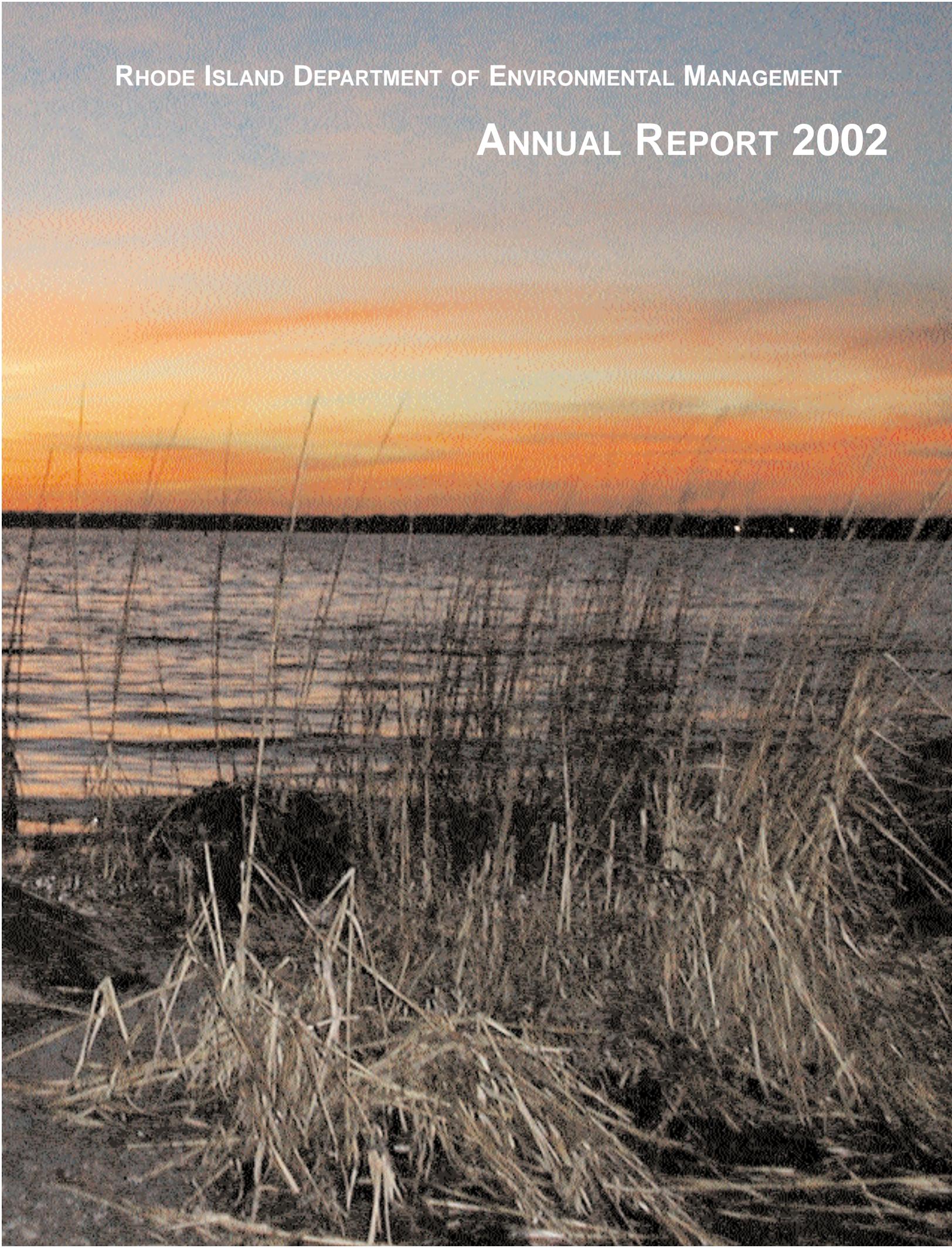
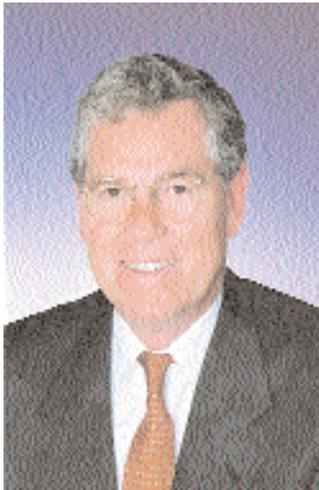


RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

ANNUAL REPORT 2002





State of Rhode Island and Providence Plantations
State House
Providence, Rhode Island 02903-1196
401-222-2080

Donald L. Carcieri
Governor

Dear Fellow Rhode Islander:

Preserving and enhancing the quality of life in this state is a top priority for my Administration. It is a broad theme, covering not only the quality of our natural environment, but also public health and safety, education and employment. Each of these issues is important.

Our State is fortunate to have an abundance of natural resources: Narragansett Bay, beaches, parks, rivers, streams and ponds. Protecting these resources, water, land and air, is a responsibility we all share, not only to maintain the many recreational opportunities we enjoy, but to enhance the strength of our economy.

Our shared responsibility is reflected in the many programs of the Department of Environmental Management, and in its many partnerships. The Department manages a wide range of activities, as this annual report illustrates. I salute DEM staff and their partners for the successes and progress made in several areas. I also recognize the many challenges still facing us, from protecting our landscapes to restoring the quality of our polluted waters, from providing vigilant enforcement to making our permitting processes more efficient and effective. I am committed to addressing these challenges and hope that readers of this report will join me in doing their part to preserve the beauty and viability of our natural environment.

Sincerely,

A handwritten signature in blue ink that reads "Donald L. Carcieri". The signature is written in a cursive, flowing style.

Donald L. Carcieri
Governor

MESSAGE FROM DIRECTOR JAN REITSMA



Dear Reader:

Thank you for your interest in the Department. This annual report on the results of another year's hard work is one way we try to be accountable to those who oversee us, support us, and depend on us.

As we look back to 2002, it is timely to thank Governor Lincoln Almond for his leadership and support during his tenure. Without his personal commitment and direction, we would not have been able to achieve successes like record-breaking open space protection and miles of bike paths that provide recreation for thousands of people, raise awareness of our environment, and join communities along their routes into collaborative, regional action.

I am also excited that our new Governor, Don Carcieri, makes the environment one of his priorities, at a personal level and as a government leader who connects the dots between environmental quality and economic viability. All of us at DEM look forward to helping him implement his vision.

More than ever, the Department needs to focus on efficiency and rely on partnerships. We thank our many partners for their collaboration on several exciting successes. Above all, I thank our dedicated staff for making our programs work, even under sometimes difficult circumstances.

As always, we look forward to your comments and suggestions, so we may continue to improve our performance.

A handwritten signature in black ink, appearing to read "Jan H. Reitsma". The signature is fluid and cursive, with a long horizontal line extending from the end.

Jan H. Reitsma
Director

PROGRAM OF THE YEAR

PARKS AND RECREATION

The summer of 2002 proved to be particularly hot and dry, with temperatures climbing past 90 degrees on 25 occasions. If you were one of the 1.4 million visitors who sought relief by enjoying the leafy shade of Lincoln Woods or one of the 800,000 visitors who dug your toes into the soft sand at Scarborough Beach, you know what exceptional recreational facilities the state offers. Those facilities include 11 state parks, a dozen beaches, a golf course, the East Bay and Blackstone bike paths, historic sites and monuments.

DEM's Division of Parks and Recreation staff, under the direction of Larry Mouradjian, Division Chief, kept all of these facilities well maintained and accessible, despite extra demands on personnel and limited financial resources. The Division, particularly hard hit by budget cuts over the last few years, functioned with limited operating funds, largely old vehicles it refurbished itself, and a full time year-round staff of less than 70 people with ever-expanding responsibilities. Indeed, over the past several years, the state parks system has been sustained increasingly by the grit and determination of that staff.

Throughout each year, Division staff works tirelessly to ensure that the state's recreational facilities are in a condition that the public can enjoy. During the summer, staff ranks are augmented by seasonal help: a cadre of lifeguards, rangers, clerks, restroom attendants and laborers. The responsibilities of the Division staff are many: building and grounds maintenance; beach maintenance and dune restoration; sale of camping and day-use permits, season passes and collection of daily entrance/parking fees; public safety, security, emergency response and rescue; enforcement of park rules and regulations; construction and repairs; public relations and visitor information service; and drowning prevention. Division staff also test and certify all lifeguards in the state, including those who work for the private sector, and inspect all licensed swimming facilities. They provide support for the JVC Jazz and folk festivals and for other groups using the parks for such events as walkathons for charity. Once a year, Division staff members have the opportunity to match their creativity and expertise against commercial operations by conceiving and constructing an imaginative display for the Rhode Island Flower and Garden show. The Parks display is always a favorite at the show, and the staff's 20-foot replica of the Hannah Robinson Tower, a South County landmark known to all Rhode Island beach-goers, was a big hit in 2002. Staff involved in its creation received a DEM Director's Award for their work on the project.

Division staff also maintain an impressive website, offering a wide variety of information on DEM's parks system, including the history of many facilities, special events, weather, water quality and ozone alerts. The website, www.riparks.com, can also be reached via DEM's website, www.state.ri.us/dem by clicking on Parks and Recreation.

For their dedication and successful effort, we owe all Division staff our thanks.



The Naturalist Program run by the Division of Parks and Recreation offers hands-on environmental education. Here, visitors to Beavertail State Park in Jamestown are introduced to local aquatic life by a DEM naturalist.

CLEAN AIR

Ozone

Air quality in Rhode Island has greatly improved over the past two decades, as evidenced by a dramatic drop in the level of summertime smog – or ozone – in our air since the 1980s. Despite this overall improvement, Rhode Island, like most states in the Northeast, does not meet the national air quality standard for ozone. In 2002 there were 17 summer days when ozone levels were considered unhealthy, and two days when Rhode Island failed to meet the federal one-hour standard for ozone.

