

**Performance Partnership Agreement
Between the Rhode Island
Department of Environmental Management
And the
US Environmental Protection Agency
Region I**

**State Fiscal Years 2004 and 2005
July 1, 2003 through June 30, 2005**

2-26-04

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Execution of Agreement

This agreement is hereby entered into this ____ day of March 2004 and remains in effect until the 30th day of June 2005, and may be amended by mutual consent.

Robert W. Varney
Regional Administrator
U.S. Environmental Protection Agency, Region I

Frederick J. Vincent
Acting Director
Rhode Island Department of
Environmental Management

Introduction

This is the sixth Rhode Island Performance Partnership Agreement (PPA) between the Rhode Island Department of Environmental Management (DEM) and United States Environmental Protection Agency – Region 1 (EPA) within the National Environmental Performance Partnership System (NEPPS). This PPA builds on previous PPA efforts to allocate resources to environmental priorities and to focus on producing environmental results.

Scope of the Agreement

This agreement consists of the work elements from the DEM Strategic Work Plan for Fiscal Years 2004 and 2005, Key Strategies and EPA Actions for Rhode Island for FY 2004-2005, and a draft set of indicators that we will use to track the status and trends in environmental conditions in Rhode Island. Future reports will include statistics on indicators.

This agreement provides an overview and summary of the work to be undertaken by the parties. The DEM Strategic Work Plan and EPA Region I Strategic Work Plan are incorporated by reference into this document. DEM's Strategic Work Plan and detailed work plans for DEM divisions are posted on DEM's website: www.state.ri.us/dem/pubs/index.htm. EPA's work plan can be found at www.epa.gov/region01.

EPA and DEM Work Plans

The work of both agencies addresses the core issues of protecting, restoring, and sustaining Rhode Island's natural resources and ecosystems. To emphasize tangible environmental results, DEM and EPA have aligned many of their efforts under five broad goals: clean air; clean and plentiful water; preserve and restore the land, healthy communities and ecosystems, and compliance assistance and enforcement. A sixth section contains strategies that apply to more than one goal.

The DEM portion of the PPA for FY 2004-2005 is an update of elements from the Strategic Work Plan for 2002-2003. EPA New England's Office of Ecosystem Protection for Rhode Island coordinated the development of its work for Rhode Island separately but parallel to DEM's and consistent with the national Government Performance and Results Act (GPRA) goals.

The performance measures contain targets that are based on current staffing levels and budgets. Targets will need to be revised if circumstances change.

Each goal requires us to seek out and acknowledge partners and stakeholders. Environmental management requires the efforts of many partnerships to address the widely dispersed sources of non-point pollution, region-wide air pollution, restoration and redevelopment of hazardous waste sites, urban sprawl, habitat loss, biological diversity, global climate change, and the cycling of pollutants among air, water, and land.

EPA's broad national goals are compatible with DEM's specific goals, although alignment of the objectives and goals in the two work plans is not always exact. At the end of each fiscal year covered in this agreement, DEM and EPA will assess our progress in meeting the goals of the PPA, as well as identify adjustments and additional actions that need to be taken. DEM will publish a fiscal year end Progress Report. Our assessment will focus on effectiveness and program accountability, and will examine the following key questions:

Effectiveness

- How do we know we are achieving our environmental goals and do those goals shape specific program priorities and activities?
- Do we have useful and appropriate performance measures, and do the targets identified in our measures give us clear benchmarks for evaluating our performance.

Program Accountability

- Is the PPA serving effectively to integrate and align DEM's and EPA's efforts and hold them accountable for working together to implement the strategic plan and achieve PPA goals?
- Have federal funds been used effectively to meet program commitments?
- Are staffing and resources adequate to implement the programs to achieve our goals?
- Are there vehicles to credibly report progress to the public, to stakeholders, and to EPA?

Public Participation

The DEM held a public meeting on January 13, 2004 at its headquarters in Providence and posted the Strategic Work Plan FY 2004 - 2005 on its web site to solicit comments. The Department's responses to comments from the public meetings as well as written and electronic communications can be found in the responsiveness summary appended to the Department's Strategic Work Plan for FY 2004-2005.

Clean Air - State status and DEM Strategies

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

Many activities such as the burning of fossil fuels and industrial processes release harmful by-products. Since each adult breathes over 3,000 gallons of air per day, even small amounts of pollutants can harm the body. Ground-level ozone, fine particulate and air toxics can cause acute and chronic respiratory problems in sensitive individuals and affect even healthy individuals when ambient levels are high. Acid rain and ozone threaten the environment and the buildup of carbon dioxide and other greenhouse gases contributes to global warming, putting our ecosystems, farms, forests and coastline at risk.

The Department's focus on reducing ozone, fine particles, toxic air pollutants, and greenhouse gases requires integrated, comprehensive solutions at local, state, regional and federal levels and a role in transportation and energy issues. The need for significant additional emission reductions provides a powerful incentive for solutions such as multi-pollutant controls and non-regulatory approaches like pollution prevention, energy efficiency and smart growth that produce multiple benefits at lower overall cost and in some cases such as energy efficiency, produce significant savings. Implementing energy efficiency and renewable energy strategies developed by the Rhode Island Greenhouse Gas Stakeholders would save the state \$700 million by 2020.

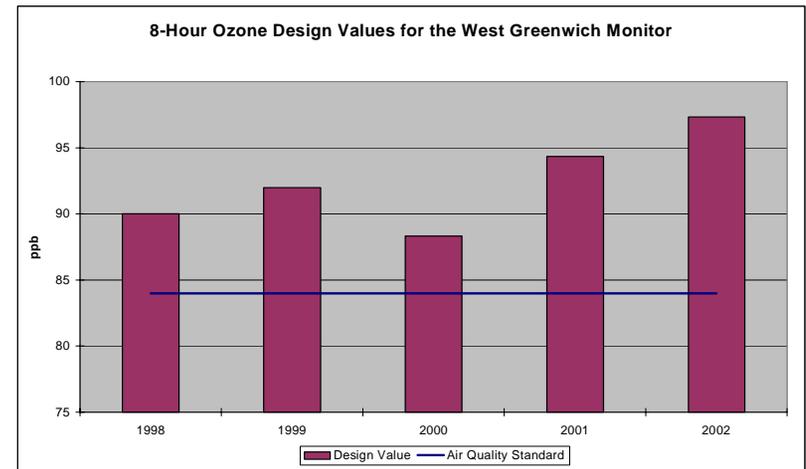
Levels of carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂) and lead in Rhode Island's air have fallen to well below national health standards as a result of cleaner cars, cleaner fuels and other air pollution control programs. However, the trends toward larger vehicles (more than half of new passenger vehicles are SUVs, vans and pick-ups), increased travel and stagnant vehicle energy efficiency are eroding some of the gains from generally cleaner cars.

Ozone

Despite improvements in the long-term trend, the state's air regularly exceeds the eight-hour standard for ground level ozone during warm weather, largely from the transport of ozone and ozone precursors from upwind states. Through a combination of in-state and regional efforts the Department aims to meet the more stringent 8-hour ozone standard by 2010.

Rhode Island's efforts as a member of the Ozone Transport Commission (OTC), our support of federal efforts to reduce emissions, and the petition we filed with EPA to reduce emissions from upwind areas, have led to reductions in volatile organic compound (VOC) and NO_x emissions in the OTC region, as well as a requirement for large electric generating plants in the Midwest to reduce emissions by 2004. Gaining passage of multi-pollutant legislation and developing EPA's ozone strategy to position RI to attain the 8-hour ozone standard as quickly as possible, which are crucial to making further progress toward reducing out of state pollution, are the focus of the state and regional ozone efforts.

The enhanced Vehicle Inspection/Maintenance (I/M) program is the main strategy for reducing light-duty vehicle tail pipe emissions of the VOCs and NO_x that form ozone. Testing of over 300,000 vehicles in 2002 resulted in repairs that reduced emissions from the highest polluters by 70% for VOCs, 63% for NO_x, and 82% for CO. The state will refine the I/M program through improvements such as denying the registration of non-compliant vehicles.

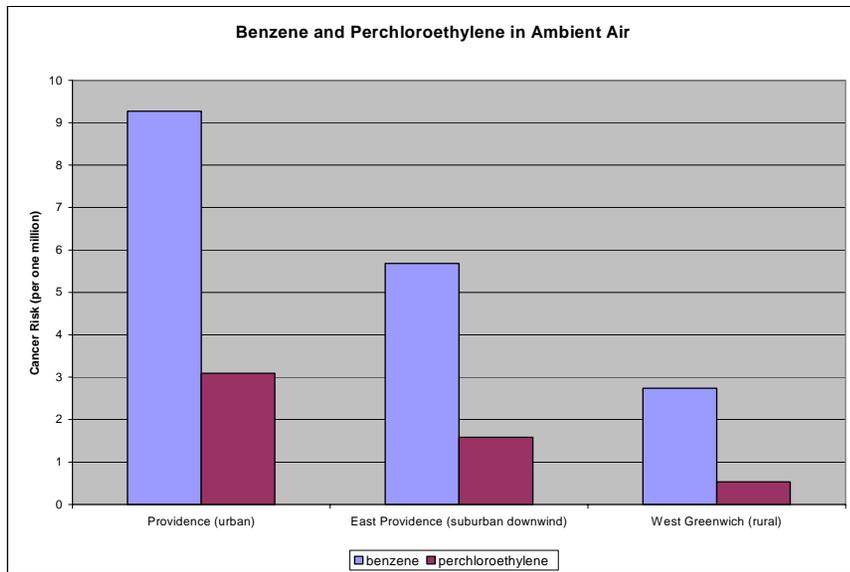


Air quality measured at West Greenwich monitor fails to meet the eight-hour ozone air quality standard.

Fine Particles

The Department is implementing a program to reduce fine particulate matter (PM) emissions from diesel trucks and buses. We are upgrading our monitoring network for fine particulates and will inform the public of unhealthy PM levels. Rhode Island is in compliance with the current fine

particulate standard, although levels on some days are high enough to be classified by EPA as unhealthy for sensitive populations. EPA is considering modifying the standard.



DEM's monitoring shows that the ambient air concentrations of benzene and perchloroethylene result in high cancer risks throughout the state, above the target level of one cancer per one million population. Benzene is emitted by motor vehicles and perchloroethylene from dry cleaning facilities.

Air Toxics

The Department will update its program that regulates the emissions of 40 toxic air contaminants to incorporate pollutants now covered by the federal Hazardous Air Pollutant (HAPs) program and other pollutants into Rhode Island's program.

Greenhouse Gas (GHG) and a Comprehensive Energy Policy

The Providence area experienced a 3°F rise in temperature since 1900. If the trend continues unmitigated, Rhode Island could face coastal flooding, salt water contamination of drinking water, crop and ecosystem damage and health problems from higher temperatures and vector borne diseases. Concern about the environmental, public safety and economic impacts of climate change are driving efforts to reduce emissions of greenhouse gases, seventy percent of which come from electricity usage.

DEM and the State Energy Office are sponsoring a greenhouse gas stakeholder group comprised of energy companies, industry, commerce, non-profits and government agencies to achieve the comprehensive regional policy needed to address global warming concerns. The stakeholders' 2002 Greenhouse Gas Action Plan includes 52 state, regional and national strategies to reduce Rhode Island's greenhouse gas emissions by over 30 % which will put Rhode Island on target to meet its share of the Conference of New England Governors' and Eastern Canadian Premiers' goal to reduce emissions to 1990 levels by 2010 and by 10% below 1990 levels by 2020.

By 2020 the strategies would save Rhode Island \$700,000,000 in energy costs and reduce dependence on fossil fuels through cleaner vehicles, energy-efficient buildings and industrial processes, and more use of wind power and other renewable energy sources. Stakeholders are working on priority strategies such as legislation that would require electric utilities to provide up to 20% of electricity from renewable resources by 2020, and energy efficiency measures for appliances, facilities and vehicles.

National Status and EPA Strategies

Although air quality in the United States has steadily improved since the 1970s, remaining indoor and outdoor air pollution problems can have locally severe impacts and can cause breathing difficulties, long-term damage to respiratory and reproductive systems, cancer, and premature death. Air pollution also can affect the environment by reducing visibility; damaging crops, forests, and buildings; acidifying lakes and streams; and stimulating the growth of algae in estuaries and the bioaccumulation of toxics in fish, posing particular risks to Native Americans and others who subsist on plants, fish, and game. Rapid development and urbanization generate air pollution that travels great distances and across international boundaries. This broad range of problems requires an equally broad strategy and choice of appropriate tools, from a national approach at the federal level to home-grown solutions at the local and regional level. EPA will work closely with public and private sector partners and stakeholders to develop the tools—such as monitoring, modeling, and emission inventories—that allow states, tribes, and localities to address these more localized problems. Many of these tools employ innovative techniques, such as voluntary programs for retrofitting diesel engines or community-based approaches to toxics, that are well-suited to the local nature of these problems.

Clean Air

Goal: Air throughout the state will be healthy to breathe and air pollutants will not damage our forests, land and water bodies.		
EPA Regional Sub objectives:		
<ul style="list-style-type: none"> • Maintain and improve outdoor air quality • The region will support the New England Governors in their goal of reducing regional greenhouse gas emissions to 1990 levels by 2010. • Implement, attain, and maintain air quality standards in areas throughout the country. • By 2010 reduce ozone precursors emissions by 3% per year from 2002 levels. • Reduce emissions from stationary sources and mobile sources through federal regulation. • Reduce particulate matter (PM) levels. • Maintain compliance with NAAQS: CO, NO₂, SO₂, Pb. • Reduce exposure to ambient air toxics through federal regulations and area-specific community-based targets. • Reduce acid rain, mercury deposition. 		
RI Objectives:		Reduce greenhouse gas emissions 75% to 85% below 1990 levels over the long term. Achieve reductions in emissions from out of state that affect Rhode Island air quality.
	By 2015-2020	<ul style="list-style-type: none"> • Reduce greenhouse gas emissions to 10% below 1990 levels. • Reduce MTCE by 176,000 tons.
	By 2008-2012	<ul style="list-style-type: none"> • Reduce greenhouse gas emissions to 1990 levels. • Meet the 8-hour ground-level ozone standard. • Reduce VOCs emissions from 140.6 to 118.7 tons per summer day (tpsd) by 2007. • Reduce NO_x emissions from 93.3 to 74 tpsd by 2007.
	By 2005-2008	<ul style="list-style-type: none"> • Meet the one-hour ground-level ozone standard. • Maintain standards for NAAQS: carbon monoxide, nitrogen oxides, sulfur dioxide, lead and particulate matter. • Achieve a balanced and sustainable energy policy that reduces greenhouse gas emissions and criteria air pollutants. • Reduce levels of air toxics.

Indicators:

- Trends in energy use per person, trend in energy use by sector since 1990, and vehicle miles traveled
- Trends in meeting air quality standards
- Emissions of selected chlorinated solvents
- Emissions of ambient concentration of benzene, formaldehyde, and 1,3 butadiene
- Emissions of mercury
- Trends in transportation-related emissions

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<p>To reduce ozone, fine particulates, air toxics and CO2</p> <p>Transportation</p> <p>Promote policies to reduce emissions from the transportation sector.</p> <ul style="list-style-type: none"> Enhance/upgrade light vehicle I/M program Implement on-road heavy-duty diesel program 		<ul style="list-style-type: none"> Implement and monitor registration denial system. 	<ul style="list-style-type: none"> Begin development of post-2007 I/M by 6/06 Begin periodic inspections by 11/04
<ul style="list-style-type: none"> Promote diesel retrofits, cleaner fuel and anti-idling programs Update mobile source regulations as needed. 	<ul style="list-style-type: none"> Provide and manage \$130,000 New England Asthma Regional Coordinating Council (ARC) grants for asthma reduction plan including school bus diesel retrofit pilots and anti-idling efforts in high asthma risk communities Provide \$15,000 grant to RIDEM to develop and implement statewide Clean Green School Bus Awareness Program to promote diesel school bus anti-idling and emissions reduction. Identify and negotiate Supplemental Environmental Projects for retrofits/cleaner fuels for diesel engines. 	<ul style="list-style-type: none"> With RIPTA, DOT, RIRRC, DOA & Department of Education, promote use of ultra-low sulfur diesel fuel (ULSF) and control equipment retrofits. Evaluate California Low Emission Vehicle (CAL LEV) standards for possible adoption. 	<ul style="list-style-type: none"> Develop voluntary anti-idling program for school buses and other vehicles by summer 04. Secure commitment to use ultra-low sulfur diesel fuel in state vehicles and in vehicles used in state funded projects by 12/04 Negotiate agreement(s) by 3/04 and help district(s) apply for federal funds in early 2004 for ULSF and bus retrofits Make recommendation to Governor by 12/03.
<p>Promote efforts to reduce vehicle miles traveled.</p>	<ul style="list-style-type: none"> Recognize employers that encourage employees to commute to work in ways that help reduce pollution and traffic congestion by adding names of these employers to New England list of Best Workplaces for Commuters. 		

