

Biennial Report to the Legislature

New Hampshire Department of Environmental Services Pollution Prevention Program

January 2005 – December 2006

Prepared by

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EXECUTIVE SUMMARY

The New Hampshire Pollution Prevention Program (NHPPP) offers non-regulatory, free, confidential assistance to New Hampshire businesses, municipalities, public agencies, organizations and residents. NHPPP primarily serves small businesses to address their environmental needs, but also works with medium and large-sized companies and organizations. NHPPP assists businesses through a wide variety of activities that are described in this report, including outreach, site assistance, information research and education.

NHPPP's principal objective is to help the regulated communities to understand pollution prevention (P2) and incorporate P2 into their operations. The program does this through a number of statewide efforts, including site assessments, newsletters, web pages, information requests, and training. In 2005 and 2006, NHPPP received grants from EPA-New England to work with healthcare facilities, motor vehicle salvage facilities, marinas, ski facilities and state vehicle fleets. NHPPP sponsors the Governor's Award for Pollution Prevention and the Pollution Prevention Internship Program. Within the Department of Environmental Services, NHPPP strives to incorporate P2 into daily routines and into staff job activities.

P2 helps companies improve their bottom lines by eliminating waste and wasteful practices and through encouraging a more efficient use of raw materials and resources, including water and energy. P2 protects the environment by reducing or eliminating hazardous waste generation, toxic water discharges and hazardous air emissions. One of the best ways for businesses to explore their pollution prevention options is to contact NHPPP.

I. Introduction



RSA 21-O:18 requires the Department of Environmental Services (DES) to provide a biennial report to the Governor, the Senate Energy, Environment and Economic Development Committee, and the House Environment and Agriculture Committee on DES's efforts to integrate and promote pollution prevention concepts and opportunities. This report covers activities and projects for the period from January 1, 2005 through December 31, 2006. It describes what pollution prevention is, provides a detailed accounting of the pollution prevention activities that have taken place over the reporting period and depicts future projects and strategic efforts.

II. Pollution Prevention Legislation

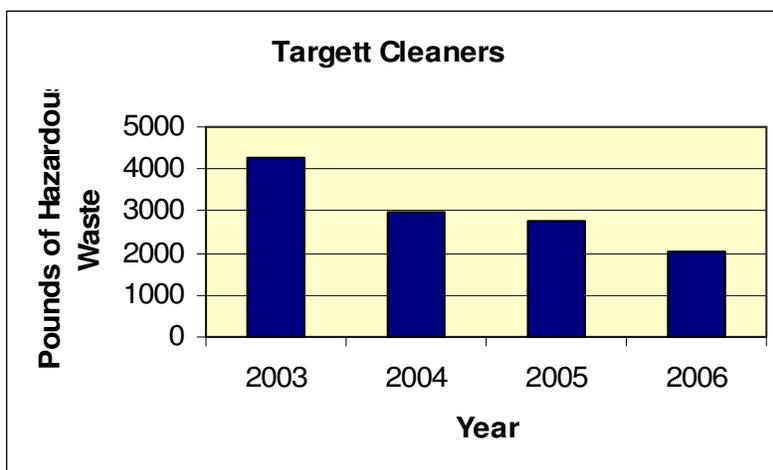
Chapter 74 of the Laws of 2002 reauthorized the New Hampshire Pollution Prevention Program (NHPPP) in DES until 2010. The 2002 law recognizes the effectiveness of the DES's pollution prevention (P2) efforts in reducing hazardous waste, air emissions and wastewater discharges, while achieving substantial cost savings to participating companies. Furthermore, P2 encourages compliance with environmental rules and regulations, and provides opportunities for companies to work cooperatively with DES. Chapter 74 gave DES a clear legislative directive to continue to pursue prevention as the preferred approach to environmental protection and allowed DES to continue to use funding from the Hazardous Waste Cleanup Fund for the NHPPP.

III. Benefits of Pollution Prevention

Pollution prevention reduces or eliminates waste *at the source*, avoiding the *generation* of waste. Pollution prevention also emphasizes a *multi-media* perspective, that is to say, P2 considers the impacts of pollution on air, land and water simultaneously. Viewing pollution from a multi-media perspective means that pollution will not be shifted from one medium to another (e.g., water to air), without considering overall environmental impacts.

Pollution prevention concepts are based on elimination and reduction of waste, continuous improvement and teamwork. DES is committed to facilitating pollution prevention as an environmental protection measure wherever feasible and effective. Where P2 options have been explored and found not feasible, recycling, treatment, and disposal options are encouraged, in that order.

New Hampshire businesses are using P2 to their competitive advantage. After attending a seminar on pollution prevention and waste reduction, Targett Cleaners of Keene reviewed its processes and discovered that it could wet clean nearly 40 percent of the articles received. This reduced the amount of articles dry cleaned by one-third per month. By wet cleaning more articles, tetrachloroethylene waste was reduced, changing the hazardous waste generator status from "Full Quantity" to "Small Quantity". This change reduced Targett Cleaner's environmental regulatory burdens and fees.



Source: NH DES 2006

Reducing or eliminating pollution at the source makes good sense from an environmental, as well as a fiscal perspective, and thus is a win-win situation for businesses, individuals, the State, and the environment. Businesses save money by using raw materials more efficiently, generating less hazardous waste and reducing waste management costs. The State saves money because pollution prevention helps companies achieve and maintain compliance, and it is less time consuming (and therefore less expensive) for DES to regulate companies that are in compliance with environmental laws. Individuals and the environment win because pollution prevention can provide more effective protection for public health and the environment, since the chance of pollutants being released into the environment is greatly reduced.

No matter what the enterprise, operational activities generate waste. In a typical office setting, wastes include paper, toner cartridges, fluorescent bulbs, and emissions associated with energy consumed in operating the office and commuting. The manufacturing sector generates office wastes as well as scrap metals, process water, hazardous chemicals and wasted energy. P2 strategies, process and product modifications, and best management practices (BMPs) are typically considered when trying to identify all options to reduce waste generation, regardless of where the waste is generated in the facility.

