



**State of Rhode Island
Department of Environmental Management
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**2000 Annual Report
Text Only Version**

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Our Mission

Enhance the high quality of life for this and future generations by protecting, managing, and restoring the natural resources of the state; enhancing outdoor recreation opportunities; protecting public health; and preventing environmental degradation.

Guide the use of the state's natural resources to provide for sustainable economic opportunity while sustaining our natural environment.

Motivate citizens of the state to practice an environmental ethic based upon an understanding of their environment, their dependence on it, and the ways in which their actions affect it.

Our Goals

Clean Air

The air throughout the state will be healthy to breathe, and air pollutants will not damage our forests, land and water bodies.

Clean and Plentiful Water

Rhode Island's rivers, lakes and coastal waters will be fishable, swimmable, and support healthy ecosystems. Surface and ground water will be clean sources of water. Adequate quantities of surface and ground water will be available for present and future uses, provided they are sustainable practices.

Livable Communities

Rhode Island's communities will be free from unacceptable human health and ecological risks from exposure to hazardous substances and other potentially harmful agents. Natural resources will be managed to protect the public from floods and fires. Communities will increase their capacity to plan for growth in a way that minimizes negative impacts on the environment, community character, and contributes to a sustainable economy.

Healthy Ecosystems

The health, diversity and integrity of Rhode Island's ecosystems will be restored, protected, enhanced and sustained.

Natural Resource-Based Industries

Agriculture, fisheries, forestry, and tourism will be affordable and sustainable activities will employ best management practices to protect common resources, and will be supported as resource stewards and key sectors of the state economy.

Abundant Open Space and Recreational Opportunities

Natural and scenic landscapes will be preserved and all citizens will have easy access to well-maintained parks, forests, wildlife areas and historic sites. Open space and recreational opportunities will be improved in both rural and urban settings.

Open and Effective Government

The Department will fulfill its mission and achieve its goals with the involvement and support of citizens and stakeholders.

Introduction

The Rhode Island Department of Environmental Management is pleased to present its annual report for the year 2000.

It was a busy and challenging year. Some challenges were expected, such as the need to deal with the West Nile Virus; others tested our ability to respond on an emergency basis, notable examples being the oil spill in Narragansett Bay and the tanker truck rollover on the banks of the Pawtuxet River. In each case, the Department and its partners were able to minimize public health, environmental and economic impacts. The Department also produced results in more traditional areas, such as a huge increase in land protection, ten major wastewater

discharge permits that will cut down significantly on the discharge of nutrients and other pollutants, and significant reductions in backlogs, especially in the area of enforcement.

Our sustainable watershed initiative produced water quality restoration plans for specific water bodies, new manuals for innovative and more sustainable land use, and grants to fund reforestation and wetland restoration projects in South County and the Woonasquatucket watershed. We also launched new initiatives to deal with greenhouse gases, dam safety and the long-term upkeep of our park system.

The Department adopted new inspection guidelines, conducted public evaluations of its wetland and septic system permitting programs, began professional development reviews with nonunion staff, and instituted a vehicle use policy that has reduced commuting use of state vehicles helping us improve the reliability of our fleet.

We gratefully acknowledge the leadership and support provided by Governor Almond, as well as the interest and support of the General Assembly, which is allowing us to retool ourselves into a more efficient and effective agency. We also thank our many partners in the business and environmental communities who help us produce results. Our most special thank-you, however, goes to the DEM staff, for being dedicated and responsive, sometimes under difficult circumstances and often with limited resources.

We hope you find this report informative and welcome any feedback you may have for us.

Jan Reitsma, Director
Fred Vincent and Malcolm Grant, Associate Directors
Alicia Good, Terrence Gray and David Borden, Assistant Directors
Bob Ballou, Chief of Staff

Program of the Year – Compliance and Inspection

The year 2000 saw several success stories for which staff in many programs deserve credit. The Office of Compliance and Inspection (OCI), however, turned in a truly outstanding performance, not only in terms of the work it got done, but also by posting a year-end program report that sets a new standard within the Department for accountability. The report not only describes activities but also presents the environmental results from those activities, for example by quantifying waste materials removed and wetland acres restored. The report can be found at www.state.ri.us/dem/programs/benviron/compinsp/index.htm. Hats off to OCI managers and staff for a job well done and for showing the rest of us that (and how) it can be done.

The Office of Compliance and Inspection was formed from several DEM programs in 1996 to provide a single point of contact for responding to complaints from the public and to provide timely and consistent enforcement of significant violations. In 2000 the Office investigated 4,227 complaints and conducted 632 inspections at businesses throughout the state. Formal enforcement actions in 106 cases included assessment of over \$3,000,000 in penalties. In addition, 53 cases begun in previous years were settled, which led to the collection of over \$700,000 in penalties, \$113,000 for responding to emergencies and \$224,000 for supplemental environmental projects for restoring and improving our environment.

The Emergency Response program minimized the impact of hazardous materials on Rhode Island's land, air, and water in 2000. Staff removed and recovered over 500,000 gallons of oil, 2,800 cubic yards of contaminated soil, over 50,000 gallons of hazardous chemicals, 7,200 gallons of sewage, and 50 cylinders of compressed gas.

