tourism is New Hampshire's second largest industry. Many hotels, Bed & Breakfasts and restaurants in New Hampshire recognize the importance of preserving our natural resources for our visitors, now and in the future. They continually evaluate how their operations affect the environment and look for ways to minimize their impact on it. The NHPPP is collaborating with the New Hampshire Lodging and Restaurant Association to enhance the *New Hampshire Sustainable Lodging & Restaurant Program* that will certify hotels and restaurants as green businesses. In November 2008, the NHPPP co-hosted a workshop focusing on environmental initiatives for hoteliers with the NHLRA's Sustainability Program. The event was well attended and confirmed interest in the program. The NHPPP has also participated in the planning of the Eco-Hospitality Expo in early 2009 and other upcoming events.

Green State Fleet

Under Governor's Lynch's Executive Order 2005-4, all state agencies were mandated to improve their fleet vehicle fuel economy by 10 percent. Starting in 2006, the NHPPP helped develop and implement the "Clean Fleet Policy" adopted by the Department of Administrative Services, requiring all agencies to purchase fuel-efficient vehicles and to take steps to improve vehicle efficiency. In 2007, the replacement of 56 old vehicles with more efficient vehicles reduced the state's overall vehicle emissions by 41,702 pounds of carbon dioxide, 18,610 pounds of carbon monoxide and 223 pounds of particulates and the overall fuel efficiency had been increased by 5.6 percent. These reductions will increase each year as more fuel-efficient vehicles replace older vehicles.

Green Slopes

The NH Green Slopes program provides environmental outreach to New Hampshire's 30 downhill and cross country ski areas that serve 2.5 million skiers and snowboarders each season. Environmental management at ski areas includes monitoring chemical use and waste generation, energy consumption, and air pollution. NHPPP's Green Slopes Program, in partnership with [Ski NH](http://SkiNH.com) and other state agencies, conducted two workshops for the ski industry.

Reducing Emissions One Engine at a Time: This 2007 workshop focused on idling reduction implementation and the use of biodiesel at ski facilities. During the reporting period, 14 facilities reduced their CO2 emissions by 508,937 pounds through anti-idling initiatives and seven are using biodiesel in their groomers and other equipment, decreasing their emissions by even more.

From Kilowatts to Cans: This 2008 workshop focused on energy conservation and recycling programs. All of the New Hampshire downhill and cross country areas have reported energy reduction activities and sixteen have implemented recycling programs. Four have calculated the combined savings of more than 800,000 kWh collectively between the 07/08 and 08/09 ski season. At least five facilities have calculated that their recently implemented recycling programs have diverted 160 tons of waste from the landfill. Additional workshops are planned for the next biennium.



Waste is a tax on the whole people. ~ Albert W. Atwood



Junk Yards to Green Yards

In 2007 and 2008, NHPPP collaborated with the DES Waste Management Division to educate municipal officials on existing and new responsibilities for licensing auto salvage yards. State law requires that local licensing officials have auto salvage yard operators certify their compliance with environmental rules and regulations when applying for a required town-issued "junkyard" license under RSA 236:111-129. In the winter of 2007, over 200 employees from more than 100 municipalities attended five workshops that introduced the Green Yards program best management practices and their relevance to environmental sustainability to salvage yard operators and owners. In the winter of 2008, the NHPPP, Local Government Center and the DES Waste Management Division hosted a second set of workshops for 193 municipal officials, consultants and new selectmen to go over old and new requirements for licensing motor vehicle salvage yards, as well as reinforcing the BMPs. During this time, the NHPPP conducted five site visits, certified and reviewed multiple green yard applications and redesigned the Green Yards web pages to include information for municipal officials, as well as salvage yard operators. The Green Yards program also won the 2007 National Most Valuable P2 Award from the National Pollution Prevention Roundtable.



