

**MARYLAND DEPARTMENT OF THE
ENVIRONMENT**



MANAGING MARYLAND FOR RESULTS

**FISCAL YEAR 2006
WORKPLAN**

July 2005

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Secretary**

MARYLAND DEPARTMENT OF THE ENVIRONMENT

MANAGING MARYLAND FOR RESULTS

FISCAL YEAR 2006 WORKPLAN

INTRODUCTION

This is the Maryland Department of the Environment's (MDE's) Fiscal Year 2006 Managing for Results (MFR) Workplan. This document reports on MDE's commitment to using results-based strategic planning and quality management approaches to achieve its public health, environmental, and management goals.

Please note that although this document highlights many priority areas, it is not comprehensive. Space limitations require that many important activities be mentioned only briefly, rather than covered in detail.

GOALS

MDE uses the following six broad goals to organize and measure its progress in achieving its mission, vision, and goals:

- Goal 1:** Promoting Land Redevelopment and Community Revitalization
- Goal 2:** Ensuring Safe and Adequate Drinking Water
- Goal 3:** Reducing Maryland Citizens' Exposure to Hazards
- Goal 4:** Improving and Protecting Maryland's Water Quality
- Goal 5:** Ensuring the Air is Safe to Breathe
- Goal 6:** Providing Excellent Customer Services to Achieve Environmental Protection.

REPORT ORGANIZATION

Within each of the goals, MDE's FY 2006 MFR workplan is organized into several objectives. The following information is presented for each objective:

1. description of the objective;
2. list of the strategies to achieve the objective;
3. chart of performance data; and
4. graphic indicator(s) of performance.

MISSION

MDE's mission is to protect and restore the quality of Maryland's air, water, and land resources, while fostering economic development, safe communities, and quality environmental education for the benefit of the environment, public health, and future generations.

VISION

MDE's vision is to ensure a clean environment and excellent quality of life for all Marylanders.

VALUES

MDE employees are:

-  Credible and have the public's confidence;
-  Supportive of teamwork, and empowered by management;
-  Innovative and resourceful;
-  Customer-service-oriented;
-  Professional and proud of their work;
-  Responsive to their stakeholders; and
-  Supportive of environmental stewardship.

MDE CUSTOMERS AND STAKEHOLDERS

MDE's customers include Maryland citizens who expect protection and restoration of the environment; businesses, governments, and individuals who are applying for permits and receiving technical assistance; and technical personnel including well drillers, sanitarians, waste water operators, and asbestos contractors who require certification. Other key stakeholders include environmental and public health advocacy groups, citizen groups, educators, scientists, and natural resource users.

Services and Results: MDE's key results requirements for external customers and stakeholders fall generally into the following six categories:

- Timely and cost-effective permitting;
- Quality and enforceable permitting;
- Timely and appropriate enforcement actions;
- Timely and appropriate complaint responses;
- Timely and effective clean ups; and
- Timely and quality environmental data.

IMPLEMENTING THE ENVIRONMENTAL ENTERPRISE MANAGEMENT SYSTEM

Achieving environmental and public health improvements requires long-term resource investments in program implementation. The Department continues to focus its limited resources on its critical environmental and public health protection priorities. In this context, implementation of the Environmental Enterprise Management System (EEMS), MDE's new data management system, will become even more critical as a means to improving multi-media data management and integration. EEMS will support all MDE programs and environmental goals. EEMS will be web-enabled to support e-business, which for MDE will include processing permits and registrations electronically. Electronic permitting will not only improve customer services; it will also reduce data entry and processing time, provide better access to data for public use, and increase data quality.

CONCLUSION

MDE's FY 2006 MFR Workplan is the result of extensive collaboration, input, and review by all organizational levels within MDE. It can also be found on the Department's web site at <http://www.mde.state.md.us/AboutMDE/Reports/managingMDResults.asp>

Through successful implementation of its policies and programs, MDE remains committed to achieving its mission of protecting Maryland's public health and environment.

MDE MFR FY 06 Workplan Contents

GOAL 1: PROMOTING LAND REDEVELOPMENT AND URBAN REVITALIZATION

- 1.1 Voluntary Cleanup Program**
- 1.2 Environmental Justice**
- 1.3 Recycling**
- 1.4 Scrap Tires**

Encouraging environmentally-responsible economic development in existing communities is fundamental to Maryland's future environmental health and to the prosperity of its citizens. This workplan describes five ways that MDE is approaching this goal; other important MDE activities include helping local governments with water, sewer, and solid-waste management planning.

GOAL 2: ENSURING SAFE AND ADEQUATE DRINKING WATER

- 2.1 Public Drinking Water Compliance**
- 2.2 Source Water Protection**
- 2.3 Water Appropriation**
- 2.4 Oil Pollution Remediation**
- 2.5 Municipal Landfill Compliance with Groundwater Standards**

Ensuring that Marylanders have safe and adequate drinking water is a critical priority for MDE. In addition to the activities listed above and described in this section, other MDE programs aimed at protecting drinking water address water conservation, drought monitoring, and other issues.

GOAL 3: REDUCING EXPOSURE TO HAZARDS

- 3.1 Lead Poisoning Prevention**
- 3.2 Nuclear and Environmental Emergency Preparedness**
- 3.3 Radiological Health Program**
- 3.4 Environmental Restoration (Superfund)**

MDE has a number of programs designed to protect Marylanders from environmentally-based hazards that might threaten health or safety. In addition to those activities described in this section, other programs include floodplain management, health and ecological risk assessment, noise control, Community and Worker Right to Know, hazardous waste management, mercury exposure reduction, and others.

GOAL 4: IMPROVING AND PROTECTING WATER QUALITY

- 4.1 Fish Tissue Sampling**
- 4.2 Shellfish Compliance with FDA Sanitation Standards**
- 4.3 Fish Kills**
- 4.4 Discharge Permits**
- 4.5 Sewage Overflows**
- 4.6 Financial Assistance for Capital Programs**
- 4.7 Total Maximum Daily Loads**
- 4.8 Wetlands**
- 4.9 Water Quality**

MDE operates many programs critical to the protection and improvement of water quality in our state. In addition to those described under Goal 4, other important water-quality programs address stormwater management, sediment control, mine reclamation, quarry impacts, identification of impaired waters, ballast water, sewage sludge, dredging, water quality standards, and other issues.

GOAL 5: ENSURING AIR IS SAFE TO BREATHE

- 5.1 Reduce Ozone Transport from Upwind Areas**
- 5.2 Attainment of Federal Ozone Standards**
- 5.3 Asbestos**

MDE operates a number of programs aimed at protecting air quality. In addition to those listed herein, significant MDE air-related programs address air toxics and mobile sources of air pollution.

GOAL 6: CUSTOMER SERVICE AND COMMUNITY OUTREACH

6.1 Applying Technology to Improve Customer Service (EEMS)

6.2 Customer Service and Stakeholder Involvement (permit turnaround, P2, PIA, EHLC)

In addition to these activities described Under Goal 6, MDE also operates programs designed to help small businesses and to provide media outreach and public education.

Voluntary Cleanup Program

Introduction: Maryland's rich industrial history has resulted in a significant number of properties where investigation and/or cleanup of contamination is necessary to ensure public health is protected. This program eliminates threats to public health from exposure to soils, groundwater, and surface water contaminated by hazardous waste and other substances, while encouraging the revitalization of industrial and commercial properties. Redevelopment of these properties results in environmental cleanup, may provide economic development benefits including new jobs and increased tax revenues, and promotes wise growth by using existing infrastructure and avoiding development in undeveloped "greenfields".

Objective 1.1: In FY06, continue to increase the annual number of acres and properties of brownfields/voluntary cleanup program (VCP) sites remediated/completed over the previous year (acres by 100; properties by 10), as resources and economic conditions allow.

Strategy 1.1.1: Continue to market and encourage participation in the cleanup and redevelopment of brownfields through seminars, workshops, and other outreach activities for businesses, financial institutions, affected communities, environmental advocacy groups, and citizens; continue to reevaluate and discuss additional improvements to the VCP utilizing semi-annual meetings with Ad Hoc group to discuss Brownfields implementation and direction; evaluate applicants that either withdraw from the program or do not proceed with the program after initial pre-application meeting and assess program improvements based on these evaluations; and continue to implement the Brownfields Redevelopment Reform Act passed during the 2004 Legislative Session.

Strategy 1.1.2: Implement the UECA law passed during the 2005 Legislative Session by creating a registry no later than December 31, 2005.

Strategy 1.1.3: Continue to oversee cleanups of eligible properties and provide technical assistance to private industry for assessments and cleanups of hazardous waste sites.

Strategy 1.1.4: MDE will continue to implement a Brownfields Site Assessments initiative, which is designed to help eligible property owners or prospective purchasers determine the extent of contamination on the property, at no cost to them. Owners and prospective purchasers of property that is planned for participation in the VCP may apply for Brownfields Site Assessments, which will reduce the costs associated with the application process.

Strategy 1.1.5: As part of the EPA's Land Revitalization and One Cleanup Program Initiative, MDE will continue to partner with EPA to address an area where widespread contamination with cross-jurisdictional issues can be addressed through a coordinated cleanup approach. The purpose of the pilot is to coordinate federal and State resources on area-wide contamination problems with a focus on reuse and redevelopment. The lessons learned from the pilot will be used to guide long-term policy directions.

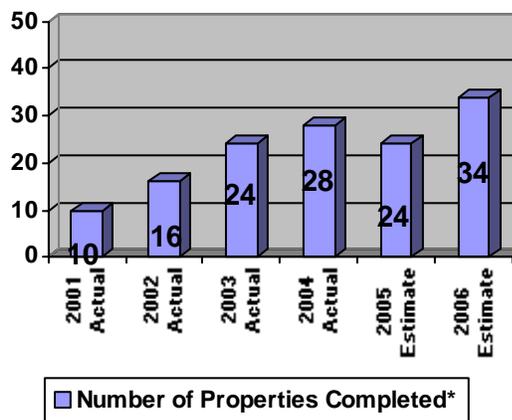
Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|--|-------------------|-------------------|---------------------|---------------------|
| Total number of acres of property in the VCP completed and a No Further Requirements Determination or a Certificate of Completion issued | 247 | 380 | 300 | 400 |
| Total number of properties in the VCP completed and a No Further Requirements Determination or a Certificate of Completion issued | 24 | 28 | 24 | 34 |
| Number of additional jobs created each year as a result of Brownfields/VCP site development* | 1,810 | 3,929 | 4,000 | 5,000 |
| Amount of capital investment in redevelopment of Brownfields/VCP sites that have been cleaned up* | \$428 million | \$593.4 million | \$600 million | \$700 million |
| Estimated increase in tax base from job creation and/or capital investment as a result of Brownfields/VCP site redevelopment as reported by VCP participants | \$37 million | \$427.6 million | \$500 million | \$600 million |
| Percentage of VCP properties where streamlined deadlines were met in reviewing applications and Response Action Plans | 97% (30/31) | 94% (34/36) | 100% (40/40) | 100% (50/50) |

* This information was obtained from applications or from responses to a survey of all VCP applicants who had received either a No Further Requirements Determination or a Certificate of Completion during FY2003. Some applicants did not complete the survey.

Performance Indicator:

Voluntary Cleanup Program



* With a No Further Requirements Determination or a Certificate of Completion issued

Progress and Challenges:

Although the actual number of properties completing the VCP in FY 2004 fell short of the estimated 34, the 28 completed properties represent a 17% increase over the previous fiscal year. Meanwhile, the actual total acreage of completed VCP properties in FY 2004 exceeded the estimated 350 acres by 30 acres, or 9%. It is anticipated that the total number and acreage of properties completed in FY 2005 will not increase significantly due to a number of factors, including reduced outreach as a result of a vacancy in the Brownfields Redevelopment Coordinator position, reduced remediation activities during seasonal changes,

an abundance of small acreage properties, more sites requiring remediation, etc. It is anticipated that a new Brownfields Redevelopment Coordinator will be hired by FY 2006 so that there can be increased marketing of the program. In addition, the initiative to evaluate the reasons for applicant withdrawal from the program and prospective applicants not proceeding with the program after an initial pre-meeting and stakeholder meetings to discuss implementation of the program are expected to uncover reasons for level participation in the past two years. In the long term, substantive changes to the VCP law through the 2004 Brownfields Redevelopment Reform Act and the addition of more project managers to oversee the work of the VCP will improve overall efficiency in the VCP process.

Environmental Justice, Environmental Benefits Districts, Community Revitalization and Outreach

Introduction:

Several studies document that marginalized low-income and minority communities are at much greater risk for environmental hazards and injustices. “Environmental justice” (EJ) refers to the pursuit of equal protection from environmental and public health hazards for all people regardless of race, income, culture, and social class. To address this, one of the main goals of the EPA’s Performance Partnership Agreement with MDE is to increase the opportunities for public participation, public involvement, and policy deliberations that are integrated in MDE’s and EPA’s programs and policy deliberations.

In an effort to better understand the confluence of concerns related to communities in Maryland, the General Assembly passed House Bill 1350 in 1997, establishing the Maryland Advisory Council on Environmental Justice to provide recommendations to the Governor and legislators on environmental justice matters. In fulfilling its charge, the Council established several forums for public discussion on environmental justice. These included undertaking more than 75 open meetings over two years and five major statewide workshops.

The statewide workshops raised several concerns about potential EJ issues including lead poisoning, increased respiratory concerns, communication, infrastructure needs, locally-unwanted land uses, living and working conditions, limited regulatory protection, public involvement and outreach, etc. It was clear from the statewide meetings that additional study was needed, and one of the Council’s major recommendations was to establish a Commission to consider EJ issues. In 2003, Governor Robert Ehrlich signed HB 970 that statutorily established the Commission on Environmental Justice and Sustainable Communities (CEJSC).

Objective 1.2: In FY 06, maintain at 30 the number of people annually who are provided support, outreach, and other services in connection with MDE’s efforts related to community economic revitalization and environmental justice. Also, identify at least two more Environmental Benefits Districts (EBDs) and secure resources for, and participation in, activities within the EBDs. MDE will work with other state agencies to aid and optimize revitalization efforts in targeted EBDs.

Strategy 1.2.1: Continue to provide project support in EBDs and assist with helping communities obtain new grant opportunities.

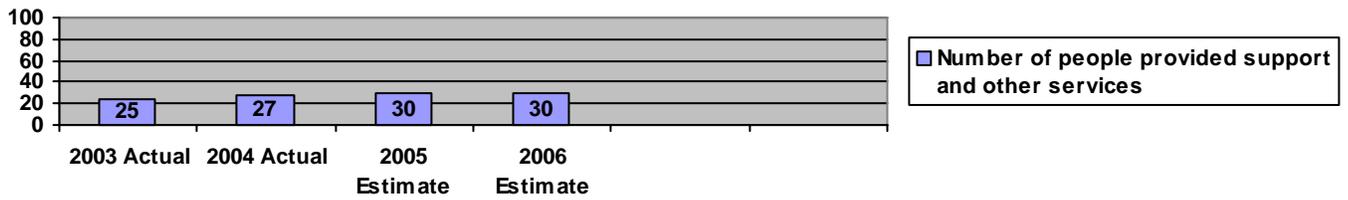
Strategy 1.2.2: Continue to conduct education and outreach to communities, local governments, and businesses through workshops, print media and web resources.

Performance Measures

| Performance Measures (Data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Actual | FY 2006 Estimate |
|--|-------------------|-------------------|-------------------|---------------------|
| Number of projects supported or assisted in EBDs and/or new projects developed in EBDs. | New measure | 2 | 4 | 2 |
| Number of communities, small businesses, and citizens concerned with environmental issues to whom MDE provides education, outreach, offers services, and addresses concerns. | 25 | 27 | 30 | 30 |

Performance Indicators

Environmental Justice, Community Revitalization and Outreach:



Progress and Challenges

Progress has been made in identifying two new EBDs in 2005— Easton and South Baltimore. Also an EBD Identification tool was developed to provide an objective means of identifying and designation EBDs.

Recycling

Introduction:

Solid waste recycling and source reduction activities conserve natural resources and preserve landfill capacity by diverting waste from disposal or eliminating materials from the waste stream. MDE's Recycling Program promotes recycling and source reduction across the State by providing technical, education, and outreach assistance. The Program works to strengthen and expand partnerships with other State agencies, including the Department of Business and Economic Development, Maryland Environmental Service, and Northeast Maryland Waste Disposal Authority, local governments, businesses, schools, and non-profit organizations to increase the volume of materials recycled, develop markets for recyclable materials, and communicate MDE's initiatives.

In this workplan, MDE reports two statewide diversion rates: (1) the statewide voluntary waste diversion rate; and (2) the percentage of all solid waste diverted annually from disposal. Both of these measures build on the Maryland Recycling Act recycling rate (the MRA rate). The MRA rate measures the percentage of municipal solid waste recycled. The statewide voluntary waste diversion rate is the MRA rate plus a source reduction credit, earned by the Counties, for activities like reuse and backyard composting. The percentage of all solid waste diverted annually from disposal, includes the statewide voluntary waste diversion rate and the recycling of other, non-MRA materials, such as construction and demolition debris.