IV. New Hampshire Pollution Prevention Program

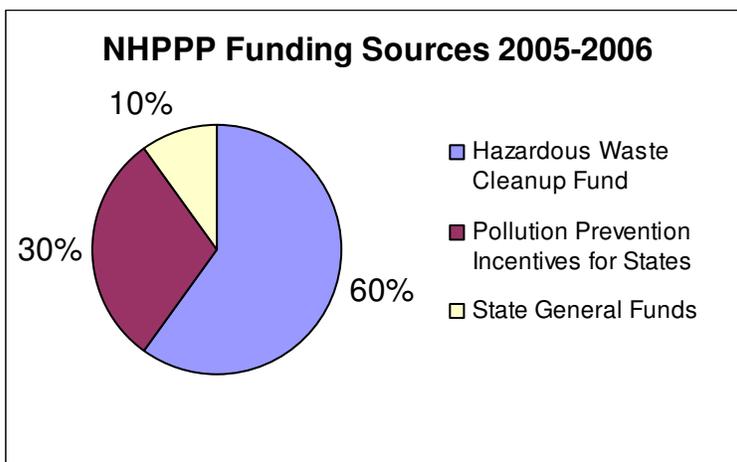


New Hampshire Pollution Prevention Program offers non-regulatory, free, confidential assistance to New Hampshire businesses, municipalities, public agencies, organizations and residents. NHPPP primarily serves small businesses to address their environmental needs, but also works with medium and large sized companies, institutions and organizations. NHPPP assists businesses through a wide variety of activities described in this report that include site assessments, technical research and education.

The NHPPP works with the regulated community on waste, air, energy and water issues. NHPPP staff work closely with other DES programs to draw from staff experience in those programs, such as the Small Business Ombudsman, the Pretreatment Coordinator and the Hazardous Waste Coordinator. NHPPP is located in the Planning, Prevention, and Assistance Unit, Office of the Commissioner. The majority of NHPPP's projects are described in the Core Program Activities, Pollution Prevention Grants Projects, DES integration, and mercury sections of this report.

Funding and Staff

NHPPP is currently funded from three different sources: the state's Hazardous Waste Cleanup Fund, EPA-New England Pollution Prevention Grant, and the state's general funds. The Cleanup Fund supports two full-time positions (the P2 coordinator and the P2 program manager) and is used primarily for salaries and benefits. EPA's Pollution Prevention grant monies are awarded to DES to perform specific projects that focus on various industry sectors each year and during 2005-2006 supported two part-time positions and expenses associated with project development and completion.



State general funds support two administrative positions that contribute time to NHPPP projects and work; this time is used as in-kind match to the federal grant.

Source: NHDES August 2007

V. Partnerships

NHPPP has a long history of building strong partnerships with organizations that complement each other's skills. The day-to-day partnering with other assistance providers is one function that makes NHPPP so valuable to its customers. NHPPP partners include:

Small Business Technical Assistance Program

NHPPP works with the DES Small Business Technical Assistance Program (SBTAP) to help small businesses meet and exceed compliance with state and federal air regulations.



Occupational Safety and Health Consultation Service

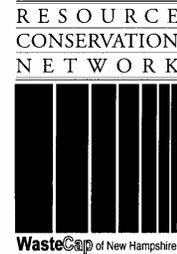
Usually, a company's environmental manager is also the health and safety coordinator. This connection has led to an obvious partnership with the DES Occupational Safety and Health (OSH) consultation program. NHPPP refers businesses to OSH and vice versa. For the most part, when a substitution of a toxic chemical to a non-toxic alternative occurs, this will also improve workers' health and safety.

New Hampshire Small Business Development Center

NHPPP partners with the environmental counselor at the New Hampshire Small Business Development Center (SBDC) on a variety of projects, such as workshops and publications. NHPPP and SBDC also perform joint site assessments at New Hampshire companies. The SBDC environmental counselor program is similar to NHPPP in that it offers free and confidential environmental assistance to businesses.

WasteCap Resource Conservation Network

WasteCap ReCoN was an initiative of the Business and Industry Association of New Hampshire and provided business assistance on reducing solid waste, conserving energy and water, and preventing pollution. WasteCap ReCoN closed its doors in November 2006.



Safety and Health Council of Northern New England

The council is a private, non-profit, membership organization that educates and influences people to enhance safety and health. The NHPPP works with the council by providing environmental regulatory experts and topics to their training programs and assisting with their annual conference.

Northeast Waste Management Officials' Association

The Northeast Waste Management Officials' Association (NEWMOA) is a non-profit, non-partisan interstate association that has a membership composed of the hazardous waste, solid waste, waste site cleanup and pollution prevention program directors from environmental agencies in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont. The governors of the New England states established NEWMOA as an official regional organization to coordinate interstate hazardous and solid waste, and P2 activities. EPA-New England formally recognized NEWMOA in 1986.



NEWMOA coordinates regional P2 activities among the state environmental agencies of New England, provides expertise to those agencies, hosts workshops and regional meetings, develops technical resources for the P2 community and hosts the Northeast States Pollution Prevention Roundtable. NHPPP has been a member of this Roundtable and has worked with NEWMOA since 1991 when the NHPPP was first established.

NEWMOA also sponsors a number of workgroups to coordinate efforts in the New England states on specific topics. NHPPP has been involved in the following workgroups:

- Mercury
- Marinas
- P2 Information Development
- P2 Innovative Technology
- Open Burning Workgroup
- P2 Metrics and Compliance
- Roundtable Steering Committee
- Motor Vehicle Salvage Facilities
- Interstate Mercury Education and Reduction Clearinghouse

National Pollution Prevention Roundtable

NHPPP is active in the National Pollution Prevention Roundtable (NPPR), which coordinates state P2 activities across the nation and provides a national forum for promoting pollution prevention efforts. The organization's members represent the country's preeminent P2 experts from federal, state and local government P2 programs, small business assistance networks, non-profit groups, industry



associations, and consulting firms. In 2006, Sara Johnson, P2 Program Manager, was elected to represent Region 1 on the Board of Directors over the next three years. Ms. Johnson is on the Membership Committee and National Environmental Partnership Summit content review team.