Mercury Reduction Efforts

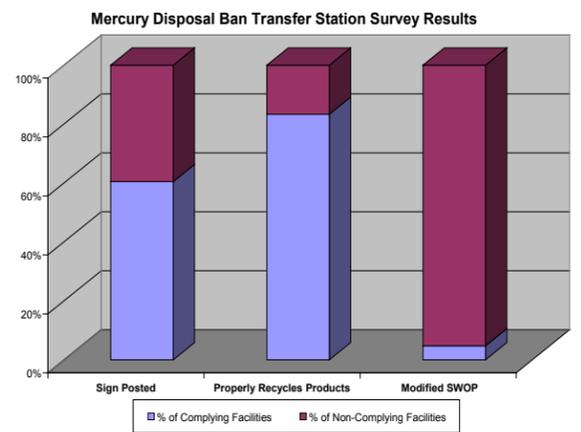
The NHPPP continues to coordinate the DES mercury reduction efforts in accordance with the New Hampshire Mercury Reduction Strategy and the Northeast regional action plan, both adopted in 1998. New Hampshire met its initial goal (also shared by the other New England states and the Eastern Canadian provinces) of reducing mercury emissions by 50 percent by the end of 2003 and is diligently working toward a 75 percent reduction by 2010. During the reporting period, three bills were enacted to ban the disposal of mercury-added products, prohibit the sale of many common mercury-added products and require mercury thermostats to be collected and recycled.

The DES P2 coordinator co-chairs the New England Governors'/Eastern Canadian Premiers' Regional Mercury Task Force (MTF). The task force was formed in 1998 to work on regional and international mercury reduction efforts. Progress to date includes developing model legislation to reduce mercury in consumer and commercial products, numerous outreach and education efforts, and significant reductions in mercury emissions from major source categories, such as municipal waste combustors and medical waste incinerators. Under the guidance of the task force, emissions in the region have been reduced by greater than 70 percent. In 2008, the MTF won a Most Valuable Pollution Prevention Award from the National Pollution Prevention Roundtable for its efforts. NHPPP staff members also participate in the Interstate Mercury Reduction and Education Clearinghouse, which serves as a coordinating body for state legislative efforts.

The NHPPP implemented and managed several programs to capture and recycle sources of mercury that previously were often discarded in solid waste, allowing the release of mercury into the environment.

Transfer Station Visits (Disposal Ban)

In 2007, the Legislature passed a ban on the disposal of mercury-added products in solid waste landfills, transfer stations or incinerators (RSA 149-M:58). Before the ban went into effect on January 1, 2008, the NHPPP provided education and outreach materials to the state's landfills, recycling centers and transfer stations (employees as well as customers), regarding the kinds of items that were regulated and proper handling of those items. After the ban had been in effect for six months, the NHPPP conducted random visits to 43 transfer stations



throughout the state to gauge compliance with the requirements of the ban.

For a copy of the survey and results, please contact the NHPPP at nhppp@des.nh.gov.

Mercury-Containing Devices

Working with the Household Hazardous Waste program, the NHPPP promoted the collection of other mercury-containing devices, such as thermometers, mercury-batteries and tilt switches, at municipal solid waste facilities. Presently, about 80 municipalities collect and recycle mercury-containing devices and thermostats.



Cars line up at a recent municipal household hazardous waste event, where mercury-containing devices can be collected.

Fifteen Mile Falls Mercury Reduction Project

In 2005, DES received funds through an agreement reached during the Fifteen Mile Falls Dam re-licensing process. The Fifteen Mile Falls Mercury Reduction Project used the monies for mercury projects in the Connecticut River Valley Watershed and to supplement statewide projects. Implemented by the NHPPP, these are collection and recycling programs for mercury-containing products including fluorescent lamps, thermostats, motor vehicle switches and mercury-containing devices, as well as mercury sources at schools and dental offices.

Motor Vehicle Switches

Through its partnership with the NH Auto & Truck Recyclers Association, the NHPPP developed a voluntary recycling program for the collection and recycling of mercury-containing motor vehicle switches. Because of the NHPPP's efforts in 2007, that program was accepted into a national program developed by the "big three" auto manufacturers. Under the National Motor Vehicle Switch Recycling Program, 50 participating auto salvage facilities in New Hampshire recycled 7,046 mercury switches containing over 15 pounds of mercury.