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Stationary Sources In-state Sources <ul style="list-style-type: none"> Develop alternate standards for selected sectors 	<ul style="list-style-type: none"> Review and take action on DEM alternative MACT standards for dry cleaning and degreasing. 		Inspect sources in targeted sectors <ul style="list-style-type: none"> 35 (70%) stationary sources with Title V Operating Permits. 26 (25%) air pollution sources with enforceable emissions caps. 350 (70%) gasoline dispensing facilities equipped with Stage II vapor recovery systems. Inspect 50% of the dry cleaning facilities by 6/04, if resources allow.
Provide guidance on air toxics.	<ul style="list-style-type: none"> Work with NESCAUM's Air Quality and Public Health Committee on presentations and guidance for states on air toxics regulations, community air toxics projects, air toxics risk, and results of the 1999 National Air Toxics Assessment (NATA). 		<ul style="list-style-type: none"> NESCAUM disseminate guidance in 2004.
Out of state sources <ul style="list-style-type: none"> Adopt 8 hour ozone strategy to address downwind impacts 	<ul style="list-style-type: none"> Adopt 8-hour ozone implementation strategy that addresses downwind impacts by 12/03. 	<ul style="list-style-type: none"> Develop regional position on multi-pollutant regulation. Support national multi-pollutant legislation with timelines that will coincide with federally required state timelines for attainment of the 8-hour ozone standard. Work with the Ozone Transport Commission to develop a regional position on multi-pollutant legislation/regulation. Assure that upwind areas are accountable for their impacts by aggressively pursuing (with other Northeast States and NESCAUM) consistent national compliance with EPA's 8-hour ozone implementation strategy. 	<ul style="list-style-type: none"> EPA adopt an 8-hour ozone standard by 12/03. Achieve national multi-pollutant legislation with carbon dioxide reductions.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Mobile and stationary sources Continue ozone and fine particle forecasting and reporting.	<ul style="list-style-type: none"> Continue to issue press releases and alerts for elevated levels of ozone and fine particles as needed. Continue to produce daily ozone forecast map for NESCAUM states. Promote air quality forecasts in newspapers and on television. Conduct workshop on air quality outreach and forecasting for New England states. 	<ul style="list-style-type: none"> Continue to issue press releases and alerts for elevated levels of ozone and fine particles. Promote air quality forecasts in newspapers and television. 	
	Assist state with ozone and PM attainment designation <ul style="list-style-type: none"> Host workshop to help states develop 02 base year inventories for 8-hour ozone and PM. Finalize designations for 8-hour ozone standard by April 2004 Assist DEM with fine particulate matter standard designation Finalize designation for fine particulate matter standard by 12/04. 	<ul style="list-style-type: none"> Develop fine particulate matter standard designation. 	<ul style="list-style-type: none"> Hold workshop 12/03. Submit to EPA by 2/15/04.
Minimize accidental releases of hazardous air contaminants.		Implement Accidental Release Program.	<ul style="list-style-type: none"> Promulgate regulations by 4/04.
Update State Implementation Plan (SIP)	<ul style="list-style-type: none"> Approve into State's SIP, if appropriate, 2002 final SIP inventories. 	<ul style="list-style-type: none"> Develop 2002 final SIP inventories 	<ul style="list-style-type: none"> Submit to EPA by 6/1/05.
Implement compliance evaluation improvement system		<ul style="list-style-type: none"> Develop/amend rules as needed for mobile equipment repair, solvent cleaning, portable fuel containers, consumer products, architectural and industrial maintenance coatings. Issue 6 new or renewed air toxic operating permits. 	<ul style="list-style-type: none"> By 12/04. Annually.
Provide assistance to reduce childhood asthma	<ul style="list-style-type: none"> Oversee grant and provide assistance to the Hasbro Children's Hospital Pawtucket School Asthma Partnership. 		

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<p>Reduce GHG emissions. With partners implement Rhode Island GHG Action Plan.</p> <ul style="list-style-type: none"> Complete Phase 2 strategies: Propose and support legislation by 7/04. <ul style="list-style-type: none"> Vehicle Efficiency Incentive Act (VEIA) Renewable Portfolio Standards Act RPS) Efficient Appliances Act (EEA) Evaluate and implement Phase 3 strategies 	<ul style="list-style-type: none"> Oversee \$65,000 grant to New England Governors Conference for administration of Climate Change Action Plan. Oversee grant, assist in organization of, and provide speakers for Climate Change Adaptation Conference March 15, 16, 2004. Oversee \$25,000 grant to Institute for Sustainable Energy for assistance in training state officials on EPA’s building benchmarking tool for energy performance. Assist Rhode Island communities on benchmarking energy performance of school and municipal buildings Promote Energy Challenge to Performance Track facilities in RI (seek commitments to reduce greenhouse gas emissions). 	<ul style="list-style-type: none"> Adopt (with Rhode Island State Energy Office) Government Lead By Example package. Adopt regulation changes to encourage combined heat and power and clean distributed generation installations. Develop tracking system for GHG emissions (pending funding). Develop forestry workshop. (Statewide Planning) complete transit-oriented development (TOD) model one year from receipt of funding. (Narragansett Electric) develop residential appliance efficiency program. Reduce carbon 85,000 metric tons in 2020; savings \$500/MT. Develop energy/GHG outreach and education plan. 	<p>Projected reductions:</p> <ul style="list-style-type: none"> Reduce metric tons of carbon equivalent (MTCE) overall by 176,000 tons MTCE. (VEIA) 125,000 metric tons carbon by 2020; revenue neutral. (RPS) 141,000 metric tons carbon by 2020; +\$2 - 3 on monthly electric bill in 2020. (EEA) 34,000 metric tons carbon by 2020; total savings \$270M. Number of pay as you throw (PAYT) solid waste programs adopted by municipalities. Carbon reduction: 55,000 metric tons in 2020; Cost of saved carbon <\$0.
	<ul style="list-style-type: none"> Develop web-based guide for reducing greenhouse gases on colleges and university campuses. 	<ul style="list-style-type: none"> Develop resource management contracting initiative pending RIRRC funding. 	<ul style="list-style-type: none"> Carbon reduction: 70,000 metric tons in 2020; Cost of saved carbon <\$0.
<p>Enhance air quality monitoring networks to improve understanding of air toxics and PM2.5 pollution.</p>	<ul style="list-style-type: none"> Analyze co-located samples for carbonyls, VOCs and metals from Rhode Island’s National Air Toxics Trends Site to identify sampling or analytical problems that can be quickly remedied through calendar year 2005). 	<ul style="list-style-type: none"> Update PM2.5 monitoring network. Initiate chrome VI monitoring at Rhode Island’s National Air Toxics Trends Site and one other site. Initiate metals, VOC and carbonyls monitoring at Olneyville for one year. 	<ul style="list-style-type: none"> Update by 1/04. Initiate by 8/03. Initiate by 8/03.

Clean and Plentiful Water - State Status and DEM Strategies

Rhode Island's rivers, lakes and coastal waters will be safe for fishing, swimming, and other direct water contacts, and will support healthy ecosystems. Surface and groundwater will be clean sources of drinking water. There will be adequate water supply for all uses.

Rhode Island's water bodies are valued for swimming, fishing and boating, as well as for commercial fishing and other water-related businesses. Narragansett Bay, which occupies one-quarter of the state's total area, and has over 440 miles of coastline, along with our freshwater resources, draws approximately 16 million visitors a year, generating over \$3.25 billion per year. While water quality is much improved after 30 years of regulation of large discharges, reducing the many thousands of remaining small and widely spread sources of pollution and restoring water quality remains a challenge.

Rhode Island still has a long way to go in assessing ground and surface water resources and making sure they meet standards for aquatic life, drinking, swimming and fish and shellfish consumption. Currently, 21% of lake acres and 64% of river miles are not assessed for their designated uses, and although about 99% of Rhode Island's estuarine waters are assessed, this is only for swimming and shellfish consumption. While we have extensive bacteriological data on Narragansett Bay and coastal ponds, we do not have a comprehensive statewide monitoring program for important parameters such as nutrients and dissolved oxygen levels, contaminants in sediments, pollutants in fish, and the effects of restoration efforts. Moreover, some assessments are based on very limited data and/or old data.

DEM and the Department of Health assess water quality for support of uses including swimming, shellfishing, aquatic life and drinking. Of the waters that are assessed, 69% of estuarine waters square miles, 78% of lake acres, and 66% of river miles fully support designated uses. In 2002, 79% of designated shellfishable waters fully supported shellfishing. Progress on Water Quality Restoration Plans (WQRP) to identify actions needed to restore water quality in impaired waters has been slowed due to loss of over half of TMDL staff.

Bacteria and nutrients from point and non-point sources are the major pollutants of surface waters. In groundwater, the pollutants of concern are nitrates and volatile organic compounds (VOCs) from gasoline and solvents.

VOCs have been variably detected in 15% to 30% of the public wells tested annually. Spills of petroleum products and hazardous materials continue to be a threat to water quality as well.

Monitoring

DEM is collaborating to complete a comprehensive monitoring strategy that will guide a more complete assessment of baseline water quality conditions over time. Consistent with the strategy, we expect to modify monitoring activities to reflect a watershed-based approach to baseline monitoring. However, additional resources will be required to support full implementation of the strategy, for example, to support analysis of fish tissue for contaminants.

Reducing Nutrients

The massive fish and shellfish kill in Greenwich Bay this past August and the health threat to Conimicut residents from the hydrogen sulfide emissions from decaying remains have made the threat of nutrient pollution all too real. Organic wastes, fertilizers deposition of air pollution and other nutrient-rich materials can degrade water quality by stimulating the growth of algae and aquatic plants, which in turn may reduce dissolved oxygen in the water, harming fish and other aquatic life. Studies from 1999 through 2003 show hypoxia [low dissolved oxygen – (DO)] and anoxia (no DO) occurring at times and in areas of the Bay that are likely to harm fisheries.

Discharges from wastewater treatment facilities (WWTFs) are the largest contributors of nutrient pollution in the Bay, urban rivers and estuarine waters. DEM is working with WWTFs, as well as facilitating the use of advanced septic system technologies and promoting other best management practices (BMPs) to reduce and prevent nutrient pollution. The Department continues to work with the Town of East Greenwich to speed up the WWTF upgrade that includes reducing the nitrogen discharged into Greenwich Bay. New ISDS rules are expected to mandate advanced treatment (nitrogen removal) in environmentally sensitive areas.

Water Quality Restoration Plans (WQRPs) - TMDLs

The 2002 303(D) list includes 130 water bodies with 233 impairments that require restoration plans that set the maximum amount of each pollutant that may be discharged into each impaired water body, identify the sources of contamination and the actions needed to restore water quality, including

pollution prevention measures. Since assessment and abatement needs will exceed available funding, it will be critical to secure additional funding including new bonding authority to achieve water quality improvements. See Table 1, Water Quality Restoration Plans and Habitat Restoration Plans, and Figure 1, Habitat and Water Quality Restoration.

Protecting Drinking Water Sources

Surface runoff, illegal dumping, accidental spills, and failing septic systems can contaminate drinking water supplies and pose significant health risks. DEM, in coordination with The Department of Health (DOH), will concentrate on preventing pollution in the watersheds and aquifers of drinking water supplies. While the mandated upgrade of underground storage tanks has reduced the risk of subsurface releases, the contamination incident in Pascoag showed the need for continued vigilance. DEM will promote the use of appropriate local land use controls and implementation of best management practices (BMPs) as important strategies for managing pollutant risks to drinking water supplies.

Septic Systems

A total of 22 communities (81% of those targeted) are implementing local waste water management programs (WWMPs). DEM will continue to encourage the five remaining targeted communities to develop WWMPs. DEM also continues to update ISDS regulations and facilitate the appropriate application of innovative and alternative ISDS technologies.

Stormwater Management

In 2003, DEM began to implement Phase II of the storm water regulations in accordance with federal storm water requirements that require most RI communities to address 6 minimum measures. Thirty-six communities received grants to develop local storm water management plans. Implementation of the plans will work only if municipalities have sufficient resources to adopt mitigation strategies. However, even with continued DEM grants, technical support and guidance, compliance with the storm water requirements will likely require communities to develop a dedicated revenue source.

Abating Combined Sewer Overflows (CSO)

DEM will continue close coordination with the Narragansett Bay Commission (NBC), as construction of Phase I of their CSO pollution abatement project continues. This project, the biggest water pollution abatement effort in RI, will substantially reduce the number of days that Conditional Areas A and B are closed to shell fishing each year and improve water quality for swimming and other recreational uses in the upper Bay region.

See Healthy Community and Ecosystems Goal for information on Wetlands and Balancing Water Budgets.

See Cross-Goal Strategies for information on dredging.

National Status and EPA Strategies

Over the 30 years since the enactment of the Clean Water and Safe Drinking Water Acts, government, citizens, and the private sector have worked together to make dramatic progress in improving the quality of surface waters and drinking water. Today, drinking water is treated to be safe at the faucet end and protected at the source. Today, the number of polluted waters has been dramatically reduced, and many clean waters are even healthier. A massive investment of federal, state, and local funds has resulted in a new generation of sewage treatment facilities able to provide “secondary” treatment or better. More than 50 categories of industry now comply with nationally consistent discharge regulations. In addition, sustained efforts to implement “best management practices” have helped reduce runoff of pollutants from diffuse, or “nonpoint,” sources. But despite these outstanding improvements, population growth continues to generate higher levels of water pollution and places greater demand on drinking-water systems. To further our progress toward clean waters and safer drinking water, we must both maintain our commitment to the core measures we have already established and look for new ways to improve water quality and protect human health.