Underground storage tanks can pose a threat to water quality if not properly maintained or removed. Extensive follow-up to the 1998 deadline for upgrading underground storage tanks, including formal enforcement of 54 cases resulted in 119 non-compliant tanks being closed and 30 facilities coming into compliance. Staff conducted 40 inspections to make sure that upgraded systems were operating correctly. As a result, 21 Letters of Non-Compliance were issued to businesses directing them to correct their operations. Virtually all non-compliant operators have been cited.

Lead poisoning is a serious public health threat in Rhode Island, especially for children exposed to lead paint from homes. The Office responded to 135 complaints about the improper removal of lead paint from the outside of buildings. Over 75 follow up inspections were conducted ensuring the clean up of 31 properties.

The Office has also been proactive in preventing water pollution and restoring wetlands in Rhode Island. In 2000, staff conducted 390 inspections of alleged water pollution problems and responded to all the complaints received. They conducted over 1000 wetlands investigations, eliminating a significant backlog of complaints. As a result of inspections and follow-up actions, 36 wetland restoration projects were agreed to. About 4.2 acres of wetlands and 8.2 acres of upland buffer were restored. Staff inspected 735 septic systems, responding to all complaints received in 2000. As a result of these inspections and follow up actions, 168 septic system violations were corrected.

Open and Effective Government

The Department moved forward with initiatives to improve accountability, responsiveness and service delivery.

Work Plans

The year 2000 was the first full year in which the Department's activities were guided by work plans that focus on getting all programs to contribute to meeting the Department's mission and goals, and on producing real environmental results. The Department now monitors on a regular basis how much progress is being made towards specific targets and deadlines. A report evaluating performance in Fiscal Year (FY) 2000 and updating the FY2001 portion of the current work plan can be viewed or downloaded at www.state.ri.us/dem/pubs/index.htm. The Department hopes to have a new two-year work plan for FY2002-3 completed by July 1, 2001.

The Department also implemented the first phase of a Professional Development Review program which focuses in part on how each individual can contribute to the goals of the Department and his or her particular program. The first phase involved nonunion staff only.

E-Government

The Department established a new Information Technology Unit to oversee and facilitate the use of information technologies that can make its operations more efficient and improve the quality of its products and services.

Web Site and Geographic Information System. We revamped the DEM web site. Besides having a new and improved look, the site is easier to navigate, offers more information and links to yet more information, and gets us started on the road to interactive use. For example, check out the Geo-Data Viewer at www.state.ri.us/dem/maps/index.htm This interactive mapping tool was initially developed using Oil Spill Planning and Response funds for the purpose of helping staff and partners identify resource areas needing action in the wake of an oil spill and providing updated maps of the extent of the damage. The Department is expanding use of this technology in other areas such as storm water management, open space protection and local planning for smart growth.

Permit Tracking. The Department completed design of the new computerized tracking system that will help us track applications and process them more quickly and efficiently. Phase-in of the system has begun with the Office of Air Resources and will be completed later this year. The Department secured a \$500,000 EPA grant that will allow us to link permitting data to monitoring and compliance data. Besides helping the Department streamline its regulatory processes, the system will also provide applicants and other interested parties with access to application status and more general environmental data, maps, etc.

Permit Streamlining

Recognizing that a computer system will not by itself streamline our regulatory process, the Department started a series of Task Forces to evaluate each and every permit program, identify problems experienced by staff and applicants, prioritize them and propose legislative, regulatory, policy and/or administrative changes to fix them. The Task Forces include representatives from the environmental and business communities, lawyers, consultants and citizens. The first Task Force completed its work on the wetlands program. Among its proposals are changes to minimize confusion about CRMC Vs. DEM jurisdiction over wetlands, improve the scientific foundation for review standards, provide incentives for restoration and revitalization projects, reduce and simplify fees, encourage pre-application meetings and other ways to improve the quality of applications, shorten permit time frames and make

them more predictable, and place more emphasis on public education. The report is available at www.state.ri.us/dem/programs/ombuds/pstream/wetlands/index.htm. Another Task Force started evaluating the Individual Septic Disposal System permit system.

Stakeholder Input

In addition to the Task Forces, the Environmental and Business Roundtables met quarterly to provide input on policies, plans and regulations. The Business Roundtable weighed in on the Department's arsenic policy and developed a brochure with guidelines for above ground fuel oil storage for residential and small commercial application. The Environmental Roundtable provided feedback on the West Nile Virus response, lead and mercury policies, and management of non-point source water pollution. Both groups had input on the inspection guidelines published in 2000. The Department also worked with the Central Landfill Action Committee in Johnston and responded to its recommendations with a specific action plan to address odor and other community concerns. Several other stakeholder groups worked with the Department on the development of new regulations over the course of the year.

A major new stakeholder initiative involved the fishing industry. Following up on the General Assembly's enactment of a moratorium on commercial fishing licenses, the Department worked with the Governor's office, legislators, fishermen and the Coastal Institute at URI to craft a process in which affected parties tackle the thorny and often controversial issues relating to the protection of both natural resources and fishermen's livelihoods. Meetings are held weekday evenings and on Saturday afternoons. More information is available at www.ci.uri.edu/projects/rifish.