New Hampshire Schools & Dentists

Schools and dental offices often contain unwanted supplies of mercury. In addition to mercury reagents, there are lab thermometers that contain three to four grams of mercury and barometers that can contain 500 grams; both are easily broken. Although most dental facilities are eliminating their use of mercury amalgam, many offices have stockpiles of elemental mercury used to create amalgam filings. Most middle and high schools do not have programs or budgets that allow for proper storage and disposal of mercury, so in 2007 and 2008, NHPPP removed and recycled 121 pounds of mercury materials from schools and 2.56 pounds of elemental mercury from dental offices.

Fluorescent lamps

In 2006, the NHPPP and TrueValue Hardware stores set up a partnership in which participating stores would accept spent fluorescent lamps and transport them to a central consolidation point. There, a lamp recycler collected the lamps and transported them to their facility for recycling. In 2007 and 2008, TrueValue stores collected 94,076 linear feet of fluorescent tubes and 5,542 compact fluorescent lamps (CFLs). By 2008, Ace Hardware stores had joined the program, collecting 17,284 linear feet of lamps and 2,934 CFLs.

Thermostats

The NHPPP has been providing Thermostat Recycling Corporation (TRC) recycling bins to volunteer electrical wholesalers and municipal facilities since 2001. In 2007 and 2008, this resulted in the collection and recycling of 10,210 thermostats and 2,552 grams, or 5.6 pounds of mercury. The 2009 passage of New Hampshire's thermostat recycling law has led to renewed efforts to promote mercury-containing thermostat collection.



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Common Measures

The NHPPP participated in a national "States Common Measures Project" to develop a standardized set of 11 business practice "indicators" to measure and compare compliance and pollution prevention activity levels. During 2007, the NHPPP and Hazardous Waste Compliance staff conducted inspections at 60 New Hampshire facilities to check for environmental practices such as proper drum labeling, manifest use and waste reduction practices.

The early survey results showed that, for the facilities inspected in New Hampshire, 94 percent have hazardous waste storage containers that are in sound condition, 98 percent ship their hazardous waste with the proper manifesting paperwork, and almost all New Hampshire companies have implemented some form of waste or energy reduction project. When compared nationally, New Hampshire was either average or above average in all indicator categories. Interestingly, the states with a robust assistance program, such as the NHPPP, scored higher compliance rates than states relying strictly on regulatory enforcement. And in some cases, states relying only on assistance programs scored higher compliance rates than states relying on just enforcement.



2008 UNH/DES P2 interns.

Governor's Award –

Since its inception in 1994, the Governor's Award for Pollution Prevention has conferred over 30 first place Governor's Awards to 25 companies, departments and/or communities. These awards have been given for a myriad of projects. Some of them include: elimination of methyl ethyl ketone (MEK) from all manufacturing processes, reduction in oil usage (many by over 50 percent), and water reduction by millions of gallons.



To be eligible for consideration, applicants must:

- Complete a pollution prevention project (or projects) that reduce or eliminate wastes at their source; increase efficiency in the use of raw materials, energy, water, or another resource; or protect natural resources using conservation techniques.
- Be in good standing with state and federal environmental laws.
- Agree to allow a summary of their accomplishments to be published.

Governor's Award for Pollution Prevention 2007 and 2008		
Companies & Projects 2007	Net Savings	Highlights
NH Ball Bearing-Astro Div., Laconia Environmental Mgt. System	\$513,000/yr.	Reduced hazardous waste by 8,768 lbs. and non-hazardous waste by 191.4 tons between 2003 and 2006; emissions by 365.4 metric tons of carbon dioxide; water by 189,817 gal.; and energy by 4,251,650 kWh.
Public Service of New Hampshire Northern Woods Power Project	\$20 million into regional economy	Reduced air emissions by 2,045.5 tons by switching from coal to wood; reduced its mercury emissions by 90%; #6 fuel oil usage by 600,000 gal./yr; and coal ash by 50,000 tons/yr.
2007 Honorable Mentions: Monadnock Paper Mills, Bennington; NH Adjutant General's Dept.; Ripano Stone-works Ltd., Nashua; Southeastern Container Inc., Hudson		
Companies & Projects 2008	Net Savings	Highlights
Anheuser-Busch-Merrimack Bio-energy Recovery System Anaerobic Digester	\$2.3 million/yr.	Reduced emissions by 178 metric tons; energy 1,024,000 kWh; and net fuel savings of 91,000 MMBtu.
Southeastern Container, Hudson Plant Environmental Program	\$1.9 million/yr.	Reduced raw materials by 1,946,000lbs.; carbon dioxide by 1,947,247 lbs.; energy consumption by 1,651,609 kWh; solid waste disposal by more than 29,000 lbs./yr.
2008 Honorable Mentions: FCI USA Inc., Lincoln; Goss International Americas Inc., Durham; Symmetry Medical PolyVac, Manchester; Wirebelt Company of America, Londonderry		