VI. Core Program Activities

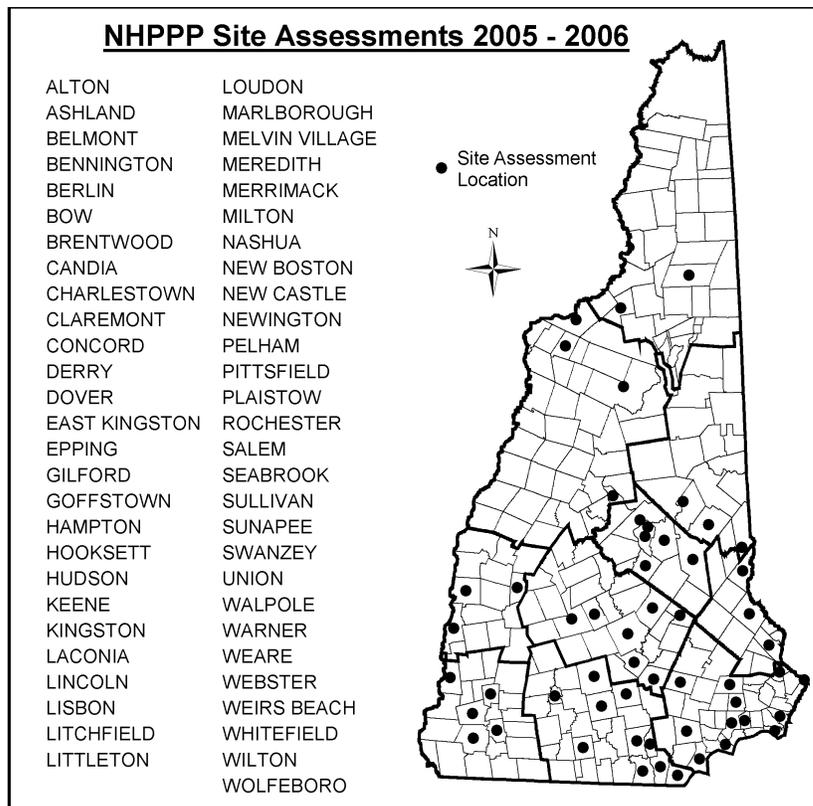
NHPPP strives to integrate P2 into New Hampshire's industry, government and communities. NHPPP achieves its goals through a variety of strategies, core activities and sponsored events.

Assistance to the Regulated Community

NHPPP's principal objective is to assist the regulated community to understand pollution prevention and to incorporate P2 into their operations. The program does this through a number of efforts, including site assessments, education, web pages, information requests, statewide workshops and training.

Site Assessments

Upon request, NHPPP provides site assessment visits to New Hampshire businesses, municipalities and institutions. These visits are free and confidential to the client. During these visits, NHPPP reviews the facility's waste-generating processes in order to identify pollution prevention opportunities and check for compliance with environmental regulations. Recommendations may include strategies such as substituting non-toxic (or less toxic) chemicals in place of hazardous substances, implementing best management practices, initiating in-process reuse and recycling, reducing reject rates for parts, and/or simple housekeeping tips. During the reporting period, the NHPPP provided site assessments to



Source: NH DES August 2007

81 companies and municipalities across the state. The number of site visits doubled from the 2003-2004 data. These companies ranged in size from three to 200 employees. Business sectors visited included metal finishers and fabricators, salvage yards, dental offices, ceramics manufacturer, ski facilities, a hospital, a paper mill, a stone cutter, and a small tube manufacturer. Written reports and assistance with project implementation are provided to each business. NHPPP provides follow-up to the facilities in order to measure reduction rates and improved compliance.

Pollution Prevention Newsletter

Wastelines, NHPPP's newsletter has been published since 1993. The newsletter educates stakeholders on pollution prevention opportunities and regulatory issues and updates. Recent *Wastelines* issues have included articles on electronic waste disposal ban, green chemistry, energy efficiency loans, improving water efficiency, hazardous waste manifesting changes, mercury, and above ground storage tanks.

Wastelines is available in hard copy or on NHPPP's website at

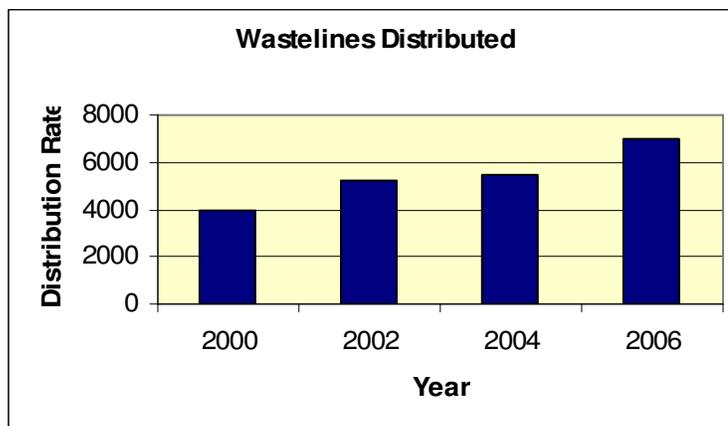
www.des.nh.gov/nhPPP/wlnews.htm.

The newsletter has a mailing list of 710 and is also available at many of NHPPP's events. Over 295 businesses, government and other organizations receive *Wastelines* via email. During the reporting period, seven issues of *Wastelines* were published, and more than 7,000 newsletters were distributed.

Website

Many businesses, organizations and individuals seek technical and regulatory information, innovative technologies, and BMPs over the Internet. To address this audience, NHPPP hosts a web page at www.des.nh.gov/nhPPP. The website continuously adds information, links, publications, and topics to meet the growing needs of visitors.

NHPPP's website offers information on: general P2 information and NHPPP services; program and projects, such as the Governor's Awards and University of New Hampshire P2 internship program; events and workshops; publications, such as the *Wastelines* and best management practices checklists; hot topics (such as mercury); P2 for Industries (including environmental management systems and tips for reducing hazardous wastes); P2 for Households (such as alternative household products and household hazardous waste programs); and sector information (including current and past P2 project on automotive practices, dental offices, healthcare facilities, marinas, municipalities, salvage yards, schools, ski resorts, and wood finishing).