Fair and Effective Enforcement

Thanks to a dedicated effort by the Office of Compliance and Inspection (highlighted on page 2), the Department improved its ability to respond to complaints by reducing backlogs. Special attention was given to the need to resolve compliance matters more quickly, and not letting appeals and adjudication delay resolution unnecessarily. Of the 562 informal enforcement actions issued by the Department in 2000, 81% were resolved without the need for formal enforcement. The Department also finalized its Inspection Guidelines to help its staff conduct regulatory inspections in a manner that does not unnecessarily intrude on the rights and expectations of private property owners. The guidelines are posted at www.state.ri.us/dem/programs/benviron/compinsp/index.htm.

Clean Air

Over the past 30 years, Rhode Island's air quality has improved dramatically. The Department is now increasing efforts to control the more difficult forms of air pollution.

Vehicle Inspection & Maintenance (I&M) Program Reduces Ozone Forming Pollutants

Air quality is affected by a variety of air pollutants such as ground level ozone (smog) formed from emissions of volatile organic compounds (VOC) and nitrogen oxides (NOx). High ozone levels can cause breathing problems in healthy people and trigger asthma in sensitive individuals.

As the maps show, projected emissions from power plants and industry are down in Rhode Island and other Northeast states. The enhanced vehicle Inspection/Maintenance (I/M) Program that began in January 2000, is the State's main strategy for reducing tail pipe emissions, the major remaining cause of ozone. Last year 545,458 cars were tested with the new technology. Repairs to vehicles that were out of compliance reduced their emissions of VOCs by 65%, NOx by 45% and of carbon dioxide (CO) by 79%.

Since we can't solve our smog problem unless areas upwind of Rhode Island reduce their emissions, DEM and other northeast states worked with EPA and other stakeholders to significantly reduce mid-west power plant emissions. Since a court ruling in March 2000 upheld EPA's reduction program, we expect about 1 million tons of NOx emissions to be eliminated in 2003 and 2004.

Tracking and Cutting Soot

Fine Particulate Levels Higher in Cities

Early data from DEM's three-year fine particulate (soot) monitoring effort shows higher concentrations in cities than in rural areas. On at least three days during 2000, the soot levels were considered by EPA standards to be "unhealthy for sensitive populations", such as children, the elderly, and people with respiratory or cardiac diseases. Expanded monitoring in 2001 on the composition, sources and daily variability of fine particulates will help determine whether Rhode Island meets the air quality standard.

Fixing the 20% of heavy-duty diesel trucks and buses that are heavy smoke emitters will greatly reduce soot. Last year the Department drafted regulations to inspect heavy-duty diesel fueled vehicles. Next steps include roadside smoke testing of diesel vehicles and requirements for heavy smoke producers to be fixed.

Air Toxics Project Will Gauge Need for Action

Although air toxics emissions from industry dropped significantly since DEM's air toxics program began in 1988, Rhode Island, like most areas in the country, has persistent high levels of air toxics. Levels in urban areas may be higher still.

RI was 1 of 4 states to win a \$500,000 EPA grant to measure air toxics in cities and to help design a national air toxics monitoring system. DEM and the RI Department of Health will begin a one-year monitoring program to measure the levels of toxic metals and gases, including chromium, nickel, cadmium, formaldehyde, benzene, and chlorinated solvents at five Providence-Metro sites. The results will be distributed to members of the community and used to determine whether further reductions in air toxic emissions in RI are needed.

Since air pollution moves so readily across political boundaries, the Department works in regional and national groups such as the Ozone Transport Commission, the Northeast States for Coordinated Air Use Management, and State and Territorial Air Pollution Program Administrators/ Association of Local Air Pollution Control Officials. Such regional efforts will soon pay off in reduced ozone emissions from the mid-west. RI is part of a northeast coalition that has developed mercury and acid rain action plans in similar efforts to curtail mercury, acid rain and greenhouse gas emissions.

Mercury Reduction Ahead of Schedule

DEM expects to see mercury emissions eliminated by 2003, ahead of other states that still have major sources such as coal burning power plants and solid waste incinerators. In 2000 DEM promulgated regulations that will eliminate emissions from Rhode Island's major source of mercury - medical waste incinerators. DEM also worked with the Governor's Office to introduce legislation similar to model legislation developed by the mercury coalition to eliminate unnecessary mercury content in products.

Stakeholder Group to Reduce Greenhouse Gases

Greenhouse gas emissions are associated with virtually every social and economic activity. The harmful effects of greenhouse gases such as climate change and sea level rise could threaten the health, safety and economic well being of Rhode Islanders by increasing concentrations of ground level ozone, flooding low lying properties, submerging coastal wetlands, eroding beaches and causing saltwater contamination of drinking water.

How are we tackling this problem in Rhode Island? In 2000 Brown University completed an inventory of Rhode Island's greenhouse gas emissions for the Department. The Department, the State Energy Office, the Governor's Office and representatives from non-profit organizations, manufacturing companies, utility companies, and the general public began meeting to review the inventory and develop a framework for creating a greenhouse gas action plan to reduce emissions in Rhode Island. The Action Plan, which will be completed by September 2002, is expected to include strategies for energy efficiency, innovative technologies, waste management, transportation and smart growth to meet a greenhouse gas reduction target set by stakeholders.