Objective 1.3: Increase the statewide voluntary waste diversion rate to 40% by the end of calendar year 2005.

Strategy 1.3.1: MDE will continue to provide technical, education, and outreach assistance to the counties and Baltimore City on recycling and source reduction opportunities. MDE will continue to maintain regular communication with local jurisdictions to identify opportunities to integrate efforts and maximize resources.

Strategy 1.3.2: MDE will promote recycling, with emphasis on computer recycling activities, and by January 2006, implement House Bill 575 (2005) Statewide Computer Recycling Pilot Program by: identifying and conducting outreach to computer manufacturers on registration and computer take back program requirements; conducting outreach to retailers, computer recyclers, local governments and the public; providing financial support through grants from the State Recycling Trust Fund for county and municipal government computer collection and recycling activities, as funding is available; and developing regulations by December 2005 to implement the provisions of the law. MDE will continue to promote computer recycling through partnerships with business and industry, EPA and local and State governments, with particular emphasis on seeking additional opportunities for manufacturer "take-back" programs.

Strategy 1.3.3: MDE will continue to seek regional solutions for difficult to recycle materials, such as construction and demolition debris, and mercury. To recognize the effort counties and businesses are making to recycle these types of materials, the Program is reporting an overall solid waste recycling rate and a waste diversion rate, in addition to the Maryland Recycling Act recycling rate. Partnerships with the private sector, EPA, local governments, and other State agencies to encourage market

development activities and increase recycling awareness will be identified, developed and maintained.

Strategy 1.3.4: MDE will continue to devote staff to assist State agency recycling coordinators in their efforts to establish successful collection and waste diversion programs. Outreach efforts include providing technical assistance to State agency coordinators to help improve site-specific recycling programs and publishing a newsletter to highlight the benefits of State government recycling and source reduction efforts.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|--|-------------------|-------------------|---------------------|---------------------|
| Percentage of MRA solid waste that is diverted annually (MRA materials recycled + source reduction credit = waste diversion rate) from disposal* | 39.5% | 39.6% | 39.8% | 40% |
| Percentage of all solid waste (MRA and non-MRA) that is diverted annually from disposal* | 42.1% | 57.9% | 45% | 45% |
| Total MRA tonnage diverted annually (equal to MRA recycling tonnage + tonnage diverted via source reduction credits) from disposal** | N/A | N/A | N/A | 2,800,000 |

* Data collected on a calendar year basis. For example, FY2004 reflects calendar year 2003 data.

** New measure for FY06.

Progress and Challenges:

- The nearly-level performance data are indicative of the national trend toward stabilization of recycling rates.
- Source reduction activities reduce the amount of waste generated.
- Barriers to increasing recycling at State agencies include janitorial contracts that do not include recycling, lack of money to set up recycling programs, and lack of space to stage recyclables prior to pick-up.
- In spite of staff and funding shortages, through partnerships with business and other government agencies the Program was able to conduct a variety of electronics recycling outreach and education activities, including television advertisements, placement of information in Verizon telephone books, and 23 collection events during FY2004.
- In addition, over 2,100 students and teachers were reached at 20 Maryland schools through displays, presentations, and demonstrations, the second annual high school student "Rethink Recycling" sculpture contest was held at MDE featuring sculptures made from reused and recycled materials, and MDE participated in Fox 45 and WB54's "Free Friday Flicks" television event in Anne Arundel County which attracted approximately 6,000 people. The Program relies on these and other outreach events and activities to promote source reduction, reuse, and recycling.

Scrap Tires

Introduction: Cleaning up stockpiles of tires protects and maintains the natural resource land base and the public health. MDE implements the Scrap Tire Recycling Act to clean up stockpiled tires and issue licenses for scrap tire collection, hauling, recycling, and processing to ensure proper disposal and prevent illegal scrap tire stockpiles. The program actively seeks opportunities for recycling scrap tires, such as energy recovery, scrap tire playgrounds, and landfill construction. MDE implements controls through an active permitting and enforcement program.

Objective 1.4: In FY 06, initiate the planning and cleanup process within 30 days of discovery for 100% of illegal scrap tire stockpile sites identified each year.

Strategy 1.4.1: Maintain inspections, compliance assistance, and enforcement actions of scrap tire licensees to discourage illegal scrap tire dumps and to reduce or eliminate the potential for the accumulation of massive new scrap tire stockpiles. Continue coordinating with the State Fire Marshal's Office to ensure that plans for tire recycling and storage facilities meet applicable fire prevention standards and have adequate provision for fighting fires should they occur.

Strategy 1.4.2: Continue the identification and cleanup of stockpiled scrap tires.

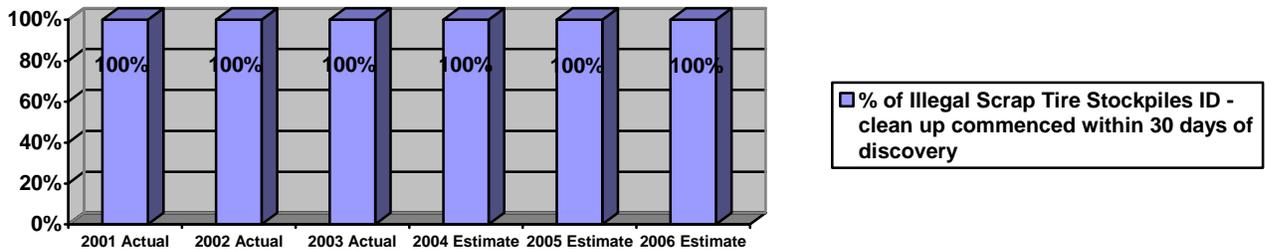
Strategy 1.4.3: Encourage more recycling or reuse of scrap tires by conducting projects that reduce, recover, or recycle scrap tires. These projects may include constructing scrap tire playgrounds, sponsoring scrap tire amnesty day events and the Scrap Tire Youth Employment Program, promoting the use of products made from recycled scrap tires such as footing material in horse stalls and equestrian arenas, and encouraging civil engineering applications for scrap tires as in landfill closure cap design and new cell closure.

Performance Measures:

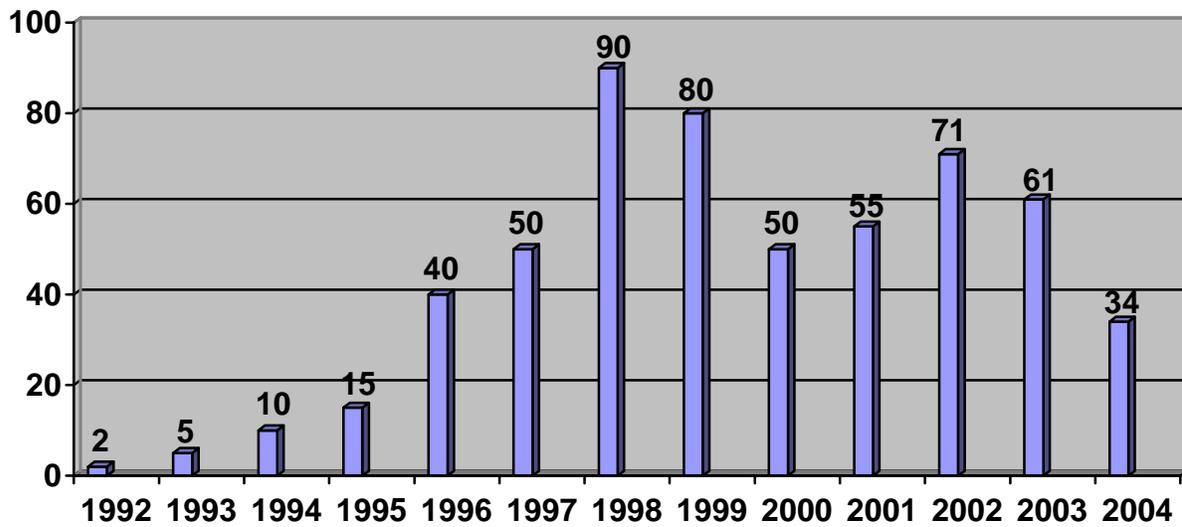
| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|-------------------|-------------------|---------------------|---------------------|
| Percentage of illegal scrap tire stockpiles identified where the planning and cleanup process commenced within 30 days of discovery | 100% | 100% | 100% | 100% |
| Percentage of inspected scrap tire hauling, collection, storage, and processing facilities in significant compliance | 98% | 99% | 98% | 98% |
| Number of scrap tires removed since the inception of the program in 1992 (cumulative) | 7,822,752 | 8,304,752 | 8,400,000 | 8,700,000 |
| Total number of scrap tires identified at the end of the fiscal year which remain to be cleaned up | 1,663,025 | 1,715,696 | 1,500,000 | 1,400,000 |

Performance Indicators:

Scrap Tire Management - Initiation of Clean Up Process within 30 Days of Discovery



Number of Scrap Tire Stockpile Cleanups Completed Each Fiscal Year



Progress and Challenges:

This objective continues to be met through diligent effort. The Department has been very successful in continuing to cleanup scrap tire dumps, as is indicated by the fact that the estimate for scrap tires cleaned up for FY 2004 was exceeded by over 200,000 scrap tires. However, the Program continues to discover more scrap tire dumps, increasing the total number of scrap tires that remain to be cleaned up. As the Program has progressed, the difficulty in cleaning up sites has increased.

The large, easy-to-cleanup sites were completed early in the Program and now work is being conducted on the more difficult sites, which often have steep terrain, heavy forest growth, the presence of other types of solid waste, or large numbers of buried tires. These factors make cleanups more complicated, time-consuming, and expensive. The Program is working with the Maryland Environmental Service to improve their ability to process dirty tires from buried dumps and unpaved junkyards, which will enhance the Program's ability to cleanup these types of sites. In addition, the Program is identifying and cleaning up more smaller sites.

Challenges to the Program remain. Although Program staff is still aggressively identifying scrap tire stockpiles and pursuing cleanups, difficulties in hiring compliance staff to identify sites, perform investigations, initiate enforcement actions, oversee cleanups, and support cost-recovery actions is an ongoing obstacle.

The Department is continuing to work with the Maryland Environmental Service and the private sector on a project to develop a "best practices" manual to encourage engineers and designers to facilitate the use of tire-derived products into civil engineering projects. The manual will be able to advise the design engineer of possible uses for engineering materials derived from scrap tires, including the use of tire chips in drainage layers. The guidance will increase the utilization of these materials and using these alternatives will help conserve natural resources, such as gravel and crushed stone.

Public Drinking Water Compliance

Introduction:

The Water Supply Program's activities help to ensure that community water systems provide safe drinking water to their customers. The greatest challenges for all public water systems are managing and protecting water systems with limited resources, and complying with the ever-increasing number of State and federal requirements and standards.

Water system compliance is assured through a variety of activities, including:

- Training and guidance materials for water system owners and operators;
- Continuing to perform sanitary surveys to identify shortfalls and compliance issues at drinking water sources and community systems; and
- Support of operator training programs.

Objective 2.1: To ensure compliance of community and non-transient non-community public water systems with all federal and State drinking water regulations. At least 97% of the population served by public water systems (community and non-transient non-community) will be in compliance with the State regulations adopted as of 2002.

Strategy 2.1.1: Adopt federal regulations that were finalized by EPA. Implement the recent regulation changes for: the Interim Enhanced Surface Water Treatment Rule, Disinfection Byproduct Rule, revised Public Notification Rule, Arsenic Rule, Lead and Copper Rule Minor Revisions, and Radionuclide Rule.

Strategy 2.1.2: Continue providing on-site technical assistance such as the Comprehensive Performance Evaluations (CPEs), which are technical assistance tools, used to identify areas that affect the performance of drinking water filtration plants. A team of three or four staff experienced in water filtration design and operation conducts CPEs. The final report can be used by water systems to prioritize improvements that will improve the drinking water quality, and the reliability of the water treatment plant.

Strategy 2.1.3: Continue providing financial assistance to communities under the Drinking Water State Revolving Loan Fund (DWSRF) and grants programs to assist communities in upgrading water supply systems. Finance \$14M in Water Supply/Safe Drinking Water Projects with state capital dollars in FY2006. This amount is based on \$11 million in capital loans and \$3 in capital grants funds in FY2006. Capital funding will be targeted to projects with the highest public health needs and where funding is provided. For eligible "growth-related" projects, funding will be targeted toward Priority Funding Areas consistent with the law. Funds appropriated by the Legislature for FY2006 will be utilized in a timely manner by encumbering not less than 90% of funds by the end of FY2006. Capital Programs for Safe Drinking Water projects will be monitored and tracked for schedule slippage. Major schedule slippage will be flagged for management review and action. Opportunities to accelerate projects and/or reprogram funding to other projects ready to proceed will be routinely evaluated.

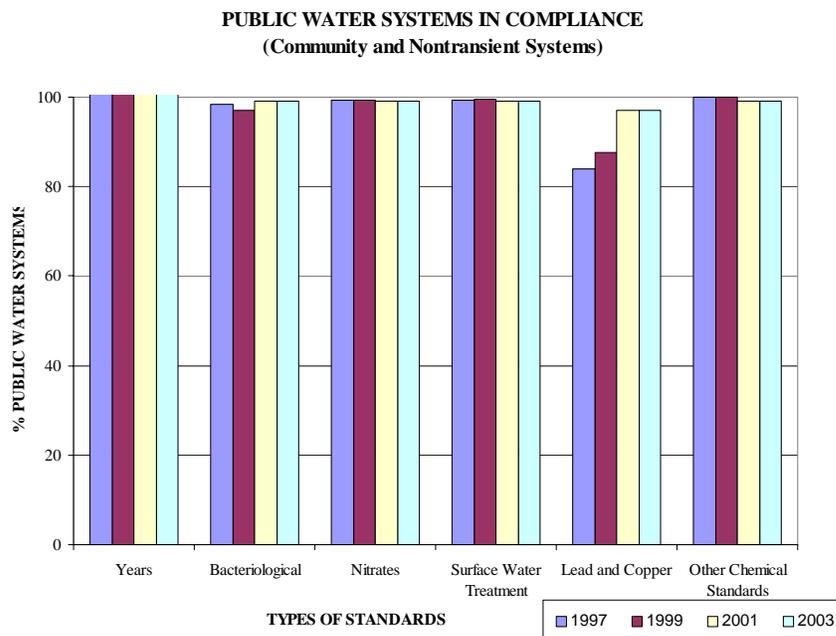
Strategy 2.1.4: Promote compliance assistance through frequent contact with water systems and when necessary take enforcement actions against water systems that are not in compliance with State and federal drinking water regulations.

Strategy 2.1.5: Utilize the DWSRF loan program to make land or easement purchases as a way to control/prevent water supply pollution. The deeds for the purchased land include conditions that protect the surrounding water supplies. Examples of land conditions include: restrictions on the storage of hazardous materials on the land or easement, development of wetlands on the land or easement, and restrictions on further construction on the land or easement.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|--|----------------|----------------|------------------|------------------|
| Percentage of Marylanders served by public water systems in significant compliance with all rules adopted as of 2002 | 99% | 99% | 97% | 97% |
| Percentage of community water systems in compliance with health-based standards | 98% | 96% | 95% | 95% |
| Percentage of community and non-transient water systems in compliance with State regulations | 80% | 86% | 87% | 87% |
| Number of Public Water System Enforcement Actions Initiated | 322 | 307 | 300 | 300 |
| Number of compliance assistance actions provided | 1,099 | 1,094 | 1,100 | 1,100 |
| Capital projects financed from Drinking Water SRF | \$3.8M | \$3.5M | \$11M | \$11M |
| Capital grant funds encumbered for capital improvement projects by Water Supply Financial Assistance Program | \$1.6M | \$2.5M | \$2.5M | \$2.5M |

Performance Indicators:



The quality of water provided by public drinking water systems - which serve approximately 84% of Maryland residents - is very good.

Compliance rates are at >97% for all standards (see graph). New regulations were adopted each year from 2000 through 2003.

Progress and Challenges:

In FY2004, the Maryland Department of the Environment accomplished many goals beyond its routine regulatory activities. MDE adopted three new drinking water regulations (Arsenic Rule, Radionuclide Rule, and Filter Backwash Recycle Rule), and began implementation of two regulations (Interim Enhanced Surface Water Treatment Rule, and Disinfection Byproduct Rule) that were adopted in FY2002. The Environmental Protection Agency granted primary enforcement authority to Maryland for these regulations after determining that the State's program was no less stringent than the federal regulations.