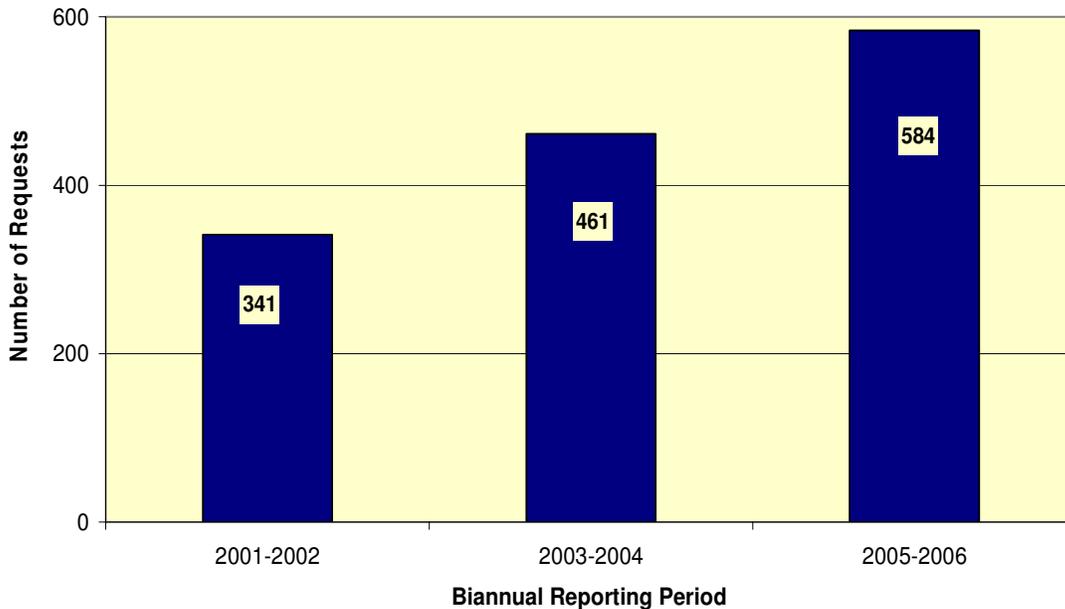


Source: NH DES August 2007

Information Requests

Information on pollution prevention, new technologies, and regulatory compliance is readily available via a phone call or email. Businesses and individuals may contact NHPPP for information toll-free at 1-800-273-9469 or email at nhppp@des.nh.gov. During the reporting period, NHPPP provided technical assistance to 584 callers. Eighty-five percent of information requests were from New Hampshire businesses and residents and 15 percent of requests were from out-of-state.

Information Requests



Source: NH DES August 2007

Pollution Prevention Training for the Regulated Community

NHPPP provides many presentations and workshops throughout the year for the regulated community. Generally, these presentations are by request, and often NHPPP is invited back year-after-year. During the reporting period, NHPPP gave 12 presentations to over 350 stakeholders and received positive reviews. Over 1,000 pollution prevention documents, such as technical reports, fact sheets and our P2 guide, *Planning for Profits*, were distributed at these events.

Through a partnership with the DES Hazardous Waste Coordinator Certification Program, NHPPP created half-day training entitled "Pollution Prevention and Waste Minimization for Full Quantity Generators." The training was presented to over 100 attendees in Littleton, Keene and Portsmouth.

NHPPP provided training and assistance that resulted in the annual reduction of hazardous waste generated within a calendar year.

Keene Facility #1	710 lbs.
Keene Facility #2	5,456 lbs.
Nashua Facility	4,192 lbs.
Loudon Facility	4,850 lbs.

Annual Sponsored Events

While NHPPP maintains a certain amount of flexibility to meet the ever-changing needs of its stakeholders, there are some events that NHPPP sponsors annually.

Governor's Award for Pollution Prevention

Since 1995, the N.H. Governor's Award for Pollution Prevention has recognized businesses, industries, municipalities and other organizations that have successfully reduced or eliminated waste at the source. Applications are evaluated by a panel of non-DES representatives on the pollution prevention quality of the applicant's projects; how well the project followed the P2 hierarchy; how well P2 has become part of company-wide corporate philosophy; and how well the success of the project was measured. The level of commitment and leadership in P2 shown by the company, and the benefits to the employees, community and environment are also evaluated. Additionally, applicants must be in good standing with state and federal environmental regulations. Awards are presented by the Governor in Executive Council Chambers. During the past two years, there have been four award winners and three honorable mentions. The seven winners have reduced significant amounts of solid and hazardous wastes, air emissions, wastewater discharges, and energy consumption and saved **over \$4.9 million**.

Award winning projects from the 2005 Governor's Award for Pollution Prevention

Rockwell Automation in Manchester is a manufacturer of safety equipment such as safety mats, light curtains, and proximity warning devices. Other supporting activities on-site include injection molding, tool and die fabrication and administration staff. Rockwell received a Governor's Award in recognition of for the elimination of methyl ethyl ketone (MEK) from its safety mat manufacturing process. This project identified a safer and more environmentally friendly chemistry to utilize in the safety mat manufacturing process.

- Addressed worker safety and reduced impacts on the environment.
- Replacement of MEK with a water based alternative.
- Elimination of 2,469 lbs. of MEK, 514 lbs. of methanol, 483 lbs. of toluene, 10 lbs. of 12-dichlorobenzene and 26 lbs. of phenol.
- Annual savings of \$5,373.
- Increased employee safety by minimizing exposure to hazardous chemicals and reduction of the possibility of fire within the facility by removing a flammable compound.



Governor John Lynch and Pam Bealo, Rockwell Automation. Photo by Louis Foisy

The Rubber Group is a manufacturer of custom rubber molded products located in Somersworth. Its award-winning project focused on both water and energy conservation. The company is praised for its progress in eliminating the consumption of all non-value added resources throughout the company.

- Purchased Energy Star equipment to replace existing equipment.
- Switched from traditional five-day (8 hours) two-shift work week to a four-day (10 hours) two-shift work week.
- Replacement of lighting with energy efficient lighting, and purchased thermal blankets to insulate molding areas to minimize heat loss.
- These changes reduced energy consumption by 49,200 KWH per month with an annual savings of \$43,746.
- They also saved the company 313,366 gallons of water per quarter and \$2,684 per year.



From left to right: Governor John Lynch, with Cary Atkinson and Rob Pruyn from Rubber Group. Photo by Louis Foisy.

Two New Hampshire businesses and organizations received Honorable Mention Awards for their pollution prevention efforts. These were Wausau Paper of N.H. in Groveton and Philips Exeter Academy in Exeter.

Award winning projects from the 2006 Governor's Award for Pollution Prevention

Monadnock Paper Mills, Inc. of Bennington began its long history of papermaking in 1819. In 2004, Monadnock Paper implemented an environmental management system that sets targets and objectives for continuous environmental improvement. Monadnock Paper Mills' corporate environmental policy promotes environmental awareness among employees and local residents, maintains compliance with environmental standards, invests in research to determine innovative ways to reduce waste and to efficiently use natural resources, and uses environmentally friendly materials during the design and development of new products. Its award-winning environmental improvement projects:



From left to right: Richard Verney, Monadnock Paper Mills; Alice Chamberlin, Governor's Office; and Commissioner Thomas Burack, DES

- Reduced 69,500 gallons of oil and 88,254 KWh per year of energy consumption by controlling humidity and by air loss at hoods.

- Reduction of 58,000 pounds of fiber and filler at paper machines by fabricating and extending splash shields.
- Reduced 242,000 pounds of fiber solids through procedural monitoring and increasing retentions of the machines.
- Reduced the amount of packaging and substituted shredded paper for bubble wrap.
- Recycled 650,000 pounds of solid waste.
- Total annual savings: \$146,000.