Clean and Plentiful Water

<p>Goal: Clean Water: Rhode Island's rivers, lakes and coastal waters will be safe for fishing, swimming, and other direct water contacts, and will support healthy ecosystems. Surface and groundwater will be clean sources of drinking water. There will be adequate water supply for all uses.</p>		
<p>EPA Regional Sub objectives: Restore and protect water quality to support fishing, shellfishing and swimming uses.</p>		
RI Objectives:		Eliminate, reduce, and manage both point and nonpoint discharges to surface and groundwater to allow for attainment of desired uses (See also goals and objectives under preserve and protect the land, and healthy communities and ecosystems)
	By 2015-2020	<ul style="list-style-type: none"> Assess one hundred percent of the state's watersheds consistent with the Consolidated Assessment and Listing Methodology (CALM) and Comprehensive Monitoring Strategy. Reduce, eliminate and manage both point and nonpoint discharges to surface and groundwater to allow for attainment of desired uses. Restore water quality to achieve fishable, swimmable condition in Greenwich Bay and the Blackstone, Woonasquatucket, and Wood-Pawcatuck Rivers by 2015. Restore water quality to achieve fishable, swimmable condition in Upper Narragansett Bay and Mount Hope Bay, and in the Seekonk, Moshassuck, Providence, and Pawtuxet Rivers by 2020.
	By 2008-2012	<ul style="list-style-type: none"> By 2008, assess 78% of state lake acres for recreational and aquatic use; 35% of river miles for recreational and aquatic use; 24% of state lake acres for fish consumption; and 10% of river miles for fish consumption. Restore water quality to support designated uses in 20% of currently impaired lake acres and river miles, and 15% of currently impaired estuarine square miles. Improve water quality in 2% of impaired lake acres; 20% of impaired estuarine square miles and river miles. Re-open 25 percent of areas now closed to swimming. Re-open 200 acres of closed shellfish beds and reduce the number of days shellfish conditional areas A and B are closed by 50 percent. Reduce the number and frequency of beach closures by 50 percent. Implement nutrient removal technology at WWTFs discharging to the Bay and its tributaries in accordance with Table 1, Nutrient Reductions from Wastewater Treatment Facilities.
	By 2005-2008	<ul style="list-style-type: none"> Nutrient reduction technology will be operational at WWTFs discharging to the Bay and its tributaries in accordance with Table 1, Nutrient Reductions from Wastewater Treatment Facilities. Reduce nitrogen from WWTFs to the Providence/Seekonk and Upper Bay by 45 percent to achieve acceptable DO standards in the Upper Bay and Providence/Seekonk Rivers. Pawtuxet River - reduce seasonal nitrogen loading from WWTFs by 40%, ammonia by 80%, and phosphorus by 55%. Greenwich Bay- reduce nitrogen by 43%

Indicators:

- percentage of assessed watersheds
- number and percentage of river miles, lake acres, and estuarine square miles supporting fish and shellfish consumption, recreation, aquatic life, and drinking water supply
- assessed acres open, conditionally open, restricted, and closed to shellfishing
- presence of contamination in public water supply wells

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<ul style="list-style-type: none"> Administer a statewide water quality classification system and comprehensive monitoring strategy 	<ul style="list-style-type: none"> Provide timely comments on program products, within 30 days at a minimum, including proposed revisions to WQS, monitoring strategy, and integrated reports. Assist Rhode Island to adopt EPA-recommended bacteria criteria. Provide technical assistance for developing in-stream flow standard. Provide technical assistance to implement STORET. Assist the state to secure funding to support DNA analysis. Assist the state to secure funding for development of nutrient and biological criteria.. 	<ul style="list-style-type: none"> Complete triennial update of state water quality regulations and continue to develop nutrient and biological criteria, wetlands bioassessment strategy, and flow standards, pending funding. 	<ul style="list-style-type: none"> Submit regulations by 2/04. Contract for assistance in developing nutrient criteria for lakes, pending funding by 10/04.
<ul style="list-style-type: none"> Develop and implement a comprehensive monitoring program to support assessment for fishing, shellfishing, recreational, and drinking water uses 	<ul style="list-style-type: none"> Assist DEM with analysis of biological monitoring data and perform limited invertebrate work. Review SWAP results to identify priority monitoring needs to be added as a component of the Comprehensive Monitoring Strategy (CMS). Facilitate interagency discussion to assure fish tissue sampling is incorporated into the CMS. Work with NEIWPCC, other New England states, and USGS to develop regional GIS-based models to estimate mercury reductions needed from sources to meet EPA's mercury criterion for fish tissue. Assist the state in securing funding to implement the Comprehensive Monitoring Strategy. 		<ul style="list-style-type: none"> Submit draft Comprehensive Monitoring Strategy by 12/03. Adopt and begin implementing comprehensive monitoring program as resources allow by 3/04. Develop wetland bioassessment strategy by 2/05.
	<ul style="list-style-type: none"> Facilitate coordination of monitoring that involves interstate issues (Taunton and Palmer Rivers, Mt Hope Bay). 		

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<ul style="list-style-type: none"> Monitor baseline conditions in rivers lakes and coastal waters including sampling of shellfish growing areas 	<ul style="list-style-type: none"> Facilitate discussion to harmonize FDA and EPA water quality standards. Continue to work with state and local agencies to implement the Regional Beach Strategy. Include sites in RI to implement a probability-based region-wide monitoring program focused on lake/pond assessment. 	<ul style="list-style-type: none"> Collaborate with DOH on fish tissue and beach monitoring. Conduct follow-up monitoring of TMDL projects in Stafford Pond, Hunt River, Palmer River, Runnins River and other targeted watersheds as TMDL implementation activities are completed. 	<ul style="list-style-type: none"> Complete following baseline monitoring: <ul style="list-style-type: none"> 2000 samples from 300 stations in 17 shellfish growing areas per year. 24 annual surveys, 12 (3-year surveys), 2 (12 year surveys) by 12/05. Contractual monitoring through ESS, URI, and USGS (flow only).
<ul style="list-style-type: none"> Report status and trends 	<ul style="list-style-type: none"> Provide technical assistance to implement STORET and GRTS, including assistance to support data entry. <i>(See also Cross-Goal Strategies).</i> 	<ul style="list-style-type: none"> Submit Integrated Water Quality Monitoring and Assessment Report (State of State's Waters and Impaired Waters) based on CALM and initial assessment targets for all waterbody types and uses, including groundwater. Improve tracking, storage and retrieval of information in the Office of Water Resources, and with cooperating agencies, including EPA (STORET, GRTS, TMDLs, UIC and WQC). 	<ul style="list-style-type: none"> Submit RI CALM approach by 2/04. Submit Integrated Report by 4/05. Apply STORET on a limited basis with DEM shellfish data by 6/04. With EPA assistance, continue to pilot test use of GRTS and assess staff time needed to enter and update data in it by 4/04. Investigate opportunities to improve and to increase public access to system data via the web by 6/05.
<ul style="list-style-type: none"> Manage RIPDES program to ensure attainment of water quality standards. 	<ul style="list-style-type: none"> New England Power Manchester St. permit re-issuance – provide lead to review biological data, seek DEM expertise and document if permit limitation revisions are warranted. 	<ul style="list-style-type: none"> Reduce/eliminate permit backlog. 	<ul style="list-style-type: none"> Re-issue 12 major permits by 6/05. Reduce major permit backlog to 0% and minor permit backlog to 6% by 12/04.
	<ul style="list-style-type: none"> Issue final Brayton Point permit in FY04 and serve as lead during appeal process. Work with Massachusetts to prioritize re-issuance/ modification of NPDES permits for MA facilities that discharge to tributaries of the Bay. 	<ul style="list-style-type: none"> Oversee implementation of NBC CSO control program. 	<ul style="list-style-type: none"> By 8/07.

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<ul style="list-style-type: none"> • Ensure WWTFs are designed, constructed and operated to protect water quality. 	<ul style="list-style-type: none"> • Assist state to develop nutrient limits that reflect nationally recommended criteria for this ecoregion through the workgroup. • Oversee award and management of SRF grants to state. 	<ul style="list-style-type: none"> • Oversee planning and construction of WWTF upgrades for nutrient reduction. 	<ul style="list-style-type: none"> • See Table 1 for WWTF upgrade and construction schedule and estimated reductions to be completed by 2006.
<ul style="list-style-type: none"> • Reduce system overflows: review infiltration and inflow (I/I) and sewer system evaluation survey (SSES) reports and designs. 			<ul style="list-style-type: none"> • Complete 6 I/I and SSES reports and designs by 8/05.
<ul style="list-style-type: none"> • Implement phase II stormwater program 	<ul style="list-style-type: none"> • Participate in stormwater workgroup to develop and implement revised stormwater manual. 	<ul style="list-style-type: none"> • Implement phase II regulations: oversee development of comprehensive stormwater management plans in accordance with Phase II requirements. 	<ul style="list-style-type: none"> • Finalize MS4, industrial, and construction general permits by 1/04. • Oversee implementation of phase II measures in 33 communities from 3/04 through 2/09.
Prevent and abate nonpoint source pollution with focus on septic systems and stormwater	<ul style="list-style-type: none"> • Assist in implementing the scope of work agreed to in the TMDL Innovations Project. 	<ul style="list-style-type: none"> • Award and manage NPS grants to support pollution abatement and habitat restoration in priority watersheds. • Promote habitat restoration in waters impaired by nonpoint sources. 	<ul style="list-style-type: none"> • Update RI nonpoint source management plan by 9/04. • Publish updated stormwater BMP manual by 9/04. • Manage annual NPS proposal process and complete current NPS projects. <p><i>See also Healthy Communities and Ecosystems</i></p>
		<ul style="list-style-type: none"> • Encourage adoption of local wastewater management systems. • Input required project, location, and loading information to GRTS data management system. 	<ul style="list-style-type: none"> • Adopt onsite wastewater management plans in 23 communities by 6/05. • Implement annual data upload system starting with FY03 projects by 6/04.
Aquatic weed control in lakes.	<ul style="list-style-type: none"> • Work with federal, state, and local partners to develop a regional model for rapid response to invasive species outbreaks. 		<ul style="list-style-type: none"> • Award and oversee grant for development of model lake management plan to address aquatic weeds by 6/05.
Plan and implement watershed restoration efforts.	<i>See Healthy Communities and Ecosystems.</i>		

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Work with the Governor's Narragansett Bay and Watersheds Planning Commission.	<ul style="list-style-type: none"> Participate on Governor's commission, including commission panels and working groups. 		<i>See Narragansett Bay section in Healthy Communities and Ecosystems.</i>
Work with partners to restore water quality and designated uses in priority watersheds, the Bay, polluted drinking water supply areas, and closed shell fishing areas	<ul style="list-style-type: none"> Work with Massachusetts and RI to complete Blackstone TMDL. Work with state to resolve policy differences on bacteria TMDLs. Provide financial and technical assistance to identify and eliminate sources of bacteria and pathogens. 	<ul style="list-style-type: none"> Assist GNBC, DOH and other partners to identify and prioritize specific beaches for re-opening. Work with DOH to identify sources of pollution resulting in beach closures. 	<ul style="list-style-type: none"> Identify resource needs to re-open selected beaches and potentially available mechanisms; e.g, TMDLs, stormwater management measures by 2004.
	<ul style="list-style-type: none"> Promote appropriate corrective actions are taken on farms in Massachusetts Identified in Palmer River TMDL. 	<ul style="list-style-type: none"> Develop TMDLs or water quality restoration plans for 40 impaired waterbodies. Promote and oversee pollution abatement projects to carry out WQRP's/TMDL's. 	<ul style="list-style-type: none"> See Figure 1 for list of projects. Propose a bond referendum for 2004 ballot.
Prevent and abate groundwater pollution		<ul style="list-style-type: none"> Work with DOH to implement groundwater classification and standards program and oversee wellhead protection program (WHP). 	<ul style="list-style-type: none"> Update groundwater protection strategy by 1/05. Update groundwater classification and wellhead protection area maps by 3/04.
		<ul style="list-style-type: none"> Ensure ISDS and other subsurface discharges are protective of public health and the environment 	<ul style="list-style-type: none"> Review ~3000 ISDS permits – ongoing. Revise UIC regulations by 3/04. Review and process 50 UIC permits, and target 25 closures – ongoing.
		<ul style="list-style-type: none"> Protect water resources from gasoline additives by enacting appropriate measures following completion of New England Interstate Water Pollution Control Commission's (NEIWPCC) study. 	<ul style="list-style-type: none"> Complete gasoline additive plan by 1/05.

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Provide financial assistance for water quality improvement by administering: <ul style="list-style-type: none"> • Clean Water SRF • Pawtuxet River Authority Fund 	<ul style="list-style-type: none"> • Work with DEM and state SRF agency to manage SRF program 	<ul style="list-style-type: none"> • Seek new bond authority for water quality restoration. 	<ul style="list-style-type: none"> • Prepare a \$15 million bond referendum for 2004 ballot by 11/04. • Provide demonstration grants to municipalities for Phase II storm water abatement and ISDS management by 12/03.
<ul style="list-style-type: none"> • Nonpoint Source Grants (319) • Nongovernmental Water Pollution Control Facilities Fund 	<ul style="list-style-type: none"> • Provide technical and financial assistance to state NPS program. 	<ul style="list-style-type: none"> • Administer non-point source abatement grants with priority to projects that implement WQRPs and TMDLs • Apply SRF administrative funds to post-construction water quality monitoring in accordance with RIDEM comprehensive monitoring strategy. 	<ul style="list-style-type: none"> • Target 65 projects completed by 6/05.

Table 1 - Nutrient Reductions from Wastewater Treatment Facilities

Waterbody/Target	WWTF's Affecting Waterbody	WWTF Environmental Results ¹	WWTF Status/Target	Subwatershed Target
Providence/Seekonk Rivers and Upper Bay <ul style="list-style-type: none"> ▪ Reduce nitrogen loadings from RI WWTFs by 45% and achieve acceptable levels of oxygen by 12/08. ▪ TMDL due date 6/04. 	NBC Bucklin Point	Reduce seasonal WWTF nitrogen concentration by 55%, ammonia 50%. Further reductions may be necessary based on a TMDL.	Construction began 3/02, deadline for completion is 9/06.	
	NBC Fields Point		Nitrogen limits pending TMDL results	
	East Providence		Nitrogen limits pending TMDL results	
	East Greenwich	Reduce seasonal nitrogen WWTF concentration by 70%	Permit issued 9/01. Final design submitted 7/03. Comments issued 9/03. Construction to be completed 2.5 years from issuance of Order of Approval.	Greenwich Bay <ul style="list-style-type: none"> ▪ Reduce nitrogen loading from East Greenwich WWTF 43% by May 2006 Nitrogen TMDL due 12/04
	Warren		Nitrogen limits awaiting results of TMDL. (Palmer River)	Warren River
	Burrillville	Reduce seasonal WWTF nitrogen concentration by 65%, ammonia by 40%	Facility Plan (FP) approved 12/02. In compliance with permit limits. Final design for improvements due 1/04.	Blackstone River <ul style="list-style-type: none"> • Reduce seasonal ammonia loading from RI WWTFs by 65% , phosphorus by 55%
	Woonsocket	Reduce seasonal WWTF concentration of nitrogen by 50%, ammonia 90% and phosphorus by 80%. Further nitrogen reductions may be necessary based on a TMDL.	Completed 8/01.	
	Smithfield	Reduce seasonal WWTF concentration of nitrogen by 45%, ammonia 80% and phosphorus by 95%.	FP Amendment and Preliminary design submitted 5/03.	Woonasquatucket River <ul style="list-style-type: none"> • Reduce seasonal WWTF ammonia loading by 60% and Phosphorus by 85%
	Cranston	Reduce seasonal WWTF concentration of nitrogen by 65%, ammonia 90% and phosphorus by 70%.	FP approved 7/03. Final design delayed from 7/03 to 2/04. Complete design reviews by 10/04.	Pawtuxet River
	Warwick ²	Reduce seasonal WWTF concentration of nitrogen by 80%, ammonia 95% and phosphorus by 85%.	Construction started 4/02. Upgrade completion required by 8/04.	Reduce seasonal nitrogen loading from WWTFs by 40%, ammonia 80% and phosphorous 55%, by 12/05
	West Warwick	Reduce seasonal WWTF concentration of nitrogen by 60%, ammonia 90% and phosphorus by 70%.	Final design for nutrient removal approved 4/02. Construction in progress, to be completed by 7/05.	
Little Narragansett Bay Reduce ammonia loading from Westerly WWTF by 25%.	Westerly	Reduce seasonal WWTF nitrogen discharge concentration by 15%, ammonia by 55. Further nitrogen reductions may be necessary based on a TMDL.	Final Design approved 4/02. Construction approximately 95% complete. To be completed by 10/03.	

Notes:

1. Reduction in seasonal WWTF discharge concentrations based on average May-Oct 1995-1996 data. Loading reductions for receiving waters based on a comparison of May-Oct 1995-1996 data (total nitrogen estimated as inorganic nitrogen + 2.0 mg/l of refractory nitrogen) against targeted seasonal loading at full WWTF design flow. Additional reductions are anticipated from WWTFs in MA.
2. Warwick implemented interim measures to reduce nutrients prior to full construction.

Nutrient of concern for estuaries is nitrogen. Ammonia toxicity may be a concern in all waters. Phosphorus is typically the nutrient of concern for tributaries. Tributaries may also impact downstream estuarine areas.