The position of security coordinator was created to act as point of contact for security-related activities, to coordinate with other agencies, and to coordinate the implementation of department-wide standard operating procedures to respond to water supply emergencies. MDE also assisted water systems in developing vulnerability assessments related to security. In September 2003, Tropical Storm Isabel hit parts of Maryland, damaging many buildings and causing a substantial flooding. MDE staff assisted water systems with preparing for and responding to this situation. Impacted water systems reviewed vulnerability to flooding in order to provide additional protection against future flooding events.

In FY2006, MDE will be facing additional challenges related to ongoing security concerns, and new federal mandates for public water systems. MDE expects to review compliance plans and provide technical assistance for over 40 public water systems that are expected to exceed the new Arsenic standard of 10 parts per billion. State regulations will be developed in coordination with federal regulations (Groundwater Rule, Stage 2 Disinfection Byproduct Rule, and Long Term 2 Surface Water Treatment Rule) that provide additional public health protection against viruses, *Cryptosporidium*, and disinfection byproducts.

Improving water system security and protection of watersheds and wells will continue to be a challenge. Public water systems that serve a population greater than 3300 were required to complete vulnerability assessments by June 30, 2004. Small water systems will be assisted in the preparation and revision of emergency response plans mandated by the Bioterrorism Act of 2002 and any other security compliance issues as needed.

Source Water Protection

Introduction:

Three related areas of the Department's Water Supply Program's work are addressed here: (1) source water assessments; (2) watershed protection programs; and (3) wellhead protection programs.

Source Water Assessments

The Program has developed an EPA-approved Source Water Assessment Plan. The plan describes how Maryland will delineate source water assessment areas, identify potential contaminant sources and conduct a susceptibility analysis for all sources used by public water systems in Maryland.

Wellhead Protection Programs

There are distinct geographic differences among Maryland's water sources. Areas away from Maryland's major population centers are more likely to rely on groundwater, particularly in Southern Maryland and on the Eastern Shore where groundwater aquifers are very productive (see map below). In these regions of Maryland, layers of clay called confining layers generally protect groundwater supplies. Approximately 500,000 residents relying on groundwater from public systems receive their water from these deep, naturally-protected, confined aquifers.

In the central and western areas of Maryland and the Columbia aquifer on the Eastern Shore, groundwater aquifers are not protected by confining layers, and are more susceptible to contamination from activities at the land surface. Groundwater sources other than wells in deep confined aquifers are considered vulnerable to contamination. Currently about 310,000 Marylanders are supplied by vulnerable groundwater sources from community water systems. By 2006 an estimated 320,000 Marylanders will be served by vulnerable groundwater systems.

Local governments use voluntary wellhead protection programs to reduce the risk of contamination and protect the recharge area of their groundwater supply. About 36 communities are implementing wellhead protection programs, which include education and public outreach, reviewing new construction, adopting local ordinances prohibiting certain land uses that would jeopardize the water supply, and investigating potential contamination sources.

Watershed Protection Programs

All surface water sources are considered potentially vulnerable to contamination. Currently about 3.61 million Marylanders are served by surface water sources. By 2006 this number is expected to increase to around 3.65 million Marylanders.

Public water systems use voluntary watershed protection programs to reduce the risk of contamination and to protect the recharge area of their surface water supply. Formal watershed protection programs are in place for three large public drinking water systems that receive water from vulnerable sources: Baltimore City, Cumberland, and the

Washington Suburban Sanitary Commission’s Patuxent Supply. Significant local participation has been key to program successes. Coordination with other agencies and states has begun for many water system watersheds. MDE Water Supply staff provide technical assistance to inter-agency and inter-jurisdictional reservoir protection and management programs. MDE is assisting in coordination of protection efforts across jurisdictional boundaries.

Objective 2.2: In FY 06, assist water systems and local governments in establishing source water protection programs benefiting more than 75% of Maryland residents that obtain drinking water from vulnerable community water systems.

Strategy 2.2.1: Conduct source water assessments for any new sources.

Strategy 2.2.2: Provide guidance to water suppliers and local governments to develop watershed management and protection programs to protect drinking water sources. Seek sources of funding to assist these efforts.

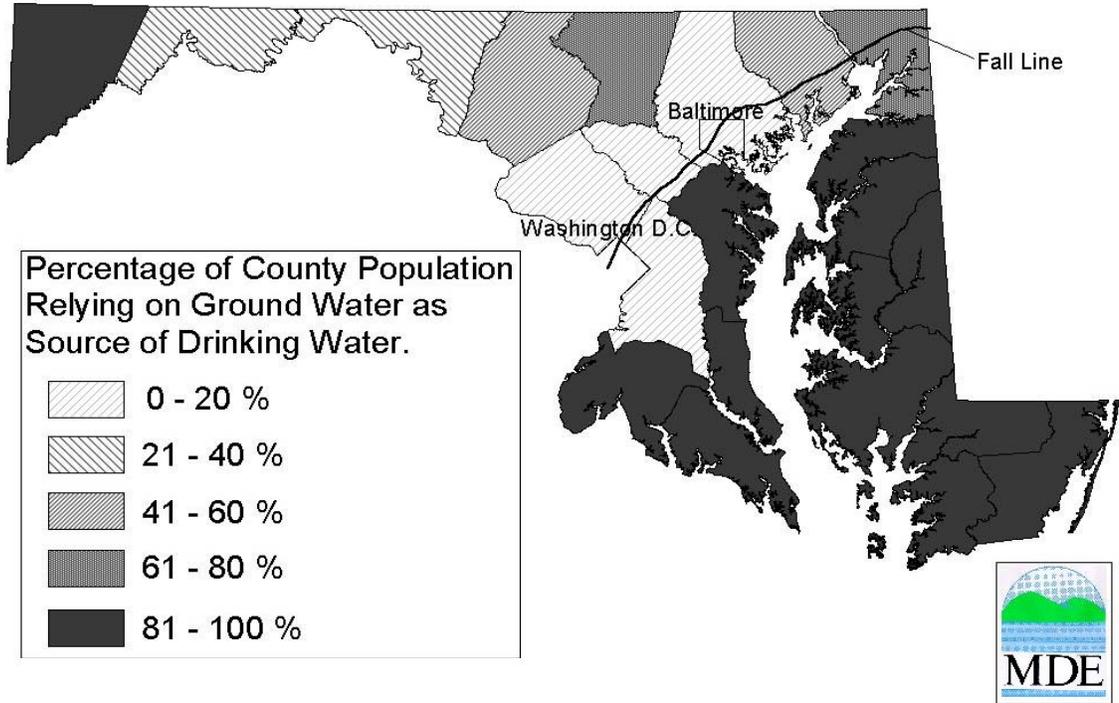
Strategy 2.2.3: Utilize the DWSRF set-aside program to provide wellhead protection grants to develop practical and efficient locally-based active wellhead protection programs.

Strategy 2.2.4: Utilize the DWSRF loan program to make land or easement purchases as a way to control/prevent water supply pollution. The deeds for the purchased land include conditions that protect the surrounding water supplies. Examples of land conditions include: restrictions on the storing of hazardous materials on the land or easement, development of wetlands on the land or easement, and restriction on further construction on the land or easement.

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY2006 Estimate |
|---|-------------------|-------------------|---------------------|--------------------|
| Percent of Maryland residents that obtain drinking water from vulnerable community water systems benefiting from source protection programs | 70% | 71% | 75% | 75% |
| Marylanders served by community water systems relying on surface water sources with watershed protection programs ¹ | 2.60 million | 2.62 million | 2.75 million | 2.75 million |
| Marylanders served by community water systems relying on vulnerable groundwater source with active wellhead protection efforts ² | 136,800 | 136,800 | 150,000 | 160,000 |
| Percent of Source water assessments completed for community water systems as of the end of the fiscal year (cumulative) | 57% | 85% | 100% | 100% |

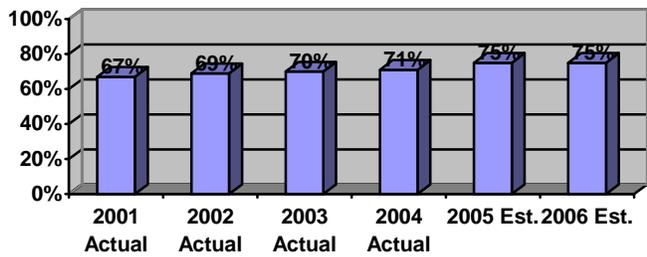
¹ Currently about 3.61 million Marylanders are served by surface water sources. By 2006 this number is expected to increase to around 3.65 million Marylanders.

² Currently about 310,000 Marylanders are supplied by vulnerable groundwater sources from community water systems. By 2006 an estimated 320,000 Marylanders will be served by vulnerable groundwater systems.



Performance Indicators:

Source Water Protection



■ % of Marylanders that obtain drinking water from vulnerable community water systems benefiting from source water protection programs

Progress and Challenges are discussed in the introduction and footnotes above.

Water Appropriation

Introduction:

Maryland has a program for evaluating water use and the adequacy of water resources to meet the needs of specific users. Any person who wishes to appropriate water for agricultural, municipal, commercial, industrial, or other non-domestic uses must obtain a Water Appropriation Permit from MDE. There are currently more than 13,000 active Water Appropriation and Use Permits.

Review of the permit application involves evaluating the potential needs of the user and the probable impact of the withdrawal on neighboring users. The goal of the permit program is to maximize beneficial uses of the waters of the State, while minimizing conflicts between water users. A secondary aim is to ensure that water resources are not overused and that the environmental impacts of each water use are acceptable.

Governor Ehrlich established an Advisory Committee to provide guidance to the State on managing Maryland's water resources. The Committee's report provides important advice to the State on implementing programs and policies relating to the management, development, conservation, and protection of the State's water resources.

Objective 2.3: By 2007, ensure that 100% of community public water systems obtain water appropriation permits that allow adequate quantities of water for the system's water needs during the permit period; ensure that groundwater permits do not cause regional levels in confined aquifers to decline below the 80% water management level; and manage the State's surface water resources to ensure that future withdrawals do not exceed available supplies by requiring that 100% of surface water permits allow for adequate minimum flows for downstream users and in-stream living resources.

Strategy 2.3.1: Continue to regulate surface and ground water withdrawals through permits, and use the permit system to promote the greatest feasible use of the water resources while avoiding water use conflicts and shortages. Through permits, MDE will assure that ground water withdrawals do not exceed the sustained yield of Maryland's aquifers, and that ground water withdrawals from unconfined aquifers do not exceed drought-year, ground water recharge rates within each watershed. Compliance of permittees with flow-by requirements will be addressed. Surface water withdrawals will be managed to assure adequate downstream flow for other users and environmental needs. Compliance with permitted withdrawal limits will also be enforced.

Strategy 2.3.2: Improve information management and data collection. By comparing existing water-related databases, MDE will identify community public water systems with inadequate or marginal supply sources, and will assist them in securing adequate supplies. MDE will also bring permittees into compliance with water use reporting requirements in order to ensure the integrity of the permit system, of MDE's water-use information, and MDE's ability to measure the adequacy of available water supplies. MDE will continue to work cooperatively with agencies such as the U.S. Geological Survey and Maryland Geological Survey to assure that their study efforts and monitoring programs are aligned with the information needs of MDE that will allow the measurement and achievement of the State's resource management goals.

Strategy 2.3.3: For the Potomac River, proposed changes in the environmental flow-by resulting from the Department of Natural Resources' current study will be

reviewed for implications to water supply needs. The recent studies on water supply and demand from the Potomac will also be considered in setting policy for future appropriations.

Strategy 2.3.4: Continue to work with interstate water commissions on water-related issues that have impacts that cross state boundaries and provide advice and guidance to local planning agencies, to ensure that their growth plans adequately consider water availability. Also, local Water Management Strategy Areas will be developed, where appropriate, to address specific ground water supply issues. For each permit issued that allows withdrawals from a confined aquifer, MDE will assess the regional ground water level relative to the 80% water management levels defined in state regulations.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY2006 Estimate |
|--|-------------------|-------------------|---------------------|--------------------|
| Number of groundwater appropriation permits issued | 1,630 | 1,304 | 1,600 | 1,600 |
| Percentage of large groundwater appropriation permits issued for which the 80% water management level was evaluated, or a water balance analysis performed | 100% | 100% | 100% | 100% |
| Number of surface water appropriation permits issued | 128 | 129 | 110 | 120 |
| Number of surface water permits issued with a flow-by requirement | 70 | 66 | 70 | 70 |
| Percentage of permittees in compliance with pumpage reporting requirements | 85% | 86% | 87% | 87% |
| Number of renewal notices sent for expiring permits | 1,571 | 1,186 | 1,300 | 1,300 |

Progress and Challenges: During FY2005, water supply facilities that are exceeding 90% of their capacity are to be identified and the Water Supply Program staff will work with local governments to develop capacity management strategies.

Oil Pollution Remediation

Introduction:

Releases of petroleum that require a response and cleanup can originate from above or underground storage tank systems, all forms of transportation, and any use of petroleum products. These releases can render drinking water unfit for consumption, endanger wildlife, and create flammable and explosive conditions. The prevention of oil releases reduces the public's exposure to contaminated drinking water supplies and reduces the need for costly site cleanups. The risk of contamination of waters of the State posed by the improper management of above ground and underground petroleum storage tanks continues to drive the need for a preventive inspection program.

MDE staff oversees the investigation and cleanup of petroleum releases to ensure that water quality and public health are adequately safeguarded. The time required to clean up petroleum releases varies significantly from case to case and depends upon a variety of factors. Some sites require active removal of petroleum product from the ground for over ten years, while minor surface spills may be resolved within hours.

Various gasoline additives in groundwater associated with releases of gasoline, as well as other petroleum products, including heating oil, has complicated the investigation and cleanup process. These additives are very soluble in water and have the potential to migrate in groundwater much farther from the site of the release than other constituents of gasoline, often beyond adjacent properties. EPA and State special funds provide funding support for these activities.

Objective 2.4: Complete cleanup of 90% of underground storage tank (UST) releases by the end of State FY2007.

Strategy 2.4.1: Continue inspections, compliance assistance actions, and appropriate enforcement actions at oil pollution remediation sites to ensure protection of groundwater and reduce impacts to drinking water wells.

Strategy 2.4.2: Continue implementation of the clean-up reimbursement program for costs associated with cleanups of releases from commercial and residential heating fuel tanks.

Strategy 2.4.3: Increase MDE presence in high-risk groundwater use areas by increasing the number of UST compliance inspections by 150, if three additional inspectors are secured or by cross-training other existing staff.

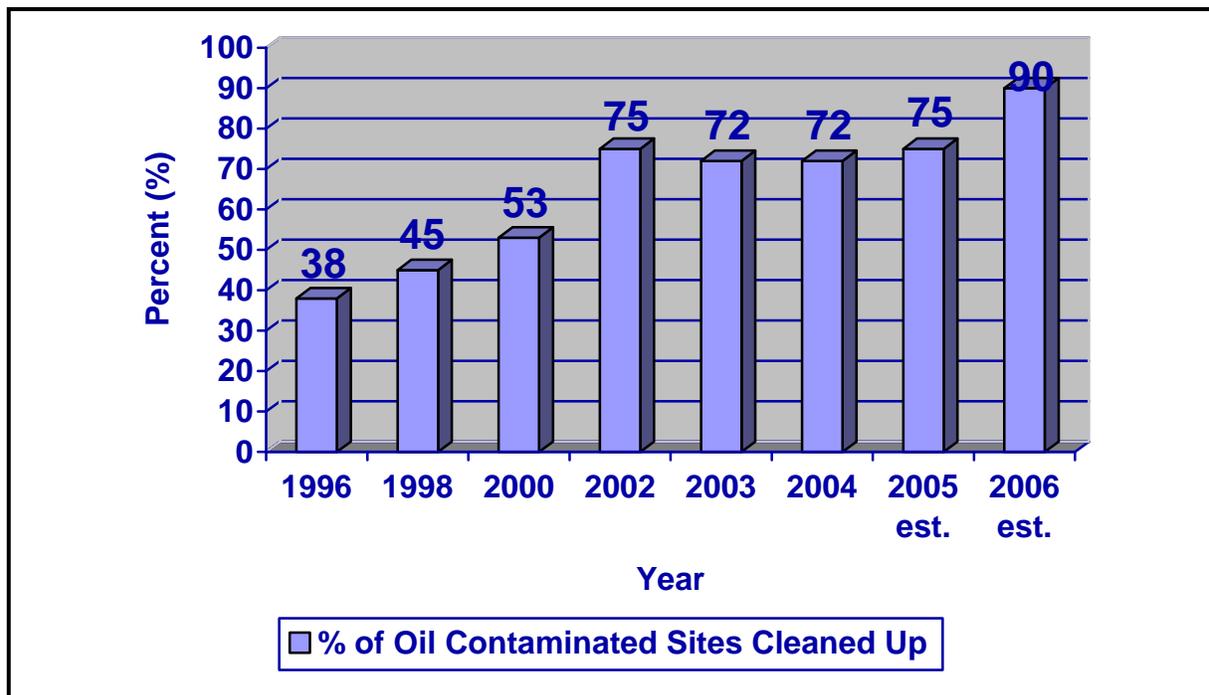
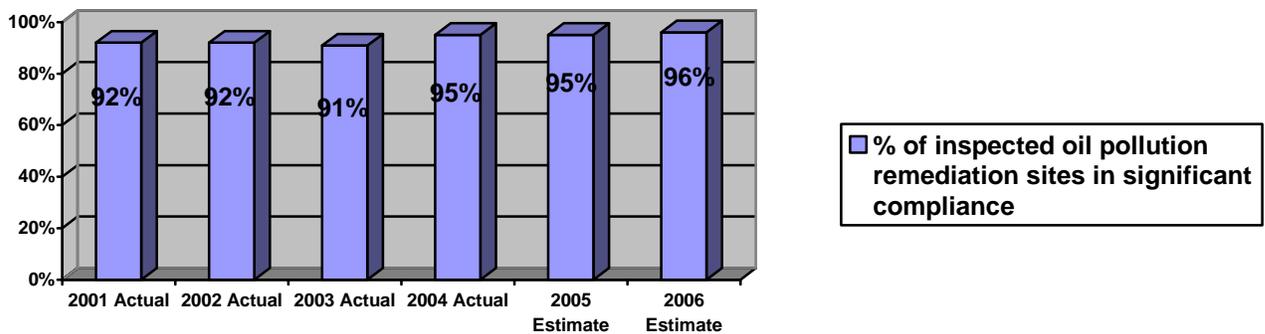
Strategy 2.4.3: Continue to work cooperatively with the petroleum industry and tank owners and operators to raise the awareness of the importance of the proper management of above ground and underground storage tanks systems, with specific emphasis on training of new tank owners and operators with no prior experience in the operation or maintenance of petroleum storage tank systems.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|-------------------|-------------------|---------------------|---------------------|
| Percentage of inspected oil pollution remediation sites in significant compliance | 91% | 95% | 95% | 96% |
| Percentage of oil-contaminated sites cleaned up | 72% ¹ | 72% | 75% | 90% |
| Number of oil pollution remediation site compliance assistance actions rendered | 4,385 | 5,189 | 5,200 | 5,200 |

Performance Indicators:

Oil Pollution Remediation Sites in Significant Compliance



¹ This number was reported inaccurately in MDE's FY05 MFR workplan as 75%.