Park Nameplate Inc. of Dover is a manufacturer of decorative product identification emblems for automotive, appliance and consumer applications. Park Nameplate demonstrated commitment to continuous improvement of environmental programs and to the implementation of appropriate management practices for the prevention of pollution. Its environmental steering committee sets and reviews environmental objectives and targets; is responsible for communicating its environmental policy to all employees and other interested parties; and managed the effective implementation of the environmental objectives and targets through employee participation and the use of the environmental management system. P2 improvement projects include:



From left to right: William Hand, Park Nameplate; Alice Chamberlin, Governor's Office; Steve Reiter, Park Nameplate; and Commissioner Thomas Burack, DES.

- Reduction of 3,755 lbs. of methyl ethyl ketone (MEK) for silk screen cleaning and equipment cleaning.
- Recycled HDPE plastic and low impact polystyrene plastic trays.
- Reduced energy usage by 19,200 KWh through installation of energy efficient lighting.
- Recycled contaminated shop wipes.
- Set up an office paper recycling program.
- Upgraded registration of ISO 14001 to 2004 standards.
- Total annual savings: \$33,000.

Symmetry Medical PolyVac in Manchester received the 2006 Honorable Mention Award for its pollution prevention efforts.

Pollution Prevention Internship Program

Each year, NHPPP partners with the University of New Hampshire (UNH) to coordinate a summer internship program at New Hampshire companies, organizations and EPA-New England. Participating students are required to take a ten-week training course on P2 offered by the Chemical Engineering Department. NHPPP provides several classes for the course each year, and coordinates the other lectures with UNH. Most of the speakers are representatives

from New Hampshire businesses, such as Public Service of New Hampshire, Portsmouth Naval Shipyard, Capaccio Environmental Engineering, and NH Manufacturing Extension Program.

The students who participate in the program receive valuable real-world experience by working on actual projects at participating companies. These organizations are introduced to pollution prevention concepts and benefit from relatively low wage labor to complete a P2 project they otherwise might not attempt. Some companies request an intern because they have a specific project that they need assistance with; other companies request an intern to bring in fresh ideas and a pollution prevention perspective. To date, over 100 interns have been placed at 53 companies and organizations in New Hampshire, saving them more than \$3.4 million through P2 projects.



Photo: 2006 P2 interns and sponsors.

During the summer of 2006, five interns were placed at manufacturing facilities around New England. These interns were able to measure actual or potential annual reductions and savings at their sponsored facility, including these savings:

- Acetone reduction through the installation of distillation unit: 16,137 kg, \$24,589.
- Energy efficiency from insulated boiler and lines: ½ billion BTU, \$62,859.
- Waste oil recovered savings energy costs: 268 gallons, \$6,415.
- Technology change by switching to HVLP spray guns: \$28,000.
- Nickel acetate – bath life extension: 9,000 gallons of wastewater, \$19,000.
- Electroless nickel – bath life extension: 9,000 gallons of wastewater, \$12,588.

Host companies request an intern from the program year after year and it is common for participating companies to hire interns upon their graduation. At the end of the summer, the interns make professional presentations on their summer P2 projects to an audience of participating companies, DES, EPA-New England, UNH faculty and other interns.

VII. Pollution Prevention Grant Activities

In 2005 and 2006, NHPPP received federal grants from EPA-New England to work with healthcare facilities, motor vehicle salvage facilities, marinas, New Hampshire agencies, and ski resorts.

Reducing Persistent Bioaccumulative Toxics in the Healthcare Sector

NHPPP partnered with the New Hampshire Hospital Association Foundation for Healthy Communities (FHC), New Hampshire Eye Physician Society and New Hampshire Dental Society to promote the reduction of mercury use and proper management of hazardous waste through education, promotion of alternative technologies, environmentally preferable purchasing and source reduction opportunities.

The outreach and education efforts of NHPPP were recognized for their efforts by the National Hospitals for a Healthy Environment (H2E) in BOTH 2005 and 2006 with the H2E Champion for Change Award.



Hospitals for a Healthy Environment Award presentation to NHPPP in 2005.

Since the fall of 2001, NHPPP, FHC and all 26 New Hampshire hospitals have coordinated efforts through New Hampshire Hospitals for a Healthy Environment (NH3E), which meets quarterly to discuss regulatory changes, pollution prevention strategies, training opportunities and other topics of concern. Meetings were hosted by Crotched Mountain Rehabilitation, Greenfield, New London Hospital, Monadnock Hospital, Peterborough, Valley Regional Hospital, Claremont, Veteran's Affairs, Manchester, and New Hampshire Hospital Association, Concord. To date, the NH3E model has been replicated by nine states: Connecticut, New York, California, Oregon, Pennsylvania, Illinois, Virginia, New Mexico and Vermont. In addition, large communities are using the model in Maryland, Michigan, Montana, and District of Columbia.

The NHPPP provides technical assistance and regulatory research to healthcare facilities through presentations, site assessments, and guidance documents.

Outreach to Motor Vehicle Salvage Facilities

NHPPP and the DES Solid Waste Program worked together on the N.H. Green Yards program to improve environmental management practices at motor vehicle salvage facilities (MVSFs).

Phase I of the program involved an intensive outreach and compliance assistance campaign, including workshops, site



visits and the development and distribution of best management practices (BMPs), fact sheets and web pages. BMPs are rules and/or voluntary standards that are essentially common-sense operating practices that are simple and economical to implement. The assistance phase was used to build a sense of environmental stewardship within the industry by forming a strong partnership among DES, the salvage community and the salvage facility trade association. To improve its understanding of the industry in the state, and to better target its efforts, DES started by distributing a questionnaire to auto recyclers. The results confirmed that many operators were not in compliance with environmental regulations and were not aware of BMPs for pollution prevention. Survey results indicated that 25 percent of respondents were dismantling and crushing vehicles over bare ground and not under a roof; 60 percent were storing fluids outside unprotected areas; and 90 percent of the operators did not have a National Pollutant Discharge Elimination System (NPDES) storm water discharge permit. This information is consistent with the agency's parallel experience in the state contaminated sites remediation program, where approximately 10 percent of the state's 200 MVSFs are now undergoing cleanup for MtBE and other significant contamination.