DEM Leads the Way with Clean Fuel Vehicles

In 2000 the Department replaced 18 gasoline powered vehicles with alternative fueled vehicles to promote clean air and to conserve energy. Two electric vehicles are used in state parks. The remaining 16 compressed natural gas vehicles are allocated to several divisions.

Clean Water

In 2000, the Department made progress combating widely dispersed pollution from sources such as runoff and septic systems as well as nutrients from wastewater treatment, and began closing the gaps in our knowledge of water quality conditions.

State of the State's Waters

The 2000 edition of the State of the State's Waters Report (305(b)) found that bacteria and nutrients are still the major contaminants, and that conditions in large portions of our lakes and rivers are unknown. For assessed waters, 67% of river miles, 83% of total lake acres, and 69% of coastal square miles fully support all designated uses. Seventy-five percent of designated shellfishable waters fully support shellfishing. However, the condition of 53% of river miles and 24% of lake-acres is still unknown. To close these gaps, the Department will develop a comprehensive monitoring strategy in 2001. To view the State of the State's Waters Report, see www.state.ri.us/dem/pubs/305b/index.htm.

Restoring Impaired Waters

The Department will conduct water quality restoration projects (Total Maximum Daily Loads or TMDLs) to restore the 125 water bodies on the 2000 update of the 303(d) impaired waterbodies list. The Department completed projects for the Runnins and Hunt Rivers, and Fry and Scrabbletown Brooks in 2000. To view the 303(d) list visit, www.state.ri.us/dem/pubs/303d/index.htm. See TMDL reports at www.state.ri.us/dem/programs/benviron/water/quality/rest/index.htm.

Nutrient Reduction

Most of the nutrient pollution in our waters comes from municipal wastewater treatment facilities that discharge to rivers and the upper bay. We estimate that nutrient removal at 11 facilities will eventually reduce the amount of nutrients discharged to the upper bay by about 35%. In 2000, the Department re-issued 10 major Waste Water Treatment Facility permits, significantly reducing the permit backlog. Six of the 10 permits contained requirements for nutrient removal. Planned improvements for the Cranston, Warwick, and West Warwick facilities will result in a 65% reduction in nitrogen and a 70% reduction in phosphorus released into the Pawtuxet River, raising oxygen levels and reducing algae growth in the river.

DEM approved two more nitrogen-reducing septic system technologies in 2000, doubling the number of technologies available for septic systems near sensitive or critical waters. The systems remove 50 - 70% of the nitrogen in wastewater discharges compared with 10% for conventional systems. The additional approvals offer more varied options to homeowners.

DEM is also updating the Storm Water Phase II regulations in an effort to protect our water resources from polluted storm water runoff. The Department coordinated meetings of the Phase II Storm Water Work Group meetings comprised of municipal officials, conservation districts and commissions, universities, nonprofit groups and consultants to help develop the new regulations. We will continue to work with the public through meetings, updating the Phase II website (www.state.ri.us/dem/programs/benviron/water/permits/ripdes/stwater/index.htm), hosting a public workshop, and developing guidance documents.

Clean Water Bond

RI voters overwhelmingly approved Clean Water 2000, a \$60 million bond that, when leveraged with existing state and federal resources, will make available up to \$215 million in loans for projects such as nutrient reduction, wastewater treatment facility modifications, and sewer extensions, with \$70 million earmarked for Narragansett Bay Commission Combined Sewer Overflow control.

Non Point Source Pollution Curbed with Grants to Municipalities

Non-point source (NPS) pollution - which includes discharge from failing septic systems and uncontrolled runoff from lawns, farms and construction sites - impacts at least 85% of lakes and streams in Rhode Island. Abatement

often requires local action. This year DEM gave municipalities 11 grants totaling \$668,862 for infrastructure improvements and program planning to better control NPS pollution.

Septic Systems and Soil-Based Siting

The Department prepared a temporary rule change to phase in requirements for soil evaluations for all new septic systems starting February 1, 2001, paving the way for adoption of permanent soil evaluation rules. The final rules will take into account public comments received during the interim. The soil evaluations provide for more accurate year-round siting of septic systems, greater environmental protection and more durable systems. The Department tested and licensed 45 soil evaluators last year for this purpose.

Livable Communities

Quality of life is key to Rhode Island's environmental and economic health. DEM is combining traditional programs such as clean air, clean water, waste management and open space with initiatives to improve quality of life. Today, less traditional initiatives focus on sustainability in land use, economic activity and resource management, and safety issues.

Sustainable Watersheds

Watershed Partnerships

In 2000, the Department continued to work in watershed partnerships with many stakeholders on regional and ecosystem-based solutions to issues that cross boundaries, such as restoring water quality, remediating contaminated sites and preserving significant landscapes. Watershed teams won US Forest Service grants totaling \$200,000 for greenspace plans to identify, protect and restore key natural and cultural resources. Both teams are developing Action Plans for completing priority projects.