Progress and Challenges: Progress has been made in achieving the MFR goal related to case closures. Challenges include the growing number of facilities, the increased discovery of gasoline additives in groundwater, and the complexity of the remaining open cases. In order to address some of these challenges, the Program has reorganized and created a Remediation Division that will focus solely on groundwater cleanups. The Program is also investigating new and innovative ways to ensure compliance at existing facilities.

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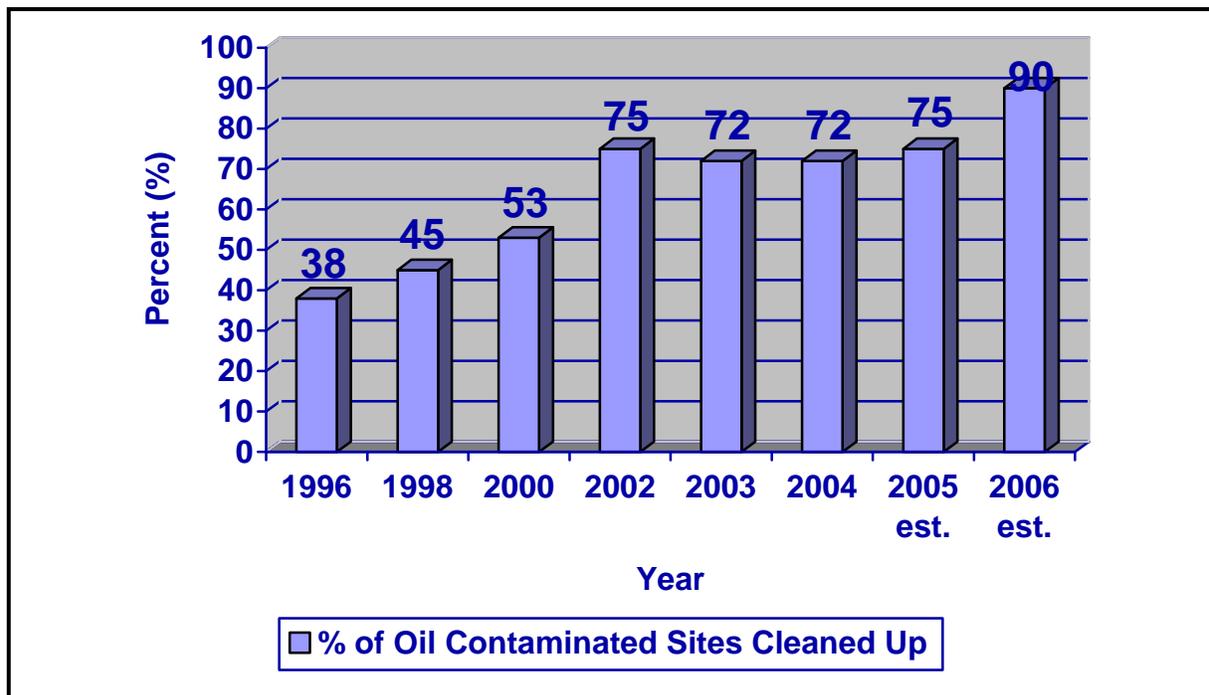
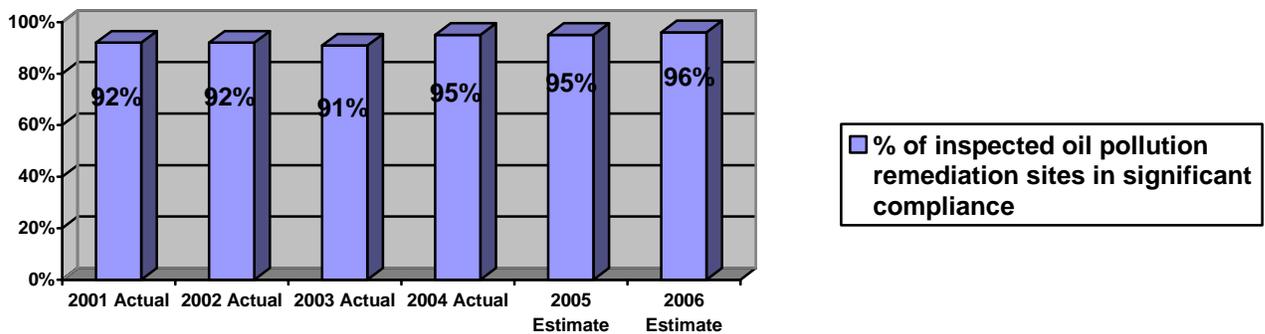
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Performance Measures:

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Municipal Landfill Compliance with Groundwater Standards

Introduction:

MDE's solid waste management activities include issuing permits for the State's 96 permitted solid waste acceptance facilities, performing approximately 800 inspections annually to ensure that solid wastes are managed properly, and ensuring that closed municipal landfills are properly capped and monitored for a 30-year post-closure period. MDE's solid waste management strategies have been consistently applied over many years, and have demonstrated major improvements that are obvious when contrasting the waste disposal in Maryland in 1980, and even 1990, with the situation today.

For example, there are fewer active municipal landfills, but more active rubble landfills and other types of facilities, than there were 10 or 20 years ago. Also, modern landfills are constructed with liners, leachate collection systems, and other systems designed to contain pollutants and protect groundwater. However, the older, inactive facilities still exist, and require monitoring and inspection to ensure the State's drinking water supplies are protected. As communities expand to include areas that were previously largely undeveloped, homes and businesses are being sited much nearer to these older landfills. Program responsibility for monitoring and ensuring proper groundwater remediation at these facilities will continue for many years.

Objective 2.5: In FY 06, maintain 80% significant compliance with groundwater standards for all active municipal solid waste landfills.

Strategy 2.5.1: Require that permitted solid waste facilities are designed and operated in compliance with all applicable water pollution control requirements and have at least the minimum requirements for pollution prevention and control. Ensure that closed municipal landfills, active from 1991 to closure and regulated under the Code of Federal Regulations, are properly capped and monitored for a 30-year post closure period.

Strategy 2.5.2: Act to prevent and control the release of pollutants through the review of proposed disposal site locations, preventive engineering, pollution control technologies, review of construction, and remedial activities.

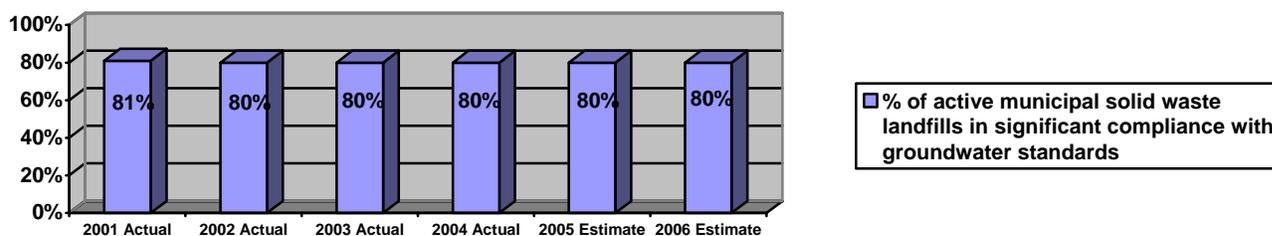
Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|-------------------|-------------------|---------------------|---------------------|
| Percentage of active municipal solid waste landfills in significant compliance with groundwater standards | 80% | 80% | 80% | 80% |
| Percentage of inspected refuse disposal facilities (includes other solid waste facilities) in significant compliance* | 83% | 87% | 85% | 82% |
| Percentage of all Landfill (active and closed) Water Quality Reports reviewed. | 35% | 43% | 45% | 45% |

* Due to staff shortages, prioritized inspections of poor performers, and increased enforcement actions, rates of significant compliance have been decreasing in recent years. The Program anticipates that with increased attention, the poor performers will come into compliance.

Performance Indicators:

Municipal Solid Waste Landfill Groundwater Standards Compliance



Progress and Challenges:

The biggest challenge facing the Program in protecting the public health from the potential impacts created by landfills is the fact that the workload is increasing but the scientific staff available to review groundwater reports has dwindled. The Program has consistently moved to support this vital activity but needs additional staff to meet the increasing number of reports that must be reviewed. The Department’s efforts to meet this responsibility through streamlining and reassignment of other work, is reflected in the variability of the percentage of reports submitted each year that are actually reviewed during that fiscal year. This indicates that there is a significant backlog of reports for review that current staff cannot complete.

At this time, the backlog for the review of landfill groundwater monitoring reports is around two to three months, with some lower-priority sites having a longer backlog. In FY 2004, only 40% of landfill groundwater monitoring reports that were received were able to be reviewed. Review of reports is prioritized to ensure that sites considered to be at risk of offsite water quality impact are given first priority and rapid review and attempts are made to review each site at least once per year. Until all incoming reports are reviewed in a timely manner, there is a risk that a significant change in groundwater quality at a site may go unnoticed for several months. This could potentially lead to contamination of offsite drinking water wells and health impacts to groundwater users. These risks could be reduced if the Program had sufficient staff to review the reports.

Lead Poisoning Prevention

Introduction: Childhood lead poisoning is a critical environmental challenge in Maryland. There are major initiatives at both the State and federal levels to reduce the incidence of lead poisoning in children. Since 1984, Maryland has developed a strong, diverse infrastructure to respond to this complex issue. MDE's components focus on activities involving accreditation and oversight of lead abatement services contractors, maintaining a registry of rental properties, maintaining a registry of lead-poisoned children, and inspection and enforcement.

Objective 3.1: Reduce the percentage of occurrences of lead poisoning statewide (with an emphasis in Baltimore City) by 10% per year for each year through the end of 2006.

Strategy 3.1.1: Continue to increase awareness and prevention efforts through enhancing MDE outreach activities and meetings, negotiating Memoranda of Understanding (MOUs) with local jurisdictions to enhance lead education/outreach work, and adding registration and inspection information to the MDE website.

Strategy 3.1.2: Continue to maintain the level of inspection and compliance activities related to lead paint violations through the use of the Lead Rental Property Registry, inspections conducted by MDE and certified abatement inspectors, oversight of accredited lead paint abatement contractors, supervisors, and inspectors, and accreditation issuance within the 30-day standard time. Increase enforcement actions (filed or settled) to 550 annually. Partner with local governments and utilize enforcement options as necessary to ensure compliance.

Strategy 3.1.3: Continue to increase the number of registered properties/dwelling units by working with local governments to identify additional properties and to ensure compliance and increasing enforcement actions. Register an additional 10,000 rental units by June 2006. Meet the February 2006 deadline for bringing 100% of registered rental units into compliance with risk reduction standards by conducting outreach and global settlements.

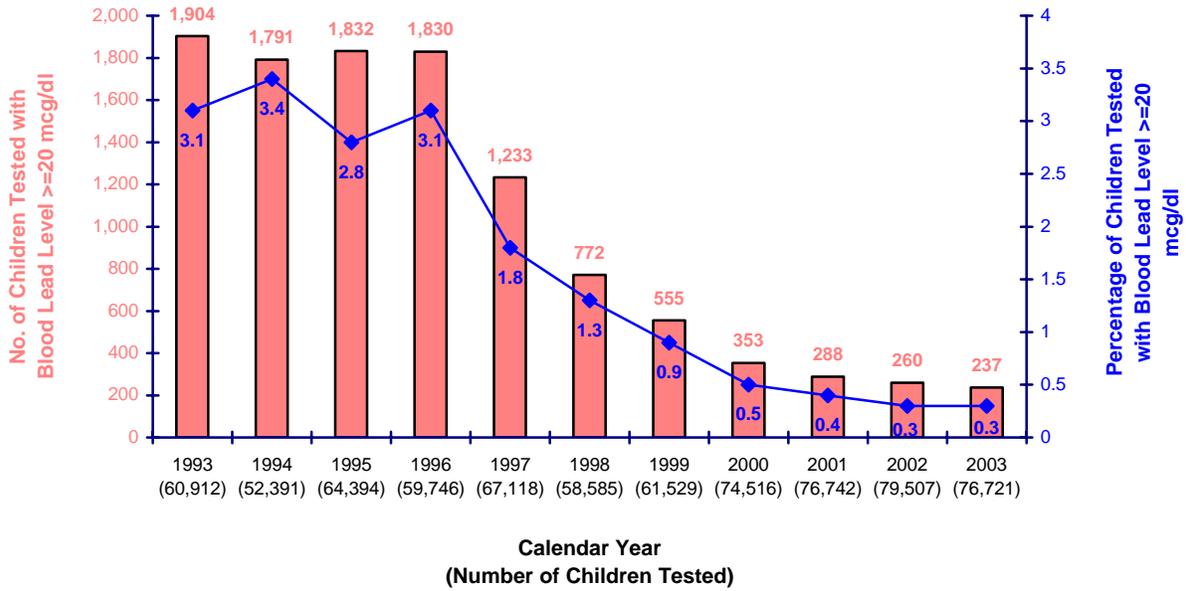
Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|-------------------|-------------------|---------------------|---------------------|
| Number of children tested for blood lead* | 79,507 | 76,721 | 80,000 | 85,000 |
| Number of MDE inspections of residential properties with lead paint | 1,605 | 2,022 | 1,700 | 1,800 |
| Number of reported exceedences of the lead poisoning standard (20 micrograms per deciliter or more)* | 260 | 237 | 216 | 204 |
| Percentage of children tested for blood lead with the result of 20 micrograms per deciliter or more, the level of "poisoned"* | 0.3% | 0.3% | 0.27% | 0.24% |
| Number of reported exceedences of elevated blood lead standard (10 micrograms per deciliter or more)* | 2,297 | 1,719 | 1,600 | 1,530 |
| Percentage of children tested for blood lead with the result of 10 micrograms per deciliter or more (elevated blood lead)* | 2.9% | 2.2% | 2.0% | 1.8% |

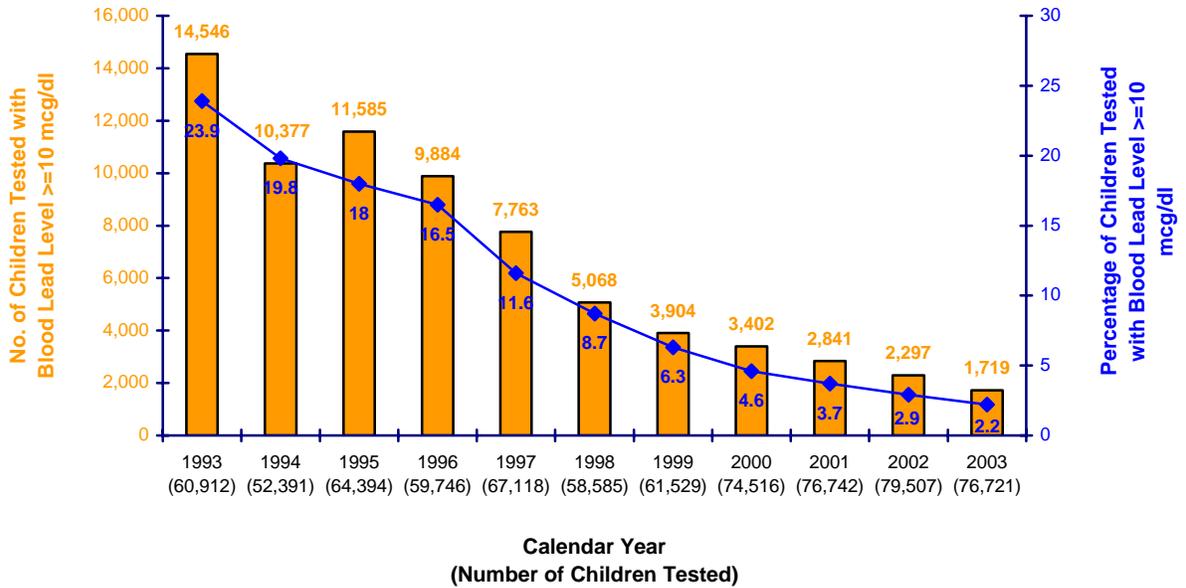
* Blood lead information is collected on a calendar-year basis, so FY2004 entry reflects CY2003 data.