Phase II, which is currently being implemented, involves an environmental self-audit and compliance certification process. Starting in 2005, P2 Program staff began visiting recycling facilities that have indicated an interest in becoming a N.H. Certified "Green Yard." P2 staff audited the facility's practices and either certified the facility or gave the operators direction on what improvements they needed to make in order to become certified. To obtain certification, a MVSF must comply with the established BMPs. These BMPs emphasize fluid management and, in most cases, if a yard has followed the BMPs, it will not only meet, but exceed regulatory standards. Twenty yards were Certified N.H. Green Yards by the end of the reporting period. A recognition ceremony was conducted at the Governor and Council session in April 2006.

In addition, four guidance documents were created: *Emergency Posting Template; Spill Prevention Control and Containment Plan; Fluid Removal Checklist label; and Best Management Practices for Mobile Crushers.*

Three salvage yards that DES has been working with have significantly reduced the amount of MtBE in groundwater. To reduce gasoline spills, the NHPPP provided BMPs such as dismantling vehicles over an impervious surface, store tanks and drums in secondary containment and to always store gas tanks and oily, greasy parts in a leak proof container with a cover or inside a building.

The Auto & Truck Recyclers Association of New Hampshire (ATRA) and NHPPP organized a voluntary program to remove and recycle mercury switches from end-of-life vehicles before they are shredded and smelted. Between 2003 and 2006, NHPPP collected almost 5,700 mercury switches, which is approximately 13 pounds of mercury. On Earth Day, April 22, 2005,

Monitoring Well Samples	
MtBE Readings	
	ppb
Kingston Facility	
September 2005	436
September 2006	7
Goffstown Facility	
October 2002	69
June 2006	<1
Pelham Facility	
August 2001	150
June 2006	<3

Governor John Lynch recognized the ATRA for its efforts to remove mercury from the environment.

New Hampshire Marina Project

NHPPP partnered with the DES Watershed Management Bureau and the New Hampshire Marine Trade Association (NHMTA) to educate marina owners on regulatory issues and pollution prevention opportunities.



The NHPPP provided technical assistance and regulatory research to marinas through a workshop, site assessments, and guidance documents. During 2005 and 2006, NHPPP published *Best Management Practices for Marinas – Pocket Version*, distributed to marinas and *Eco-Safe Boating Tip*, distributed to the Department of Safety – Boater Safety Program. These documents were formatted to be used as a training tool for marina employees and their customers. Twenty-eight site assessments were also conducted.

In February 2005, DES and NHMTA hosted a workshop on wastewater discharges from vessel washing, winterization of marine engines, aboveground storage tank regulations, and the Emergency Planning and Community Right to Know Act.

The focus of the project was to collect results-oriented measures of success through site visits and surveying techniques. NHPPP wanted to prove that those marinas that attend a workshop were more likely to make behavioral and procedural changes at their facilities versus non-attendees.

Results indicate that 88 percent of marinas that attended the workshops are in compliance with the discharge rules and that an estimated 70,125 gallons of wastewater was prevented from entering surface waters. This is in comparison to the 73 percent of marinas that did not attend a workshop and are in compliance with the discharge rules. Results also indicate that 71 percent of marinas that attended the workshops are storing marine engines with a minimal amount of antifreeze and prevented an estimated 17,129 gallons of antifreeze discharged to surface waters. This data was compared to the 31 percent of marinas that did not attend the workshops who are minimizing the amount of antifreeze discharged to surface waters.

Greening the State Fleet

In 2005, the State of New Hampshire implemented Executive Order No 2005-4, an order for state government to lead-by-example in energy efficiency, including the Clean Fleet program. The Governor requested DES to take the lead on this project to implement and promote the Clean Fleet program to other state agencies. DES successfully revised the State's Purchasing Policy to require fuel efficient vehicles with a written exemption request required for less efficient vehicle purchases.

The NHPPP assisted with the development and implementation of an outreach and education program for State agencies, based on existing initiatives, to promote improved practices with

existing vehicles, provide information on available alternative fuel vehicles and hybrids and provide site assistance, when requested. DES reviewed current efforts conducted in partnership with the N.H. Auto Dealers Association, American Lung Association, Appalachian Mountain Club and Granite State Clean Cities Coalition.

In order to obtain a reasonable estimate of the annual emissions produced by different types of state vehicles, an emission calculator was selected from a website called hybridcars.com (www.hybridcars.com/calculator/index.php). This program was selected because it could provide reasonable emission estimates without requiring extensive details about each vehicle. The program’s calculations are based on information found in the *ACEEE’s Green Book: The Environmental Guide to Cars and Trucks*.

For this study, an average of 15,000 miles per year per vehicle was assumed in all calculations. The program displays emissions from the vehicle in pounds per year, as well as the average gas consumption.

56 State Vehicles Purchased and Replaced with Energy Efficient Vehicles				
	Emissions (2005)	Emissions (2006)	Difference per Year	Total Reduction After 7 Years
Pounds				
Carbon Dioxide	628,874	587,172	41,702	291,914
Carbon Monoxide	19,032	18,610	422	2,954
Nitrogen Oxide	566	554	12	84
Hydrocarbons	457	442	15	105
Particulate Matter	14,503	14,280	223	1,561

Green Slopes

The diversity of services and operations at ski areas create a multifaceted environmental impact. For most ski areas, that includes chemical and water use, energy consumption and related air pollution, and solid and hazardous waste generations. With this in mind, DES is providing practical, proven techniques and technologies to reduce environmental impacts and to identify resources for New Hampshire ski area personnel to obtain further information.



Starting in 2006, DES partnered with the National Ski Area Association (NSAA), Ski New Hampshire, and other state agencies to conduct a baseline assessment, site assessments, workshops, and outreach material to reduce ski areas’ environmental impact. In addition, NHPPP conducted four site visits to ski areas and created a web page. This project is ongoing and will be completed over the next two years.

VIII. DES Integration

DES encourages integration of pollution prevention within its programs. The following activities were undertaken during the reporting period to incorporate P2 into daily routines within DES.

Pollution Prevention Strategic Goals

During the reporting period, DES continued to follow its strategic goals within the *New Hampshire Department of Environmental Services Strategic Goals and Objectives 2003-2007*.

The purpose of the “Pollution Prevention and Sustainability” Goal is to:



Encourage best efforts to prevent pollution before turning to recycling, treatment and/or disposal of the materials causing pollution. Eliminate or reduce the toxicity and absolute volumes of waste materials. Eliminate accidental pollutant releases to the environment. Conserve materials, energy, and water in order to move toward a sustainable society.