Because of our continued non-compliance with the ozone standard, the state has been required under the federal Clean Air Act to develop and submit an attainment plan to EPA that sets out how and when we will meet the national air quality standard for ozone. DEM's Office of Air Resources drafted Rhode Island's proposed plan in 2002, with public hearing set for early 2003. The plan establishes 2007 as the target date for the state to achieve compliance with the one-hour standard. Key strategies include a program to reduce power plant emissions in upwind states, new EPA rules for cleaner diesel engines and diesel fuel and EPA rules for cleaner gasoline. The state's Greenhouse Gas Action Plan (*see section below*) will also contribute to reducing emissions of the volatile organic compounds and nitrogen oxides that form ozone.

Challenge: Meeting the new eight-hour ozone standard will be much more difficult. DEM will need to prepare another ozone attainment demonstration to show how the state will meet the more stringent standard when EPA implements new requirements.

The Department joined with the Rhode Island Attorney General and nine other states in 2002 to sue EPA to reverse changes to its new source review regulations. While we support reform and streamlining of the review process, the concern is that older power plants that were originally supposed to be phased out will now be able to increase, rather than reduce, emissions that will worsen air quality in downwind states like Rhode Island and other northeast states.

Rhode Island is working to reduce vehicle emissions that contribute to ozone and air toxics emissions. In 2002 the Department joined with the Division of Motor Vehicles to lay the groundwork for changes in the Rhode Island Vehicle Inspection/Maintenance program. Legislation enacted in



Fine particulates come from diesel powered engines in vehicles such as school buses and trucks.

2002 provides for the inspection of the on-board diagnostic system in newer vehicles, instead of exhaust emissions testing, beginning in January 2003. Viewing the emission control systems allows for faster inspections and easier diagnosis of needed repairs. The Department also finalized procedures and specifications for light-duty diesel inspections, and helped prepare the Rhode Island State Police to do roadside testing of heavy-duty vehicle emissions.

Fine Particulates

Monitoring fine particles in the air from 1999 through 2002 has confirmed that fine particle pollution poses a year round health threat in Rhode Island, particularly for children and other people easily affected by air pollution. DEM is implementing a continuous monitoring system that will enable

the Department to make daily predictions of fine particulate air quality, as is currently done for ozone. The Department is working with EPA and other states to build forecasting and public outreach tools to tell people how they can protect themselves on particulate alert days and educate them on ways to reduce particulate emissions.

Air Toxics

In 2001 and 2002 DEM monitored air quality at five sites in the metropolitan Providence area - three in Providence, one in Pawtucket and one in East Providence - for air toxics. The Department will continue to take air samples for all the pollutants at one of the Providence monitoring sites. DEM has also begun collecting samples at two locations in the Olneyville section of the Woonasquatucket watershed to determine the best location for further sampling in that area.



Technicians prepare to service an air monitoring station on the roof of the Nickerson Community Center in Olneyville.

An air toxics stakeholder group is reviewing proposed amendments to air toxics rules that were presented at a public hearing in September 2002.

The proposed amendments would result in updated air quality levels used to protect public health. Specifically, the amendments would add all federal hazardous air pollutants to the list of regulated air toxics, update acceptable ambient levels, and update air quality modeling procedures. The proposal also would tighten requirements for dry cleaners, requiring older machines to be replaced with new machines that have lower emissions of perchloroethylene. As part of our ongoing efforts to assure compliance with existing regulations, the Department inspected all 87 dry-cleaning facilities in the state in 2002.

Greenhouse Gas Action Plan

Concerns about climate change are driving efforts to curb emissions of greenhouse gases, in particular carbon dioxide. In July, 33 representatives from government, business, industry, citizen groups and environmental organizations produced the *RI Greenhouse Gas Action Plan* that identified 52 ways Rhode Island can substantially reduce its contribution to greenhouse gases. Although climate change and energy policy are sometimes presented as an either/or proposition, the *Action Plan* reflects a consensus that common sense and affordable solutions are available that reduce emissions and at the same time enhance energy diversity, availability and reliability.

The *Action Plan* is a product of a nine-month process organized by the Department of Environmental Management and the Rhode Island State Energy Office in response to growing international agreement that carbon dioxide and other greenhouse gases are warming the planet at a rapid rate. Global warming is a major concern for Rhode Islanders because of its potential adverse impacts, including flooding in coastal areas, saltwater contamination of drinking water, extreme weather events, and damage to local crops.

Some of the priority measures identified in the *Greenhouse Gas Action Plan* include:



The Rhode Island Greenhouse Gas project hopes to spur the use of renewable energy technologies. At left, a photovoltaic system provides solar power to BJ's Wholesale Club in Middletown. At right, a wind turbine on Block Island provides power to a home.

- Requiring that a percentage of electricity sold to Rhode Island consumers come from renewable sources such as wind, solar and biomass.
- Creating incentives to encourage the purchase of energy-efficient automobiles.
- Providing technical assistance and financial incentives to encourage larger commercial and industrial firms to reduce the use of oil and gas in space, water and process heating.
- Integrating land-use zoning and transit planning efforts to reduce dependence on automobile travel. The initiative would ensure that new growth areas are walkable and have easy access to public transportation and would promote existing neighborhoods that have adequate transportation infrastructures.
- Increasing recycling and reducing the amount of solid waste generated in the state.
- Having state government “lead by example” wherever possible and to the maximum extent possible.

The group reached consensus on 49 of the 52 options that were discussed. They registered varying opinions on two options to upgrade state building codes for greater energy efficiency and an option to increase the state gasoline tax to provide an incentive for energy efficient motor vehicles. The group has begun developing draft legislation and programs for several of the priority options.

This effort is consistent with regional activities and with the mandates adopted by the Northeast Governors and Eastern Canadian Premiers. In addition to in-state measures, the Plan endorses regional and national efforts to reduce greenhouse gas emissions such as national fuel efficiency standards for cars and light trucks that could eventually double the average miles per gallon of these vehicles to about 50 miles per gallon by 2020. That program alone would result in more than 250,000 tons of carbon saved by 2020 and significantly improve Rhode Island’s air quality by reducing tail pipe emissions that cause ground level ozone.

Multi-pollutant Bill

The Department has participated in the debate on national legislation to reduce nitrogen oxide, sulfur dioxide, mercury and greenhouse gas from large power plants. The Department is working with regional organizations, including the Northeast Governors Conference and the Ozone Transport Commission, to assure that the legislation meets the goals of the Northeast states to attain ozone standards and substantially reduce nitrogen oxide, sulfur dioxide, carbon dioxide and mercury emissions.

CLEAN WATER

Water Quality

While we have made progress over the past year, the state still has a long way to go to fully assess its ground and surface waters and determine if they meet standards for fishing, swimming and human consumption. To date, 36 percent of the state’s 1,498 river miles have been assessed, of which 35 percent are considered impaired. Thanks to the efforts of volunteer monitors, 79 percent of the state’s lakes and ponds have been assessed, of which 22 percent are considered impaired. Almost all of the state’s estuarine waters have been assessed for compliance with national shellfish sanitation program requirements, and 21 percent are considered impaired. Additional information on the quality of the state’s surface and ground waters is available in the *2002 State of the State’s Waters Report* by clicking on Publications and then on 305(b) on DEM’s website at www.dem.state.ri.us.

Impaired Waters and Water Quality Restoration

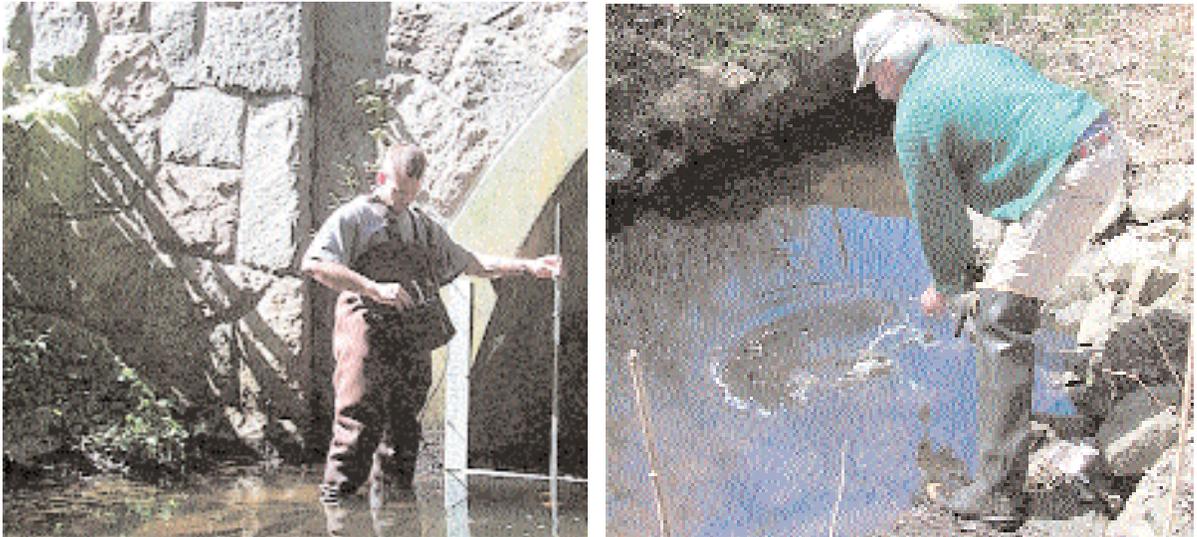
In December, DEM released the draft 2002 List of Impaired Waters in Rhode Island. The list identifies waterbodies within the state that may not currently meet Rhode Island water quality standards. This list is based upon the water quality assessments conducted under the State of the State’s Waters program.