UNH/DES P2 Intern Program

Since 1993, the NHPPP has partnered with the University of New Hampshire and US Environmental Protection Agency (USEPA) to provide an intern program to initiate pollution prevention strategies in New Hampshire businesses and municipalities. The program has allowed companies and organizations to become more efficient, reduce waste and pollution and realize significant monetary savings. The students gain real-world experience and to date, companies have reported combined cost savings of over \$3 million.

Publications and Outreach

Wastelines

The NHPPP program has published the *Wastelines* newsletter since 1993 to educate stakeholders on pollution prevention opportunities and regulatory issues and updates. In 2007/2008, nine editions of *Wastelines* were published. In 2008, *Wastelines* officially went paperless, both as a step to reduce our environmental footprint, and to reduce our costs. Our analysis showed that since the first publication of *Wastelines*, we had used over 1,800 pounds of paper. In addition, we found that our mailing costs had increased by 21 percent over the past 10 years, and printing costs had increased by 40 percent since 2003. Going paperless avoids those costs. To receive *Wastelines* on-line, as well as view other DES publications, please subscribe at <http://des.nh.gov/organization/commissioner/pip/newsletters/index.htm>.

Making Your Business Greener Workbook

In 2007, the NHPPP recognized the need for a guidance document to help businesses become more environmentally responsible. Partnering with the Environmental Leaders program, the NHPPP developed the *Making Your Business Greener Workbook* that provides six separate checklists addressing areas for environmental improvement within any business and provides resources for practical implementation of the outlined projects. The checklists can be applied to any business or organization from a bank to a manufacturing plant to a university. This workbook has been very successful and was awarded the 2009 Most Valuable Pollution Prevention Award for a Publication by the National Pollution Prevention Roundtable.



Our Achievements & Recognitions

2004

EPA Environmental Merit Award for the DES/UNH P2 Internship

2005

Hospitals for a Healthy Environment (H2E) Champion for Change Award

2006

EPA Environmental Merit Award for the H2E Champion for Change

2007

National Pollution Prevention Roundtable MVP2 Award for NH Green Yards Program

2008

National Pollution Prevention Roundtable MVP2 Award for New England Mercury Task Force

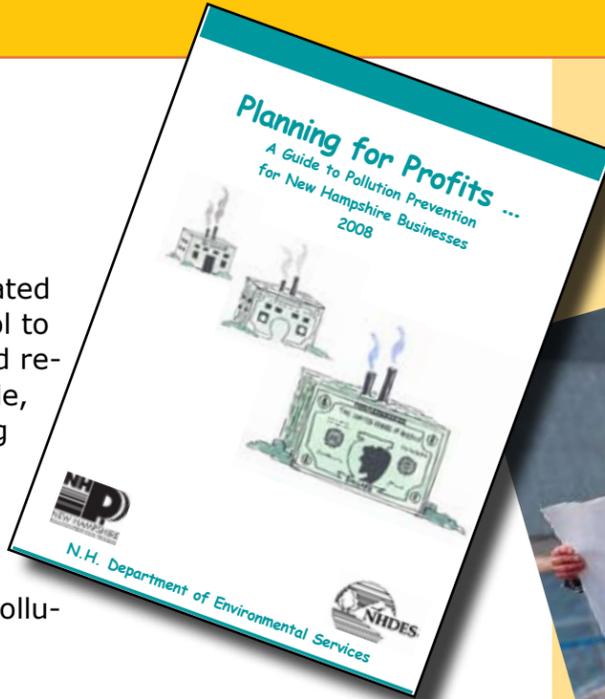
National Pollution Prevention Roundtable MVP2 Award, Volunteer of the Year, Sara Johnson