Figure 1. Water Quality Restoration Plans (WQRPs) & Habitat Restoration Projects

WQRPs Approved by EPA – Implementation Underway

Stafford Pond, Runnins River, Barrington River, Hunt River, Scrabbletown Brook, Fry Brook, Pettaquamscutt River, Gilbert Stuart Stream, Mumford Brook, Palmer River, Crooked Brook, Saugatucket River, Mitchell Brook, Indian Run, and Rocky Brook

WQRPs to be Completed Fiscal Years 2004-2005

Develop TMDLs or Water Quality restoration plans and submit documents to EPA (total of 40)

- Sakonnet River and Island Park Cove (pathogens) (2) – 12/03
- Kickamuit Reservoir (pathogens, nutrients/excess algae/ turbidity) (2) - 12/03
- Palmer River (nutrients) (1) – 6/05
- Ninigret and Green Hill Ponds and Teal Pond Stream, Factory Pond Stream (pathogens) (4) – 12/03
- Providence River (hypoxia/nutrients), Seekonk River (hypoxia/nutrients) (2) – 6/04
- Indian Run (metals) (1) – 6/04
- Greenwich Bay, Buttonwoods Cove and Brushneck Cove, Warwick Cove, Greenwich Cove, Apponaug Cove, Baker Creek, Dark Entry Brook, Fosters Brook, Greenwood Creek, Maskerchugg River, Southern Creek (Carpenter Brook), Tuscatucket Brook, (pathogens) (13) – 12/03,
- Hardig Brook (pathogens) (1) 6/04
- Greenwich Bay, Buttonwoods Cove, Brushneck Cove, Greenwich Cove, Warwick Cove, Apponaug Cove (nutrients/hypoxia) (6) – 12/04
- Sands Pond (Block Island) (phosphorus/excess algae/taste & odor/turbidity) (1) – 6/04
- Mashapaug Pond (hypoxia, pathogens) (2) – 6/04
- Woonasquatucket River (metals, pathogens) (2) – 6/05
- Yawgoo Pond (phosphorus/hypoxia/excess algae), Barber Pond (hypoxia), Chickasheen Brook (phosphorus/noxious aquatic Plants) (3) – 12/03

WQRPs To be completed beyond 6/30/05 (not mapped):

Continue and/or initiate TMDL development for completion beyond June 30, 2005:

- Blackstone River (pathogens, metals, biodiversity), Mill River (metals), Peters River (pathogens, metals), Valley Falls Pond (biodiversity, metals, pathogens, nutrients/hypoxia/excess algae growth)
- Saugatucket Pond (nutrients/noxious aquatic plants) (1)
- Pawcatuck River (hypoxia, pathogens), Little Narragansett Bay (pathogens)
- Spectacle Pond (phosphorus/excess algae)
- Work with CRMC and CRC in the development of a SAMP for Greenwich Bay

Water Quality Restoration Plans

Waterbody specific plans to restore water quality in impaired waters by identifying sources of pollutants and the corrective actions necessary to address these sources. This comprehensive approach requires the cooperation of municipalities, local organizations, and property owners to abate point and nonpoint sources of pollution. The map indicates impaired waters by shading.

Habitat Restoration Projects

Habitat restoration focuses on discrete projects that address a source of habitat degradation. A habitat restoration project may involve planting eelgrass in an area that historically had an eelgrass bed; installing a culvert where tidal flow has been restricted or cut off through building a causeway or a collapsed culvert; or excavating where a wetland has been filled. These projects may address water quality as well as other habitat features.

Preserve and Restore the Land - State Status and DEM Strategies

Land will be preserved and restored by purchasing land and development rights; planning for growth; reducing and controlling the risks from releases of harmful substances; promoting waste diversion, recycling and innovative waste management practices; and cleaning up contaminated properties.

Abundant open space and an uncontaminated environment are critical to maintaining our quality of life, community character and sustainable economic growth. Preserving and restoring our land encompasses protecting open space, planning for growth, rehabilitating Brownfields for reuse, responding to environmental emergencies, controlling solid waste and hazardous wastes, and working with communities to meet their targets for well-planned development. With land consumption having grown 9 times faster than overall population growth, many communities are struggling to deal with the associated fiscal, economic and environmental challenges. *See Cross Goal Strategies for growth planning.*

Brownfields development offers an alternative to development of farmland or other open space if the hazardous substances they harbor can be cleaned up. Over 767 acres have been restored bringing over \$72 million worth of property to the tax rolls since the passage of the Brownfields enabling law in 1995. In the next two years we will be working with partners to improve coordination among state agencies and increase incentives for municipalities to return abandoned mills and vacant properties to useful purposes.

Land Preservation and Restoration

Open Space & Green space

The Department has maintained an accelerated land protection effort aimed at protecting at least 3,000 additional acres each year through partnerships with land trusts and other non-profits and using state funds to leverage local, federal, and private funding at a ratio of at least two non-state dollars for every state dollar. Since the majority of fiscal year 2004 funds are already earmarked, the Department is unable to take on any new significant project until fiscal year 2005. The 5-year land acquisition strategy plan under development seeks to maximize opportunities for preserving large parcels and critical linkages both to protect wildlife corridors and provide access for urban residents.

Brownfields

Brownfields sites can pose significant public health and safety problems, impose blight, and economic burdens on communities. High or unknown remediation costs and liability risks can be a barrier to redevelopment. Brownfields laws and regulations address part of this problem by providing certainty and limits on liability in return for appropriate investigation and cleanup. DEM works with the Economic Development Corporation on marketing strategies for sites that have been cleaned up. The Department has applied for a grant to identify potential Brownfields sites, increase enforcement of non-compliant sites, increase public participation in remediation projects, improve and streamline the remediation process, and conduct assessments on community targeted sites.

DEM has investigated sites along the Blackstone & Woonasquatucket Rivers, in Woonsocket, Lincoln, North Smithfield, Cumberland and the Olneyville section of Providence to help communities to redevelop Brownfields. The Department will continue looking for innovative ways to expand the Brownfields program, including streamlining administrative processes and working closely with EDC and other stakeholders to develop and publicize financial incentives such as the Brownfields revolving loan fund.

Emergency Preparedness

The Department Emergency Response staff is on call 24-hours/day, 7-days/week to respond to releases of oil or hazardous materials to the environment. DEM is developing an all-hazard response plan to outline the role of the department and various units and staff in emergencies ranging from terrorism, spills, major storms and animal disease incidents and is the state lead agency for response to oil spills and hazardous material releases, which continue to grow in number. DEM is strengthening programs by training emergency responders and improving equipment and supplies, but the significant investment of staff time needed for domestic preparedness and weapons of mass destructions response stretches our ability to address traditional activities. The program's capacity to provide the expected level of response will be difficult to maintain with the limited number of responders, particularly given the new needs since September 11, 2001.

Solid Waste and Hazardous Waste

DEM continues to work towards an integrated approach to solid waste management to prevent air and water pollution and address concerns about higher than average disposal rates and diminishing landfill capacity.

Solid Waste Management Plan

The 2002 municipal recycling rate is only 16%, less than half the 35% rate projected in 1996. In 2000, Rhode Islanders landfilled 1,047,697 tons of solid waste, about one ton per capita, compared with .84 ton per capita average in the United States. The Department is co-chairing with the Rhode Island Resource Recovery Corporation a stakeholder group that is updating the Solid Waste Management Plan to address concerns about the rate of disposal, reduce the volume and toxicity of waste, increase recycling rates, and improve waste management methods.

Siting studies have shown that population densities and environmental constraints make it difficult or impossible to site new facilities and that alternate site or disposal methods would be too costly and politically infeasible. Since waste prevention and recycling can provide a cost-effective alternative to disposal for up to 50% of the waste stream in addition to saving energy and reducing air and water pollution, it makes sense for the state to invest in these methods.

The Department is also conducting a major re-licensing effort for expansion at the Central Landfill that involves 5 DEM programs responsible for water and air quality and operation of the facilities. Providing review in time for construction to begin by June of 2004 will be difficult since documentation for key permit parameters has been delayed.

Waste Management under the Resource Conservation and Recovery Act (RCRA).

Consistent with EPA guidelines, DEM inspects at least 25% of all large quantity generators of federally regulated hazardous waste annually (approximately 25), and conducts regular targeted inspections for certain small quantity generators. Regular inspections promote better management and compliance, thereby protecting onsite workers and emergency responders. Revisions to the regulations for used oil are expected to facilitate recycling and reduce handling costs for businesses. Revisions to hazardous waste generator regulations will clarify procedures to improve compliance and improve overall management of hazardous waste.

National Status and EPA Strategies

Left uncontrolled, hazardous and nonhazardous wastes on the land can migrate to the air, ground water, and surface water, contaminating drinking-water supplies, causing acute illnesses or chronic diseases, and threatening healthy ecosystems in urban, rural, and suburban areas. Hazardous substances can kill living organisms in lakes and rivers, destroy vegetation in contaminated areas, cause major reproductive complications in wildlife, and otherwise limit the ability of an ecosystem to survive. EPA will work to preserve and restore the land using the most effective waste management and cleanup methods available. These include using a hierarchy of approaches -- reducing waste at its source, recycling waste, managing waste effectively by preventing spills and releases of toxic materials, and cleaning up contaminated properties --- among whose key principles is the integration of prevention, preparedness, and response activities to minimize risks.

Preserve and Restore the Land

Goal: Land will be preserved and restored by purchasing development rights; planning for growth; reducing and controlling risks from releases of harmful substances; promoting waste diversion, recycling and innovative waste management practices; and cleaning up contaminated properties.		
EPA Regional Sub objectives:		
<ul style="list-style-type: none"> • Work with Massachusetts and RI to adopt EPA-recommended bacteria criteria (e. coli or enterococci) by the end of 2004. • Restore and protect water quality on a watershed basis through development and improvement of TMDLs for waters that do not meet their designated uses for shellfishing and/or swimming. 		
RI Objectives:		<ul style="list-style-type: none"> • Protect at least 3,000 acres of land per year. • Improve emergency preparedness and response to releases of hazardous substances and oil spills. • Cleanup and control contaminated sites and promote reuse of Brownfields
	By 2015-2020	<ul style="list-style-type: none"> • Reduce solid waste generation • Protect human health and the environment from impacts of hazardous waste spills and releases from waste management operations and underground storage tanks.
	By 2008-2012	
	By 2005-2008	

Indicators:

- Total acres of land protected.
- Response to emergencies and complaints.
- Solid Waste tons disposed. Solid Waste tons recycled.
- Pollution, environmental degradation, health risks reduced or minimized as shown in the Toxic Release Inventory (TRI).
- Compliance rate in management of waste materials at facilities.
- Number of acres of contaminated sites investigated and returned to acceptable standards.
- Hazardous waste generation trend.

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Work with the Legislature, local governments and nonprofit groups and state and federal partners to preserve high priority land through acquisition and purchase of development rights and conservation easements.		<ul style="list-style-type: none"> • Acquire at least 3000 acres of land per year. • Provide financial and technical aid for local land acquisition. 	<ul style="list-style-type: none"> • Update the Land Protection Plan by 6/04. • Seek bond authority for state & local land protection & recreation by 11/04.
Support identification, investigation, clean up, reuse and redevelopment of Brownfield Sites.	<ul style="list-style-type: none"> • Support Brownfields grant recipients. • Provide RI DEM \$871,030 in funding through a Brownfields State Response Program Cooperative Agreement. 	<ul style="list-style-type: none"> • Work closely with Economic Development Corporation and other stakeholders to develop and publicize financial incentives including the Brownfields revolving loan fund. • Track the economic benefits of redevelopment of Brownfields. 	<ul style="list-style-type: none"> • Remediate and reuse sixty acres of contaminated land by 7/05. • Enter into 18 settlement agreements by 7/05.

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
		Ensure that contaminated sites are properly investigated.	<ul style="list-style-type: none"> Investigate three National Priority List sites, ten Dept. of Defense sites by 6/05.
Provide a comprehensive Emergency Response Program.	<ul style="list-style-type: none"> Coordinate through Regional Incident Coordination Team (RICT) and Regional Response Team (RRT). 	<ul style="list-style-type: none"> Maintain adequate staff, vehicles, equipment and communications to provide appropriate response. Manage Oil Spill Protection and Response (OSPAR) program. Continue to improve partnerships with state, local and federal responders, including joint training and response exercises. 	<ul style="list-style-type: none"> Develop a Continuity of Operations Plan (COOP) for DEM by 6/04. Implement DEM Respirator Plan by 6/04. Expand All Hazard Plan to include Fisheries Closure/Opening Plan, Scientific Response Plan and GIS Response Plan by 6/04. Provide 24/7 Emergency Response Coverage. Conduct 1 training exercise and one drill per year. Respond to environmental emergencies within three hours of notification. Conduct and take part in 3 Incident Command System trainings. Provide annual training classes on hazardous material.
Ensure proper transportation, treatment, storage, management, minimization and disposal of solid, medical and hazardous waste.		<ul style="list-style-type: none"> Evaluate and process applications and permits for hazardous, medical and septage waste. 	<ul style="list-style-type: none"> 2500 permit applications for hazardous, medical, and septage waste transporters annually. 5 five temporary hazardous waste storage and/or transfer area applications by 6/05. Inspect 100 solid waste facilities annually. Compile and analyze Solid Waste Flow report by 10/15 annually.
<ul style="list-style-type: none"> With Rhode Island Resource Recovery Corporation (RIRRC), Statewide Planning, & stakeholders, draft revised Comprehensive Statewide Solid Waste Plan that emphasizes waste prevention and recycling. 		<ul style="list-style-type: none"> Issue Central Landfill permit for Phase V to expand the landfill capacity. 	<ul style="list-style-type: none"> (RIRRC) complete plan by 2/04. Issue new permit within 9-12 months of receipt of all needed documents.

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<ul style="list-style-type: none"> Address potential impacts from closed or abandoned landfills, completing remedial designs. <p>Ensure that underground storage tank systems (USTs) are properly installed, operated, maintained & replaced to protect groundwater.</p>	<ul style="list-style-type: none"> Accompany RIDEM inspectors or lead inspections at facilities targeted and referred by RIDEM (approximately 15 inspections). Participate in development and implementation of an ERP for UST. 		<ul style="list-style-type: none"> Complete the design at Rose Hill by 12/03. Begin remediation by 8/03; West Kingston/URI by 4/04. Landfills with completed remedies, and in long term monitoring 7, including 6 landfills that ceased receiving waste after 1992 by 6/05. Number of inactive landfills participating in the landfill closure program 25 by 6/05. Complete review of applications for new installations or upgrades of USTs within 21 days of receipt (approximately 34 per year).
	<ul style="list-style-type: none"> Assist the UST program to target inspections in source water protection areas by gathering information on relative vulnerability of locations. 		
<ul style="list-style-type: none"> Improve/update RCRA program and regulations/authorization. 	<ul style="list-style-type: none"> Submit comments on Used Oil draft rules to DEM by 1/30/04 Submit comments on CA TSD draft rules (IBR) to DEM by 4/30/04. Submit comments on draft version of the generator portion of the Hazardous Waste Regulations to DEM by 5/04. 	<ul style="list-style-type: none"> Submit Used Oil draft rules to EPA by 12/31/03, Public Notice by 3/31/04. Submit Corrective Action (CA) TSD draft rules (IBR) to EPA by 3/31/04, Public Notice by 6/30/04. Submit draft version of the generator portion of Hazardous Waste Regulations to EPA by 4/04. 	<ul style="list-style-type: none"> Adopt used oil regulations consistent with EPA RCRA regulations by 3/04. Develop final revisions to the generator portion of the Hazardous Waste Regulations by 6/04.

Healthy communities and Ecosystems - State Status and DEM Strategies

The health of people, communities and ecosystems will be protected, sustained and restored using integrated and comprehensive approaches.

Healthy ecosystems support a wide variety of living beings and provide the foundation for thriving human communities and healthy economies. DEM manages a wide range of programs and services to provide Rhode Island with access to the benefits of a safe and healthy environment with reasonable protection from floods, fire, animal-borne diseases, and exposure to hazardous substances. These fall into three broad categories:

- Natural resource programs directed to preserving and maintaining the habitats and wildlife that are the basis for healthy communities and such economic sectors as agriculture, forestry, fishing and tourism.
- Human health and safety programs to protect citizens from fires, floods, toxic releases and animal-borne diseases.
- Recreation programs to provide access to outdoor experiences ranging from fishing, swimming, boating, hiking and hunting to contemplation of scenic vistas and observation of wildlife. Such programs not only improve quality of life but provide help people to maintain physical and mental health.

Natural Resources

Rhode Island's ecosystems that include forests, lakes, rivers, freshwater wetlands, and coastal estuaries are susceptible to disturbance, pollution, degradation, and destruction from human activity. The cumulative impacts of many small changes can significantly diminish the capacity of an ecosystem to sustain itself. The department and partners had begun to make progress in protecting natural resources by aggressively expanding the role of partnerships and non-regulatory approaches as the best way to address dispersed threats to the natural resource base. However, the sustained funding and staffing cuts over the last thirteen years and the vacancies created as a generation of naturalists retire, threatens the department's ability to maintain infrastructure and provide basic services let alone sustain the voluntary strategies such as pollution prevention with industry and volunteer monitoring that show the most promise of improving quality of life at lower cost.