The draft 2002 list notes a number of changes since the 2000 list. Progress has been made in developing pollution control plans for the Narrow River and its tributaries, Gilbert Stuart and Crooked Brook, the Palmer River, and Mount Hope Bay. New water bodies where pollution control plans have been initiated include Point Judith Pond, the tidal portion of the Saugatucket River, Sands Pond on Block Island, Bissel Cove, the tidal portion of the Pawcatuck River, Little Narragansett Bay, Yawgoo Pond, Barber Pond, and Chickasheen Brook. Overall, work to develop water quality restoration plans has been initiated in 39 water bodies throughout the state.

2002 Water Quality Protection Grant and Loan Awards (Pawtuxet River Authority and Nonpoint Source Bond Funds and State Revolving Loan)	
Grants	
South Providence Development Corporation	\$93,000
Charlestown	25,000
East Greenwich Cove	26,000
South Kingstown	25,000
Smithfield Stillwater Reservoir	72,000
Cranston	140,292
Warren Kickemuit River	71,300
West Warwick	2,432,923
Loans	
East Greenwich	345,000
Jamestown	1,435,953
Middletown	66,135
Narragansett	2,000,000
Narragansett Bay Commission	23,599,975
Newport	3,953,126
South Kingstown	2,300,000
Warren	1,728,000
Warwick	41,549,577
West Warwick	13,000,000

Since 2000, data on more water bodies have been obtained that identify additional water quality impairments; therefore, the draft 2002 list contains 130 water bodies, compared to 116 water bodies on the 2000 list. EPA requires the development of water quality restoration plans, officially known as Total Maximum Daily Loads (TMDLs), for each water body identified as impaired by pollution. The list of impaired waters establishes a schedule for development of these restoration plans, and, as such, serves to direct water quality monitoring and restoration planning efforts in Rhode Island.

DEM works with communities and interested parties to identify pollution sources and develop strategies to bring pollution to acceptable levels that allow the water body to meet water quality standards. Statewide, the most common pollutants are nutrients (nitrogen and phosphorus) and pathogens (bacteria), but in some areas the concern is with toxic chemicals or metals, or with habitat degradation.



At left, a DEM staff member measures stream flow in the Maskerchugg River in East Greenwich. At right, a staff member collects sediment samples from a tributary to the Barrington River.

For the list of impaired waters in Rhode Island, DEM utilizes water quality information available from a variety of sources including data collected by state, federal and local agencies; universities; and volunteer monitoring organizations. Most of the baseline monitoring consists of quarterly and seasonal sampling programs. Stations are assessed based on biological data, chemical data, or both.

Comprehensive Water Quality Monitoring Strategy

While we are making good progress in tracking more water bodies and in our assessment procedures, the need for a comprehensive statewide monitoring strategy to address the significant number of unassessed rivers in the state is apparent. In collaboration with EPA and the New England Interstate Water Pollution Control Commission, the Department is working with a consultant to identify the state's monitoring needs, evaluate existing monitoring capabilities, provide recommendations, and draft a comprehensive monitoring strategy. The study will address costs and resources associated with implementing various monitoring approaches and update the state's water monitoring strategy, as required by the EPA.

30th Anniversary of the Clean Water Act

DEM celebrated the Clean Water Act's 30th anniversary in 2002 with a photo exhibit entitled "An Act Written in Water: 30 Years of Progress in Rhode Island." The exhibit traced the history of the Clean Water Act and traveled to malls, libraries and other public locations throughout Rhode Island in the fall. To mark the Clean Water Act's 30th anniversary, DEM also hosted a water quality monitoring workshop and participated in National Water Quality Monitoring Day events in November.

Combined Sewage Overflow Project

In September, DEM issued an order of approval to the Narragansett Bay Commission for the main spine tunnel pump station for the combined sewage overflow (CSO) abatement project. Approval of the pump station cleared the way for full construction of Phase I of the project. One of the largest public works projects in Rhode Island history, the CSO abatement project will improve water quality in and around the greater Providence metropolitan area and the upper Bay by controlling the discharge of sewage from combined sewer overflows during rain events.

Brayton Point Power Plant

DEM played a key role in the development of a draft discharge permit from EPA and the Massachusetts Department of Environmental Protection to the Brayton Point Power Station. The

permit set new, stricter limits for water pollution into Mount Hope Bay generated from the Somerset, Massachusetts power plant. Studies have shown that elevated temperatures of water being discharged from the plant and entrainment into the plant's cooling system have had serious negative impacts on fish in Mount Hope Bay.

Wastewater Treatment Facility Infrastructure Security

DEM was one of the first states in the nation in 2002 to offer wastewater security training sessions to pretreatment facility operators in the state. Rhode Island was also the first state in the nation to perform security audits of wastewater treatment facilities.

RIPDES Permit Status

DEM continues to make steady progress in reducing the backlog of major Rhode Island Pollution Discharge Elimination System (RIPDES) permit applications. Twenty-three permits have been issued since 1999, including two permits in 2002. This has reduced the backlog from 76 percent in 1999 to a current eight percent backlog in processing permits.

Nutrient Reductions at Wastewater Treatment Facilities

Revised RIPDES permits require major wastewater treatment facilities to reduce the amount of nutrients they discharge. In 2002, DEM approved the final designs for nutrient removal at the West Warwick and Westerly wastewater treatment facilities. Construction at these facilities is expected to be complete by July 2005 and October 2003, respectively. Improvements to Cranston, Warwick and West Warwick wastewater facilities are expected to reduce nitrogen discharges to the Pawtuxet River by 65 percent and phosphorous by 70 percent.

Improvements to the Westerly facility should reduce discharge of nitrogen by 17 percent and ammonia by 55 percent.

Storm Water Management

Although considerable progress has been made in controlling point sources of pollution, such as discharges from wastewater treatment plants, the state continues to face challenges in abating water quality pollution from diffuse non-point sources such as storm water runoff.



When it rains or snows, the water that runs off streets, parking lots, industrial and construction sites can wash sediments, oil, grease, toxics, bacteria and other pollutants into nearby storm drains that discharge to streams and waterways. A significant public health and environmental threat, storm water runoff can cause beach and shellfish area closures and degrade sources of drinking water.

DEM worked closely with municipalities in 2002 to help them meet the new

Phase II RIPDES regulations that became effective last spring. The new regulations require the state's 33 municipalities with storm sewers in urbanized areas to develop local storm water management programs and obtain permits for their storm water discharge. DEM hosted public information workshops, filed regulations, and awarded \$825,000 in grants to cities and towns to develop the required storm water management plans.

Water Resource Management

Rhode Island experienced extended periods of dry weather in 2002 resulting in a statewide Drought Watch from February through December. Additionally, the three "drought regions" of the state – the Eastern, Southern and Central West areas – experienced a Drought Warning from August through

November, as the summer months brought hotter, drier weather and increased demand. These regions are supplied mostly by groundwater and shallow surface water reservoirs that lack long-term storage capacity.

DEM collaborated with the Rhode Island Water Resources Board and other federal, state and local partners to develop the state's management plan for responding to severe drought episodes. Throughout the drought all Rhode Islanders were encouraged to conserve water, while water suppliers promoted conservation practices and responded to water shortages by implementing demand reduction strategies.

DEM's Division of Agriculture also implemented measures to minimize the impact of the drought on the state's agriculture industry. Staff assisted 50 farmers in expediting permitting for irrigation ponds, and worked with the Governor's Office to obtain a Disaster Declaration from the US Department of Agriculture, making Farm Service emergency loans available to farmers impacted by the drought.

Challenge: The drought and near-drought conditions experienced by the state over the last few years call for a closer look at the withdrawal and use of our water resources. The Department is leading efforts to develop stream flow standards that will optimize use and encourage sound management practices as well as protect aquatic ecosystems. The Department also worked with the Water Resources Board to start a stakeholder process to develop a comprehensive policy addressing water availability and use, conservation and allocation.

Dry Hydrants

In response to severe drought conditions experienced throughout Rhode Island in 2002, the Department developed guidance materials for those seeking dry hydrant permits under DEM's freshwater wetlands regulations. Dry hydrants are typically located along roadside ponds and connected through a pipeline to a submerged, screened inlet above the bottom of the pond. They provide quick access to water that may be needed for fire fighting. The guidance recognizes their importance, as well as the opportunity to avoid unnecessary wetlands impacts by using best management practices.



The Scituate Reservoir, which serves about 60 percent of Rhode Island's population, was 17 feet below capacity in September despite above average precipitation during the month.

LIVABLE COMMUNITIES

PUBLIC HEALTH AND SAFETY

Emergency Response and Domestic Preparedness

DEM's emergency response program has a significant role in the preparation and response to the threat of a terrorist attack. In 2002, the Department purchased monitoring and testing equipment, participated in many training sessions, and worked with other federal, state and local agencies to be prepared in the event of a domestic terrorism incident. Emergency response staff, as part of a strike team formed with members of the state bomb squad, screened suspicious mail and packages for the possible presence of biological contaminants, including anthrax, throughout the year. In addition, DEM's environmental police officers assisted the US Coast Guard with homeland security by providing armed escort service for liquefied natural gas tankers entering the Port of Providence.

DEM's emergency response team also responded to more than 800 oil spills and hazardous material releases and provided hazardous materials training to police and fire departments and other municipal and state agency staff.

Challenge: The threat of terrorism has created new areas where emergency responders must be ready. The variety of threats, coupled with the need for specialized training and expertise, make planning and preparedness more complex and critical than ever.

Public Safety

The Division of Law Enforcement provides 24-hour patrols on the state's waters, protecting Rhode Island's multi-million dollar commercial fish and shellfish industries, and enforces Rhode Island's laws and regulations governing the recreational take of fish and wildlife. The Division also enforces Rhode Island's marine safety laws and regulations, conducting investigations of all boating accidents that result in personal injury, death, or severe property damage. In 2002, the Division of Law Enforcement's staff resources were severely stretched as retirements reduced the commissioned enforcement ranks by nearly a third. Throughout the year, the Division's radio room handled over 22,700 calls from the public. Environmental Police Officers made 429 arrests, issued 1,126 written warnings, investigated 44 boating accidents, and responded to 3,880 animal complaints.