Performance Indicators:

Maryland Department of the Environment
 Childhood Blood Lead Surveillance
 Statewide 1993-2003



Maryland Department of the Environment
 Childhood Blood Lead Surveillance
 Statewide 1993-2003



Progress and Challenges:

The Lead Poisoning Prevention Program has a new initiative to register 10,000 new properties/dwelling units by the end of FY2005. This effort will require a mass mailing of at least 50,000 letters to property owners who have been identified as not complying with the registration requirements. The Program is also contacting local housing authorities to inform them of their responsibility to comply with the statute.

The US Department of Housing and Urban Development Section 8 Program, which requires rental property owners to comply with the federal Housing Quality Standards and provides federal funding assistance to these property owners, is now included in the effort to increase registration. Federal Housing Quality Standards now require compliance with State and local housing standards. In order to receive Section 8 housing assistance property owners must now comply with the State's lead law.

New legislation, House Bill 1245, includes requirements that will enhance registration and risk reduction performance effective October 1, 2004. Property owners will need to show compliance with registration and risk reduction requirements before entering rent court and renting property in local jurisdictions having a rental registry.

Environmental Emergency Response and Preparedness

Introduction: MDE, in cooperation with local hazardous materials units, has the unique capacity to respond to emergencies to minimize risks to human health and the environment resulting from accidents and/or deliberate actions causing the release of hazardous substances to the air, water, or land from fixed facilities, rail, waterway, and truck transportation routes. An important part of MDE's effort is providing training to "first responders," enabling those responsible for acting at the local level during emergencies to increase their response capability and remain abreast of changes to federal and state requirements, policies and procedures as these pertain to natural events, accidents or deliberate activity, including security threats.

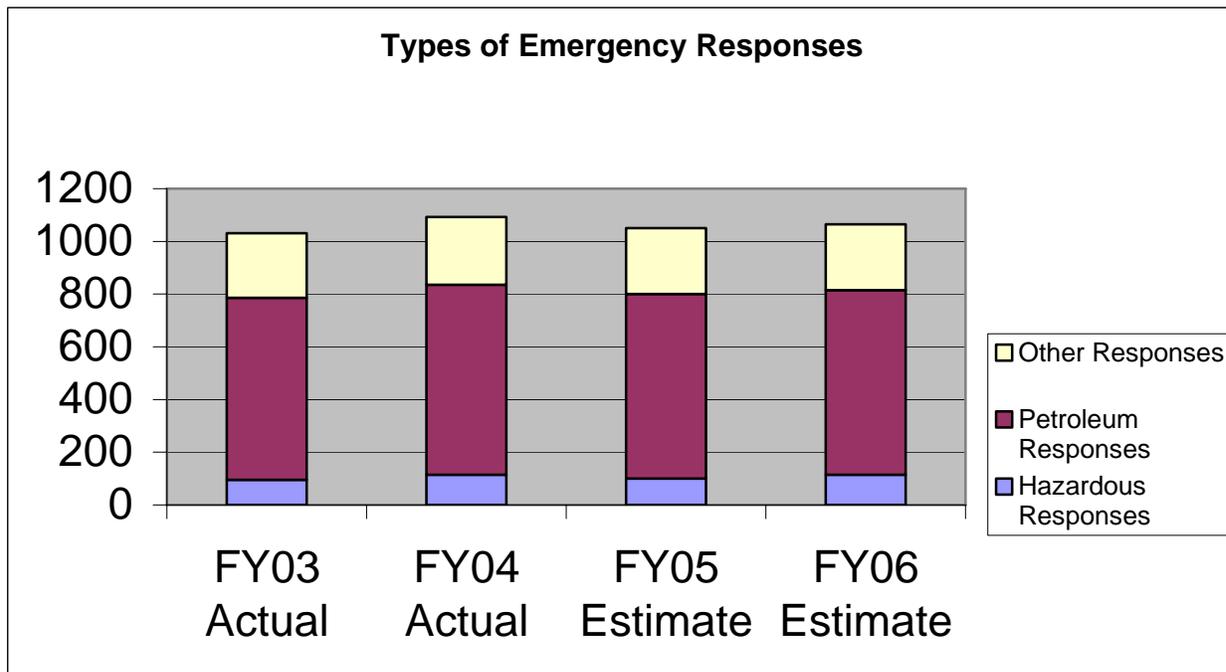
Objective 3.2: Enhance Maryland's capability for Emergency Response by providing 400 hours of training to local responders.

Strategy 3.2.1: Lead or otherwise participate in emergency exercises with local governments, allied state agencies, federal agencies and industry (including chemical industry and fixed nuclear power plants). Emergency exercises provide invaluable opportunities to validate response protocols, ensure equipment effectiveness and facilitate pre-event coordination among different layers of government and the private sector.

Performance Measures:

| Performance Measures (Data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|--|---------------------------|---------------------------|-----------------------------|-----------------------------|
| Number of staff hours providing training in emergency response | 480 | 480 | 480 | 400 |
| Number of hazardous material emergency responses | 95 | 115 | 100 | 115 |
| Number of petroleum emergency responses | 691 | 720 | 700 | 700 |
| Number of other multi-media emergency responses, which includes bio-terrorism (actual and alleged) and radiation | 245 | 257 | 250 | 250 |

Performance Indicators:



Progress and Challenges:

The Emergency Response Program (ERP) has made significant progress in enhancing its response capability with the purchase of new and sophisticated equipment using the Federal Terrorism Grant awarded by the Department of Homeland Security through the Maryland Emergency Management Agency (MEMA).

The ERP continues to be challenged in fulfilling its mission with limited staff available due to budget constraints. With specific regard to its training objective, ERP has cut back on after-hours training by 95% to limit overtime. Full-time local fire departments can be trained during normal working hours; however, volunteer companies have to be trained in the evening or on weekends.

Radiological Health Program

Introduction:

Under both federal and state law, Maryland is charged with ensuring that the public is protected from unnecessary exposure to radiation. The Department of the Environment works toward this goal by controlling sources and users of ionizing radiation through licensing, registration, and inspection activities.

The majority of uses of radiation are beneficial. Radiation, however, is a carcinogen that may also cause other adverse health effects. The more radiation dose a person receives the greater the chance of developing cancer and the greater the chance for other ill effects. Since there is no definitive threshold for the onset of adverse effects, regulators must ensure that users of radiation limit occupational and public exposure to as low as reasonably achievable (ALARA). Since the long-term effects of exposure to radiation even at low levels is not conclusively known, minimizing exposure is the most prudent approach.

Minimizing exposure to x-ray equipment is accomplished through several means. X-ray equipment is required to be registered and inspected. The radiation machine regulated community consists of industrial companies, veterinary and dental clinics, mammography facilities, hospitals, and other medical establishments. The dental community comprises approximately 65% of the regulated community and has had the poorest historical compliance performance of any specific area. Dental, veterinary, and mammography facilities are inspected by MDE. Privately licensed inspectors inspect all other facilities, which are then certified by MDE. MDE and the Maryland State Dental Association have been working together to increase awareness through RMD educational presentations, development and distribution of a booklet, "Regulatory Guidelines for Dental Radiation Machine Facilities", and two educational flyers. These items have also been posted on the RHP website.

As an Agreement State under the Atomic Energy Act, MDE must license and inspect any person who uses, possesses, or stores radioactive materials or devices containing such materials. During inspections, devices containing radioactive materials and their qualified users are checked against specifications and requirements readily available to the regulated community. Operator practices are also checked to ensure that safe operating procedures are being followed to ensure worker safety and to prevent the public from being exposed to any radiation. MDE conducts pre-licensing visits to ensure that new licensees understand compliance requirements before they receive radioactive material.

Objective 3.3: By the end of FY07, improve the initial compliance rate at radiation machine facilities to 75% and the after-45-days rate to 96%. Also, minimize licensing and inspection backlogs at radioactive materials facilities and meet standard review times on all new license applications.

Strategy 3.3.1: Meet regularly with private inspectors licensed by MDE to develop means to improve communication and increase efficiency.

Strategy 3.3.2: Conduct education seminars, speak at exhibitions, and meet with representatives of the dental community to increase dentists' awareness of the potential danger of radiation to their patients and to inform the regulated community of their obligations under the regulations so that compliance rates can improve.

Strategy 3.3.3: Provide compliance assistance to individual members of the regulated community in cases where such assistance is warranted. Take timely and appropriate enforcement action when egregious violations of regulatory requirements are encountered.

Strategy 3.3.4: Continue to use tracking tools to assess progress in the inspection and licensing areas. Continue to cross-train staff and shift resources to the extent possible to focus on priority issues.

Performance Measures:

| Performance Measure (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY2006 Estimate |
|--|-------------------|---|--|--|
| Radiation Machine Facilities | | | | |
| Percentage of inspected radiation machines facilities in significant compliance upon inspection | 46% | 40% | 50% | 50% |
| Percentage of inspected radiation machines facilities in significant compliance after 45 days ¹ | 92% | 88% | 92% | 92% |
| Number of inspections of radiation machine tubes | 4,043 | 4,180 | 4,100 | 4,100 |
| Number of inspections of medical, industrial and academic x-ray machines facilities performed by state-licensed inspectors | 1,379 | 1,563 | 1,800 | 1,800 |
| Number of enforcement actions initiated for radiation machines facilities | 8 | 14 | Unable to estimate | Unable to estimate |
| Number of compliance assistance actions taken for radiation machines facilities | 1,288 | 1,685 | 1,600 | 1,600 |
| Number of presentations, seminars, etc. | 2 | 6 | 2 | 2 |
| Radioactive Materials Facilities | | | | |
| Percentage of inspected radioactive materials facilities in significant compliance | 80% | 87% | 90% | 95% |
| Number of inspections of radioactive materials facilities | 300 | 355 | 350 | 350 |
| Number of licenses issued for radioactive materials ² | 740 | 507 | 600 | 600 |
| Number of enforcement actions initiated for radioactive materials | 7 | 4 | Unable to estimate | Unable to estimate |
| Number of radioactive materials facilities | 900 | 1,287 | 1,200 | 1,200 |
| Percentage of new facilities that receive a pre-licensing visit | 100% | 100% | 100% | 100% |
| Percentage of licenses issued within the established standard turn around times ³ | 97% | 97% | 95% | 95% |
| Number of licenses/inspections that are backlogged | 10/2 | 0 inspection, licensing, and reciprocity1/2 | 0 reciprocity 5 licensing 5 inspection | 0 reciprocity 5 licensing 5 inspection |

Progress and Challenges: The Program had earlier hoped to meet the 75% and 96% goals by FY06, but resource constraints and other issues have delayed progress. The Program is working to address those issues so that these goals can be met in FY07.

¹ Data Sources: Inspection logs and RMD Statistical Matrix.

² Includes reciprocity sites

³ Inclusive of all licensing actions issued: new, renewal, and amendments

Environmental Restoration (Superfund)

(This applies to NPL and State Superfund sites. Voluntary Cleanup Program sites are covered under Goal # 1.)

Introduction:

The Environmental Restoration and Redevelopment Program seeks to eliminate threats to public health from exposure to soils, groundwater, and surface waters contaminated by hazardous waste and other controlled hazardous substances. Maryland's rich industrial history has resulted in a significant number of properties where investigation and/or cleanup of contamination is necessary to ensure public health is protected.

Consistent with federal guidelines under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the State Environment Article, MDE initiates and oversees the assessment and cleanup of hazardous waste sites where releases have occurred. MDE participates as a partner with EPA in decision-making at all phases of environmental investigations and in overseeing hazardous waste cleanups at National Priorities List (NPL) sites. MDE also oversees cleanups at State Superfund sites.

Objective 3.4: In FY 06, maintain the number of completed State Superfund site cleanups and/or "No Further Action Required" site letters issued at eight.

Strategy 3.4.1: Continue to conduct environmental site investigations to identify sites through FY2006 as limited funding allows.

Strategy 3.4.2: Provide oversight for cleanups at 66 State Superfund sites.

Strategy 3.4.3: Participate in decision-making with EPA and responsible parties at all phases of environmental investigations and overseeing cleanups at NPL sites.

Strategy 3.4.4: Use State capital funds for the planned remediation of up to two sites where no viable responsible party has been identified.

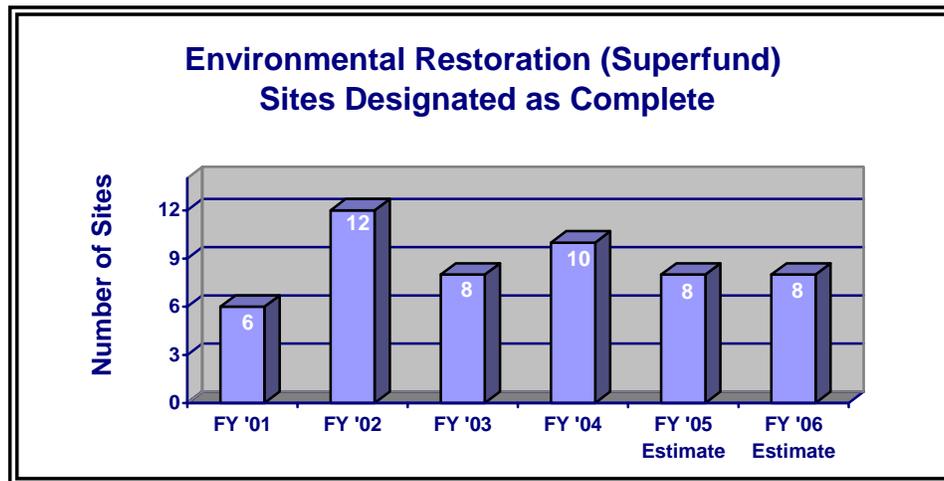
Strategy 3.4.5: Continue to review cases transferred from the Hazardous Waste Program and pursue cleanups at sites with known or suspected contamination utilizing three new geologists to be hired in FY2005.

Strategy 3.4.6: Continue to address at least 50 sites through a multi-year initiative in the State Superfund program by de-listing sites, encouraging participation in the VCP, or pursuing enforcement and cost recovery.

Performance Measures:

| Performance Measures (data are annual, not cumulative) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|--|-------------------|-------------------|---------------------|---------------------|
| Total number of remedial actions at all State Superfund sites that are designated as completed | 8 | 10 | 8 | 8 |
| Percentage of sites under investigation during the fiscal year (including sites from the State and Non-State Master Lists) where cleanups were designated as completed | 10% | 15% | 11% | 11% |
| Total number of sites on the State Master List and Non-State Master List during the current fiscal year | 408 | 608 | 550 | 525 |
| Number of active State Superfund investigations | 77 | 66 | 70 | 60 |

Performance Indicator:



Progress and Challenges:

The State Superfund Program has continued to make progress addressing the backlog of sites on the State Master and Non-Master Lists. Most encouraging is the number of sites that have entered the Voluntary Cleanup Program as a direct result of action by the State Superfund Program. With the transfer of two staff and 240 open cases from the Hazardous Waste Program in FY2004, State Superfund is continuing to address the backlog of open cases requiring review.

Due to the replacement of PAYGO funding with GO Bonds for State Site Assessments in FY2004, the Program believes that it may be unable to use this funding mechanism to conduct further site assessments due to IRS restrictions on the use of these funds for only capital projects. The Program is unsure if this change will hamper the identification of additional sites requiring State-sponsored remediation. The future impact from this change has not yet been fully determined.