The South County Watershed partners focussed on land use and growth. They published the South County Design Manual, South County Watershed Model Land Use Ordinances, Rapid Site Assessment Guide, and Farmland and Forestry Strategies, including a report on a Transfer of Development Rights program in Rhode Island. These documents will be available on our homepage at <http://www.state.ri.us/dem>.

The Woonasquatucket watershed team focussed on remediating contaminated sites and restoring habitat for bikeways and greenways. DEM conducted sampling and developed a remediation plan for the Lincoln Lace and Braid site and used oil spill prevention funds to clean up underground storage tanks at the Riverside Mills site. The Department coordinated cleanup of the Centredale Manor Superfund site and Allendale Dam in preparation for eventual replacement of the dam. The team used a \$67,000 US Forest Service grant to identify 40 sites along the river for reforestation. They are establishing a reforestation demonstration site at the Riverside Mills, seeking funds to restore sites and developing a website to showcase restoration costs and benefits.

Governor's Growth Planning Council

In February 2000, Governor Almond established a Growth Planning Council to examine Rhode Island's development patterns. The Council, co-chaired by DEM Director Jan Reitsma and Economic Development Corporation Director Tom Schumpert, will establish a Planning Institute to train local officials and citizens on issues such as contemporary planning and land development law. The Council will identify opportunities within state programs that encourage sustainable growth, develop tax reform recommendations related to land use policy, and explore the expansion of local GIS capacity.

Public Health and Safety

West Nile Virus (WNV)

In the winter of 1999/2000, DEM, the Department of Health (DOH) and municipalities developed a monitoring, education and response program to protect Rhode Islanders from the mosquito borne West Nile Virus (WNV). DEM and DOH monitored and tested dead birds and adult mosquitoes. The departments also mounted an

aggressive outreach campaign that urged the public to use repellents, avoid high-risk situations and eliminate home and yard breeding places.

The Department trained municipal officials and provided larvicide for high-risk breeding areas such as catch basins and retention ponds. The Department provided pesticides and truck mounted sprayers in fifteen communities to kill adult mosquitoes in accordance with Center for Disease Control guidelines. The 2001 program will feature expanded monitoring and larviciding, broad public education, and reduced spraying of broad-spectrum pesticides.

Dam Safety

In May 2000, Governor Almond established a Dam Safety and Maintenance Task Force to develop recommendations to improve the state's dam safety program. Co-chaired by Adjutant General Major Reginald Centracchio, head of the RI Emergency Management Agency, and DEM Director Reitsma, the task force addressed such key needs as registering and updating the classification of more than 500 dams, more in-depth evaluation of the condition of high and significant hazard dams, inspection and engineering standards, involving cities and towns in emergency prevention and response, and especially reducing and spreading the cost of dam repairs.

The Dam Safety and Maintenance Task Force final report, completed in early January 2001, provides recommendations on all of these issues, including draft legislation to establish a grant and low interest loan program. The report can be reviewed at www.state.ri.us/dem/pubs/index.htm. The Department received a \$45,000 grant from the Federal Emergency Management Agency to reclassify up to 75 dams to reflect development changes that have moved more people and property into potential high hazard areas. The Department also continued work on state-owned dams, including rebuilding the Bowdish Reservoir dam in Gloucester (to be completed in 2001) and design for repairs to the Stillwater Reservoir dam in Smithfield (to be built in 2002).

Environmental Emergencies

Major Oil Spills and Clean Ups

In 2000, the Department responded to three major oil spills. On July 5 the barge Penn 460 was penetrated by its tug and leaked 14,000 gallons of number 6 heating oil into Narragansett Bay between Prudence Island and Middletown. The response team could mobilize an immediate and thorough response because DEM, the Coast Guard and the Navy had trained staff and acquired equipment since the North Cape spill. Equipment includes the skimmer boat that separates oil from water it has scooped up and a mass spectrometer that URI uses to analyze water samples immediately. The analysis showed that the oil stayed on the surface, sparing lobsters on the bottom. DEM worked with fishermen to get their pots out quickly and met with them through the week to keep them informed. The closure of the 4400-acre fisheries area lasted just 7 days. Six of the 47 birds that were oiled died. Natural resource damages are still being assessed.

On July 20, a tanker truck overturned on Routes 95 & 37 in Cranston, dumping 11,700 gallons of jet fuel that ignited, burning everything in the immediate area. The Department and partners recovered about 1,025 gallons of fuel and water and about 400 cubic yards of contaminated soil. In March, DEM cleaned up a 7,000-gallon gasoline spill in Cumberland where part of the Mobile Pipeline was pierced by a backhoe, removing more than 20,000 gallons of gasoline-contaminated water and about 1,500 tons of gasoline-contaminated soil.

The Department removed the last of about six million tires from the Davis Tire Pile in Smithfield on December 12, 2000, ending the single largest environmental threat in Rhode Island. DEM and EPA are working with responsible parties to clean up hazardous wastes on the property. The Department also worked with partners to remove about 50,000 tires from a Providence warehouse and obtained a Court order requiring removal of about 40,000 tires on property near the Scituate Reservoir.

Addressing Solid Waste Problems

During 2000 the Department responded to 171 solid waste complaints. Cases in Coventry and Johnston show how the Department works with stakeholders and enforcement officials to address these problems. In Coventry, Global Recycling has been closed since October when the Superior Court acted on DEM's petition to require compliance with solid waste laws, while the Department negotiates for permanent closure and site cleanup.