Mosquito-Borne Disease

Rhode Island saw its first human West Nile Virus case in 2002, but the state remains one of the few that has not suffered a human fatality. This may well be due, in part, to the public's excellent response to the state's ongoing education efforts that emphasize personal protection, prevention of mosquito breeding grounds and larval control. DEM and the RI Department of Health continued to present their message of personal protection to the public. DEM purchased and distributed larvicides and held mosquito control training sessions for municipal and state workers assigned to apply them. Department staff trapped mosquitoes for testing on a weekly basis and also collected a sampling of dead crows and blue jays to check for the presence of mosquito-borne viruses. DEM realized significant savings of time and money by investing in testing capacity at the Department of Health laboratory, which took over sole responsibility for critically important component of the state's mosquito-borne virus response effort.

CLEANING UP AND RESTORING OUR ENVIRONMENT

MTBE

DEM secured \$1 million in additional funding from EPA to address the widespread contamination of Pascoag's former public water supply with methyl tertiary butyl ether (MTBE). In December, the Department announced plans to expand the current treatment system and approved the design and installation of a second remediation system to treat the gasoline-laced groundwater in the area. As of November 1, more than 2,400 equivalent gallons of gasoline and approximately 443,500 gallons of petroleum-contaminated groundwater had been recovered, treated and disposed of from the former Main Street Mobil gas station, the source of the contamination. We continue to work on regional and national efforts to reduce and ultimately eliminate the use of MTBE.

Solid Waste Cleanups and Facilities

After repeated interference with our inspection and regulatory activities, the Department suspended the solid waste management facility license for New England Ecological Development, Inc. (NEED) in August. After this action was upheld on appeal to the RI Supreme Court, NEED went into receivership, shutting down the facility and halting curbside waste pickup in nine Rhode Island communities. DEM worked with those cities and towns to smooth their transition to new haulers.

In December DEM, in conjunction with the Town of Johnston, EPA and the Department's environmental cleanup contractor, moved quickly to control an underground fire in an illegal stockpile of 1.2 million tons of construction and demolition debris on property owned by Louis Vinagro, Jr. on Green Hill Road in Johnston. Work to control combustion of this material continued into early 2003.

DEM oversaw the removal of almost 60,000 cubic yards of construction and demolition debris from the Global Recycling facility in Coventry. The Department sought court action several times during the year when the pace of the removal slowed. The cleanup action continued into 2003, despite a court order to complete the removal in 2002.



Mixed solid waste is scattered throughout one of the sites currently being cleaned up.

DEM negotiated a four party settlement with EPA and the Towns of South Kingstown and Narragansett to clean up the Rose Hill landfill Superfund site. All four parties will share the clean-up costs, with DEM serving as the lead agency for designing and constructing the remedy.

Challenge: The solid waste industry is changing. DEM's enforcement focus on illegal operations has led to the closure of both NEED and Global Recycling. Going forward, the remaining facilities must be regulated effectively to ensure that no new problems are created.

Emergency response and enforcement actions by DEM's Office of Compliance and Inspection in 2002 resulted in the elimination of 17,801 gallons, 3,747 pounds, and 2,500 cubic yards of hazardous materials; 3,613 cubic yards of oil contaminated soil; 11,162 gallons of an oil/water mixture; 312 pounds of mercury; 594 tons and 4,219 cubic yards of solid waste; 7,058 abandoned tires; and 45 sites containing lead paint debris. Also during the year, 6.2 acres of freshwater wetlands, 6.7 acres of perimeter wetlands, and 1,000 linear feet of a watercourse were restored.

Challenge: DEM must continue to work towards an integrated approach to solid waste management. We must continue to effectively regulate disposal while focusing on source reduction, minimization and recycling. DEM and the RI Resource Recovery Corporation have begun a process to update the State Guide Plan Element on Solid Waste. This discussion is just beginning.

Brownfields

DEM entered into 11 Brownfield Settlement Agreements covering 102 acres of property that will be cleaned up and brought back to beneficial reuse. We also assisted municipalities and non-profit organizations in preparing grant applications for brownfield projects and writing 14 letters of support for projects seeking competitive funding grants from EPA. The Department worked closely with the Economic Development Corporation to develop outreach materials that promote brownfield redevelopment and the availability of financial incentives.

Mercury

DEM developed comprehensive regulations to implement new legislation aimed at eliminating the unnecessary use of mercury in products sold in Rhode Island. Concurrently, the Department continued to implement the provisions of the 2001 Mercury Education and Reduction Act. Approximately 300 companies reported to the Interstate Mercury Clearinghouse, identifying mercury-added products in over 1,000 product categories.

The Department worked with the Department of Health, Rhode Island Resource Recovery Corporation, Clean Water Action, Boy Scouts of America and CVS/Pharmacy to collect over 600 mercury-containing items at three mercury thermometer and thermostat take-back events. DEM also hosted three workshops to address mercury in schools and worked with the Department of Health to develop multilingual informational brochures on mercury in fish.

Dredging

In 2002, DEM developed comprehensive rules on the review of dredging projects, including criteria for beneficial use of dredge material at upland locations. The regulations establish a coordinated permitting process that combines DEM and CRMC requirements into a single application for concurrent review by both agencies. Using the criteria in the new rules, the Department facilitated 27 pre-application meetings with interested parties for dredging projects.

PROTECTING RHODE ISLAND'S NATURAL, CULTURAL AND RECREATIONAL RESOURCES

Greenspace Projects

In 2002, the Sustainable Watersheds Office teamed up with the USDA Forest Service and the Washington County Regional Planning Council to offer South County communities technical assistance to identify the natural, cultural and recreational resources they want to protect. Each community was provided with a Geographic Information System (GIS) map showing critical greenspaces. The towns used the maps to develop open space grant applications, and received almost \$2 million in funding for six projects that will preserve nearly 500 acres.

Also in 2002, Sustainable Watersheds staff worked with a wide spectrum of stakeholders to develop a similar greenspace project for the Woonasquatucket River watershed. The plan will help protect water quality within the Woonasquatucket watershed by encouraging establishment of unfragmented and forested greenbelts along the watershed's rivers and streams. The Department received a \$45,000 grant from EPA to implement the plan, which will be combined with the watershed plan developed by Massachusetts to create the region's first bi-state watershed action plan.

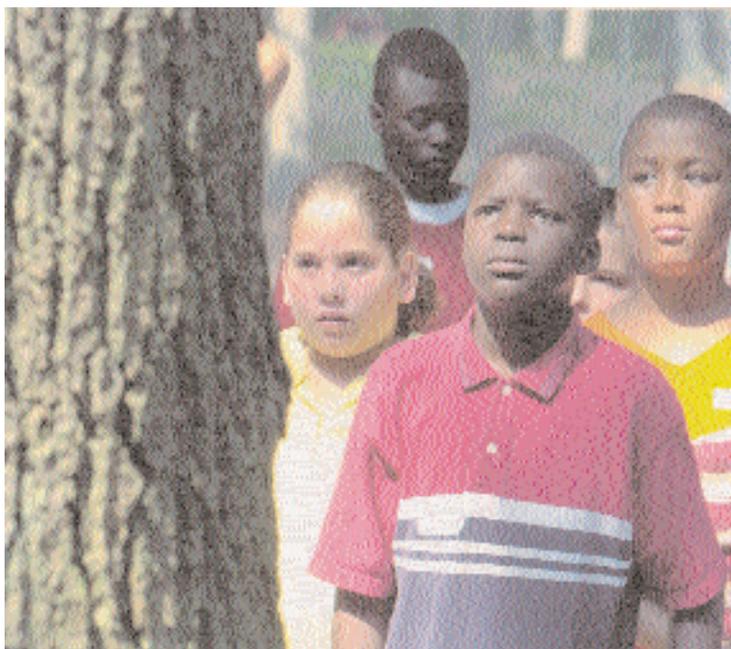
Governor's Growth Planning Council

In 2002 DEM assisted with the preparation of a report for the Governor's Growth Planning Council that encourages the establishment of growth centers in Rhode Island, ie. places where development can be encouraged and expedited because there are no, or only minor, environmental or fiscal impacts. The Department also drafted a report for the Council on issues related to the development of new public water supply systems to serve compact growth centers.

Watershed Action Plans

The Department teamed up with watershed organizations from South County and Northern Rhode Island to complete five watershed action plans in 2002. Projects range from developing a comprehensive storm water management

project to help implement the Narrow River TMDL and RIPDES Phase II requirements, to completing an inventory of potential riparian buffer restoration sites along the Woonasquatucket River. A draft action plan for the Blackstone watershed was also completed in 2002.



Fifth graders from Cunningham School in Pawtucket study a tree in Pulaski Park in Gloucester. The students were on a hike as part of Project Discovery, a URI/DEM program to expose children to science.

Community Forestry

DEM, in conjunction with the Rhode Island Tree Council, provided \$140,000 in urban forestry grants to eight Rhode Island communities and the Tree Council to purchase and plant more than 250 trees, perform tree inventories, and conduct education and outreach activities.

HEALTHY ECOSYSTEMS

Narragansett Bay

Narragansett Bay remains a major focus for DEM and its many partners who continued research for The Bay Window Project, tracking trends in fish and shellfish populations, physical, chemical and biological conditions, and analyzing Bay sediments. Unfortunately, federal funding for this program was lost in the budget process for FY 2003. Given the importance of this program to the turbulent field of fisheries management in particular, it is critical that funding be restored in FY 2004, which we hope can be achieved with the help of Rhode Island's Congressional delegation.