Fish Tissue Sampling

Introduction:

Maryland's commercial and recreational fishing industries both depend on public confidence that the State's fish and shellfish are safe for human consumption. Maryland's Fish Tissue Monitoring and Assessment Program emphasizes a comprehensive sampling approach to evaluate the safety of recreationally-caught fish for consumption from waters of the State. Chemical contaminants from various sources make their way into water and sediments, which may then accumulate in fish tissues, including the edible portion. The contaminant levels of some fish species may become sufficiently elevated, that when consumed regularly over long time periods, may increase a consumer's risk of adverse health effects.

MDE is responsible for monitoring contaminant levels in fish tissue, and issues consumption guidelines for fish or shellfish from a waterbody when there are unacceptable levels of contamination. Currently, fish consumption advisories in Maryland are issued only for polychlorinated biphenyls (PCBs) and mercury, because only those contaminants have been found at unacceptable levels. PCBs, which are now banned, are a legacy contaminant in some of the Bay tributaries' sediments and also continue to come off the land. The Department has chosen white perch as an indicator species for PCB levels, because it is an important recreational sport fish that is widely available in the Bay and its tributaries. Mercury, a natural substance, is transported to Maryland's waterways through air deposition from coal-fired power plants nationwide and from waste incineration plants locally. The Department has chosen black bass (i.e., largemouth bass) as an indicator species for mercury sampling, because it is an important recreational sport fish that is widely available in freshwater systems.

In 2000, the EPA changed the national standard for fish consumption from one based on one meal per month to one based on two meals per month. This reduced the allowable contamination in fish by assuming people eat more fish per month (two meals rather than one). This resulted in numerous advisories issued for freshwater and tidal systems in Maryland in 2001. The Department now uses the two-meals-per-month standard as a benchmark to measure trends in contaminant levels statewide. Currently, both the average sampled concentration for mercury and PCBs are slightly below the benchmark.

Previously, the average PCB concentration was well above the benchmark, however this previously elevated PCB level reflected only limited sampling that targeted problem areas; more extensive data including cleaner areas provides a more representative analysis. Note that although average concentrations may be within acceptable limits, areas with elevated PCB concentrations will still not allow safe consumption of 2 meals per month, while other areas may be well below threshold levels, allowing consumption of up to 8 meals per month. The average concentrations of both contaminants will remain relatively stable for a number of years, and then decrease slowly as regulatory programs and natural attenuation of the contaminants translate into a reduction in fish tissue concentrations.

Objective 4.1: By 2012 the fish tissue concentrations of PCBs and mercury in all sampled areas will allow at least two meals per month to be safely eaten at all locations.

Strategy 4.1.1: Conduct the environmental sampling and scientific analyses necessary to characterize the toxic organic and inorganic contaminants affecting water quality and harvestable fish, shellfish and crabs in at least one third of the State's waters each year.

Strategy 4.1.2: Identify methods to reduce contaminants and implement where possible.

Strategy 4.1.3: Provide outreach and information to sensitive populations and urban areas to enhance awareness of fish consumption guidelines.

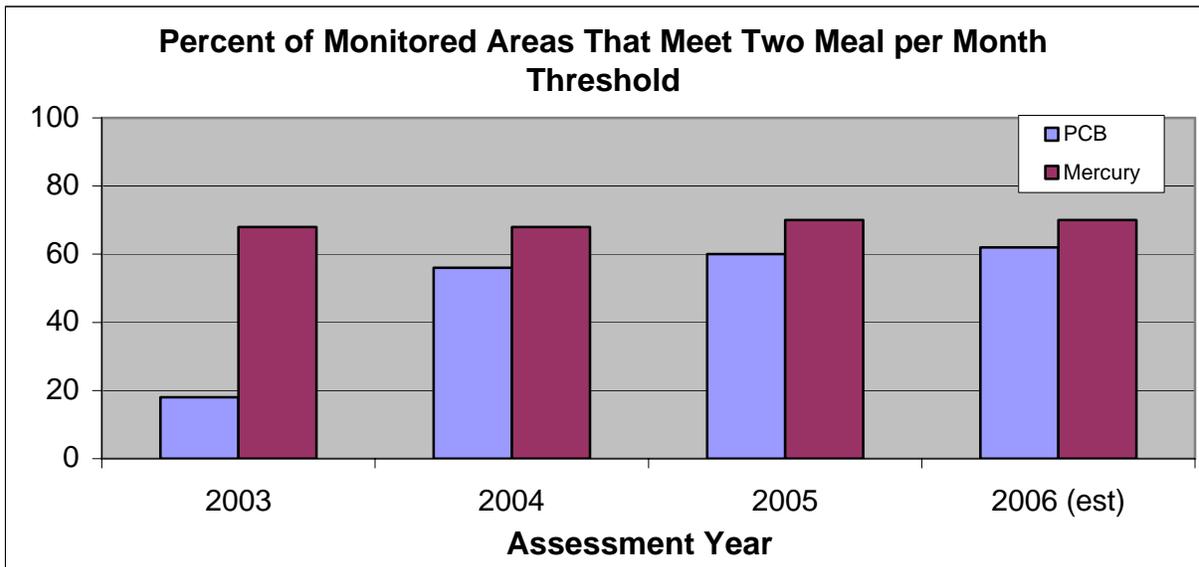
Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|--|---------------------------|---------------------------|-----------------------------|-----------------------------|
| Percent of sampled areas that meet two-meal-per-month standard for PCB | 18% | 56% ¹ | 60% | 62% |
| Percent deviation from allowable PCB concentration found in sampled recreational fish (white perch) | +212% ² | -3% ¹ | -5% | -7% |
| Percent of sampled areas that meet two-meal-per-month standard for mercury | 68% | 68% | 70% | 70% |
| Percent deviation from allowable mercury concentration found in sampled recreational fish (black bass) | -3% | -3% | -5% | -5% |

¹ Previously, the elevated PCB levels reflected only limited sampling targeted at problem areas. The extreme difference between FY 2003 and FY 2004 reflects a significant amount of additional sampling on a baywide basis and is reflective of a more "average" concentration. The Department also adjusted the bodyweight assumption for the general population to 78.6 kg vs previous assumption of 70 kg. This caused the maximum allowable PCB concentration threshold to increase from 155 to 175 ppb. The average PCB concentration in the fish species indicator is currently 170 ppb.

² While the 78.6 kg bodyweight assumption was not adopted until June 2004, the comparison between years for percent deviation from allowable PCB concentration for FY2003 and FY2004 uses 78.6 to illustrate the effects of more complete monitoring statewide and provide consistent analysis for comparison.

Performance Indicator:



Progress and Challenges: Since 2000, this program has had sufficient funding to look at most major waterbodies (at least at the screening level), which has led to the development of numerous risk-based consumption guidelines for recreational fish species and crabs. Continued funding is essential to increase sample size in areas where screening level analyses were done previously. Also, there are still gaps for locations, species and/or analytes in the monitoring network that will require sustained funding. Finally, funding must continue for outreach initiatives to consumer populations in Maryland to ensure that safe fish consumption information is received and understood. This will take a sustained effort over the long term.

Shellfish Compliance with the National Shellfish Sanitation Program (NSSP) and Support of Maryland's Emerging Aquaculture Industry

Introduction:

Maryland's seafood industry depends on public confidence that the State's shellfish are safe for human consumption. This program has been in place for decades and most of Maryland's shellfish harvesting waters are approved for harvesting. MDE's policy has been to approve waters for harvest whenever possible. This workplan relates to three activities: shoreline surveys, water sampling, and a measure of areas approved for harvesting. In addition, it notes a new challenge: the need for additional resources and new procedures to address the needs of the State's emerging aquaculture industry.

MDE's responsibility under the NSSP is to classify shellfish harvesting waters based on a sanitary survey that includes evaluating sewage treatment plant performance, shoreline surveys to identify actual and potential pollution sources, and monitoring bacteriological water quality.

Shoreline surveys are conducted in 183 areas by walking the shoreline, testing septic systems and evaluating agricultural operations to identify actual and potential pollution sources to shellfish waters on a five-year cycle (each region is resurveyed every five years). Due to the decline in staff, the five year cycle has become a five to seven year cycle. The number of surveys completed has also declined over time due to the expanding human population along the shores of the Chesapeake Bay and tributaries, making access difficult. MDE is investigating alternative strategies and techniques for accomplishing the needed work in view of these challenges.

MDE has over 700 water quality monitoring stations, and the goal is to collect samples from each station twice per month, which is the minimum required under State statute. However, due to resource constraints, MDE has not been able to meet that goal. Taking a practical approach, MDE has concentrated on monitoring those areas where active harvesting is occurring to ensure that Maryland's shellfish (oysters and clams) continue to maintain a high quality, a reputation for safety, and a higher value in the marketplace. In addition, MDE has added new monitoring stations, conducted sanitary surveys, and done special studies to assist the emerging off-bottom aquaculture industry in furthering its goals in a way that is protective of human health.

Finally, based on monitoring information and other factors, MDE determines the appropriate harvesting classification: approved; conditionally approved; restricted; and prohibited.

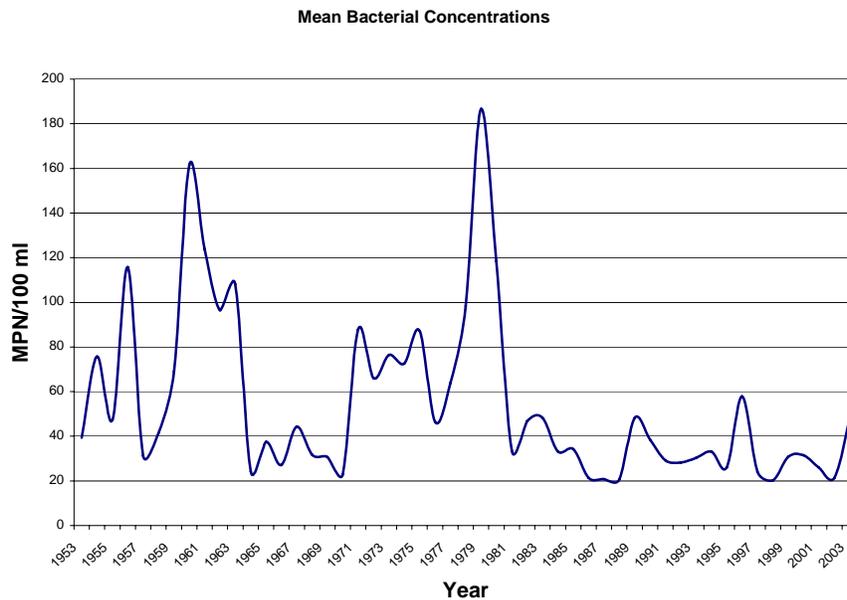


Figure A. Mean Bacteria Concentrations by Year of All Shellfish Monitoring Stations Sampled

Objective 4.2: Ensure that Maryland shellfish are harvested from waters that are clean enough to meet National Shellfish Sanitation Program requirements.

Strategy 4.2.1: Perform required water sampling and sanitary survey inspections to identify and mitigate pollution sources to protect the shellfish harvesting waters. Maintain an increase in sampling requirements and shoreline survey to address the emerging aquaculture industry.

Strategy 4.2.2: Secure sufficient resources to meet deficiency in monitoring coverage.

Strategy 4.2.3: Provide outreach to the emerging aquaculture industry so that those so engaged are able to readily stay abreast of new scientific and technical information that can aid them in making appropriate business decisions geared toward “growing” a sound, healthful industry in Maryland.

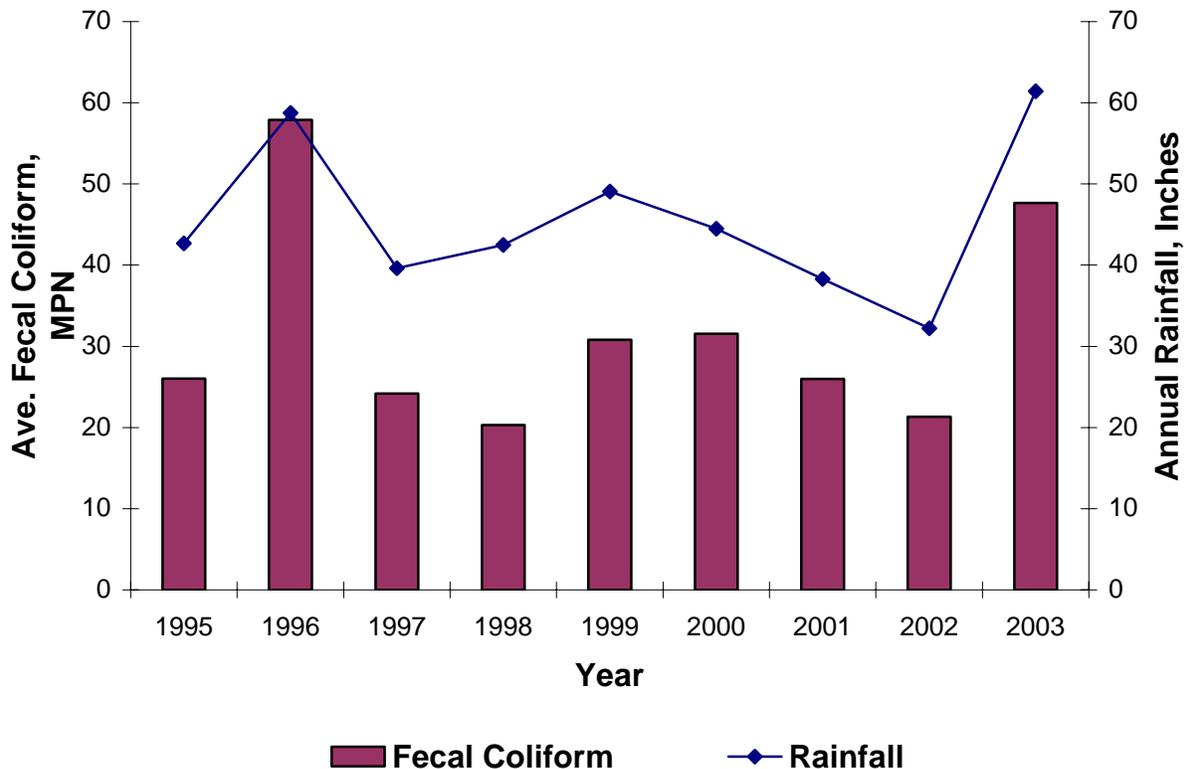
Performance Measures:

| Performance Measure (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|---------------------------|---------------------------|-----------------------------|-----------------------------|
| Percent of required sampling achieved* | 74.61 | 81.37 | 81.34 | 81.32 |
| Number of new monitoring stations established for the aquaculture industry | 2 | 6 | 5 | 5 |
| Mean bacteria concentration by year of all shellfish monitoring stations sampled (reported for calendar year) | 47.68 | 33.84 | 32.61 | 32.61 |
| Percentage of total harvesting acres that are approved or conditionally approved (reported for calendar year) | 93.78 | 93.74 | 93.66 | 93.57 |

* Beginning with the FY06 workplan, this measure will be recalculated to more accurately reflect legal requirements. Law specifies the sampling frequency per station, depending upon the harvesting classification of the water; these averages reflect only the total effort. MDE attempts to sample more often than the minimum required to open more areas to shellfish harvesting. An assumption is made for past years that approximately the same restricted waters:conditional waters:approved waters ratio exists from one year to the next. That same assumption will not be necessary from FY06 onward.

Performance Indicator:

Figure B. Comparison of Mean Fecal Coliform Concentrations against Annual Rainfall



Bacteria concentrations are affected by both rainfall and management actions as demonstrated by the comparison to Figure A and the annual rainfall matching the pattern of bacterial concentrations.

Progress and Challenges:

Under the continuing challenge of a growing human population in the Chesapeake Bay watershed, the majority of shellfish harvesting waters are approved for harvest. Approved means that oysters and clams can be harvested directly for human consumption, conditionally approved means harvest is not allowed the three days following a rain event of one inch or more in 24-hours, restricted means no direct harvest is allowed (however product may be moved to approved areas for natural cleansing and then harvested) and prohibited means that no harvesting is permitted.

Meeting program goals and all the requirements of the NSSP have become more of a challenge due to the emergence of the off-bottom aquaculture industry. MDE has had to evaluate aquaculture sites, add additional monitoring sites, assist in relay, close more waters to harvesting, and work closely with aquaculture operators to assure acceptance and understanding of shellfish sanitation. FDA, the federal agency which has oversight of the NSSP, has raised concerns with Maryland's shellfish program in response to the emerging float aquaculture industry and oyster gardening in near shore locations where water quality is

marginal and may present a human health risk if oysters are eaten or sold from near shore areas.

MDE is a participant in the Seafood and Aquaculture Task Force established by the legislature to review and provide a report to improve this important industry in Maryland. MDE is also a member and participates in the Interstate Shellfish Sanitation Conference and works closely with the FDA to maintain certification for Maryland shellfish product in the interstate market.