Coastal Resources

Despite recent progress, degradation of coastal estuaries such as Narragansett Bay and the southern Rhode Island coastal ponds remains a major concern. Approximately 4,000 acres of Narragansett Bay have been filled in over the past 300 years. Eelgrass beds, and nursery and feeding grounds for important commercial and recreational fish species, have been reduced from hundreds of acres to about 100 acres. Toxic chemicals and bacteria in sediments can harm shellfish and other organisms that live in sediments and render them unsafe for consumption. Contributors to the decline of fish and plant species in the Bay and other water bodies include bacterial contamination and excess nutrients from combined sewer overflows, wastewater treatment plants and non-point sources, including septic systems and storm water runoff, as well as rising temperatures due to global warming. The massive die-off of fish and shellfish in Greenwich Bay and the extraordinary number of beach closures that occurred in the summer of 2003 show the need for greater investment in protection and stewardship measures.

DEM and other stakeholders in the Partnership for Narragansett Bay (PNB) have collaborated on planning and action to sustain the resources of the Bay and watershed. Following the massive fish kill and a summer with a record number of beach closings, the Governor has established the Governor's Narragansett Bay and Watershed Planning Commission that may ultimately supersede the PNB. To protect and improve ecosystem health while providing economic benefit, DEM is working with the RI Habitat Restoration Team and stakeholders to develop a statewide coastal habitat restoration strategy. However, planning, monitoring and habitat restoration are hampered by lack of state and local matching funds that would enable us to tap a considerable amount of federal dollars. A critical need also remains for a comprehensive and consistent monitoring program that would coordinate the work of state and local and the research institution's monitoring efforts.

On a positive note, the PNB provides training and channels funding to Rhode Island's watershed councils who are maturing as partners in local projects such as the Corporate Wetlands Restoration Project. The objective is to coordinate priorities for watershed action plans with those from the Narragansett Bay Plan to address larger ecosystem issues that cannot be addressed effectively on a sub-watershed basis, such as invasive species and nutrients, as well as legislative, economic and education initiatives.

Wetlands

Wetland ecosystems foster biodiversity and provide valuable habitat. They are also important areas for retaining storm water and filtering pollutants, thereby protecting and improving water quality. Rhode Island has lost as much as 50% of the state's coastal marshes and a significant amount of freshwater wetlands. Background research for Rhode Island's first statewide wetlands conservation plan will continue over the next two years.

Habitat

About 24% of the approximately 1,300 known native plant species in RI are species of concern that are becoming increasingly rare, threatened, or endangered. About 28% of the state's 284 known native vertebrate species, including a variety of mammals, reptiles, fish and birds, are rare or endangered. In addition to assessing the status of and developing management plans for selected fish and wildlife species and habitats to help ensure sustainable populations, the Department is working with partners to develop a Greenspace Protection Strategy to protect wetlands, forestland, and features such as forested riparian buffers that protect water quality and provide habitat. See Figure 1, Watershed Restoration Plans and Habitat Restoration Plans. Programs such as the Landowner Incentive and Aquatic Education programs that provide outreach and assistance for habitat management and restoration are hampered by staff shortages.

Invasive Species

We do not yet know enough about the distribution, rate of spread and population dynamics of invasive species that readily establish themselves and can out-compete native species, potentially causing great harm to the state's ecosystems. Marine invasive species are being introduced and established at an increasing rate. The 2000 Rapid Assessment Survey identified 22 bio-invasive invertebrate species in Narragansett Bay. The August 2003 Rapid Assessment Survey (RAS) in the Bay, is part of an RAS for New England that will update the 2000 RAS.

The Department is also participating in the State Invasive Species Council to identify and assess invasive plants and animals, prioritize control activities, and encourage the use of non-invasive species for landscaping, erosion control, and wildlife. However, funding is needed to further assess and prevent invasive species from impacting our ecosystems.

The Invasive Plant Atlas of New England under development by the University of Connecticut with the U. S. Fish and Wildlife Service and the

New England Wildflower Society will provide online maps showing the distribution of species in Rhode Island and other New England states.

Balancing Water Budgets

Rapid growth in the size and spread of new development and increased demands for water for irrigation and other uses place many stresses on water resources: greater demands for consumption, risks of spills, polluted runoff, and degraded aquatic habitat and wetlands. In some areas, these demands have contributed to water shortages and use restrictions. The Blackstone, Hunt, and Pawcatuck River systems have been dangerously low at times during summer months. We are collaborating with the Water Resources Board and other stakeholders to determine water needs and manage water use.

Natural Resources Industries

Marine Fisheries

Commercial fishing, finfish and shellfish in Rhode Island brought in approximately \$70 million in 2000, generating more than \$2.3 billion in related economic activities. Galilee is the seventh most productive fishing port in the country in terms of income, with shellfish and finfish landings of 118.6 million pounds in 2000.

DEM has been conducting bottom trawl, beach seine, and shellfish dredge surveys since 1979 in coastal waters to monitor abundance of finfish, crustaceans, and invertebrates. We will continue to work in local, regional, and national forums to address the long-term health of the commercial fishing industry. However, resource scientists need training in facilitation that is increasingly required as stakeholders are more active in making environmental decisions. Co-management of resources with stakeholders engenders considerable disputes over the extent of recovery and the sustainability of expanded exploitation. In addition, staff is needed to coordinate volunteer information from recreational anglers that is an untapped source of information for stock assessment.

Fisheries Trends

Marine fisheries are in flux with some stocks depleted and over fished while others have seen significant rebuilding. Several key fishery resources have either failed to recover (winter flounder) or have undergone dramatic declines in recent years (lobster).

Lobster - The Rhode Island inshore lobster fishery has declined in recent years to levels not seen since the late 1970's. The resource has been over

fished for many years and stock productivity has been reduced by disease, increasing water temperatures, and resurging predatory populations.

Finfish- Seasonal migratory fishes such as scup, sea bass, summer flounder, and striped bass are increasing in abundance as a result of strong regional management action to reduce fishing mortality. Resident bottom dwelling fishes such as winter flounder remain at low abundance despite management efforts.

Shellfish- Quahogs, the main shellfish resource in Rhode Island are at historically low abundance. We are seeing some evidence of stock rebuilding coincident to transplanting and the establishment of spawner sanctuaries.

Anadromous Fish Restoration

New fishway construction is on hold due to limited financial resources. Plans for fish passages on the Blackstone and Woonasquatucket Rivers are being developed, but are dependent on funding. Recent declines in the returns at coastal streams in Massachusetts have limited broodstock obtained from these sources to stock RI streams.

Port Management

DEM and DOT have been working with Interstate Navigation on design and reconstruction of the terminal building and relocation of the warehouse at the Port of Galilee to alleviate traffic movement and parking problems. Design and construction specifications are complete and the State will continue to work with local governments and businesses to look for alternative opportunities for seasonal parking.

Agriculture and Forestry

Agriculture – Agriculture remains a vital component of the Rhode Island economy and quality of life, providing consumers with high quality locally grown produce and contributing \$100 million a year to the Rhode Island economy. RI is among national leaders in farm income per acre and direct marketing sales from farmers markets and roadside stands. Approximately 65% percent of RI agricultural income is derived from the nursery/horticultural industry.

However, Rhode Island agriculture is threatened by loss of farmlands to development. Farm viability initiatives related to community gardening, agricultural education, wholesale marketing, and farm business training are

underway. State, federal and local governments, and non-profits have increased collaborative efforts to protect productive farmland from development and encourage use of best practices as well as development of alternative business opportunities for farm and forest land owners.

Forestry - The forest industry in Rhode Island employs over 2,100 workers and produces shipments worth more than \$263 million annually. On the one hand there is more forestland today than when Rhode Island was largely farmland. On the other hand sprawl is reducing and fragmenting forestland. Yet despite the decline of forested acres, there is more harvestable wood as the trees reach maturity. Rhode Island has 1.3 billion board feet of standing timber and the growth to removal ratio is 2.4 to 1. DEM's foresters work with landowners on forest management and forest based business to help support the land as well as with municipalities to develop healthy stands of trees on streets and community land. The Tree Cities program to enhance urban forests is especially important since in summer, a city can be 6-8 degrees warmer than surrounding areas in a phenomenon called heat islands. Trees shade buildings and cool the air.

Human Health and Safety

DEM's role in keeping the public safe from risks of environmental hazards and maintaining law and order in parks, management, shell fishing and boating areas, has expanded since September 11, 2001 to include a focus on preparedness to address deliberate as well as accidental events. See Preserve and Restore the Land Goal Section for emergency preparedness.

Dam Safety

Of the 528 dams in Rhode Island, approximately 110 significant and high hazard dams hold the potential to cause loss of life or extensive property damage in the event of a failure, and many are old and poorly maintained. The Department is continuing to develop comprehensive dam safety regulations, which will address many concerns with the state's high hazard and significant hazard dams. However, problems are likely to remain including lack of funding for engineering evaluations to assess the condition of dams and for dam owners to finance major repairs identified by these evaluations. The Capital Budget includes funding for repairs to three DEM-owned high hazard dams, with Stillwater Dam to be repaired in fiscal years 2004 and 2005 and two dams in Curran State Park scheduled for FY2006.

Many dams in Rhode Island have not been evaluated for classification since the late 1970s. The enormous growth in development in the state since that time means that the hazard posed by some of these dams must be re-

evaluated and the dams reclassified. The analyses for updating dam classifications under a National Dam Safety Program Act State Financial Assistance grant for Fiscal years 2003 through 2005 will also be used to develop emergency action plans for selected high hazard dams.

Toxics - Lead, Mercury, other Persistent Bioaccumulative Toxins (PBTs), Pesticides

PBTs are toxic chemicals that build up in the environment and food chains posing risks to human health and ecosystems. The populations at risk, especially from mercury, lead, dioxins, and Polychlorinated Biphenyls (PCBs), are children and fetuses. Although much work has been done to reduce the risk from these chemicals and although mercury air emission point sources in Rhode Island have been eliminated, the presence of these substances in our air, water and in fish is still a concern. Changes to Rhode Island’s Mercury Reduction and Education Act have rolled back some implementation dates and exempted novelties with button cell batteries. The increase in high intensity discharge lights and navigation systems in vehicles has eroded progress on eliminating mercury from vehicles. We are making more progress in eliminating mercury from households. DEM and DOH issue website advisories regarding fish consumption. DEM is working in regional groups to eliminate mercury emissions from upwind sources. DOH is responsible for abating risks from lead in building interiors while DEM regulates the removal of exterior paint.

Animal and Insect-borne Diseases

Eastern Equine Encephalitis, West Nile Virus (WNV) and Lyme disease are insect-borne diseases that remain threats to public health. DEM and the Department of Health continue to work with other states and the Centers for Disease Control to refine prevention and response protocols with an emphasis on regular maintenance of potential breeding sites and preventing human exposure.

TABLE 3

YEAR	WNV Nationally		WNV in Rhode Island	
	Number of Cases	Number of Deaths	Number of Cases	Number of Deaths
1999-2001	149	18	0	0
2002	4156	284	2	0
2003 (through 10/29/03)	7718	166	6	0

Table 3 shows the dramatical expansion of WNV since it was first detected in the United States in 1999. By 2002 it was found in 44 states and in 45 states in 2003. Rhode Island had two human cases in 2002 and 6 cases through October 2003, with no deaths. Also through October, seven animals tested positive for West Nile Virus in 2003, with two horses and an emu dying as a result of the infection. DEM has found a pool of mosquitoes that tested positive for the virus and these mosquitoes are a species that bite humans as well as animals.

There were 852 cases of Lyme disease in Rhode Island in 2002, with 394 cases occurring in Washington County, and preliminary data for 2003 show 500 reported cases through October. Eastern Equine Encephalitis (EEE) is a rare disease, but the most dangerous of the three. It has a 35% fatality rate and 35% of those who survive will have mild to severe neurological deficits. There have been only 6 human cases of EE in the past 20 years in Rhode Island, the last one in 1998.

There is little the state can do to prevent exposure to insect that may carry WNV, Lyme disease and EEE. People must take precautions, such as using insect repellents, wearing appropriate clothing, keeping standing water out of their yards, and staying away from places where they will be exposed to many mosquitoes at certain times of the day.

Safe schools

DEM's efforts to make schools safer, centered around developing better school siting policies, eliminating toxics in pesticides through integrated pest management, and anti-idling programs to reduce exhaust fumes from school buses and other vehicles transporting children may be slowed or deferred due to budget limitations.

Recreation

The Department manages 60,000 acres of land in forest and wildlife management areas, state parks and beaches, trails and bike paths. These facilities attract more than 6 million visitors each year, including many out-of-staters who bring significant tourism dollars into Rhode Island. In addition, activities based around these facilities such as boating, hunting, and recreational fishing contribute hundreds of millions of dollars to the state’s economy.

While resource protection and planning has grown stronger, chronic funding gaps threaten the recreation system and its resource base. Even with major

renovations at five state facilities in the last ten years, a 2001 asset management study revealed more than 206 unfunded priority repair and maintenance projects at a cost of more \$10.6 million. At the same time, the Department faces increasing pressure to provide for a wide variety of recreational needs: providing greater access for disabled and minority citizens, curbing vandalism, resolving user conflicts, providing more open space and links to open space and recreation systems for urban residents, revitalizing shore access programs, restoring fishways, and balancing the needs of visitors, residents, and the resource base.

To protect recreation, the Department is pursuing alternative funding sources such as reinstating state park fees, raising user fees to market prices and relying more on partnerships with non-profits, other public agencies and the private sector.

State Comprehensive Outdoor Recreation Plan, 2003-2008 (SCORP)

The Department is developing an action plan to implement recommendations of the revised SCORP. Major recommendations of the Study include: providing more paved walking and biking trail systems, accelerating open space and resource protection efforts, reducing operation costs through green designs and targeting restoration and maintenance of priority projects; providing more accessible sites for more people, including multi-purpose facilities; and providing Universal Design to accommodate users of all ages and abilities. Other major recommendations for urban residents include: providing more open space, recreational facilities and links, and more access to saltwater beaches and to water parks like the planned Snake Den Park.

Major Facility Development and Renovation

DEM is designing a state park at Snake Den in Johnston about 10 miles west of Providence on a 1,100-acre parcel that includes the working historic Dame Farm and the headquarters for DEM's Division of Parks and Recreation. The park will include a water park, hiking, biking, cross-country and horseback trails and picnic and play fields. It is expected to relieve some of the overcrowding problem at other urban recreational areas such as Lincoln Woods and World War II Memorial Park in Woonsocket.

The Department is planning major renovations at Colt State Park with installation of handicap accessible bathrooms and at Burlingame Campground with the development of a public water supply. The Department will add 6 miles to the 23 miles now in use as part of the planned 48 miles of the multi-use Blackstone Bike Path in RI, which is the RI portion of the East

Coast Greenway, a path that will run 2,500 miles connecting East Coast Cities from Maine to Florida. The department will also make an effort to provide more grants for recreational development to urban municipalities and distressed communities as part of its local recreational development program.

Swimming

Unusually wet weather last summer has led to more frequent and more widespread beach closures. For details of efforts to address pollution of our water bodies, see the Clean Water Goal and the Greenwich Bay Fish Kill Report.

Boating

Boating is supported by 85 marinas in Rhode Island and 35 boat-building companies. DEM registered 37,127 boats in 2001 and constructs and maintains many boat ramps as well as entry points for canoes and kayaks providing access to fresh and saltwater. Many areas of the Bay are congested with boat traffic and DEM patrols the inland and coastal waters to enforce marine safety regulations. DEM also sponsors boating safety courses and public provides public boating safety outreach.

Recreational Fishing

Recreational fishing is one of the largest participatory recreational activities in the state, but it is difficult to quantify the level of participation. According to the Marine Recreational Fishery Survey Statistics (MRFSS) conducted by NOAA, in 1999, there were 321,000 participants in the marine recreational fishery. This survey reported that recreational anglers harvested approximately 3.8 million pounds of fish in 1999 and spent \$100 million on fishing-related activities. Out-of-state anglers comprised 62% of the total number in Rhode Island.

The U.S. Fish and Wildlife Service Fishing, Hunting and Wildlife Related Recreation report for 1996 (latest year for which figures are available) reports 163,000 anglers, both fresh and salt water, who spent \$136 million in RI. Although surveys show healthy populations of game fish and freshwater species, some marine species, particularly shark, swordfish, king mackerel, and tilefish are listed by the federal government as having harmful levels of toxics in their tissues. In addition, freshwater fish that are not hatchery-raised are considered contaminated with mercury due mainly to air deposition. The department is working with the Department of Health to educate the public on safe fish consumption and to reduce pollution of waters.