Recommendations incorporated into the *Strategic Goals and Objectives* included:

- Integrate P2 concepts into all aspects of regulatory programs in order to maximize environmental benefits and reduce permitting and regulatory requirements where possible.
- Identify and pursue actions that minimize DES’s environmental impact.
- Partner with other assistance providers (internal and external) and stakeholders to promote the benefits of P2 and environmental management systems.
- Promote a safe and healthy environment for New Hampshire’s most at-risk populations.

Existing initiatives that encourage pollution prevention in regulatory programs include: inserting language in letters of deficiency issued to companies that have been inspected and shown to have compliance issues; incorporating P2 actions into supplemental environmental projects; providing NHPPP materials to regulatory inspectors for distribution at regulated facilities; training inspectors on how to recognize P2 opportunities; working with regulatory programs to refer appropriate facilities to the NHPPP for assistance; and incorporating P2 information into training programs conducted for the regulated community, such as those targeted to hazardous waste generators, large and small.

Supplemental Environmental Projects

DES encourages the use of supplemental environmental projects (SEPs) in enforcement cases against violating companies. SEPs are environmentally beneficial projects that a company agrees to perform as part of an enforcement action. The SEP offsets part of the penalty and involves a project that the company is not otherwise required to perform. SEPs that use pollution prevention benefit the company (helps them stay in compliance, reduce waste and save money), DES (less time and effort spent to regulate companies that are in compliance), and the environment (less pollution generated). In 2006, Plymouth State University (PSU) created a SEP

as part of its settlement of an EPA enforcement action. PSU is working with New Hampshire schools to remove unwanted hazardous materials and wastes. NHPPP is providing technical assistance and support to PSU for this project. The SEP is scheduled to end December 2007 unless PSU requests an extension from EPA.

DES Pollution Prevention Training

Starting in 2003, the NHPPP began offering pollution prevention training to DES staff and to our partners through web conferences and in-house training. The web conferences are sponsored by Northeast Waste Management Officials' Association and hosted by NHPPP. NHPPP provides the space and the technology to participate in the web conferences that highlight experts from all over the United States. Web conferences during the reporting period included:

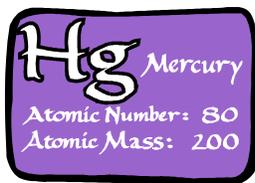
- Climate Change – January 2005
- Models for Working with Municipalities – February 2005
- Supply Chain Management – March 2005
- Social Marketing Strategies – April 2005
- Survey Design and Administration – February 2006
- Stormwater Best Management Practices – April 2006

NHPPP also provided in-house training to DES staff on grant activities.

- Marina Best Management Practices – June 2005
- Motor Vehicle Salvage Yard Best Management Practices – June, July and October 2005
- Pollution Prevention Basics – September 2005

IX. Mercury Waste Reduction

New Hampshire Mercury Reduction Strategy



The NHPPP continues to be closely involved in state, regional, national and international mercury reduction efforts in accordance with the *New Hampshire Mercury Reduction Strategy* published in October 1998. DES met its initial goal of reducing mercury emissions by 50 percent by the end of 2003 and is diligently working toward a 75 percent reduction by 2010.

New projects initiated during the reporting period include development of a partnership with TrueValue Hardware stores for recycling of fluorescent lamps and mercury collection programs from dental offices, schools, and motor vehicle salvage facilities.

Mercury Amalgam Rules

RSA 485-A:4 directed DES to develop rules for the environmentally appropriate disposal of dental amalgam, which is 50 percent mercury. To implement these requirements, NHPPP staff worked with a stakeholder group to draft regulations that require dentists to install amalgam separators with a removal efficiency of a minimum of 95 percent. The rules implementation date was October 1, 2005. Approximately 93 percent of dentists that handle amalgam installed the required equipment and as a result collected over 36 pounds of mercury. DES will continue to work on bringing the remaining dentists into compliance.

Interstate Mercury Education and Reduction Clearinghouse

In order to implement the mercury product notification provisions of Chapter 278; RSA 149 M:51 through M:57, New Hampshire joined with several other Northeastern states with similar provisions to form the Interstate Mercury Education and Reduction Clearinghouse (IMERC) in late 2001. The Northeast Waste Management Officials' Association administers IMERC on behalf of the member states. IMERC serves as a central point of contact for manufacturers and distributors that are required to submit information on the type and amount of mercury-added products that they produce. New Hampshire served as the chair of IMERC in its first year of existence and continues to be an active member of the Clearinghouse. During the reporting period, several new states from outside of the Northeast have joined IMERC, including Illinois, Washington and California, increasing the influence of the Clearinghouse.

New England Governors/Eastern Canadian Premiers

The P2 coordinator also continues to be involved in Northeastern and international efforts to reduce mercury. Under the auspices of the New England Governors/Eastern Canadian Premiers, a Regional Mercury Task Force (MTF) was formed in 1998 to work on 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 MTF, emissions in the region have been reduced by greater than 60 percent.

Fifteen Mile Falls Mercury Reduction Project

In 2005, DES received funds through an agreement reached during the re-licensing process for the Fifteen Mile Falls Dam on the Connecticut River. The funds originate from a specially constructed Mercury Reduction Fund set up by dam owner TransCanada Inc. The monies were used for mercury projects in the Connecticut River Valley Watershed, including collection of mercury from schools and dentists and a fluorescent lamp recycling initiative.

New Hampshire Schools

Elemental mercury is often a problem in middle and high schools. Most middle and high schools do not have programs or budgets that allow for proper storage and disposal of unwanted, unused or out-of-date chemicals. Many chemistry programs have used elemental mercury for educational purposes in the past and many chemistry programs may have large, glass, mercury-containing thermometers and barometers. Lab thermometers contain three to four grams of mercury; barometers can contain 500 grams and both are easily broken. NHPPP removed elemental mercury, mercury compounds, and mercury containing devices from three Connecticut River Valley Watershed schools in 2005 and 2006.