A future challenge involves the potential introduction of the asian oyster, *C. ariakensis*, to Maryland waters. This could involve increased resources to protect public health. If the oyster is introduced as an aquaculture product that can be harvested year round, the risk of Vibrio illnesses (Vibrios are a naturally occurring bacteria more prevalent in the summer) may increase, and may require additional monitoring and new testing methods.

Fish Kills

Introduction: § 4-405 in the Environment Article of the Annotated Code of Maryland requires the Department to investigate the occurrence of damage to aquatic resources, including but not limited to, mortality of fish and other aquatic life. Fish and other aquatic organisms are indicators of potential pollution impairment to the States' waterways. The presence of dead fish may indicate that a toxic substance has entered the waterway. MDE manages and coordinates Maryland's interagency program to investigate fish kills in all waters of the State. MDE works with the Department of Natural Resources Police who are responsible for posting areas closed to harvesting, and for patrolling these areas to prevent illegal harvesting. The Department also receives, responds to, and interprets all reports of damaged fish. The investigative findings are acted on to enforce the water pollution laws of Maryland, protect public health, aid in resource management, and contribute to public outreach.

Objective 4.3: In FY 06, determine the cause of 90% of all reported fish kills in a timely manner.

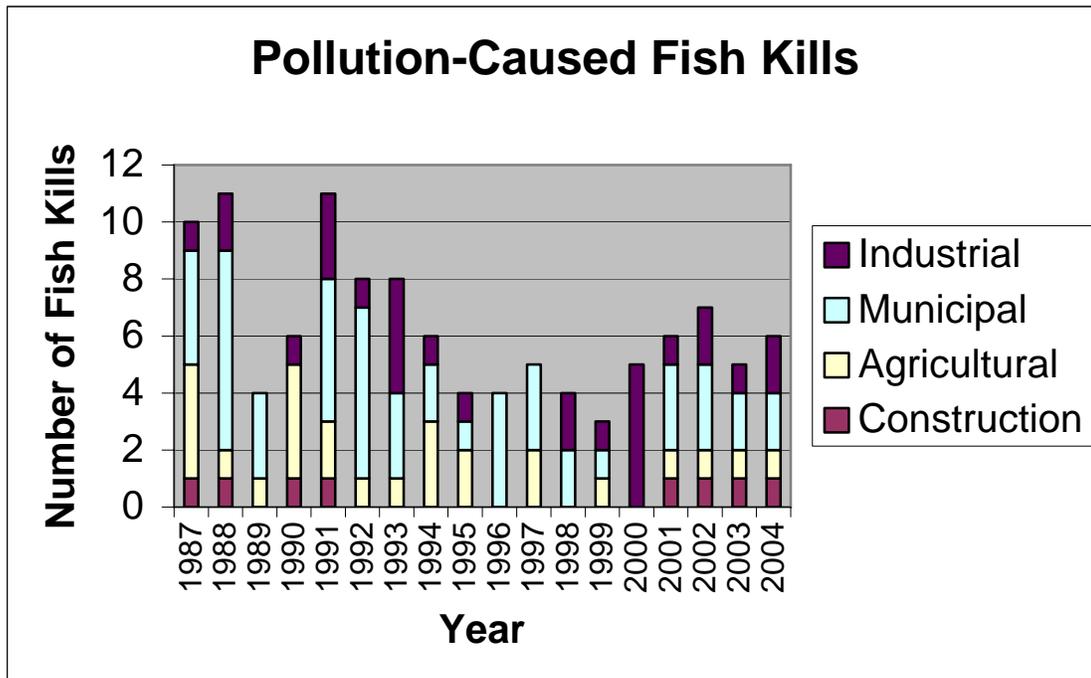
Strategy 4.3.1: Continue to improve performance by streamlining the fish kill investigation process, which includes improving working relationship with sister agencies, qualified volunteers, and technical and laboratory support.

Strategy 4.3.1: Ensure that 100% of all pollution-related fish kills are referred to the appropriate agency for enforcement or corrective action: county officials, DNR's Natural Resource Police, MDE's Water Management's Industrial Compliance Group, MDE's Emergency Response/Hazmat group, or MDA's Pesticide Regulation Section.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|--|-------------------|-------------------|---------------------|---------------------|
| Number of fish kill investigations performed | 96 | 73 | 85 | 95 |
| Percentage of fish kill reports investigated for which a causal factor can be identified | 87% | 97% | 90% | 90% |
| Number of investigated fish kills where the cause is pollution | 7 | 8 | 5 | 6 |
| Percent of investigated fish kills where the cause is pollution | 7% | 11% | 6% | 6% |

Performance Indicator:



Progress and Challenges:

This program has three experienced biologists able to investigate fish kills, which provides excellent coverage during most times. The staff are effective at addressing citizen concerns quickly, answering questions, investigating fish kills and other ecological anomalies, and consulting with other invested agencies/authorities as necessary. However, summer can be extremely busy, with fifty or more fish kills reported in one busy month. The division (of which fish kill investigation is a part) has recently lost two talented people. The loss is placing more demands on all to complete other obligations outside of fish kill investigation. From 1997 through 2002 there was great interest, cooperation and assistance in fish kill investigation from the DNR Fisheries Service (a function of Pfiesteria research funding). While many fisheries biologists are still willing to help out during busy times, they are relied on for only a handful of investigations – again, creating an increased workload burden on our personnel, particularly on the weekend.

Discharge Permits

Objective 4.4: Protect water quality by issuing discharge permits and inspecting permitted facilities, and implement watershed-based permitting to provide coordinated watershed protection. In FY 06, achieve 99% significant compliance with discharge permit effluent limitations for all inspected surface water state and NPDES permitted sites/facilities.

Strategy 4.4.1: Inspect all major permitted industrial and municipal wastewater treatment plants annually and targeted minors identified in the Section 106 Water Pollution Control Grant every year. Emphasis will be given this year to inspection of municipal wastewater treatment plants (WWTPs) that meet or exceed 75% of their design capacity and plants in significant non-compliance.

Strategy 4.4.2: Continue to provide on-site compliance assistance to ground water discharge permittees to help resolve minor compliance issues.

Strategy 4.4.3: Continue to provide on-site compliance assistance to surface water discharge permittees to help resolve minor compliance issues.

Strategy 4.4.4: Take appropriate and measured enforcement action against those facilities that fail to comply with permit requirements.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY2006 Estimate |
|--|-------------------|-------------------|-----------------------|-----------------------|
| Number of surface water sites/facilities (state and NPDES) in effect at the end of the fiscal year | 2,812 | 2,987 | 2,209 NPDES | 3,100 |
| Number of surface water (state and NPDES) inspections conducted | 9,969 | 9,580 | 549 NPDES | 9,000 |
| Number of surface water sites inspected | 1,699 | 2,003 | 2,000 | 2,000 |
| Percentage of inspected surface water sites/facilities (state and NPDES) in significant compliance | 100% | 98% | Unable to estimate | Unable to estimate |
| Total number of surface water compliance assistance actions rendered | 170 | 153 | Unable to estimate | Unable to estimate |

Progress and Challenges:

In FY 2005 (through April 18, 2005) a total of 16 enforcement actions were taken for discharge permit violations against municipal wastewater treatment plants including 15 orders and one mandatory penalty. Two consent orders were issued to Baltimore County landfills and a consent order was issued to a concentrated animal feeding operation for water pollution violations.

Sewage Overflows

Objective 4.5: Reduce the quantity in gallons of sewage overflows [total for Combined Sewer System Overflows (CSO) and Separate Sewer System Overflows (SSO)] equivalent to a 50% reduction of 2001 amounts (50, 821,102 gallons) by the year 2010 through implementation of EPA's minimum control strategies, long-term control plans (LTCPs), and collection system improvements in capacity, inflow and infiltration reduction, operation and maintenance.

Strategy 4.5.1: MDE adopted new regulations effective Marcy 28, 2005 to detail procedures that must be followed regarding reporting overflows or treatment plant bypasses and also to require public notification of certain sewage overflows.

Strategy 4.5.2: MDE will inspect and take enforcement actions against those CSO jurisdictions that have not developed long-term control plans by dates set within current consent or judicial orders.

Strategy 4.5.3: MDE will take enforcement actions to require that jurisdictions experiencing significant or repeated SSOs take appropriate steps to eliminate overflows, and will fulfill the commitment in the EPA 106 grant for NPDES enforcement regarding the initiation of formal enforcement actions against 20% of jurisdictions in Maryland with CSOs and significant SSO problems annually.

Performance Measures:

| Performance Measure (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|-------------------|-------------------|---------------------|---------------------|
| Number of collection systems with significant SSOs | 29 | 14 | 34 | 40 |
| Number of collection systems with CSOs | 11 | 7 | 7 | 7 |
| Total number of overflows (SSOs +CSOs) | 1,774 | 1,670 | 1,462 | 1,700 |
| Total number of gallons (SSOs + CSOs) | 339,386,753 | 739,625,130 | 473,002,953 | 500, 000,000 |
| Number of CSOs meeting 9 minimum controls | 8 | 7 | 7 | 7 |
| Number of CSOs with LTCP with completion dates | 4 | 6 | 7 | 7 |
| Number of CSO formal enforcement actions completed this year | 0 | 0 | 1 | 1 |
| Number of SSO formal enforcement actions completed this year | 0 | 1 | 2 | 1 |
| Net change in the number of gallons of sewage overflows (+/-) compared to 2001 level, in millions | +288.6 | +688.8 | +300.0 | +300.0 |
| Percentage reduction in gallons of sewage overflow from 2001 level | 568% increase | 1,300% increase | 500% increase | 500% increase |

Progress and Challenges:

CSOs

- The City of Cumberland, Allegany County, and the towns of LaVale and Frostburg are under orders that require a sequential approach to development and submittal of long-term control plans for their interconnected CSO systems. MDE has approved the LTCPs submitted by Frostburg and Allegany County. LaVale has submitted its LTCP to MDE for review and approval. Cumberland is last required to develop and submit their LTCP. Westernport is also working on its LTCP under a separate consent decree. Baltimore City and Cambridge are continuing to work to eliminate their CSOs under consent decrees. MDE and Salisbury have finalized a judicial consent decree to replace their administrative consent order and reference a new LTCP.

SSOs

- MDE and the Mayor and Council of Hagerstown entered into a judicial consent judgment to complete improvements to the Hagerstown WWTP and collection system over the next seven years that include, but are not limited to, development and implementation of a comprehensive capacity, management, operation and maintenance program for the entire sewage collection and treatment system; a sanitary sewer evaluation study and plan for inflow and infiltration reduction; major upgrades to various treatment plant components to address compliance with discharge permit effluent limitations; and capacity-related overflow and bypassing events. The consent judgment also includes an \$85,750 penalty for past discharge permit violations and unauthorized overflows and completion of an MDE-approved supplemental environmental project (SEP) valued at \$265,000 within the next five years.
- The Town of Emmitsburg and MDE finalized an agreement regarding improvements to Emmitsburg's wastewater treatment plant and collection system to address sanitary sewer overflows and bypasses. The consent order also includes a \$5,500 penalty for past violations.
- Negotiations of Consent Orders with WSSC and Baltimore County in separate actions to address SSOs have progressed.
- MDE is also negotiating a consent order to address SSOs and/or bypasses with Thurmont.

Sewage Overflows

Objective 4.5: Reduce the quantity in gallons of sewage overflows [total for Combined Sewer System Overflows (CSO) and Separate Sewer System Overflows (SSO)] equivalent to a 50% reduction of 2001 amounts (50, 821,102 gallons) by the year 2010 through implementation of EPA's minimum control strategies, long-term control plans (LTCPs), and collection system improvements in capacity, inflow and infiltration reduction, operation and maintenance.

Strategy 4.5.1: MDE adopted new regulations effective Marcy 28, 2005 to detail procedures that must be followed regarding reporting overflows or treatment plant bypasses and also to require public notification of certain sewage overflows.

Strategy 4.5.2: MDE will inspect and take enforcement actions against those CSO jurisdictions that have not developed long-term control plans by dates set within current consent or judicial orders.

Strategy 4.5.3: MDE will take enforcement actions to require that jurisdictions experiencing significant or repeated SSOs take appropriate steps to eliminate overflows, and will fulfill the commitment in the EPA 106 grant for NPDES enforcement regarding the initiation of formal enforcement actions against 20% of jurisdictions in Maryland with CSOs and significant SSO problems annually.

Performance Measures:

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| Total number of gallons (SSOs + CSOs) | 339,386,753 | 739,625,130 | 473,002,953 | 500, 000,000 |
| Number of CSOs meeting 9 minimum controls | 8 | 7 | 7 | 7 |
| Number of CSOs with LTCP with completion dates | 4 | 6 | 7 | 7 |
| Number of CSO formal enforcement actions completed this year | 0 | 0 | 1 | 1 |
| Number of SSO formal enforcement actions completed this year | 0 | 1 | 2 | 1 |
| Net change in the number of gallons of sewage overflows (+/-) compared to 2001 level, in millions | +288.6 | +688.8 | +300.0 | +300.0 |
| Percentage reduction in gallons of sewage overflow from 2001 level | 568% increase | 1,300% increase | 500% increase | 500% increase |

Progress and Challenges:

CSOs

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SSOs

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- MDE is also negotiating a consent order to address SSOs and/or bypasses with Thurmont.

Financial Assistance for Capital Programs

Introduction:

There is a critical need for capital grants and loans for water and wastewater infrastructure in Maryland: current estimates are \$4.3 billion in wastewater and \$1.7 in water supply systems. The Nutrient Reduction Cost-Share Program, first funded by the Maryland General Assembly during the 1984 legislative session, is a State/Local cost share grant program that provides financial assistance to local governments to implement nutrient-removal technology at the largest publicly-owned sewage treatment plants in Maryland. Specifically, the Program is geared towards 66 major treatment facilities that are designed to treat 500,000 gallons per day or greater.

The rationale for targeting these major facilities is that their combined flow comprises more than 95% of the total sewage flow generated in Maryland; also, nutrient-removal technology is more cost effective at larger plants. The goal of the Program is to fulfill Maryland's commitments under the multi-state Chesapeake Bay Clean Up Agreement for major reductions of nutrients – nitrogen and phosphorus – being discharged from sewage treatment plants into the Chesapeake Bay. Reducing nutrients discharged from sewage treatment plants into the Chesapeake Bay is essential to meeting the overall goals of the federal Clean Water Act and for improving and protecting water quality, aquatic life and habitat, and the quality of life and economic activities associated with a healthy Chesapeake Bay.

To meet nutrient reduction goals set forth in the Chesapeake Bay Agreement, Maryland's 1994 Chesapeake Bay Tributary Strategies outlined specific nutrient reductions required from all sources. Full implementation of the Tributary Strategies requires the retrofit of the 66 major sewage treatment plants in Maryland by installing the first level of nutrient removal commonly referred to as Biological Nutrient Removal (BNR). The 2000 Chesapeake Bay Agreement called for Maryland to reaffirm the 1994 Tributary Strategies as a minimum commitment, and further commits all bay states to remove all nutrient impairments to the Bay by 2010. To meet these new commitments, additional reductions of nutrient pollutants from all sources including sewage treatment plants are necessary.

Nutrient removal goals for major sewage treatment plants have been established at 3 mg/l for nitrogen and 0.3mg/l for phosphorus. To meet these nutrient performance goals necessary for the Chesapeake Bay cleanup, major sewage treatments will have to provide a highly advanced level of nutrient removal - Enhanced Nutrient Removal (ENR). 66 WWTPs have signed cost-share agreements and 41 of the 66 are operating in BNR/ENR (5 are in construction and 20 are in design). BNR efforts have already reduced nitrogen by 16 million pounds per year and ENR will achieve another 7.5 million pounds per year reduction to meet the Chesapeake Bay goals. Federal funding is needed to complete BNR/ENR at Back River, Patapsco and Blue Plains.

BNR/ENR is one of Governor Ehrlich's top initiatives. During the 2004 legislative session, the Bay Restoration Fund (HB555/SB320) was passed. The purpose of this bill is to reduce nutrient water pollution in waters of the State, particularly the Chesapeake Bay and the Atlantic Coastal Bays. Through this bill, revenue will be generated to provide financial assistance to the State's wastewater facilities (WWTPs) to achieve ENR and for upgrades to onsite sewage disposal systems.

Objective 4.6: By 2010, correct the point-source nutrient-related problems in the Chesapeake Bay and its tidal tributaries in order to achieve the Chesapeake 2000 (C2K) Agreement goal.

Strategy 4.6.1: Secure \$131M in capital funding for Water Quality Improvement Projects for FY 2006. The water quality budget includes \$35.25M in projects funded through the new Bay Restoration Fund (BRF). Capital funding will be targeted to projects with the greatest water quality improvement benefit and, for eligible “growth-related” projects, toward Priority Funding Areas consistent with the law. Funds appropriated by the Legislature for FY2006 will be utilized in a timely manner by encumbering not less than 90% of funds by the end of FY2006.