Hunting

Hunting is the second largest participatory recreational activity in the state, with approximately 27,000 hunting licenses issued each year. Hunting generated \$23 million in 1999, while other wildlife recreational activities generated over \$124 million in 1996. Hunting opportunities for wild turkey, white-tailed deer, and Canada geese are increasing in the State. The Department seeks to further increase and promote hunting opportunities as well as hunter safety education.

National Status and EPA Strategies

To protect, sustain, or restore the health of communities and ecosystems, EPA will employ a mix of regulatory programs and alternative voluntary

approaches to manage risks, especially those to sensitive populations, such as children, the elderly, and Native Americans. Key components of this goal include: identifying, assessing, and reducing risks presented by the thousands of chemicals in use or entering our environment; building community and scientific capability to make decisions that affect the environment; reducing exposures of urban residents to significant multimedia environmental and public health hazards that create cumulative, disproportionate, and inequitable health risks; and deploying both site-specific and ecosystem wide approaches to focus resources more effectively in vulnerable areas such as wetlands and estuaries.

Healthy Communities and Ecosystems

Goal: The health of people, communities and ecosystems will be protected, sustained and restored using integrated and comprehensive approaches.		
EPA Regional Sub objectives:		
<ul style="list-style-type: none"> • Reduce human exposure to toxic substances. • Restore, revitalize and protect urban environments, protect children and other sensitive populations from environmental health threats by improving the quality of environments where they spend their time: at school, at home and outdoors. • Facilitate the restoration and redevelopment of Brownfields properties. • Protect and enhance the physical, chemical and biological components of estuarine and marine ecosystems. 		
RI Objectives:		<ul style="list-style-type: none"> • Protect the public from fires, floods, and animal and insect-borne diseases. • Ensure that air quality does not impair quality of life in neighborhoods. • Enhance state capacity to prevent, detect, contain, and remediate contamination of buildings, water and wastewater systems.
	By 2015-2020	<ul style="list-style-type: none"> • Increase quality and quantity of RI habitats and aquatic ecosystems. • Increase understanding of ecosystems, threats to their health, and ways to protect and restore them. • Achieve no net loss of freshwater wetlands. • By 2015, restore fish passage on the Blackstone, Pawtuxet, Ten Mile, and Wood-Pawcatuck Rivers. • Open 100 river miles to anadromous fish by 2015. • By 2015, restore fish passage on the Blackstone, Pawtuxet, Ten Mile, and Wood-Pawcatuck Rivers. • By 2010, additional 1500 acres of sensitive coastal areas, including wetlands, will be protected. • By 2015 restore 200 acres of coastal wetlands. • By 2015, restore 200 acres of riparian buffer.
	By 2008-2012	<ul style="list-style-type: none"> • Build capacity to: assess and report on ecosystem health; sustainably manage resources; evaluate effectiveness of strategies. • Improve and link recreational facilities and provide access for urban residents and people of all abilities. • Minimize risks to human health and the environment from chemicals and biological organisms, and from lead, mercury and other persistent bio-accumulative toxins. • Protect an additional 100 acres of sensitive coastal resource areas, including wetlands, by 2010. • Restore 100 acres of coastal wetlands by 2008. • Restore 100 acres of riparian buffer by 2008.
	By 2005-2008	<ul style="list-style-type: none"> • Ensure adequate quantities of water for drinking, fish and wildlife habitat, irrigation, commerce, industry, and recreation. • Identify and prioritize backlogged capital projects to be addressed in 5, 10 and 15-year increments and address \$1 million per year in asset protection projects as recommended in the Asset Management Plan. Provide sustainable funding and green designs to operate, repair and renovate facilities cost effectively. • Open 35 river miles to anadromous fish by 2007.

Indicators:

- Acres and type of habitat restored.
- Acres of freshwater wetlands gained, lost.
- Number and duration of dry periods in streams and rivers.
- Gross agricultural income and income per acre, direct marketing sales per farm, acres of land in agriculture, number of farmers, acres of farmland protected, number of farmer markets and farmer and customer participation.
- Trends in fish and wildlife population.
- Trends in populations of rare, threatened, endangered, or species of concern.
- Area covered by non-native species.

- Level and diversity of production of forest based products; ratio of forest growth to forest removal at least 1:1 where timber is extracted to ensure sustainability of the forest base.
- Extent of monitoring and assessment programs, type, quantity and quality of data collected and resource management strategies.
- Loss of life, significant loss of property or damage to the environment due to environmental hazards.
- Pollution, environmental degradation, health risks as shown in the Toxic Release Inventory (TRI).
- Incidence of elevated blood lead levels in children less than 6 years of age.
- Emissions of mercury/mercury levels in fish tissue.
- Pesticides and pesticide residues detected in surface and groundwater.
- Increase rate of use of recreation facilities and participation in DEM-sponsored activities.
- Publicly accessible open space per resident.

Key Strategies	2004-2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Natural Resources			
Narragansett Bay. <ul style="list-style-type: none"> • Protect and restore Narragansett Bay, its watershed and tributaries 	<ul style="list-style-type: none"> • Provide technical and financial support to the Narragansett Bay Estuary Program, including serving on program oversight committee and other committees and boards. • Participate in the Governor's Narragansett Bay and Watersheds Planning Commission, including serving on commission panels and working groups. 	<ul style="list-style-type: none"> • Develop framework and vision for Bay and watershed planning and action. • NBEP and DEM to assist Governor's commission, and in developing strategic plan for protecting the economic viability, and environmental sustainability of the Bay. 	<ul style="list-style-type: none"> • Complete framework by 3/04. • Targets and strategy for nutrient reductions to Greenwich Bay published by 1/04. • By 3/04 develop a clear, realistic and unified strategic work plan for protecting the economic viability and environmental sustainability of the Bay.
	<ul style="list-style-type: none"> • With US Corps of Engineers, develop EIS to evaluate potential designation of dredged material disposal sites in Rhode Island Sound 	<ul style="list-style-type: none"> • Form and strengthen partnerships to protect and restore ecosystems. 	<ul style="list-style-type: none"> • Develop watershed compact with stakeholders by 12/03. • Establish one or more Strategic Assessment Teams to identify and assess conditions that can lead to problems such as large-scale fish kills and beach closure by 1/04. • Develop a strategic plan for restoration and protection of the Bay as fish habitat by 2006.
Publish information on Bay science, management and economic issues			<ul style="list-style-type: none"> • Business plan for a central system that collects, stores and makes publicly available pertinent Bay and watershed data, to be implemented no later than 1/05. • Final report on low oxygen levels and nutrient loading in Greenwich Bay, including targets and strategy for reducing nutrient loading by 1/04.

Key Strategies	2004-2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<ul style="list-style-type: none"> • Evaluate ecosystem health. • Conduct research to support nutrient reduction. 			<ul style="list-style-type: none"> • Strategic plan for reduction of nutrient loading to Narragansett Bay by 4/04. • State of the Bay Report by 12/03. • Bay Journal – 4 per year. • Maintain Narragansett Bay Estuary Program (NBEP) website – ongoing. • Complete Southern RI Coastal Habitat inventory by 12/04. • Publish Coastal Wetland Trend Analysis by 12/03. • Publish Narragansett Bay Coastal Wetland Restoration Analysis by 12/03. • Strategic plan and interagency agreement for a Bay and watershed-wide water quality monitoring program by 3/04. • Take part in North Atlantic Regional Monitoring Committee – ongoing. • Bay Window monitoring for 03/04 pending federal funding by 3/03. • Conduct dissolved oxygen studies by 10/03. • Develop paper on nutrient loading to the Bay system by 3/03.
<p>Other Watersheds</p> <ul style="list-style-type: none"> • Restore habitat. <ul style="list-style-type: none"> • Conduct studies. • Develop model management plan for aquatic weed control in lakes. • Promote awareness of Rhode Island natural resources. 	<p>Participate in Habitat Restoration Team and provide environmental oversight and site selection assistance.</p>	<ul style="list-style-type: none"> • Complete Boyd’s Marsh/Town Pond salt marsh restoration pending funding of \$200,000 to match the \$500,000 that has been raised. • Blackstone River – ACOE has been asked to develop engineering plans – construction will depend on funding. 	<ul style="list-style-type: none"> • Complete Phase 1 (20 acres) of Lonsdale Drive-in freshwater wetland restoration by 9/03. • Complete phase 1 construction of Ten Mile River fishway. Restore 200 miles of spawning habitat by 6/05. <ul style="list-style-type: none"> • Strategic Work Plan – ongoing. • Model developed by 6/05. <p>Publish RI’s Living Legacy by 6/04.</p>

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<p><i>Wetland resources</i></p> <ul style="list-style-type: none"> • Ensure impacts to Freshwater Wetlands are avoided, minimized otherwise mitigated. • Improve Freshwater Wetland conservation and restoration • Conduct population assessments, assess impacts of invasive species prepare and implement management plans for invasive species. 	<ul style="list-style-type: none"> • Issue wetlands and other grants to support state/local habitat restoration. Target: restore 90 acres in FY04. • Complete pilot wetland profiling project to improve measurement of losses and gains of wetland acreage and functions, expand the project to other states depending on success of project and availability of resources. • Work with federal, state, and local partners to develop a regional model for rapid response to invasive species outbreaks. 	<ul style="list-style-type: none"> • Participate on action team and implement Woonasquatucket wetland restoration projects. • Improve wetlands outreach. 	<ul style="list-style-type: none"> • Review and process freshwater wetland applications ~ 500-600 annually. • Background research for statewide wetland conservation plan by 6/05. • Wetland BMP manual by 12/05. • Outreach strategy for implementation of wetlands rules by 6/04. • Updated permit guide, “What’s the Scoop on Wetlands” by 12/04. • Biennial Wetlands Status and Trends report for 2002 and 2003 by 4/04. • Open house for applicants or booth at the Home Show by 5/04. • Invasive Species Plan by 12/04 • Rapid Assessment Survey (RAS) for Narragansett Bay and coastal waters by 8/03. • Invasive species elements of Bay Plan by 12/03
<p>Collaborate with agencies and water users to manage water use to ensure adequate quantities for drinking water, fish and wildlife habitat, irrigation, commerce, industry, and recreation.</p> <p>Continue to Improve Marine Fisheries Management to revive depleted fisheries and insure sustainable fisheries through regional cooperation.</p>	<ul style="list-style-type: none"> • Participate as a member of flow standard committee and provide technical expertise to the committee. • Participate as a Water Allocation Project Advisory Committee member. 	<ul style="list-style-type: none"> • Improve data gathering and dissemination with partners. • Assess fisheries problems in Narragansett Bay. 	<ul style="list-style-type: none"> • Stakeholders develop state water allocation recommendations by 12/03. • Draft stream flow standards by 12/03. • Pilot Queens River Basin study of impacts of water use and withdrawal by 6/04. • Policy for reuse of treated wastewater by 12/04. • Formalized Cooperative Fisheries Research Program with state agencies, fishing industry and academic institutions by 1/04. • Research participation and support to: the New England Marine Fisheries Council and Atlantic States Marine Fisheries Commission, adopting regulatory changes as needed.

Key Strategies	2004 - 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
			<ul style="list-style-type: none"> • Conduct port and sea sampling and water quality studies - ongoing. • Continue marine recreational fishing survey (MRFSS) to characterize the catch and value of the marine recreational fishery in RI - ongoing.
<p>Restore anadromous fish populations in coastal streams.</p> <p>Restore fish passages.</p>	<ul style="list-style-type: none"> • Participate on the Coastal Habitat Restoration Team. • Provide financial and technical assistance for the Pawtuxet River fishway 	<ul style="list-style-type: none"> • Allin’s Cove, Pawtuxet River fish run and Woonasquatucket fish passage, dependent on funding. 	<ul style="list-style-type: none"> • Stock 500,000 Atlantic salmon fry & 15,000 smelts annually. • Monitor spring returns at selected streams.
<p>Promote stewardship of Rhode Islands forests and agricultural lands and viability of forest based and agricultural based business through programs with growers and other partners.</p> <p><i>See also GHG forestry workshop under air goal.</i></p>		<ul style="list-style-type: none"> • Provide grants, technical assistance, and marketing assistance. • Promote alternative forest uses that replace or augment traditional forest use. • Number of landowners that produce alternative forest based products. • Implement the Urban Forestry Guide Plan. • Provide financial assistance to the Rhode Island Tree Council to enhance urban forestry consulting services. 	<ul style="list-style-type: none"> • Assist 250 forestland owners annually. • Award Farm viability funds to 4 farmers market by 7/04. • Farm products in major supermarket through Harvest New England by 9/04. • Evaluate feasibility of video advertising for farm products by 12/03. • Updated the State Forest Resources Management Plan by 6/05. • Assist 40 alternative forest businesses annually. • Award 10 Alternative Forest Products grants annually. • Increase the number of “Tree Cities” in RI from 9 to 11 by 2005.
<ul style="list-style-type: none"> • Enhance Farm/School Connections. 			<ul style="list-style-type: none"> • Add 9 new topics to website by 7/04.
<ul style="list-style-type: none"> • Expand environmentally protective farming practices program. 		<ul style="list-style-type: none"> • Evaluate impact of best management practices on water quality at 4 farms. • Implement provisions of RI “Drought Management Plan” (weather dependent). • Evaluate emergency ponds constructed during drought of 02, conduct on-site assessments. 	

Key Strategies	2004-2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Develop and expand community farming with partners.		<ul style="list-style-type: none"> • Provide: technical and financial assistance; promotional events and materials; community Supported Agriculture • Assist RI Community Farms and other community farms to grow food for the RI Community Food Bank at several farm locations in RI. 	<ul style="list-style-type: none"> • Assist Hmong community farm at Curran State Park and fund construction of permanent well by 10/04. • Oversee management of Urban Edge Farm (owned by DEM) by the Southside Community Land Trust - ongoing. • Explore other opportunities for acquisition of farmland for community, non-profit uses – ongoing.
Human Health & Safety			
Implement a comprehensive dam safety strategy.		<ul style="list-style-type: none"> • Developing regulations for dam repairs, including requirements for inspections. • Establishing baseline conditions for regulated dams and tracking repairs. 	<ul style="list-style-type: none"> • Final regulations for comment by 9/03. • Revised regulations by 7/04. • Dam registration process by 9/04. • Re-inspect all high hazard dams by 7/04. • Triage 300 unclassified dams and prioritize 80 for consultant evaluation by 9/04.
Coordinate training and equipment supply with local fire departments to prevent and fight forest fires.		<ul style="list-style-type: none"> • No lives or homes lost to forest fires. • Average forest fire kept to less than 2 acres. 	
<p>Reduce risk to human health and the environment from persistent bioaccumulative toxins (PBTs).</p> <ul style="list-style-type: none"> • Participate on Governor’s Commission to study mercury and the Interstate Mercury Reduction and Education Clearinghouse (IMERC). • Implement thermometer and elemental mercury take-back program (contingent on funding). • <i>See Compliance Assistance and Enforcement Goal for Lead Environmental Results Program.</i> 		<ul style="list-style-type: none"> • Implement Mercury Task Force Strategies. • Conduct inspections to ensure that RI Hospital incinerator is operated only as a pathological waste incinerator. • Update regulations. • Number of RI companies reporting to IMERC. • Mercury product notification required by legislation/regulations. 	<ul style="list-style-type: none"> • Targets to be developed when Task Force convenes. • Inspect annually. • Add mercury to air pollution Regulation number 22 and prioritize mercury sources for air toxics monitoring permits reviewed by 9/03. • 300 companies participating. • Mercury reduced by 50% from RI households through phase out of mercury in products sold in RI by 2010.