The Partnership for Narragansett Bay, a collaborative of watershed groups in Rhode Island and Massachusetts, awarded over \$120,000 in Bay watershed action grants to 10 organizations for watershed restoration, watershed planning, Bay research, fish passage, public education, community mapping and land preservation projects.

In 2002 DEM, with the National Oceanic and Atmospheric Administration (NOAA), the National Marine Fisheries Service and others continued their dissolved oxygen (DO) study of Narragansett Bay, which was begun because low DO levels are suspected as the cause of fish and invertebrate kills. Researchers sampling in all-night sessions at 75 stations in upper Narragansett Bay found sporadic plunges in DO levels in the mid and upper Bay areas.

DEM and several partners completed analytical work to identify and prioritize coastal wetlands in Narragansett Bay for restoration. Geographic Information System mapping of these areas is underway.

Habitat Restoration

The Department and multiple partners made progress on several habitat restoration projects throughout the state in 2002. DEM and the Army Corps of Engineers completed the feasibility study and permitting for the restoration of Town Pond, also known as Boyd's Marsh, in Portsmouth to take place in 2004. The Department also signed a Project Cooperation Agreement with the Army Corps of Engineers for the \$2 million Lonsdale Drive-In Environmental Restoration project in June. The project will restore the site of the former Lonsdale Drive-In, along the Blackstone River in Lincoln, into a wetland and wildlife habitat area. When completed, the area will have considerable recreation and educational value. Plans for the future include a viewing platform and informational kiosk that will provide public educational opportunities without disturbing the natural habitat. The Blackstone



At left is the existing site of the former Lonsdale Drive-In. At right is a computer generated photo of what the property will look like when restoration is complete.



More than 2,700 acres of forest and wetland, home to the black-throated blue warbler, has been protected through the cooperative efforts of state, local and non-profit agencies.

Valley bikeway will run through the upland portion of the site from John Street to Lonsdale Avenue.

Aerial photo-interpretation and habitat maps for the coastal ponds in the southeastern and southwestern shores of Rhode Island and Block Island were completed in 2002. The Narragansett Bay Estuary Program plans to publish an atlas of these habitats in 2004.

Acquisition of over 360 acres of land between the Durfee Hill Management Area and Sprague Farm by the state and the Gloucester Land Trust through The Nature Conservancy links a major state management area and a major local land trust holding. Connecting these tracts created an area of about 2,760 acres of protected forest interspersed with wetlands that is home to the black-throated blue warbler, a small finch-sized bird once thought to be extinct in Rhode Island.

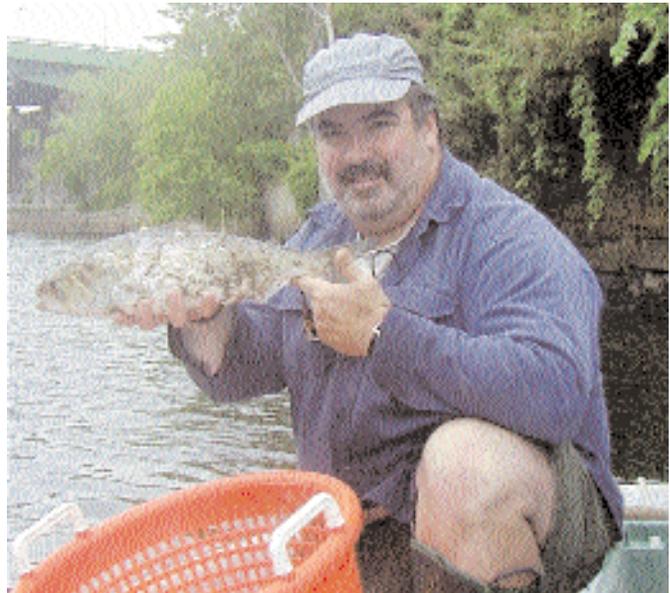
Great Swamp

DEM's Division of Fish and Wildlife hosted a "Tour the Great Swamp Day" as part of DEM's 25th anniversary celebration in October. The event, designed to teach the public the many benefits of the Great Swamp and how Division biologists care for it, proved to be extremely popular and may be repeated. The Great Swamp is a DEM wildlife management area in South Kingstown that was acquired by the state in 1950 under the Federal Aid in Wildlife Restoration program to develop, enhance and restore wildlife habitats and provide a place for hunters to participate in their sport. The area is now managed for wildlife diversity by maintaining forest fields and wetlands, including a 140-acre impoundment used by birds such as the osprey and many migratory waterfowl. The site is also historically important as the site of the Colonial era war skirmish that occurred in 1675 with the Narragansett Indians, known as the Great Swamp fight or massacre.

Fish Passage

Among the many projects to restore anadromous fisheries in Rhode Island, DEM transplanted 11,000 hatchery-raised river herring to the Turner Reservoir, Gilbert Stuart Brook and other sites; 400,000 Atlantic salmon fry to the Pawcatuck River; and raised over 5,000 Atlantic salmon parr to be stocked as smolts in 2003.

DEM and its watershed partners continued planning, designing, permitting and fundraising work on six projects spanning 12 Rhode Island communities. The projects will restore river herring and shad in the Wood, Pawcatuck, Blackstone, Ten Mile, Pawtuxet and Saugatucket Rivers. They include new and refurbished fish ladders, a bypass channel, and removal of one dam.



Marine Fisheries staff member Dennis Erkan holds an eight-pound American shad from the Seekonk River in Pawtucket, near the mouth of the Blackstone River.



Visitors to the Great Swamp view the diversity of its wildlife during a tour sponsored by the Division of Fish and Wildlife to teach the public the many benefits of the management area.

North Cape Oil Spill Restoration Fund Projects

In 2002 DEM and NOAA conducted several shellfish restoration projects that seeded quahogs and scallops in the coastal ponds. Nearly 100 volunteers contributed approximately 400 hours in the reseeded of 640,000 bay scallop seed in Point Judith Salt Pond.

The responsible party stocked more than 200,000 lobsters in 2002 in accordance with North Cape Oil Spill settlement requirements to restock 1.25 million female v-notched legal-sized lobsters into the waters off Block Island Sound to compensate for the nearly nine million lobsters that were killed by the oil spill.

Forty-four pairs of piping plovers nesting along Rhode Island's beaches that were protected through the Rhode Island Piping Plover Restoration and Education Project made history when they produced 90 chicks that fledged, achieving the highest productivity recorded since DEM began tracking them in 1980.

Aquatic Invasive Species

The Narragansett Bay Estuary Program (NBEP), with other New England estuary programs, held the first New England aquatic invasive species workshop in November to examine marine aquatic nuisance species issues specific to the Northeast region. The NBEP program also developed a report on ballast water and non-native species, documenting the status of invasive species in Narragansett Bay based on a recent rapid assessment survey. The report was issued due to a growing concern about the recent rise in marine invasive species that can be carried in the ballast of large ships from port to port.

RESOURCE-BASED INDUSTRIES

COMMERCIAL FISHERIES

The commercial fisheries industry is an integral part of the fabric of Rhode Island life and a major contributor to the state's economy. More than 3,000 boats, from quahaug skiffs to draggers, are engaged in commercial fishing in Rhode Island. According to the most recent figures available, 117 million pounds of fish were landed in Rhode Island in 2001, with a dockside value of more than \$65 million. Nearly 800 workers are employed in 69 fish wholesale businesses and fish processing plants in the state. DEM's commitment in support of the industry in 2002 was translated into improvements in both fisheries management and infrastructure.

Challenge: Fisheries management in Rhode Island, as well as elsewhere up and down this nation's coasts, faces extremely daunting challenges over the foreseeable future. Most of Rhode Island's fisheries are in varying degrees of trouble due to historic overfishing and other factors, some of which are only vaguely understood. Hard decisions, which will be painful to many fishermen but are necessary to restore the fish stocks on which they depend for their livelihoods, have been put off for too long and must be confronted by managers, political leaders and the fishermen themselves. Particularly daunting will be restoring severely depleted stocks of groundfish and lobster and preventing depletion of Narragansett Bay's quahaug stocks.

Restructured Licensing System

In the fall, the marine fisheries staff developed a new commercial licensing and data system as required by the 2002 fisheries licensing reform act. This new licensing law calls upon DEM to balance the somewhat competing objectives of preventing overfishing and restoring depleted stocks; respecting the interests of residents who fish under state licenses and wish to continue fishing in a manner that is economically viable; and providing residents who wish to fish commercially the opportunity to do so. Management plans for all major fisheries were developed to determine the status of fish, shellfish and crustacean populations. Further, a comprehensive reporting system was designed to monitor the harvest of fish and shellfish in Rhode Island as part of the Atlantic Coastal Cooperative Statistics Program, which will monitor landings on a coastwide basis. The new fisheries information system will be much more efficient for the resource managers and members of the industry who use it. The Rhode Island system is being viewed as a model approach by other states, as well as the federal government.

Challenge: It is critical that we find a way to add staff in the marine fisheries section, both to provide relief from chronic understaffing and to meet new mandates and expectations under federal and state law.

Revitalized Facilities

Infrastructure improvements in 2002 included the reconstruction of Pier 9 in Newport at a cost of over \$3.6 million. Nearly 600 feet long, Pier 9 is home to 50 commercial fishing boats, both inshore lobster boats and offshore draggers, and is the only state-owned commercial pier in the Newport area. The reconstructed pier has improved working conditions and services for the fishing fleet and will lead to cleaner water around the commercial pier. In October, the reconstructed facility was dedicated as Louis Jagschitz State Pier, in memory of the late Newport lobsterman. Louis Jagschitz, affectionately known as "Louie the Lobsterman," trolled the waters of Narragansett Bay by tending his lobster pots daily until the day he died at age 80.