In Johnston, the Department addressed odor complaints from three sites. In January 2000 the Department began working with a committee of residents, elected officials, RI Resource Recovery Corporation (RIRRC) and regulatory agencies. RIRRC, DEM and the Department of Health developed a plan to address 40 committee recommendations that is being implemented. Committee recommendations also led to changes clarifying and strengthening the Solid Waste Act. Superior Court actions with the Attorney General's Office resulted in corrective action to control odors from two sites, a 58,000 cubic yard construction and demolition site next to a condominium complex, and a storm water settling basin at Metals Recycling.

Healthy Ecosystems

Our ecosystems have changed dramatically over 300 years due to human action, such as cutting forests, filling wetlands and discharging pollutants. Rhode Islanders have formed partnerships to revive damaged ecosystems and protect critical habitats and resources.

Bay Summit Spurs Partnership

In April 2000, DEM worked with CRMC and others to organize the Narragansett Bay Summit 2000 where over 350 citizens, fishermen, scientists, resource users, legislators, and state and federal agency officials explored the relationship between Narragansett Bay and the regional economy, covering issues such as fisheries, tourism, marine transportation, and other uses of the Bay's natural resources. Summit stakeholders formed the Partnership for Narragansett Bay, under the auspices of the University of Rhode Island's Coastal Institute, which is addressing key issues identified at the Summit:

- Creating a planning process for the Bay that integrates economic development with environmental planning
- Providing better ways to inform the public and decision-makers about the Bay ecosystem and economy
- Undertaking improvements such as habitat restoration and pollution abatement, as well as raising funds for environmental improvement
- Developing strategies for the Bay that can protect and improve ecosystem health while providing economic benefits.

For Bay Summit information and issue white papers, see www.nbep.org.

Restoring Habitat and Reviving Economic Activity

Coastal Habitat Restoration Plan

Coastal habitat restoration provides significant environmental and economic benefits. Three-quarters of commercially important fish species rely on high-quality estuarine resources as they grow and reproduce. In 2000, DEM, CRMC, Save the Bay and other partners developed a state coastal habitat restoration plan for salt marshes, seagrass beds, and river fish runs. In July, the partners received a two-year, \$270,000 grant from the National Oceanic and Atmospheric Administration (NOAA) to provide GIS-based information on potential restoration sites and other resources to entities interested in sponsoring restoration projects. Several projects such as the Boyd's Marsh restoration, Ten Mile River fish restoration, and the introduction of fish passageways over Blackstone River dams have funding from the U.S. Army Corps of Engineers, but state matching dollars are still needed to complete these important projects. DEM also began involvement in a national program called the Corporate Wetland Restoration Project in which corporations fund wetlands restoration projects.

In July of 2000 DEM and its federal partners (NOAA and US Fish and Wildlife) settled the natural resources damage claim arising from the North Cape oil spill of 1996. The settlement, which is valued in excess of \$18 million, will be used to restore lobsters, shellfish, anadromous fish runs and to protect plover nests and water quality in Rhode Island as well as protecting loon and eider nests in Northern New England.

Open Space Grants Help Protect Significant Habitat

DEM awarded 25 Natural Heritage Preservation Commission Grants to municipalities and land trusts, helping to protect over 1,800 acres of threatened open space. Highlights include grants to: Block Island's Lewis Farm to protect the federally endangered American Burying Beetle; the Aquidneck Island Land Trust for development rights

to Nunes Farm in Middletown to protect the Leopard Frog and the Barn Owl; the Nature Conservancy to purchase the Gugliemi property to protect species that depend on the rare limestone-based soils of Lincoln; and the Cumberland Land Trust to purchase the Baskin Farm to protect the American Brook Lamprey.

Assessing the Threat of Invasive Species

While some invasive species (non-native plants or animals that have been introduced into a region outside their usual ecosystems) are ecologically harmless or even beneficial, others can cause great harm to the state's ecosystems. DEM took part in efforts that resulted in the formation of the Rhode Island Invasive Species Council in early 2000. Council subcommittees are developing lists of invasive species in RI. The invasive plant list will be published in early 2001, followed by a guide for landscaping and restoration projects.

Natural Resource-Based Industries

Department efforts to build and restore infrastructure, develop alternative sources of farm and forest income, and reinvent fisheries management policy and regulation play a vital part in sustaining the habitats and species on which these activities depend and the way of life they represent.

Rebuilding Infrastructure and Managing Fisheries

Commercial and recreational fishing brings \$225 million into the state's economy each year.

Investing in Fishing Industry Infrastructure - The Department made significant progress in rebuilding port infrastructure in Galilee and Newport despite delays due to higher than anticipated bids.