Key Strategies	2004-2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<p>Work with DOH, municipalities and URI to protect the public from animal and insect borne diseases by stressing prevention of human contact with carriers and regular maintenance of potential breeding sites.</p> <ul style="list-style-type: none"> Continue surveillance and response programs for animal and insect-borne diseases. Evaluate threats from diseases and effectiveness of programs. 		<ul style="list-style-type: none"> Conduct rabies, Lyme disease, West Nile virus, and Eastern Equine Encephalitis surveillance and response programs. Number of human cases of vector borne diseases in Rhode Island. 	<ul style="list-style-type: none"> Ongoing. Reduced deer population on Prudence Island by 275 animals by 1/04. Evaluate municipal larvicide program by 7/04. Committee on animal diseases and food safety established by 7/03. Research with URI on offsite impacts of larvicides for WNV completed by 12/05.
<p>Protect human health and the environment from pesticide contamination.</p> <ul style="list-style-type: none"> Develop, assess, provide training. 	<ul style="list-style-type: none"> Provide funding, technical assistance and oversight to state program. 	<ul style="list-style-type: none"> Develop management plans. Conduct monitoring and inspections. Inspect 70 farms and companies and 74 markets, producers, applicators, dealers per year. Continue monitoring water resources at 43 sites near selected farms. Addition of new sites delayed due to lack of funding. Train approximately 300 pesticide applicators for licensing and certification annually. 	<ul style="list-style-type: none"> Management Plan for atrazine by 6/05. Training for health care providers by 6/05.
Recreation			
<p>Increase number of recreational opportunities and improve recreational facilities. Focus on Bikeways, Greenways, Snake Den State Park and Universal access points.</p>		<ul style="list-style-type: none"> Award recreation grants with focus on low- income minority, urban facilities. Complete bike trails, develop new state park close to highest population urban area. 	<ul style="list-style-type: none"> Blackstone Bike Path by 2006 and the Trestle Trail by 2007. Repair the state-owned causeway to the breakwater in Salters Grove by 12/03. Complete design for universal access projects including Black Point Trail by 6/04. Award grants of \$2.5 million to municipalities, including Distressed Community grants for park construction and renovation by 11/03. Conceptual design for development of Snake Den State Park by 12/03. Program for phased construction of Snake Den State Park with cost estimates and market and feasibility reports for inclusion in Governor's Capital Improvement Program by 12/03. Snake Den Park completed by 6/06.

Compliance Assistance and Enforcement - State Status and DEM Strategies

The Department will improve environmental results by helping people and businesses meet environmental requirements, prevent pollution, and practice environmental stewardship before enforcement actions are necessary. The Department will practice fair and effective enforcement.

Compliance with environmental laws is critical to protecting public health and our natural resources. However, the Department is faced with a crisis in maintaining its capacity to operate all aspects of its environmental protection, natural resource management and public health and safety compliance programs. Budget cutbacks, hiring freezes, retirements and attrition have weakened the Department's enforcement capacity, to the point where response capacity is no longer adequate to protect natural resources or public health and well-being. The department is not able to respond in a timely manner to all complaints or to conduct inspections after permits have been issued to ensure compliance.

Although voluntary compliance and collaborative strategies have become more important in the Department's menu of management options, enforcement capacity remains critical to maintaining credibility and a level playing field. In addition, ongoing lack of staff and other resources is undermining recent progress in making inspection and enforcement procedures easier to understand and comply with and in deploying limited resources where they are needed most. Nonetheless, the Department remains committed to continuous improvement in our enforcement programs and to efforts to revitalize pollution prevention and foster innovative approaches such as self-certification programs.

Fisheries Enforcement

The Department will continue to use the work force planning strategy and will seek new sources of revenue to build up marine fisheries and enforcement staff to address new, more stringent management programs for commercial and recreational marine fisheries.

Pollution Prevention (P2)

Pollution prevention, arguably the most effective and overall, the least costly approach to environmental protection, is foundering due to lack of resources. The P2 program effort with individual companies in the late 1980's and the 1990's reduced pollutant emissions, removing more than 30 million gallons of industrial waste with paybacks that ranged from a few months to 2 years. The department is working with stakeholders to revitalize the P2 program using a sector approach that will reduce the Department's costs of providing P2 services.

Environmental Results Program (ERP)

The auto body certification program that DEM developed is showing how self-certification programs can bring more companies into compliance and even beyond compliance than can be done using traditional approaches. DEM will expand this strategy to the underground storage tank, dry cleaning, and lead paint removal sectors.

NOTE: According to national enforcement policy, implementers (such as DEM) of programs to enforce the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, and the Resource Conservation and Recovery Act are required to identify and address significant non-compliers (also called significant violators) to minimize or eliminate risk to human health and the environment. To this end, to the extent that resources and laws allow, the state commits to (1) undertake targeting strategies and inspection protocols designed to identify significant non-compliance, and (2) identify detected significant non-compliers and continue to submit data for national enforcement databases maintained by EPA, (3) communicate and coordinate with EPA on the enforcement actions undertaken in response to the significant non compliance on a monthly or quarterly basis depending on the program needs, and (4) address these identified facilities with enforcement responses sufficient to ensure compliance and recovery of penalties. Monetary penalties recovered should be in accordance with federal and state penalty policies, including an economic benefit penalty, but never less than the economic benefit of noncompliance and, where appropriate, a gravity-based penalty sufficient to deter further noncompliance.

National Status and EPA Strategies

Approaches for achieving this goal include ensuring compliance with federal environmental laws and regulations, increasing voluntary and self-directed actions to minimize or eliminate pollution before it is generated (pollution prevention), and promoting environmental stewardship behavior among all sectors, including the Nation's tribes.

Compliance Assistance and Enforcement

Goal: The Department will improve environmental results by helping people and businesses meet environmental requirements, prevent pollution, and practice environmental stewardship before enforcement actions are necessary. The Department will practice fair and effective enforcement.		
EPA Regional Sub-objectives:		
<ul style="list-style-type: none"> • Increase compliance of the regulated community. • Improve environmental performance through pollution prevention and innovation. 		
RI Objectives:		<ul style="list-style-type: none"> • Eliminate or reduce pollution at the source. • Increase compliance with environmental laws and regulations through compliance assistance and fair and effective inspection and enforcement. • Achieve increased compliance with fewer complaints.
	By 2015-2020	
	By 2008-2012	
	By 2005-2008	

Indicators:

- Volume of pollutants emitted/discharged.
- Trends in compliance rates, response times.
- Numbers of convictions and penalties imposed on companies or individuals found guilty of violating environmental statutes.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<p>Continue to improve enforcement policies, protocols and regulations to optimize internal and external coordination in handling enforcement actions</p> <ul style="list-style-type: none"> • Respond effectively to instances of significant non-compliance. 	<ul style="list-style-type: none"> • Agree on protocols for program review. • Conduct multi-media audit of DEM's enforcement and compliance assistance programs. • Develop targeting strategies that identify the most significant problem areas based on risk, compliance history, and community impact. • Wet weather inspections and enforcement. • Storm water outreach, assistance and enforcement. 	<ul style="list-style-type: none"> • Recommend regulatory and statutory changes. • With the Attorney General's Office, clarify criminal enforcement provision in the Air Pollution statute to submit for the 2004 legislative session. • Issue immediate compliance orders to stop significant environmental harm or threat to public health, safety, or welfare at the site or by letter sent no later than 20 days after inspection. • Issue formal enforcement actions: <ul style="list-style-type: none"> • Within 180 days of determination of significant non-compliance, pending staff availability. 	<ul style="list-style-type: none"> • Amend Assessment of Administrative Penalty regulation to ensure that fines are appropriate by 10/03. • Complete enforcement response policy by 7/04. • Prepare and submit revisions to the RCRA enforcement policy to EPA by 12/03. • Implement multi-media training for inspectors by 7/04.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
	<ul style="list-style-type: none"> • Air Toxics/MACT inspections and enforcement. • Diesel inspections and enforcement • Pb inspections, enforcement and outreach. • RCRA waste generator inspections and enforcement - EJ and Watershed Overlays. • Federal facility enforcement and assistance. • Use compliance assistance as a tool to improve compliance in other targeted areas. 	<ul style="list-style-type: none"> • Actions of a high priority in 90 days. • CAA, CWA or RCRA violations within 180 days of determination of significant noncompliance. • All other within 365 days. • Review complaints for possible criminal violations and work with Attorney General's office on prosecution as appropriate. 	
<p>Conduct consistent, high quality water compliance inspections, inspections of waste transporters, solid waste and medical facilities, UST's, dry cleaners, auto body shops, hazardous waste generators, WWTFs.</p>	<ul style="list-style-type: none"> • Conduct inspections in all federally significant programs (CAA Stationary, CAA CFC, CAA Mobile Source, CAA 112r, AHERA, Asbestos D & R, NPDES Majors, NPDES Minors, Pretreatment, Stormwater, CWA 311, CWA 404, EPCRA 313, EPCRA non-313, FIFRA, RCRA, SDWA - PWSS, SDWA - UIC, core TSCA, PCBs, Lead 1018, Lead 402/404/406, UST, Federal Facilities). 	<p>Air - Continued high priority on complaint response on lead paint removal with reduced priority on odors, fugitive dust, and visible emissions.</p> <p>RCRA –</p> <ul style="list-style-type: none"> • Continued high priority on complaint response. • Continue efforts to promulgate revisions to hazardous waste regulations to foster recycling of used oil and revise generator section of regulations. • 7 formal enforcement actions. 	<ul style="list-style-type: none"> • Criteria for consistent inspection outcomes by 7/04. • >1,000 compliance inspections annually. • 350 gasoline dispensing facilities annually. • 35 majors, Title V annually. • 26 air pollution sources with emissions caps annually. • stack tests – 35 annually. • 25-40 synthetic minor sources annually. • dry cleaners – 40 annually. • power plants – 6 facilities annually. • pesticides - 26 farms, 50 commercial, 4 producers, 40 marketplace, 30 applicators annually. • permitted transporters – 10 annually • TSDFs – 2 annually. • 100 - solid waste and municipal waste annually. • 25 LQGs annually.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<ul style="list-style-type: none"> • Ensure that inspectors follow DEM's Administrative Inspection Guidelines. • Ensure that DEM's enforcement program meets EPA requirements as a delegated state under federal legislation. • Track and publish complaint and enforcement action regularly. 	<ul style="list-style-type: none"> • Agree on protocols for program review. • Conduct multi-media audit of DEM's enforcement and compliance assistance programs. 	<ul style="list-style-type: none"> • Document and investigate all allegations of non-compliance. • Track and publish complaint and enforcement action regularly. • Coordinate with EPA. • Post enforcement actions issued/settled and updated on web page monthly. • Publish complaint and enforcement summary annually. • Coordinate enforcement action information with EPA quarterly 	<ul style="list-style-type: none"> • 36 SQGs- metal finishing by 6/04. • 40 SQGs – metal finishing by 6/05. • 14 hazardous waste generators discharging to outfall W-6 by 6/04. • 30 auto body shops by 6/05. • 60 USTs annually. • UST for ERP – 40 baseline; 40 follow-up in 1 year by 6/05. • Wetlands – 30 by 6/04. • RIPDES major – 25 by 6/04. • RIPDES minors – 14 annually. • Multi-media inspections – 2 annually. • Agreement on protocols for program review by 12/03 • Program review complete. • Multi-media training for inspectors. • Database for formal administrative enforcement and civil cases to track performance and penalty collection finalized by 12/03 • Cooperate in EPA multi-media enforcement audit of DEM's enforcement and compliance assistance programs by 6/04.
<p>Provide better and cheaper environmental protection through pollution prevention and compliance assistance.</p>	<ul style="list-style-type: none"> • State ECOS Innovations Agreements. • Expand environmental Results Program. • Existing XL agreements. • Develop regional EMS demonstration projects and EMS tool development (e.g., sector-specific guidance). 	<ul style="list-style-type: none"> • Reinvent pollution prevention program and integrate P2 into all DEM activities. • Increase funding through grants, legislation, and budget revisions, based on P2 Roundtable recommendations 	<ul style="list-style-type: none"> • P2 Roundtable established by 6/04. • Develop P2 action plan by 7/05.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
	<ul style="list-style-type: none"> Corporate sponsorship programs that encourage and train suppliers to use EMSs/sector-specific EMS strategies including metal finishers, schools and Colleges and Universities (C/U). Facility and corporate Performance Track program. Conduct inspections at marinas, as part of a multi-faceted initiative that has included outreach and compliance assistance. 		
Ensure public compliance with laws and regulations.	<ul style="list-style-type: none"> See Inspections above for all federally significant programs. 	<ul style="list-style-type: none"> Reduce paperwork and court backlogs 	<ul style="list-style-type: none"> Draft and introduce “Negligent Discharge of Firearms” legislation by 12/03. Re-certify breathalyzer operators annually. Legislation allowing common violations to be paid by mail introduced 2004 legislative session.
<p>Negotiate consistent, fair and effective settlements of enforcement actions.</p> <ul style="list-style-type: none"> Require restoration of damaged resources where applicable in enforcement actions. Recommend Supplemental Environmental Projects (SEPs) consistent with RIDEM policy. 	<ul style="list-style-type: none"> Enforce all federally significant programs (see Inspections above for all programs). 	<ul style="list-style-type: none"> Issue timely and appropriate enforcement actions. Assess economic benefit penalties where appropriate and assess gravity-based penalties to deter non-compliance. Number of informal enforcement letters issued within 90 days of identification of violations. Number of enforcement actions issued and resolved. Number of cases where restoration is achieved. Environmental benefits of SEPs. 	<ul style="list-style-type: none"> Reduce the time to issue formal enforcement actions by 25% by 7/05. Target: 90 NOVs and 700 informal actions.
<ul style="list-style-type: none"> Prioritize Superior Court referrals to direct legal resources to cases most essential to prevent harm to public health, safety, and the environment. 		<ul style="list-style-type: none"> Number of complaints filed in Superior Court on high priority cases. Number of lower priority complaints resolved by other means 	

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Ensure the safety of the user groups at DEM facilities by restoring resources where possible and targeting resources to highest priority needs		<ul style="list-style-type: none"> • Obtain revenue sources and approval to fill key positions. • Deploy patrols to parks, beaches, boating areas and campgrounds during high use periods and target to deter boating while intoxicated. • Provide training to encourage voluntary compliance and improve enforcement processes. 	Provide training for: <ul style="list-style-type: none"> • Voluntary compliance training annually. • Supervisor training to use limited enforcement powers and intermediate weapons for self-defense annually. • Boaters: courses and challenge exams – 14 sessions each year. • Course in environmental law for at least 4 Police Academy classes by 6/05.
Ensure staff participation in training provided by EPA, NEWMOA, NESCAUM, NEEP, NEWIPCC, other regional and national organizations.			<ul style="list-style-type: none"> • Train 20 DEM staff in FY04 and 20 in FY05 by 6/05.
UST, Dry Cleaning, Exterior Lead Paint Removal.		<ul style="list-style-type: none"> • Amend dry cleaning regulations to require removal of older model, high polluting equipment and to include additional health and safety requirements for facilities located in buildings with other residential and/or businesses. • Develop workbook and checklist for UST's, dry cleaners, lead paint contractors. • Develop Environmental Business Practice Indicators (EBPIs). • Develop statistical methodology. • Implement ERP Programs. • Investigate an ERP for commercial recycling in partnership with RIRRC (pending new staff support). 	<ul style="list-style-type: none"> • By 10/03. • For UST's by 1/04, dry cleaners by 12/03, lead paint contractors by 12/03. • For UST's by 11/03, dry cleaners by 3/04, for lead paint removal by 3/04. • For UST's by 11/03, for dry cleaners by 3/04, for lead paint contractors by 3/04. • For UST's by 3/04, for dry cleaners by 7/04, for lead paint contractors by 7/04. • By 4/04.

Cross Goal Strategies - State Status and DEM Strategies

The Department will carry out its mission and achieve its goals with involvement and support of citizens and stakeholders and to that end will improve its accountability, responsiveness, and service delivery.

The Department has taken many steps in the last five years to improve performance and accountability by strengthening partnerships, improving customer service and management systems, using resources more efficiently and organizing environmental protection around watersheds. These strategies play a significant role in meeting our goals and objectives. The Department will build on this progress and emphasize developing sustainable funding in the next two years as follows:

Continue:

- To strengthen established partnerships and form new ones.
- To carefully assess work plan priorities. Continue to use the Department's strategy for workforce planning with monthly reporting and prioritizing to manage staffing under constrained conditions.
- To provide financial planning and oversight to manage services and facilities within the enacted budget and to maximize efforts to increase resources for asset protection and operation through new grant funding, effective fee collection and penalty collection. The development of sustainable financial resources may include consideration of user fees for some Department services.
- To improve management of port activity and DEM physical infrastructure by targeting priority renovation and maintenance projects and managing facilities to promote tourism and economic development. Priorities include construction of a new Fish and Wildlife headquarters facility at the Great Swamp, exploring alternatives for seasonal parking at the Port of Galilee and managing the two parcels on the Providence waterfront in a way that contributes to revitalization of the Port.
- To increase efficiency and effectiveness through continuous improvement efforts such as permit streamlining and expanding e-government services.