2009

National Pollution Prevention Roundtable MVP2 Award, "Making Your Business Greener Workbook"

P2 Guide – *Planning for Profits* 2008

Originally produced in 1999, the P2 program updated its popular *Planning for Profits*, a user-friendly tool to help businesses implement waste assessment and reduction projects at all types of facilities. This guide, distributed to hundreds of organizations, including universities, businesses and municipalities, is an excellent tool for learning how to increase profits and reduce impacts on the environment. Over the last 10 years, it has been adopted by many different states and organizations as their basic pollution prevention teaching tool.



P2 Training Activities

Over the past two years, the NHPPP offered multiple training activities to businesses, municipal officials, college students, homeowners and even DES employees. These activities included basic P2 training classes, webinars, conference presentations and informational materials provided in a variety of venues. The purpose of the Pollution Prevention training is to give participants a clear understanding of the *process* of pollution prevention. Once participants understand the process, they can apply it to a variety of business and personal situations ranging from manufacturing a computer to washing their clothes.

Although Pollution Prevention strategies can involve the purchase or modification of equipment, it more often requires a behavioral change by many company employees, ranging from the CEO to the maintenance worker. Behavior changes, such as running equipment more efficiently or using “greener” raw materials, requires buy-in on the part of the manager and production worker alike. By involving employees in the pollution prevention assessment and process change brainstorming exercise, acceptance of production changes is easier to achieve. The NHPPP’s P2 training has been set up so that all levels of employees can be understand and apply Pollution Prevention to their situation.

All the publications and training documents may be found at <http://des.nh.gov/organization/commissioner/p2au/pps/ppp/index.htm> or by contacting the NHPPP directly via nhppp@des.nh.gov or (603) 271-6460.

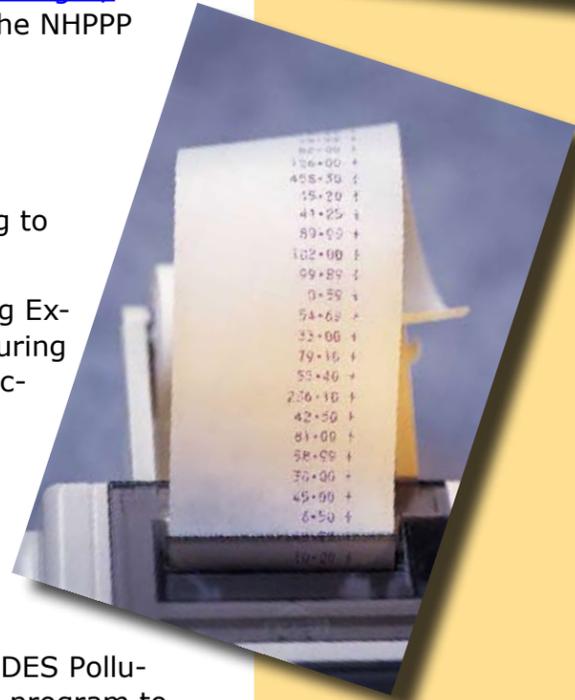
Upcoming Projects

In addition to the ongoing projects detailed above, the NHPPP is hoping to initiate three new partnership projects.

Lean and Environment: Work with the New Hampshire Manufacturing Extension Partnership and USEPA to combine a traditional lean manufacturing assessment that focuses on process improvements to improve manufacturing efficiencies, with a P2 assessment, that focuses on process improvements to decrease waste generation.

Greening the Government: Partner with the Dept. of Administrative Services, the agency providing maintenance and management services to all state buildings to promote green cleaning products and hazardous materials reductions in state buildings.

P2 Internship program: Based on the successful nature of the UNH-DES Pollution Prevention Internship Program, the NHPPP will seek to expand the program to other interested New Hampshire colleges and universities.



Stephanie D’Agostino: Mercury Reduction and P2 integration and policy.

Paul Lockwood: Mercury Reduction, Lamp Recycling, Thermostat Recycling, Greening State Government, Lean Manufacturing

Tara Albert: Green Slopes, Green Hospitality, Lean Manufacturing