Port of Galilee - The Department rebuilt two 150 foot long commercial fishing piers, bringing the total number of reconstructed piers in Galilee to 6 in the past three years. About 300 feet of steel bulkhead will be rebuilt by early spring 2001, as will electrical service to seven commercial piers at a combined cost of over \$1,300,000. The Department completed specifications for 600 more feet of steel bulkhead this winter. Over 200 fender pilings and repairs to the commercial piers have been completed in the past 18 months with more scheduled in the upcoming year

Newport Pier 9 - Work began in December 2000 on reconstruction of the commercial fishing pier in Newport. At a cost of more than \$2,900,000, the project will: rebuild the fishing wharf; replace the 1,180 foot bulkhead wall; improve water and electrical service to the fleet; improve the organization of the commercial operation; resurface the parking area; and provide stormwater runoff treatment.

Fort Wetherill - In November the Department began a \$4,000,000 project to restore abandoned military buildings for the Fish and Wildlife Marine Resources Center at Fort Wetherill in Jamestown. The Center will be used for research and assistance to the commercial and recreational marine fishing industry.

Rebuilding Fisheries - Despite success in rebuilding stocks of striped bass, weak fish and some others, further work is needed to rebuild lobsters, winter flounder and other species in accordance with the requirements of the 1996 Federal Sustainable Fisheries Act to rebuild stocks by 2006. The Department released 300,000 lobsters into the Bay this summer, well in advance of the December 31st deadline, as part of its program to replenish 1.5 million lobsters over 5 years with funds from the North Cape oil spill.

In fall 2000 DEM began working with the legislature, commercial fishing industry, and environmental groups to address commercial fisheries issues – with a focus on restructuring the state's commercial fishing license system – in a process facilitated by the new URI Coastal Institute.

Protecting Working Landscapes

The Department, the Agricultural Land Preservation Commission and partners purchased development rights to protect four farms totaling 502 acres, bringing total protected working farmland in the program to over 3,700 acres. The Department also worked with partners to implement programs to help farmers and foresters stay in business. In

addition to Farmers' Markets, the Department promotes Rhode Island-grown agricultural products, and develops community farming programs.

Fairer Valuation for Farm, Forest and Open Space Lands - The Department served on a sub-committee of the State Conservation Committee to develop statewide valuation guidelines for assessors of properties protected under the Farm, Forest and Open Space Act. In Fall 2000, after a year of meetings with landowners and public officials, the subcommittee published a list of recommended maximum values that towns may adopt to conduct property reevaluations over the next three years.

Developing Alternative Forest Businesses - To prevent further fragmentation of forested land, the Department launched an Alternative Forest Products program in 2000 to encourage landowners to keep their land. The program helps educate landowners about opportunities to cultivate products or conduct recreational activities on their property to generate income to offset management expenses. Products include mushrooms, maple syrup, ginseng, and witch hazel. Recreational activities include hunting, fishing, hiking and mountain biking. For information, see www.state.ri.us/dem/programs/bpoladm/stratpp/forprod/forstprd.htm, or call 222-3434.

Farmers' Markets - The success of the Goddard Park Farmers' Market in Warwick led growers to ask the Department to establish a second farmers' market at Colt State Park in Bristol. The Goddard Park farmers' market also expanded from 14 to 21 vendors per week in 2000. Hours are: Goddard Park – every Friday 9:00 AM to 1:00 PM from late May to the end of October. Colt State Park – every Friday 2:00 PM to 6:00 PM June through October.

The Department also teamed up with the Department of Health to issue Women, Infants, and Children Farmers' Market Nutrition Program (WIC FMNP) vouchers to encourage consumption of fresh fruits and vegetables. The program issued 13,176 vouchers in 2000 with an average benefit of \$11. Farmers redeemed coupons with a total value of \$135,000. RI had the highest rate of redemption among similar programs nationally.

Promoting Wood Industries

In 2000 the Department and the Southern New England Forest Consortium created an internet directory for wood industries in southern New England (www.woodexchange.com). The directory provides marketing data that enables businesses to connect with local wood producers. Nearly 2000 businesses in southern New England are included, with 180 RI listings.

Supporting Tourism

Tourism, one of the leading industries in Rhode Island, is closely tied to programs and facilities operated by DEM. Much of this tourism is linked to activities in the Bay that include recreational fishing, boating, and swimming. Visitors are also drawn to the department facilities that offer hunting, skiing, biking, bird watching and golfing among other activities. Additionally, concert events and outdoor festivals such as the Newport Creamery Folk Festival held at Fort Adams State Park draw thousands of visitors every year.

Abundant Open Space and Recreation

Consistent with Governor Almond's directive, the Department is stepping up its efforts to protect remaining open space as a critical element of the quality of life in Rhode Island. Our emphasis is increasingly on promoting stewardship by landowners and on partnering with land trusts and other nonprofit organizations to help with acquisition, development and management of protected areas and recreational facilities.

Open Space Preservation Accelerated

Kudos to co-chairs Robert Gilbane of Gilbane Properties and Trudy Coxe, CEO of the Preservation Society of Newport County, who led the effort by businesses, nonprofits, and government to promote a \$34 million Open Space 2000 bond issue that voters passed by a 3 to 1 margin. The funds, leveraged with other dollars, will provide \$80 million to buy an estimated 10,000 of the targeted 29,000 acres by 2010. The Department also awarded \$5.4 million in grants from a previous bond issue to 25 communities and land trusts. The grants will protect more than 1,800 acres of open space and farmland. There has been a significant increase in the acreage acquired in the last two years, which is in part due to the Department's leveraging funds from other sources.