- To improve information management and use of technology. Over the past five years we have streamlined permitting processes: For example, wetlands permit processing time has decreased from an average of 101 days in FY2001 to 70 days in FY2003. The public can now check on the status of some permits and register boats electronically. Increasing the number of services available to consumers electronically is a focus for the next two years.
- To develop innovative approaches, such as the field test of bio-reactive remediation in Pascoag for the Pascoag Utility District/Main Street Mobil contamination problem.
- To advance environmental equity for all Rhode Islanders. Some populations and neighborhoods, particularly in urban areas of the state, face extra environmental burdens and a relative lack of environmental amenities such as increased air pollution, more contaminated properties, and fewer open spaces. In the next two years DEM will offer environmental equity training to staff, and develop public participation guidance to engage more of the affected communities in environmental decisions, and direct recreation resources to increase access for urban residents, as with the development of Snake Den State Park as a water park.
- To maintain the sustainable watersheds initiatives. Community-based approaches such as the sustainable watershed program convene local groups to create regional and ecosystem-based solutions to issues that cross political boundaries including restoring water quality, remediating contaminated sites and preserving significant landscapes. The focus in the next two years will be working with the Woonasquatucket and South County Watershed Action Teams to carry out the Watershed Action Plans. Multi-agency expert teams will provide assistance to local watershed groups in habitat restoration, planning for growth, storm water management, and water quality improvement.
- Promote establishment of growth centers in accordance with the recommendations of the 2000 Growth Planning Council Report to direct growth to places where there will be relatively minor environmental or physical impacts over the next two years the Department with the Growth Planning Council.

Cross Goal Strategies

Goal: The Department will carry out its mission and achieve its goals with involvement and support of citizens and stakeholders and to that end will improve its accountability, responsiveness, and service delivery.		
EPA Regional Sub-objectives:		
<ul style="list-style-type: none"> Reduce environmental and other impacts of sprawl by encouraging smart growth in urban, suburban and rural communities. 		
RI Objectives:		<ul style="list-style-type: none"> Improve accountability. Improve Department accessibility, responsiveness, and public outreach and participation. Increase customer satisfaction and public understanding of, and support for, the Department's programs to provide more effective environmental protection and to prevent violations of environmental laws. Make regulatory processes less burdensome, more streamlined and productive. Develop sustainable financial resources, eliminate structural deficit. Improve physical infrastructure. Ensure Environmental Equity for all Rhode Islanders. Sustainable watersheds: <ul style="list-style-type: none"> Continue to assist with the development of watershed action plans to include protection of water quality. Increase community capacity to implement watershed action plans. DEM will make all its facilities meet Universal Design standards to allow access by physically limited individuals by 6/08.
	By 2015-2020	
	By 2008-2012	
	By 2005-2008	

Indicators:

- Number of Rhode Islanders who take part in environmental protection, prevention and stewardship efforts at home and at work.
- Number and value of new funding sources obtained.
- Community-based watershed action plans completed and/or implemented by 6/05.
- Minority and low-income participation in public processes.
- Number/percent of projects delivered on time, within budget.
- Number/percent of constituents expressing satisfaction of service.
- Number of minority, low-income persons participating in public processes.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
Continue to develop work plans for divisions and multi-program initiatives that prioritize program work according to the Department’s goals and strategic priorities, and that include measures to verify progress and results.			<ul style="list-style-type: none"> • Work plans for FY2004 and 2005 and Performance Partnership Agreement with EPA by 11/03. • Progress Report on work plan for FY2003 and FY2004 published by 11/03. • Annual reports with progress indicators and performance measures by 2/04 and 2/05.
Continue to improve efficiency of internal operations and structures to allow staff to focus on priority tasks.		<ul style="list-style-type: none"> • Prioritize program needs and related workforce needs. • Work in cooperation with the Governor’s Fiscal Fitness initiative and implement recommendations • Develop a program to improve quality and timeliness of permit processing • Identify areas requiring better guidance. • Develop consultant accountability strategy. 	<ul style="list-style-type: none"> • Vacancy report and hiring priorities - monthly. • Recommendations implemented. • Improved cost accounting system to track expenditures when final – 10/03. • Report on areas requiring better guidance by 6/05. • Three new guidance documents by 6/05. • Conduct training on decision-making and process by 6/05. • Consultant accountability strategy by 6/05.
Expand and improve partnerships and opportunities for Rhode Islanders to participate in environmental decision-making.		<ul style="list-style-type: none"> • Continue quarterly roundtable meetings with business and environmental communities. • Continue to work with stakeholder groups, including Greenhouse Gas Stakeholders, Solid Waste Task Force, Litter Task Force, and watershed, agriculture, forestry and land trust organizations. • Develop a new Pollution Prevention Roundtable 	<ul style="list-style-type: none"> • By 6/04.
Continue to develop customer service orientation among management and line staff.		<ul style="list-style-type: none"> • Survey customers to gauge satisfaction with Department services. 	
Continuously improve e-government services, data integration, data sharing, and information technology.	Implement regional STORET policy for targeting all water quality data to be entered into STORET by December 31, 2005.	<ul style="list-style-type: none"> • Work with RI.GOV to increase the number of services available to consumers via the web 	

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
		<ul style="list-style-type: none"> • Recommend selected permit and license applications and provide ability to check the status of permits online. • Improve overall function and integration of databases. • Improve tracking, storage, and retrieval of information in the Office of Water Resources and with cooperating agencies, including EPA (STORET, GRTS, TMDLs, UIC, and WQC). 	<ul style="list-style-type: none"> • Implementation plan for improvements by 6/04. • Investigate opportunities to improve system for DEM staff and ultimately to increase public access to system data via the web by 6/05.
<ul style="list-style-type: none"> • With regional and national work groups continue implementation of the EQUIS environmental monitoring system database. 		<ul style="list-style-type: none"> • Work with consultant(s) to download data from "pilot site" 	<ul style="list-style-type: none"> • Standardized format for electronic data submissions by 5/04. • Download data from "pilot site" in standardized format by 9/04.
Continue implementation of the Permit Process Tracking Information System (PPTIS).		<p>Continue to participate in the National Environmental Information Exchange Network (NEIEN).</p> <ul style="list-style-type: none"> • Complete two NEIEN grant projects 	<ul style="list-style-type: none"> • Add the Office of Compliance and Inspection to the PPTIS system by 6/05. • Build a node and exchange facility data with EPA, (2) create a National Hydrography Dataset (NHD) for Rhode Island by 6/05
Develop policy and partnerships for verification of innovative technologies and information and management exchange.		<ul style="list-style-type: none"> • With EPA complete test of bio-reactive remediation of MTBE in drinking waster. 	<ul style="list-style-type: none"> • Began six-month Pascoag bio-reactive remediation testing; expand, if system performance is favorable, by 7/03. • Develop a policy paper on using and promoting innovative technologies by 6/02. Will not be done due to loss of staff.
Aggressively seek new funding sources to manage services and facilities and to protect assets.		<ul style="list-style-type: none"> • Continue to pursue grant funding for projects/initiatives that support priority work plan items. Ongoing. • Pursue the re-institution of fees to support chronically under-funded functions (i.e. park entrance user fees, administrative adjudication hearing fees). • Establish a permanent source of revenue (such as an Environmental Trust Fund), to maintain facilities, vehicles and equipment on a regular schedule. 	<ul style="list-style-type: none"> • Ongoing. • Submit legislation 2004 legislative session. • Establish revenue source by 6.05.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
		<ul style="list-style-type: none"> • Improve cost recovery on all enforcement matters by carefully documenting all DEM activities that are cost recoverable. • Track all formal enforcement actions, consent agreements and superior court orders involving penalty assessments and payment deadlines and continue using a collection agent to aggressively collect penalties. • Continue to improve port operations and activities. 	<ul style="list-style-type: none"> • Capture at least 45% of recoverable costs in 2004. • Implement tracking systems by 1/04. • Develop a strategic plan for port activity and marine transportation with EDC and URI Transportation Center by 2006.
<p>Increase awareness of DEM's role in environmental protection and promote an understanding of how actions affect environmental quality.</p>	<ul style="list-style-type: none"> • Assist in outreach and education as resources permit. 	<ul style="list-style-type: none"> • Work with partners to strengthen environmental education. • Continue to enhance the DEM website as a resource for environmental information. • Standardize DEM publications. 	<ul style="list-style-type: none"> • Energy/GHG outreach and education plan by 7/04. • Government Lead by Example package adopted (partner with Rhode Island State Energy Office) by 7/04. • Emergency response website by 9/04. • With students from the Metropolitan School draft web-based material and brochures in languages other than English by 2/04. • Issue DEM publication specifications by 6/04.
<p>Continue to streamline permit processes.</p>		<ul style="list-style-type: none"> • Implement recommendations from Wetlands & ISDS Task Force (see specific task force work plans). • Reduce permit backlogs. 	<ul style="list-style-type: none"> • Reduce major RIPDES permit backlog to 0% by 12/04. • Reduce minor RIPDES backlog to 6% by 12/04. • Reduce average number of days from receipt of wetlands applications to issuance of final decision from 86 (FY03) to 65 or fewer by 6/05. • ISDS revised rules by 6/04. • Wetlands revised Phase II rules by 3/04. • Wetlands revised Phase III Rules 12/04.
		<ul style="list-style-type: none"> • Develop more general permits to speed permitting and allow staff time to conduct more on-site inspections. 	<ul style="list-style-type: none"> • Begin issuing new permits by 6/04. • Issue general permit for subsurface storm water discharge by 9/04.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
		<ul style="list-style-type: none"> • Seek repeal of DEM’s role in overseeing well drilling. • Revise sludge regulations to reduce volume of sludge going to landfills, reduce incineration of sludge and reduce paperwork for those who use large quantities of sludge. • Include no net increase in environmental impacts policy in airport upgrades. • Incorporate into T. F. Green Airport and in Regional Airport Plan for future upgrades at local airports. 	<ul style="list-style-type: none"> • Repeal of DEM Well Drilling regulatory requirements consistent with legislative amendments. • Allow more beneficial reuse of bio-solids by 1/04.
Provide timely decision making on applications for dredging, dewatering, and for beneficial use and disposal of dredge materials.		<ul style="list-style-type: none"> • Work with CRMC to coordinate dredging applications. • Develop a master plan for dredging and management of dredge material, including a 20-year plan for maintaining navigational channels and basins with CRMC. • Enhance dredging web page to include all dredging projects. • Develop dredging component for the watershed notification process. 	<ul style="list-style-type: none"> • Buy 12/03, refined: <ul style="list-style-type: none"> • public notice process, • application form, • guidance. • Master plan by 2005. • Web page by 6/04. • Dredging component by 6/04.
Incorporate Environmental Equity/ Environmental Justice provisions into each Bureau and/or divisions’ activities, programs, policies and regulations such as public notices, cumulative impacts, interagency issues, and community-based decision-making.	<ul style="list-style-type: none"> • Provide training on EJ Program Guidance and mapping tools as resources permit. 	<ul style="list-style-type: none"> • Publish Biannual report on EE progress. • DEM will make all its facilities meet Universal Design standards to allow access by physically limited individuals within the next five years. 	<ul style="list-style-type: none"> • Report by 5/04. • By 6/08
<ul style="list-style-type: none"> • Target recreation funding to populations or areas that lack access to or enjoyment of natural resources consistent with the State Comprehensive Outdoor & Recreation Plan (SCORP). 		<ul style="list-style-type: none"> • Trend in # and dollar amounts of grants distributed through recreation grants. 	<ul style="list-style-type: none"> • By 9/05

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
<ul style="list-style-type: none"> Train DEM staff on EE/EJ issues. 	<ul style="list-style-type: none"> Provide environmental equity trainers to supplement DEM staff trainers. 	<ul style="list-style-type: none"> Train 50% of DEM staff 	<ul style="list-style-type: none"> By 6/05.
<ul style="list-style-type: none"> Develop an outreach and public participation plan for the non-English speaking community. 	<ul style="list-style-type: none"> Through EPA Urban Environmental Program, assist with development of outreach and public participation plans. 	<ul style="list-style-type: none"> Meet with leaders of the Latin and Asian communities to determine their environmental education needs. Develop a plan to translate environmental material to the non-English speaking community by 9/03. 	<ul style="list-style-type: none"> Meeting by 12/03. Translation plan by 9/003. Mentor Program with the Metropolitan School by 9/03. Enhanced public participation process by 12/03. Evaluate feasibility of incorporating into regulation by 12/04. Develop outreach, participation, education priorities and methods by 6/04.
<ul style="list-style-type: none"> Ensure schools are constructed on sites that are safely remediated and acceptable to the community. 	<ul style="list-style-type: none"> Assist with EJSG school siting issues. 	<ul style="list-style-type: none"> Work with RI Legal Services to develop and implement school siting policy. 	<ul style="list-style-type: none"> Develop approach - pending funding by 6/04. Develop school siting policy - pending funding by 6/05.
<p>Re-orient environmental protection and natural resources stewardship activities toward effective watershed resource management through community-based planning and implementation.</p>	<ul style="list-style-type: none"> Assist with capacity building efforts in targeted watersheds. 	<ul style="list-style-type: none"> Provide technical assistance to encourage the implementation of watershed plans and action programs. Continue to assist watershed organizations with development and implementation of watershed action plans. 	<ul style="list-style-type: none"> With partners develop model storm water education and outreach materials for watershed organizations and communities. Materials pending availability of funds. Manage the Narrow River Stormwater Abatement project by 6/05. With the Woonasquatucket Watershed Council, Habitat Restoration Team and other partners identify and restore riparian buffers by 6/05. With the Woonasquatucket Watershed Team and watershed communities, develop Green space plan and Implementation Strategy by 2/04. Buckeye Brook Action Plan by 6/05. Updated Salt Pond Action Plan by 6/05.

Key Strategies	2004 – 2006 Performance Measures		DEM Targets
	EPA NE	RI DEM	Milestone
			<ul style="list-style-type: none"> • Updated South County Green space Plan including new land acquisition and vernal pool information by 12/04. • Complete Woonasquatucket Land use and Zoning project with the city of Providence and the Woonasquatucket Watershed Council by 12/04. • Coordinate the Blackstone Watershed Integrated Water Resource Management Project, pending funding – ongoing.
<p>Assist watershed teams to acquire funds to implement watershed plans and action programs.</p>	<ul style="list-style-type: none"> • Communicate all appropriate funding opportunities for watershed activities. 	<ul style="list-style-type: none"> • Provide incentives to encourage the implementation of watershed plans and action items. • Explore funding sources to do Green space Plans in other watersheds. • Coordinate links between state and federal technical and financial resources and local efforts to identify resources to implement watershed plans. 	<ul style="list-style-type: none"> • Help with abatement project grant writing; apply for grants on team behalf; manage grants for locals – ongoing. • Continue to pursue grants to build capacity of communities to plan for growth – ongoing.
<p>Work with broad-based partnerships to develop state and local capacity to effectively plan for growth.</p>	<ul style="list-style-type: none"> • Continue to provide feedback through Council Steering Committee participation. 	<ul style="list-style-type: none"> • Assist the Governor’s Growth Planning Council to pilot the growth center concept. • Provide assistance to communities. • Develop training programs in basic and advanced land use planning techniques. • Explore funding sources. 	<ul style="list-style-type: none"> • Develop an urban environmental design manual by 4/04. • 10 presentations on creative development techniques to wide audiences by 12/04. • Technical assistance and training to communities to more effectively use growth-planning methods by 12/04. • Technical assistance/training for communities planning for open space preservation – ongoing. • With partners complete a conservation development-training manual for planners by 6/04. • Implement Conservation Development – ongoing.

Appendix A

Environmental Indicators

Proposed Indicators	
Aquatic life use support	Select indicator species
Wetland trends	
Salt marsh/SAV	
Anadromous fish population	Shad and Alewives
Resident and migratory birds	Select 1- 3 species
Shellfish populations	Quahog stock status
Shellfish closures	
Beach Closures	
Wildlife habitat	Forested land, protected open space
Land Use	
Ozone alerts	
Brownfield sites	Acres re-used
Vehicle Miles Traveled	
Waste	Disposed and Recycled

Process for Selecting
Review documents <ul style="list-style-type: none"> • EPA Environmental Indicators Initiative Report • EPA Strategic Framework (National and Regional) • ECOS core performance measures • NBEP indicators project report • Green Mountain Institute NEGIP summary report
Review current reports to determine usefulness for reporting trends
DEM report only on indicators that DEM tracks now, EPA provide data on any others agreed upon
Continue to refine indicators
Finalize list of proposed indicators to include in the PPA update Aug-Sep 2004
Define reporting format