DEM completed reconstruction of Pier 9 in Newport in October of 2002. The reconstruction improves working conditions and services for the fleet of 50 commercial fishing boats, which are major contributors to the state's \$65 million dockside fishing industry.



Materials recycled from the Pier 9 project were used in renovating State Pier 5 in Narragansett, where a new bulkhead cap system as well as new fender piles were installed at a minimal cost to taxpayers and with a \$25,000 contribution from the Small Craft Access Trust Foundation.

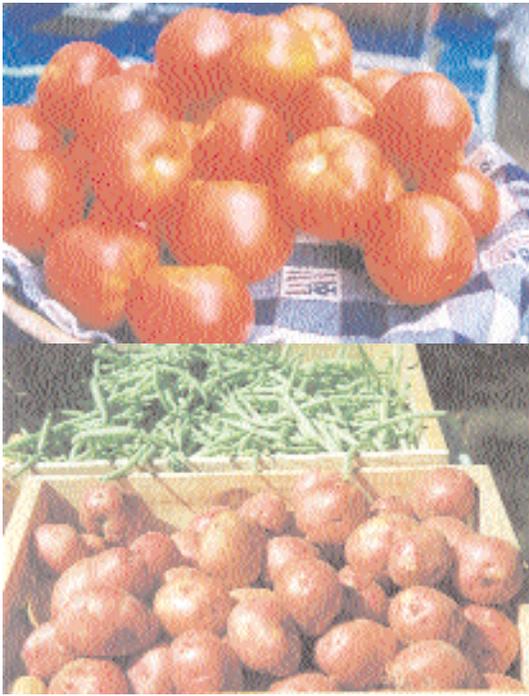
The Department's Fort Wetherill Marine Resource Management Center was completed in May at a cost of \$4.7 million, and supports the research and management functions of DEM's marine fisheries staff. A symbol of the state's commitment to sustainable fisheries, the first class marine laboratories allow staff to conduct research in collaboration with the University of Rhode Island, the Coastal Resources Management Council and the Environmental Protection Agency on issues specific to Rhode Island fish and shellfish management. The Fort Wetherill location provides excellent water quality for the laboratories and for aquaculture research, and is centrally located for fieldwork in Narragansett Bay and Rhode Island Sound.

Construction of a new fisheries research vessel for the Department was begun in the fall. The new vessel, in combination with the Department's new fisheries laboratory facility at Fort Wetherill will significantly enhance DEM's fisheries research capabilities. The 50-foot vessel will replace the venerable *R/V Thomas J. Wright*, a 42-foot boat built in 1975. Funding for the new vessel includes \$625,000 from a federal grant secured by the late Senator John Chafee and \$285,000 in state funds derived from boat registration fees. The vessel's major role will be to continue and expand the monthly and seasonal fish trawl surveys. The new vessel will be able to easily navigate Rhode Island and Block Island Sounds and its range will enhance DEM's ability to accurately assess damages from oil spills.

Challenge: Several badly needed replacements to failing bulkheads in Galilee had to be postponed due to the state's budget crisis.

AGRICULTURE

The agriculture industry in Rhode Island, at greater than \$100 million annually, is not only an integral part of the state's economy but provides a valuable contribution to Rhode Island's open space and quality of life. DEM's agriculture staff works with the state's 700-plus farmers, helping imple-



Rhode Islanders like produce fresh from the farm and they can find it at the 18 farmers' markets throughout the state supported by DEM.

ment best management practices, offering conservation techniques, certifying health of livestock, and promoting Rhode Island farm products under the theme, *Rhode Island Grown - Take Some Home*.

Rhode Island was recognized as number one in the country in a national survey for direct marketing sales from farms to consumers, on a per farm basis. DEM's Division of Agriculture staff contribute to that marketing effort by encouraging purchase of Rhode Island grown products, and by operating four popular farmers' markets in state parks, which are among 18 such markets statewide that receive Department support. A new farmers' market was opened at Haines Memorial State Park in East Providence in July.

Farm Viability

In April, DEM awarded USDA farm viability grants totaling \$340,000 to 33 organizations to directly promote the long-term viability of agriculture in the state and for educational initiatives that support the promotion of agriculture. The grants are being used for a wide range of purposes, such as purchasing hydro-

ponic systems for a high school aquaculture education program, developing a website for farmers to promote local products and quickly access weather prediction information, and assisting dairy farmers to form a cooperative to market their products. A major initiative has been the development of a program to protect the long-term viability of agriculture in Rhode Island. To that end, a farm viability task force of farmers, agriculture industry groups and government agencies has been organized to address all issues that affect farming in Rhode Island from taxes to business training to marketing initiatives to other environmental issues.

Protecting Our Livestock Industry

In October, DEM and the RI Emergency Management Agency held a joint training exercise as part of a New England-wide drill dealing with a mock outbreak of Foot and Mouth Disease, a highly contagious viral disease of cattle and swine. DEM has been educating Rhode

Island farmers and other livestock owners about preventing Foot and Mouth Disease since the costly outbreak of that disease in 2001 in Great Britain. An outbreak of Foot and Mouth Disease in the United States would be devastating to livestock owners and to the economy. Rhode Island's protocol would set in motion a strict state and federal response program designed to limit an outbreak and eliminate it as quickly as possible.

Forest Products

Forests, which cover nearly 60 percent of the state's landscape, contribute significantly to Rhode Island's quality of life, from providing habitat for a wide variety of wildlife and a wealth of recre-



DEM works with livestock farmers by monitoring animal health, promoting best management practices, and providing marketing assistance.

ational opportunities for residents to maintaining the high water quality of water supplies throughout the state. Rhode Island's forestlands also contribute significantly to the state's economy, both in employment and product sales.

Despite the industry's significant economic contributions, management for traditional wood-based forest products is difficult in Rhode Island because of small parcel size. More than 80 percent of privately owned forestland is in parcels of less than 10 acres, too small to be eligible for tax benefits under the state's Farm, Forest and Open Space law or for protection via title or conservation easement purchase under the Forest Legacy program. DEM works with small forest owners assisting them manage their woodlots and promoting alternative forest uses that have the potential to generate enough income to pay property taxes and foster economic activities consistent with rural character and lifestyle.



Quonset View Farm in Portsmouth is one of 60 Christmas tree farms located in Rhode Island. The state's Christmas tree farm industry generates more than \$5 million in sales each year.

The Department developed regulations to allow the distribution of \$50,000 in funds from the US Forest Service that will provide challenge grants of between \$500 and \$1,000 to forest landowners to initiate alternative forest-based businesses. Some of those alternative businesses could include edible products, such as honey, maple syrup, mushrooms, nuts and berries; medicinal products, such as ginseng and witch hazel; floral products, such as floral greens, ferns, mosses and native plants; specialty wood products, such as charcoal, and material for woodworking; and fee-based active and passive recreation on private forestlands.



More than 4,700 people are employed in forest and wood-related businesses in the state, with annual payroll of \$120 million and annual sales of \$525 million. Above is a timber harvest at Arcadia Management Area.

Timber Stand Improvement Projects

DEM completed two timber stand improvement projects resulting in the harvesting of 308,000 board feet on approximately 65 acres within the Arcadia and Big River Management areas in 2002, generating \$57,277 in income to the state forestry fund. On the private forestlands, DEM's Division of Forest Environment staff worked with over 250 landowners on various projects and assisted 57 landowners and 40 businesses with best management practices on timber stand improvement projects that resulted in the harvesting of 3.8 million board feet of timber and 6,600 cords of firewood on 1,426 acres.

OPEN SPACE AND RECREATION

Land Acquisition and Conservation

2002 was an outstanding year for land conservation efforts in Rhode Island, far exceeding Department goals and expectations. A new record for the total number of acres preserved – 6,537 acres – was set in fiscal 2002. Of this record number, the state’s open space program and the local grants program protected 2,593 acres. Another 236 acres were protected by the state Agricultural Land Preservation Commission through its purchase of development rights program. Local land trusts and non-profit organizations conserved 3,708 acres. The level of activity continues to increase as we become more aware of the importance of protecting our remaining open shorelines, farm fields, forestlands, scenic vistas and natural habitats, for both conservation and recreational purposes.

Open Space Grants

In November, DEM awarded 19 grants totaling \$5.7 million to communities and land trusts that will protect 1,945 acres of open space and farmland throughout the state. Of the total grants awarded, \$5 million was in state funding from the 2000 open space bond. The additional \$787,450 was provided by federal funds from the National Park Service Land and Water Conservation Fund. The state grants, in combination with matching local bond funds and federal grants, will generate over \$17 million in land preservation throughout Rhode Island.

2002 Open Space Grants Awarded		
Organization	Amount	Acres
Blackstone Valley Watershed Council	\$1,500,000	80
Tiverton Land Trust	\$1,865,504	636
Middletown	\$3,000,000	55
Cumberland	\$715,000	95
Warwick	\$700,000	13.5
South Kingstown Land Trust	\$970,000	73
Exeter	\$235,000	38
Lincoln	\$800,000	13
Westerly Land Trust	\$1,200,000	142
Warren	\$660,000	49
Westerly	\$1,200,000	1.5
Cranston	\$1,085,000	250
The Nature Conservancy	\$800,000	160
Foster Land Trust	\$300,000	44
Bristol	\$522,000	6
North Kingstown	\$800,000	80
Aquidneck Island Land Trust	\$351,577	17
Audubon Society of RI	\$300,000	75
Johnston	\$300,000	23

Farm, Forest and Open Space Regulations Amended

Amendments were made to regulations governing the Farm, Forest and Open Space Act, which allow DEM to certify farmlands and forestlands as eligible for “current use” taxation. The regulations are designed to encourage preservation of farm, forest and open space lands by limiting local property taxes to the value of the land in its present use.