Protecting Assets

The Department manages 50,000 acres of land (7.5% of the land area of the state) in state parks and beaches, wildlife management areas, trails and bike paths. There are 46 public access areas and 100 public limited access gates in the system, including boat ramps, and fishing, hunting, and parking areas.

Despite a mostly cool and cloudy summer, attendance at state parks and beaches rose approximately 3% in 2000 from 5,815,047 to 5,960,533. The Department's heavily used parks, forests and wildlife areas are showing wear and tear. To address this problem, the Department is completing asset management plans to evaluate conditions, prioritize capital projects and recommend funding options to pay for urgent repair and replacement projects as well as long term maintenance. In 2000, DEM completed a plan for parks and beaches that identifies 102 repair projects requiring immediate attention, totaling \$6.3 million. As important, the study recommends strategies to provide stable, flexible and adequate resources to address asset protection needs. A similar study will be completed for Forestry assets in 2001.

Bikeways, Greenways and Trails

In 2000, the DEM and DOT began building an additional 3.5 miles of the Blackstone Valley Bikeway and designed 7 more miles. The Department also began designs to restore a rest area and parking facility on Interstate 295 that will provide access to the bikeway. The facility will include a restaurant, tourist information and rest rooms.

When completed, the 17-mile bikeway will stretch from Pawtucket to Woonsocket and eventually to Worcester, Massachusetts. The Department also began design for a ten-mile bikeway to connect Providence and Cranston to the Connecticut border through Coventry. This bikeway will be part of the East Coast Greenway, a 2,500 mile connection linking East Coast Cities from Maine to Florida.

For the Spring Garden and Flower Show and the "Big E" the Department's display featured the Blackstone Bike Path and Kelly House. The display highlighted the importance of bike paths as linear parks which provide unique and convenient recreational opportunities amid nature, industry, and historic areas.

Handicapped Access Expanded

In 2000 the Department completed handicapped accessible facilities including a boat ramp on the Pawcatuck River in Westerly and a fishing pier at Wood River in Hopkinton. DEM began building a boat ramp at Haines Memorial Park on the East Providence-Barrington line in October. DEM also began issuing photo identification to people eligible under disability rules for free admission to state beaches.

Recreational Fishing and Hunting

To promote recreational fishing and hunting the Department maintains and operates four fish hatcheries, stocks over 80 locations with trout and stocks pheasants for hunters in wildlife management areas. The Department's four weekend hunter check stations recorded 2,023 visits and over 6000 hours during the fall hunting season.

The wild turkey population has been rebuilt to sustainable levels through several years of stocking. Deer hunting provides recreation as well as a valuable management tool. Controlling the herds is necessary to minimize damage to crops, residential plantings, habitat for other species, such as songbirds, and to help keep the herds healthy.

Urban Golf Training Center

DEM and the RI Golf Association announced the limited opening of the nine hole Buttonhole Golf Course and Training Center on 34 acres of DEM land last fall. The RIDOT and DEM are building a bikeway around the course, which includes a clubhouse and a full driving range. The facility will be fully open in June 2001.

Partners in Action

Thank You

Solving today's complex environmental problems takes a concerted and integrated effort from individuals, businesses, industries, agencies and organizations throughout the state and region. In the past year, DEM has worked shoulder to shoulder with many different partners to enact this collaborative approach to environmental

management. Examples include the environmental and business roundtables, which meet quarterly; the ISDS, Wetlands, and Dam Safety Task Forces, which together convened on 51 separate occasions last year; and the Central Landfill Action Committee, which met repeatedly throughout 2000. In addition, the Department maintains close coordination with the RI General Assembly and other municipal, state, and federal officials on various issues, ranging from mosquito control to oil spill responses. Among the most important partners are the many volunteers who commit their time and energy to such diverse activities as collecting water samples, helping stock salmon fry, cleaning up vacant lots, and participating in public meetings on environmental issues. Through these interactions and relationships, DEM has not only kept the public apprised of the Department's activities, but also provided important opportunities for input from many different interests. These key partnerships have helped to shape policy and to assess and improve the effectiveness of DEM's programs. The work reflected in this annual report could not have been accomplished without the help of our partners. We at DEM would like to thank everyone who has worked with us both directly and indirectly over the past year, and we look forward to working with you in the years ahead.

2000 Alfred L. Hawkes Award Recipient

DEM established the annual Alfred L. Hawkes Award in 1993 to acknowledge individuals or organizations who have made long term contributions to the environment and natural resources in RI.

The 2000 recipient of the award was Peter Merritt, a founding member of the Aquidneck Island Land Trust. Peter helped preserve many parcels in Newport, Middletown, and Portsmouth totaling nearly 500 acres. As a highly regarded land appraiser, Peter negotiated with many business and community contacts to make sophisticated land preservation transactions involving many partners and funding sources. Peter died several weeks after receiving the award. Peter's work with the land trust has created a legacy of greenways that provide recreation, preservation habitat, protect drinking water supplies, and preserve some of the state's highest quality and most scenic farmland.

Peter set an example for us all with the energy, professionalism and selfless commitment he brought to environmental and community advocacy. He will be missed, but left us with a glorious legacy.