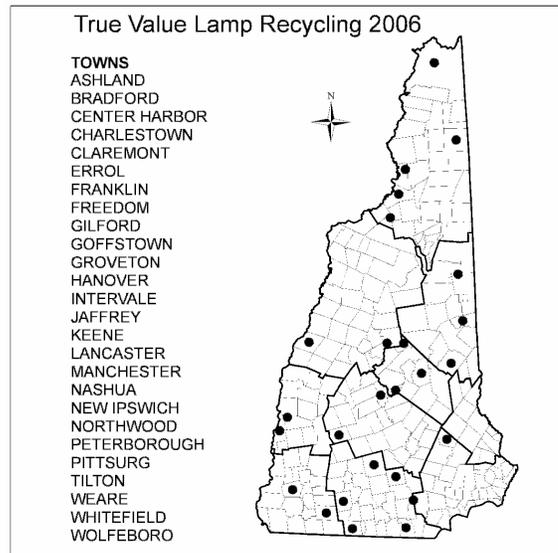
School	Town	Mercury
Fall Mountain Regional High School	Charlestown	22 pounds
Hanover High School	Hanover	17 pounds
Woodsville High School	Woodsville	9 pounds

Dental Mercury Recycling

The NHPPP coordinated a free mercury recycling program for dental offices in 2006. Approximately 133 dental providers are located in the Connecticut River Valley Watershed. Thirteen dental offices located in Bath, Berlin, Claremont, Jaffrey, Keene, Lebanon, Littleton, and Walpole participated in the program in 2006. A total of 19.2 pounds of mercury was collected.

Fluorescent Lamp Recycling Partnership with True Value Hardware Stores

Although fluorescent lamps save energy, thereby benefiting the environment, all fluorescent lamps contain mercury. Because there are few recycling or disposal options for homeowners or small businesses, only 20 percent to 30 percent of spent fluorescent lamps are properly recycled; the rest are generally tossed in the trash. True Value hardware stores have teamed up with the NHPPP to offer free lamp recycling for New Hampshire residents and small businesses for up to six fluorescent lamps per visit.



X. Pollution Prevention in 2007-2008: Looking Ahead

Pollution prevention assistance has evolved considerably since the concept first became widely known in the early 1990s. State and federal agencies need to be able to address changing environmental issues as well as changing customer needs. In 2007-2008, in addition to core program functions, the NHPPP will focus on the following key areas.

Outreach to Motor Vehicle Salvage Facilities and Municipalities

In 2007, the NHPPP is working with New Hampshire's 234 municipalities to educate municipal officials on existing and new responsibilities for licensing auto salvage yards. Due to a recent change in state law, local licensing officials must now have auto salvage yard operators certify compliance with environmental rules and regulations when applying for a required town-issued "junkyard" license under RSA 236:111-129. The workshops provided information about state and local licensing, inspection, compliance, and enforcement methods, and other helpful tools to get the job done right. In addition to municipal outreach, DES will reopen the Green Yards application process for MVSFs that wish to be certified as a Green Yard.

In 2008, the NHPPP will continue outreach efforts to the municipalities through one-on-one, small group trainings, or additional workshops to review the best management practices that are required to certify compliance for a "junkyard" license. These BMPs are based on multi-media environmental rules at the state and federal level.

Green Cleaning– Hospitality Sector

The NHPPP will reinvigorate an outreach project targeting the hospitality sector. In 2001, the Solid Waste Technical Assistance Section within DES conducted outreach to the hospitality sector on reducing waste and water consumption called *Sustainable Lodging Resources: Promoting waste reduction within the lodging industry*. The NHPPP will contact the 12 facilities that participated in the 2001 program to follow up with their programs and determine measurement results and challenges.

In addition, the NHPPP will promote “green” cleaning products and environmentally preferable purchasing. Toxic chemicals can be found in many cleaning products and can harm the health of housekeeping staff and the people staying in the hotel. By suggesting “green” cleaners, the NHPPP hopes to improve indoor air quality and minimize environmental health effects to people exposed to the chemicals as well as to reduce the toxicity of wastewater generated by the facility.

Green Slopes

NHPPP will continue assistance efforts with the New Hampshire ski industry. During Phase I, NHPPP established partnerships, conducted site visits, researched other state assistance programs and the national Sustainable Slopes project, and met with industry experts. NHPPP now has the background and expertise to assist the sector to reduce energy consumption, implement water conservation best management practices, and review hazardous waste compliance. In July 2007, NHPPP and Clean Cities Coalition sponsored a workshop entitled “Reducing Emissions One Engine at a Time” on the implementation of idling reduction programs and switching to bio-diesel to reduce air emissions. The workshop for 2008 will focus on energy conservation and solid waste recycling.

Pollution Prevention Planning Guide Update and Reissue

In 1999, DES created its manual *Planning for Profits... A Guide to Pollution Prevention for New Hampshire Businesses*. By using short, easy-to-read descriptions, good case study examples, simple worksheets and an easy-to-follow progression of elements, this manual guided the reader through the six steps of pollution prevention planning. This innovative format has been copied by several states and by nationally recognized experts such as Robert Pojasek (Pojasek & Associates). Feedback from users has been overwhelmingly positive and winners of the New Hampshire Governor’s Award for Pollution Prevention cited their use of the guide as being instrumental in setting up their award-winning pollution prevention programs. This manual has also been the chief guidance document used by interns in the very successful Pollution Prevention Summer Intern program. In 2007, NHPPP will update and distribute additional copies of the manual.

Fifteen Mile Falls Mercury Reduction Project

The NHPPP will continue to work with schools to collect and recycle mercury. We will continue to work with Plymouth State University if it receives an extension from EPA.

Common Measures Project

NHPPP is participating in a national project to develop a standard set of hazardous waste compliance indicators. Compliance surveys using eleven questions, including pollution prevention questions, are being conducted in the six participating New England states. In the

future, four states will be starting similar programs including New York, New Jersey, Colorado and California. Eventually the goal is to conduct these surveys on a national basis. Survey results will also be used to compare compliance rates between states. Fifty-six full quantity hazardous waste generators (over 100 kg of hazardous waste generated in a month) were selected for this compliance survey at random from our database. In 2008, the states will conduct survey auto body and repair shops.

DES Strategic Goals and Objectives 2003-2007

Over the next several years, DES will continue to place increased emphasis on integrating pollution prevention into all its programs, including compliance assurance, permitting and assistance. In addition, DES will continue to examine its own operations and those of other state agencies in order to become more efficient and environmentally conscious. DES's pollution prevention goals can be found at www.des.nh.gov/mission.htm#guiding.

XI. Conclusion

Pollution prevention clearly benefits both New Hampshire businesses and the environment. New Hampshire companies are using P2 and environmental management systems **every day** to increase their profits. P2 helps companies improve their bottom line by eliminating waste and wasteful practices and encouraging a more efficient use of raw materials and resources, including water and energy. P2 protects the environment by reducing or eliminating hazardous waste generation, toxic water discharges and hazardous air emissions. One of the best ways for businesses to explore their pollution prevention options is to contact New Hampshire Pollution Prevention Program.