Statewide Open Space & Recreation Plan

The State Comprehensive Outdoor Recreation Plan drafted by DEM and the RI Statewide Planning Program, sets forth an action program to improve Rhode Island’s outdoor recreation system and protect the natural resources on which that system depends. Last updated in 1992, the plan also serves as the Recreation, Open Space and Conservation Element to the State Guide Plan. In drafting the proposed plan, DEM surveyed public officials in all Rhode Island municipalities and developed an inventory of current state and local public recreation facilities. A professional consultant also surveyed over 1,400 Rhode Island residents about their recreation needs. The draft plan calls for increasing open space protection and revitalizing urban centers. It also warns that recreation is threatened both at the state and local level by continued budget cuts and staff shortages and calls for creative ways of funding and providing facilities and services through partnerships with the private and non-profit sectors.

Recreational Trail Grants

DEM and the RI Department of Transportation awarded 17 projects a total of \$405,000 for recreational trail grants at a ceremony held at the Norman Bird Sanctuary in Middletown in January. The grants will fund projects at motorized and non-motorized recreational trail facilities throughout the state. Funding for the grants came from the federal Transportation Equity Act for the 21st Century (TEA-21) program.

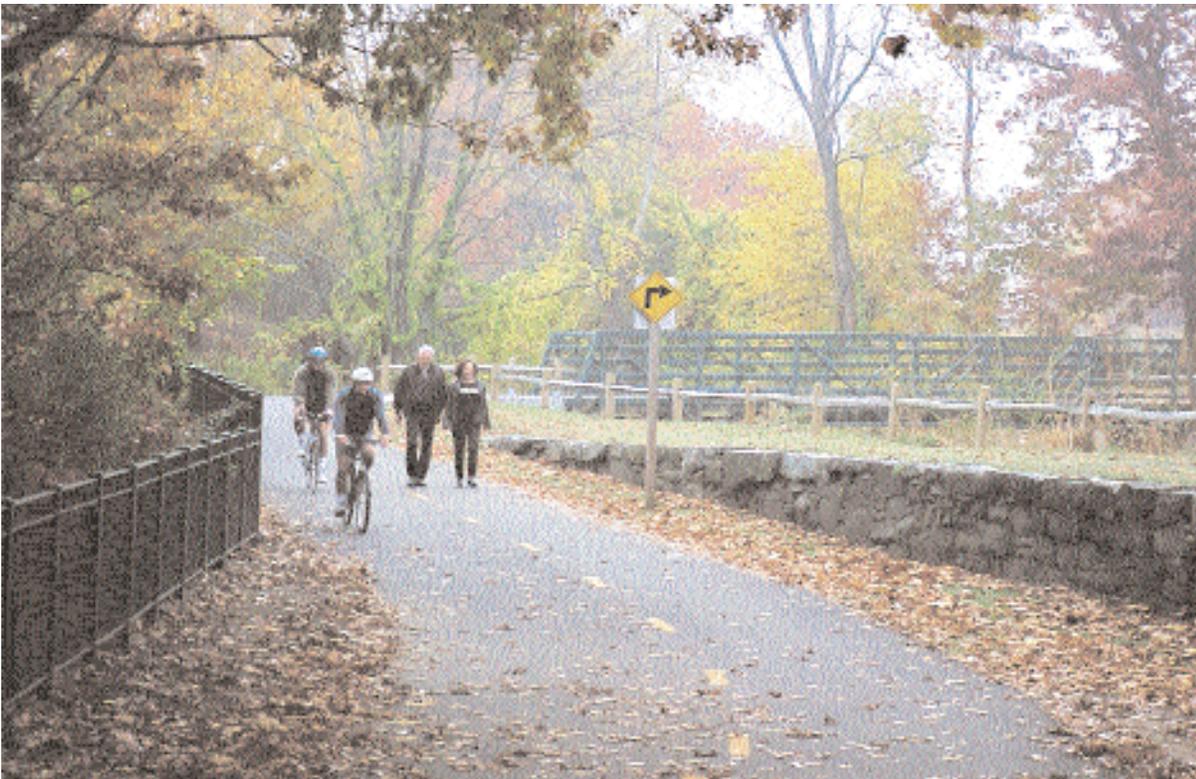
Parks and Beaches

In order to maintain the level of services provided, beach, camping and golf fees were increased in 2002. These fees were last raised in 1991. Entrance to all state parks remained free of charge. Good weather during most of the summer brought more than 7.2 million visitors to Rhode Island state beaches. Campground attendance in 2002 was also significant, with over 230,000 visits to state camping facilities. Close to \$4 million in revenue was generated by beach and campground attendance last year.

Challenge: DEM's Division of Parks and Recreation manages a system of 11 state parks, a dozen state beaches, a golf course, the East Bay Bike Path and portions of the Blackstone River Bikeway, parkways and several secondary state parks, historic sites and monuments. Despite extra demands on personnel and limited financial resources, the Division continues to keep these facilities well maintained and provide an exemplary level of service to its patrons.

Blackstone Bike Path & Kelly House Museum

An additional 3.5 miles of the Blackstone Bike Path, between Ashton in Cumberland and Albion in Lincoln, was opened in 2002, as was a new museum in the Kelly House. The Kelly House Museum is the first historical attraction in Rhode Island that is available to the public along the bikeway.



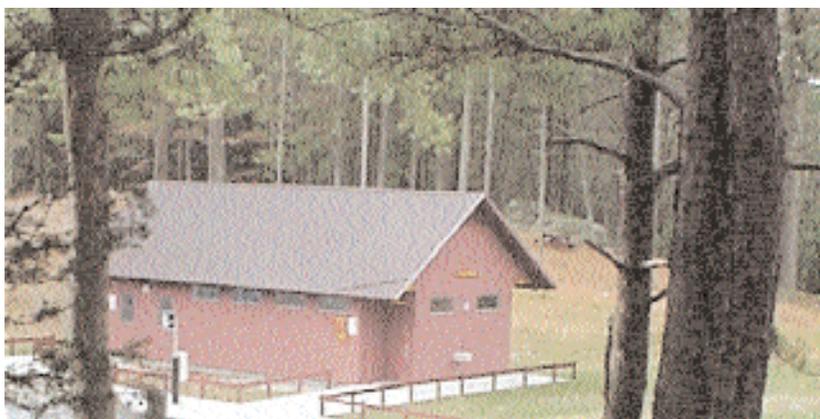
The Blackstone River Bike Path will eventually extend from Providence, Rhode Island to Worcester, Massachusetts. So far, two segments totaling 7 miles along the Blackstone Canal tow path have been completed.

Trestle Trail Bikeway

The Division of Planning and Development completed the Trestle Trail Bikeway location study from Flat River in Coventry to the Connecticut border. We held two public meetings on the project in Coventry in 2002, as well as monthly design meetings with the project engineer. The Trestle Trail Bikeway will be constructed on an existing abandoned railway corridor and will include an equestrian trail. Bikeway and equestrian surfaces have been determined, and parking areas and trail heads have been identified. The bikeway design will be completed in February 2004, with construction of the first phase to begin in fall 2004.

Recreational Facility Renovations

Bowdish dam was rebuilt and the project completed in the summer of 2002. This high hazard dam provides a significant recreational resource in the northeastern corner of the state. Bowdish Reservoir abuts the George Washington Management Area, the George Washington Campground, a major private campground and many private homeowners in the town of Glocester. The project, funded by the state's Capital Development Improvement Program, was completed at a cost of \$1 million.



Visitors to Pulaski Park in Glocester appreciate the modern facilities completed in the summer of 2002.

A new restroom facility at Pulaski Recreation Area was completed in the summer of 2002. The facility significantly improves the recreational amenities at this very popular recreation spot. Pulaski, which annually accommodates almost 100,000 visitors, provides a quiet respite from the busier South County beaches.

Pulaski's serene setting also

provides the state's only cross-country skiing as DEM regularly maintains and grooms trails for over 10,000 visitors annually.

A new bio-sun restroom facility was installed in November at the popular Wood River and Route 165 parking lot in the Arcadia Management Area. The new technology bio-sun restroom uses a low maintenance composting process that eliminates the need for extensive leeching fields and septic systems. The single stall unisex unit protects the environmental integrity of this site and cost only \$25,000.

Interactive Recreational Map

In April, DEM added an interactive map on its website that shows all state-owned management areas and all freshwater and saltwater fishing and boating access locations in Rhode Island. To access the map, visit the DEM website, www.state.ri.us/dem, click on Maps, and chose the Guide to Hunting and Fishing in Rhode Island from the drop down list in the top right corner of the page.

Fishing and Hunting

The Division of Fish & Wildlife continued to maintain and operate four freshwater hatcheries. In 2002, more than 135,000 hatchery-reared trout were stocked in 82 locations throughout Rhode Island.

A \$900,000 expansion and improvement project was completed at the Haines Memorial State Park boat ramp in East Providence in June, and a \$200,000 fishing pier was completed at Carbuncle Pond in Coventry in December. Both include universal design features that make them accessible to the disabled. DEM worked in collaboration with the Governor's Commission on Disabilities and the US Fish & Wildlife Service, Division of Federal Aid on both projects.



DEM received the 2002 Outstanding Project Award from the States Organization for Boating Access for the boat launch improvement project at Haines Memorial State Park.

The Department added the Eight-Rod Farm property in Tiverton and Little Compton to its management area system and developed a management plan for the property. This newly created 412-acre management area provides for varied uses including hiking, fishing, hunting and farming. The property was acquired with funds from The Nature Conservancy, The Champlin Foundations, state open space bonds, and a \$1 million grant from the US Fish & Wildlife Service North American Wetlands Conservation Act.

Wild Turkey Restoration

The restoration of the wild turkey continues to be a major success story in Rhode Island and throughout the United States, with hunters enjoying increasing harvests and hunting opportunities. Turkey hunters harvested 256 birds in Rhode Island during the year, a new record in the state. In 2002, the Rhode Island General Assembly modified state law to require a permit fee from those hunting wild turkey. The fees will be used to support DEM's turkey management program in such ways as turkey habitat acquisition, turkey restoration, and research.

Aquatic Education

The Division of Fish & Wildlife's Aquatic Resource Education program offers outreach and educational training in the areas of water quality, conservation and watershed protection. In 2002, more than 6,000 students, teachers, senior citizens and individuals with special needs took part in the training sessions, ecology and recreational fishing programs offered for youths and adults.

Challenge: The demand for access to the Aquatic Education program continues to exceed capacity with current staffing levels. Given the status of the current state budget, the Department will need to develop partnerships with environmental and community organizations to enhance environmental education and outreach in Rhode Island.

Shared Harvest Farm

The former Ringrose Farm on the Cranston/Johnston border was purchased in October through a unique partnership venture between the state, city and federal government and private land trusts. Under a management agreement with DEM, the 50-acre farm - now known as Shared Harvest Farm - is leased to the Southside Community Land Trust for use in assisting immigrant farmers and developing other community agriculture programs. Additionally, the farm provides volunteer and educational opportunities for students, along with office space for the West Bay Land Trust. The total purchase price for the property was \$508,000, with \$210,500 from the Agricultural Land Preservation Commission, \$197,500 from The Nature Conservancy through a grant from the Champlin Foundations, and \$100,000 from the City of Cranston.

OPEN AND EFFECTIVE GOVERNMENT

E-Government

DEM earned the distinction of being the first state agency in Rhode Island to offer full on-line transactional services for its customers with the introduction of its electronic boat registration program in May. Boat owners interested in renewing their registrations online can visit www.RI.gov, click on the renewal service, enter the appropriate information and pay the renewal fee with a credit card.

DEM made its boating safety course available online through the Department's website in 2002. All young boaters who operate a boat with a motor greater than 10 horsepower, and all operators of personal watercraft, regardless of age, are required to complete a boating safety course approved by DEM.

Also debuting in August was a program for the public to view individual sewage disposal system (ISDS) status application information via www.RI.gov. This free service allows homeowners, builders, designers, installers and anyone else interested in an application to track the progress of a proposed septic system as it travels through the design, permitting and installation steps. All new applications are available on-line, as are tens of thousands of historical applications dating back to 1992 when the computerized database tracking system was first developed for internal use.

DEM hopes to provide additional services, such as hunting and fishing license applications, beach passes, campground reservations, and permit applications through e-government in the future.

Restructured Licensing System

The Office of Boat Registration and Licensing, in coordination with the state Office of Library and Information Services, made major modifications to the existing licensing system to allow for the restructuring of the commercial fishing licensing program in 2003. Under the revised system, commercial licenses are broken into specific fishery sectors, allowing fishery managers the ability to know where each fisher's effort is engaged. The new system also includes a program that is used by the Atlantic Coastal Cooperative Statistics Program to obtain statistical data and information on specific fishers, their efforts and boats engaged in the fishery. *(See page 18 for more information on the new commercial fisheries licensing system.)*

Work Plans

DEM program managers regularly monitor progress toward meeting the goals outlined in the Department's Strategic Work Plan. Overall, the Department met approximately 71 percent of its targets as of July 31. Significant progress was made with respect to brownfields redevelopment, watershed protection and upgrades of wastewater treatment facilities. Progress slowed in areas like permit streamlining (in part due to a significant increase in permit applications), water quality restoration (due to loss of staff) and enforcement (retirements). Staffing shortages and budget problems delayed efforts to implement an environmental equity initiative and construction of a new bulkhead in Galilee. The state land acquisition program met accelerated targets in 2002, but faces funding challenges in the future. The Work Plan and Progress Report are available on the Department's website at www.state.ri.us/dem by clicking on Publications then 2002-2003 Strategic Work Plan.

Community Outreach

DEM hosted a wetlands permit training workshop for municipal officials in January. Nearly 50 participants from 21 different cities and towns attended the workshop to learn about the wetlands per-

mitting process and how to submit quality applications.

The Department hosted a wetlands open house in May to celebrate American Wetlands Month. Over 100 Rhode Islanders attended the event including prospective home builders, teachers, and budding young naturalists. Wetlands staff answered questions on permitting and plant identification, and demonstrated how wetland biologists use aerial photos to review permit applications.



Visitors to the wetlands open house gave high marks to the opportunity to interact face to face with DEM staff and receive quick and helpful information.

Streamlining Air Pre-Construction Applications

In August, a task force charged with reviewing the Department's air pre-construction application procedures issued 19 recommendations to streamline the permitting process. Several recommendations have already been implemented such as posting permits on DEM's website, providing links to other states' permitting websites, and developing a pilot program that allows applicants to prepare a draft permit to reduce the Department's review time.

New Regulatory Measures

DEM developed regulations for administrative inspections that balance the Department's interests in protecting the environment and enforcing environmental laws with reasonable private property interests. Filed in late December, the new regulations clarify DEM's authority to conduct consensual and non-consensual administrative inspections with and without a warrant.

Innovative Approach to Compliance and Permitting

The Department continued to implement its auto body repair self-certification program for shop owners, spray painters, and technicians. Modeled after the highly successful Massachusetts Environmental Results Program, the voluntary program can help operators of auto body shops bring their facilities into full compliance with environmental regulations, thereby reducing the risk of an enforcement action without having to apply for an individual permit. In 2002, Office of Technical & Customer Assistance staff held several stakeholder meetings, finalized a comprehensive multi-media workbook and checklist, and conducted baseline compliance inspections at auto body facilities. This innovative approach to compliance and permitting is also being initiated in the dry cleaner, underground storage tank, and exterior lead paint removal sectors.

Challenge: The Department faced significant challenges in the pollution prevention program in 2002. Budget actions resulted in the transfer of two staff members out of the program, for a 50 percent reduction, and elimination of funding for the Department's contract with the URI Center for Pollution Prevention. A renewed effort is needed in 2003 to revitalize this program.

DEM Anniversary Observed

DEM celebrated its 25th birthday and the 30th anniversary of the Clean Water Act in October with a series of events for staff and the public.

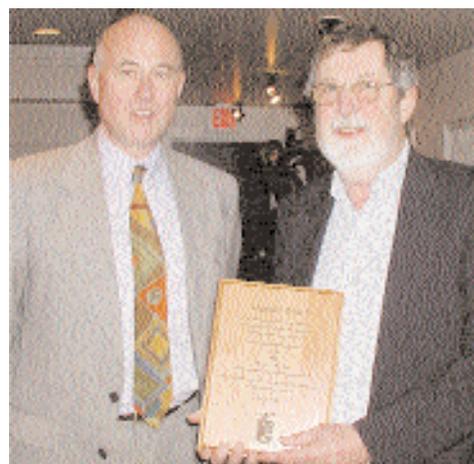
The two most prominent events were a State House ceremony and a symposium on environmental issues, with six of the eight DEM directors who have guided the agency since its inception. Following the standing-room only reception in the Governor's State



Room, former DEM Directors William Harsch, Robert Bendick, Louise Durfee, Mike Annarummo and Andy McLeod joined Director Jan Reitsma and moderator Trudy Coxe for a thought-providing discussion on the environmental challenges and opportunities facing Rhode Island in the 21st Century.

Hawkes Environmental Award

Harold R. Ward, Ph.D., Director of the Center for Environmental Studies at Brown University, was presented with the Department's 10th annual Alfred L. Hawkes Award for Conservation and Environmental Accomplishment in May. DEM Director Jan Reitsma noted that Ward's contributions go beyond the traditional role of academic research by seeking real world solutions and innovative approaches to our most pressing environmental challenges.



Director Reitsma, with Harold Ward, who received DEM's 10th Annual Alfred L. Hawkes Award for Conservation and Environmental Accomplishment.

Fair and Effective Enforcement

In 2002, DEM issued 89 Notices of Violation, settled 58 formal enforcement actions by executing Consent Agreements, and took 1,081 informal enforcement actions. The Department assessed almost \$3.2 million in administrative penalties and collected over \$807,000 in past penalties. The Office of Compliance and Inspection responded to 3,185 complaints and conducted 3,586 inspections during the year. More than 1,550 inspections of regulated or licensed facilities were performed by Bureau of Environmental Protection staff to monitor compliance with environmental laws and regulations.

Criminal Investigations

In 2002 DEM's Office of Criminal Investigation reviewed 2,533 complaints, began 36 new criminal investigations and continued 70 investigations from previous years. Investigators prepared approximately 14 cases for criminal prosecution resulting in 31 felony charges against individuals and/or corporations.

As a direct result of our criminal investigations, in August a grand jury indicted Metals Recycling LLC on 10 felony counts of illegally transporting and storing hazardous waste and illegally operating unlicensed hazardous waste and solid waste facilities. Also, a grand jury indicted New England Ecological Development (NEED), Inc. in December on five felony counts of illegally operating an unlicensed solid waste facility, and indicted NEED president Louis Vinagro, Jr. on four counts of illegally operating an unlicensed solid waste facility. In August, DEM reached a plea agreement with Enviro Crushing and Screening Inc. for a five-year probation sentence and a \$125,000 fine for illegally operating an unlicensed solid waste and construction and demolition facility.

Thirty-one criminal cases were resolved in 2002 resulting in \$173,250 in fines and penalties, including 21 years of court ordered probation and a three-year jail sentence. The funds generated by this program are held in an account that enables the Department to respond to environmental emergencies.

The Department continued its Environmental Crimes Training Program. Our investigators trained 191 local police at the RI Municipal Training Academy and the URI Forensic Science Seminar, and 47 law enforcement investigators and regulatory inspectors from 15 northeast states who are members of the Northeast Environmental Enforcement Project Association. Investigators also presented environmental crimes awareness classes to 212 elementary and high school students.

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Cover: A sunset at Allen's Cove in Barrington

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