Strategy 4.6.2: Capital funding for eligible “growth-related” projects will be targeted towards Priority Funding Areas consistent with the law.

Strategy 4.6.3: Develop options for implementing Enhanced Nutrient Removal technology in existing wastewater treatment plants that have or will have BNR technology in place consistent with C2K commitments.

Strategy 4.6.4: Take necessary steps in conjunction with the Maryland Department of Planning, to identify and obtain increased federal funding to help support BNR and ENR upgrades at wastewater treatment plants.

Strategy 4.6.5: Take necessary steps to implement the Bay Restoration Fund including hiring staff, prioritizing ENR projects and septic upgrades, performing engineering and construction management for ENR projects, working with selected vendors to install nitrogen reduction technologies, etc.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|-------------------|-------------------|---------------------|---------------------|
| Annual amount of state dollars financed for Biological Nutrient Removal | \$17.8M | \$7.9M | \$17M | \$18M |
| Annual amount of Bay Restoration Funds for Enhanced Nutrient Removal (begin reporting in 2006) | 0 | 0 | 0 | \$35M |
| Total amount of state dollars financed for capital improvement projects by the Water Quality Revolving Loan Program | \$109.6M | \$97.4M | \$70M | \$70M |
| Total amount of state dollars encumbered for other water quality capital improvement projects (SCERP, Supp Assist, SWM) | \$6.32M | \$6.77M | \$7.25M | \$6.21M |
| Percent reduction in point-source nitrogen loading since 1985 | 50% | 52% | 53% | 53% |
| Total million pounds of point source nitrogen reduced since 1985 | 16.1 | 16.9 | 17.2 | 17.4 |

Progress and Challenges: As discussed in section 4.9, Maryland has taken a major step forward in the reduction of nutrient pollutants through the passage of the Chesapeake Bay Restoration Fund during the 2004 session of the Legislature. An important immediate challenge is initiating management and use of this new fund.

Total Maximum Daily Loads

Introduction: MDE develops Total Maximum Daily Loads (TMDLs) in accordance with Section 303(d) of the federal Clean Water Act (CWA). A TMDL is an estimate of the maximum amount of an impairing substance or stressor that a water body can assimilate without violating water quality standards. TMDLs are required for each water body and associated impairment(s) listed on the State's "303(d) list" of impaired waters. The estimated loads are allocated to point sources (e.g., industries, sewage treatment plants, stormwater runoff), and nonpoint sources (e.g., agriculture runoff) within the watershed, as well as a margin of safety. Each year, MDE strives to achieve ambitious submittal goals based upon a Memorandum of Understanding (MOU) between MDE and the U.S. Environmental Protection Agency.

Objective 4.7: Complete the number of TMDLs agreed to in the MOU submission schedule, and incorporate approved TMDLs into the permits in the impaired watersheds.

Strategy 4.7.1: Conduct monitoring to verify the impairment or that water quality standards are being met, and to support the development of a computer model that simulates the water body to estimate the allowable loads.

Strategy 4.7.2: Use a quantitative model to estimate the allowable loads. Make provision for public participation and address comments in a formal Comment Response Document. Revise the TMDL accordingly.

Strategy 4.7.3: Once EPA approves the TMDLs, they are incorporated into NPDES discharge permits by the Water Management Administration. Permits are renewed every five years and there will be an approximately 142 permits affected. Adjustments are made in accordance with the permit renewal cycle.

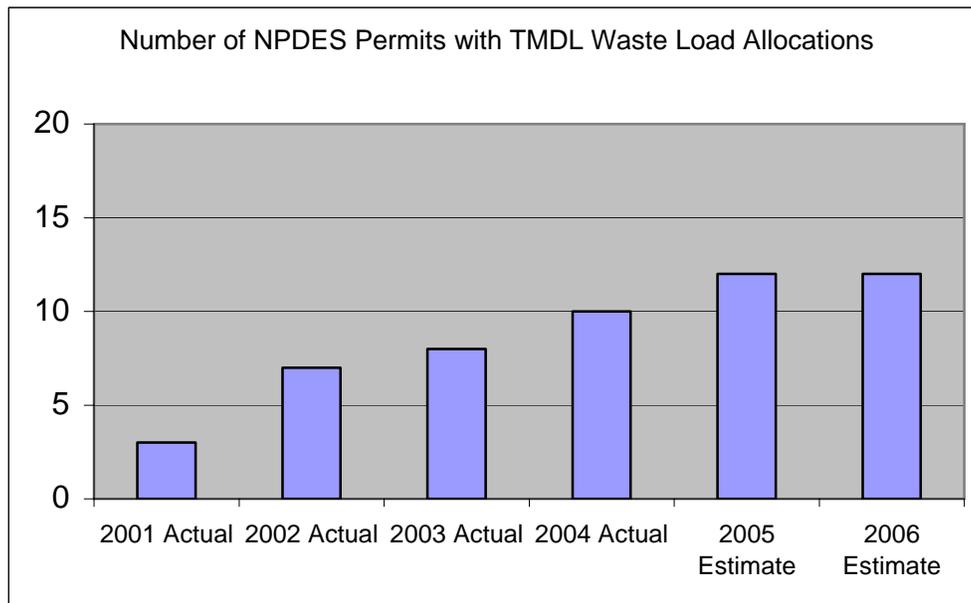
Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|---------------------------|---------------------------|-----------------------------|-----------------------------|
| Percent of TMDLs and Water Quality Analyses (WQAs) submitted in accordance with agreed-upon TMDL submittal schedule (federal fiscal year total). ¹ | 140% | 82% | 100% | 100% |
| Number of TMDLs and WQAs submitted in accordance with agreed-upon TMDL submittal schedule (federal fiscal year total). ² | 39 | 45 | 27 | 46 |
| Percent of total TMDLs required that are completed this fiscal year (recorded as a percentage of 10 year required total) ³ | 21% | 38% | 56% | 68% |
| Number of new or renewed NPDES permits issued that incorporate approved TMDL wasteload allocations. | 8 | 10 | 12 | 12 |

¹ MDE has proposed several refinements to its MOU with EPA, which includes revising the TMDL submittal due date from December 31 (calendar year) to September 30 (federal fiscal year). EPA approved these refinements in 2005 thus re-defining "required" TMDLs.

² This is a new measure as of FY06 that is more consistent with measuring productivity and consistent with questions being asked in a lawsuit against EPA and by environmental stakeholders. Additionally, this number is tracked yearly by EPA.

³ This measure will be dropped after FY06 in favor of the "number of TMDLs/WQAs submitted in accordance with agreed-upon TMDL submittal schedule" measure. It has been maintained here for synchronicity with the FY06 Budget Book.

Performance Indicators:**Progress and Challenges:**

Using its five-year watershed cycling strategy, Maryland has completed all monitoring for eutrophication throughout the State. A major portion of the toxic monitoring has also been completed. In calendar 2003 and 2004, Maryland focused on monitoring for sediments, bacteria and toxics monitoring to address numerous listings. Monitoring for sediments will continue in calendar 2005. Beginning in 2004 and continuing into 2005, Maryland will revisit its watershed cycling strategy with monitoring being conducted in the Lower Eastern Shore. Finally, the Department is partnering with other Chesapeake Bay Partners to develop a sediment transport model for the Chesapeake Bay and Potomac River Basin. The results from this effort can potentially address over 100 nutrient and sediment listings.

In the proposed revision of the November 1998 *Memorandum of Understanding between the State of Maryland and the United States Environmental Protection Agency, Region III, regarding Sections 303(d) and 303(e) of the Clean Water Act (MOU)*, the Department has requested that the long-term schedule for dealing with waters on the 1998 303(d) list be extended by three years (from 2008 to 2011) to accommodate the TMDL Program's most significant challenges: the need for consistency with the on-going activities of the Chesapeake Bay Program; the technical complexity of some TMDLs, including the need to develop new methodologies; and the displacement and loss of staff resources.

Wetlands

Introduction:

Under State law, the Maryland Department of the Environment is charged with ensuring that Maryland's valuable wetland resources are adequately protected. In addition, the State has recently adopted a voluntary goal of restoring 60,000 acres of wetlands based on the acreage of wetlands lost since the late 1940s.

Wetlands play important roles in the preservation and protection of the Chesapeake Bay, the Coastal Bays, and other waters of the State. The roles cover a wide range of functions that include the reduction of pollutant loadings including excess nutrients, sediment and toxics; the attenuation of floodwaters and storm waters; shoreline stabilization and erosion control; waterfowl breeding; habitat for many species of fish, game and non-game birds, and mammals (including rare and endangered species); food chain support; and timber production.

Objective 4.8: Achieve 99% significant compliance with all inspected permitted wetland projects. Achieve 95% of goal of restoring 15,000 acres of wetlands in Chesapeake Bay 2000 Agreement goal by FY 06¹, ahead of 2010 deadline. After the 15,000 acres of wetlands are restored, continue voluntary wetland restoration programs to meet a goal of restoring 60,000 acres of wetlands.

Strategy 4.8.1: Administer Maryland's wetland protection program, which includes permitting, inspection and compliance under the Tidal Wetland Act, Nontidal Wetland Protection Act, Water Quality Certification as required by Section 401 of the federal Clean Water Act, and Coastal Zone Consistency as required by Section 307 of the federal Coastal Zone Management Act. Conduct interagency reviews with federal and local governments.

Strategy 4.8.2: Conduct outreach and support volunteer initiatives to create, restore, and enhance 60,000 acres of wetlands. Conduct meetings with partners in voluntary wetland restoration to exchange information on funding opportunities and technical practices.

Strategy 4.8.3: Maintain the number of compliance inspections for tidal and nontidal wetlands at FY03 levels.

Strategy 4.8.4: Assess effectiveness of the mitigation program and update existing guidance for management and mitigation of waterways and nontidal wetlands.

Strategy 4.8.5: Complete update of databases for tracking voluntary wetland restoration and regulatory gains and losses, and continue development of an improved screening database for preliminary review of applications.

Strategy 4.8.6: Continue development of an inventory of priority areas suitable for wetland creation, restoration, enhancement, protection and mitigation, and for stream restoration.

¹ The Chesapeake Bay Agreement commitment will be met when 15,000 acres of wetlands are created, restored, or enhanced in Maryland's Chesapeake Bay watershed. Some parts of Maryland are not in the Bay watershed. The acreage reported in the performance measures chart represents statewide amounts.

Integrate implementation of identified projects with watershed planning efforts, local government plans, Tributary Strategies, and coordinated regulatory activities.

Strategy 4.8.7: Update existing regulations for tidal and nontidal wetlands and waterways.

Strategy 4.8.8: Promote and assist in the development of watershed and special area plans with local governments and stakeholders to improve wetland management.

Strategy 4.8.9: Develop two projects that achieve the restoration goals of other partners using the Nontidal Wetland Compensation Fund or the Tidal Wetland Compensation Fund, while providing appropriate mitigation and maintaining the integrity of the fund.

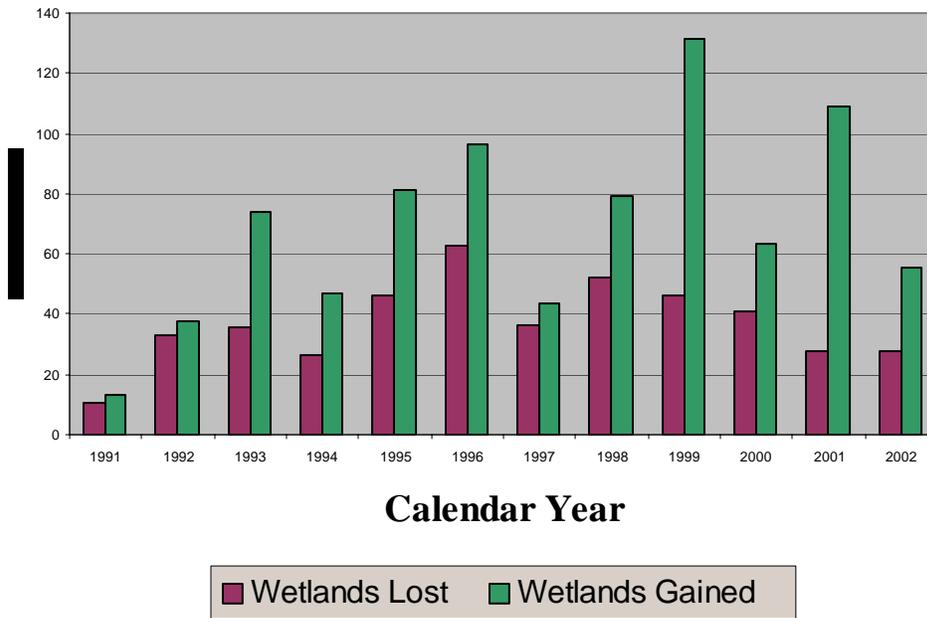
Strategy 4.8.10: Continue assessment of the effectiveness of the regulatory and compliance programs in the Coastal Bays.

Strategy 4.8.11: Implement recommendations in the Maryland Wetland Conservation Plan to improve comprehensive, effective, and efficient wetland management.

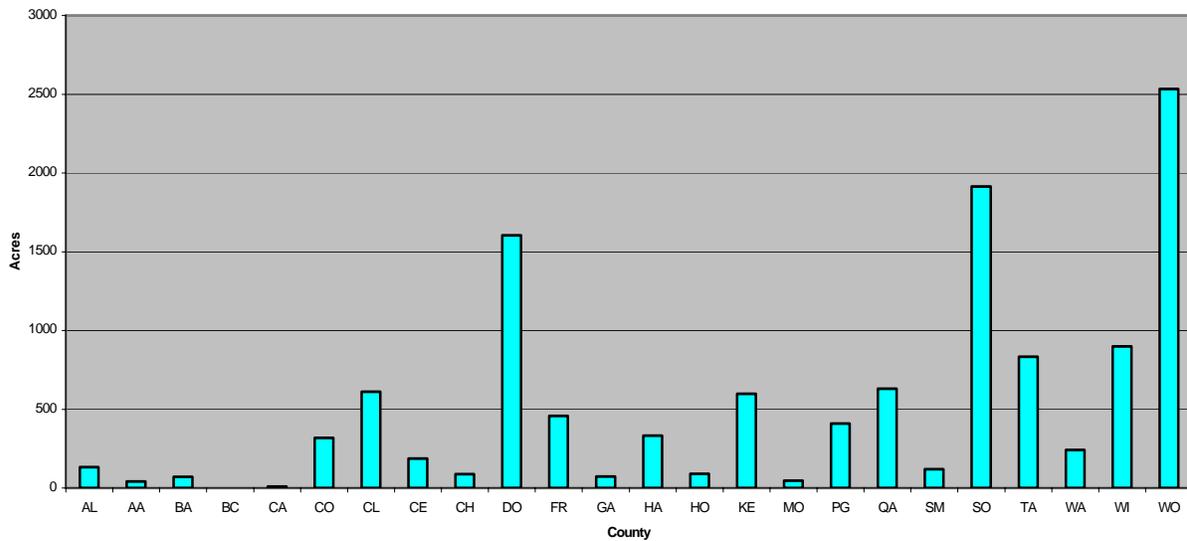
Performance Measures:

| Performance Measure (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY2006 Estimate |
|---|-------------------|-------------------|---------------------|--------------------|
| Number of tidal wetland sites/facilities | 6,467 | 7,853 | 7,500 | 7,500 |
| Number of non-tidal wetland sites/facilities | 3,802 | 4,033 | 4,000 | 4,000 |
| Number of tidal wetland inspections conducted | 981 | 1,102 | 1,000 | 1,000 |
| Number of non-tidal wetland & floodplain inspections conducted | 3,928 | 3,074 | 3,000 | 3,000 |
| Number of tidal wetland sites/facilities with significant violations | 16 | 12 | N/A | N/A |
| Number of tidal wetland enforcement actions initiated | 69 | 49 | N/A | N/A |
| No. of non-tidal wetland sites/facilities with significant violations | 22 | 15 | N/A | N/A |
| Number of non-tidal wetland & floodplain enforcement actions initiated | 190 | 259 | N/A | N/A |
| Percent of inspected tidal sites/facilities in significant compliance | 97% | 98% | N/A | N/A |
| Percent of inspected non-tidal & floodplain sites/facilities in significant compliance | 99% | 99% | N/A | N/A |
| Wetland acreage established through mitigation required by regulatory program | 56.54 | 54.25 | 35 | 33 |
| Wetland acreage lost through activities authorized by regulatory program (volume of permits) | 36.07 | 39.8 | 30 | 28 |
| Acres of Maryland's total wetland resource base (tidal and non-tidal) gained/lost through regulatory program | 20.46 | 14.46 | 6 | 8 |
| Cumulative acres of wetlands created, restored, or enhanced in Maryland's Chesapeake Bay watershed (calendar year) | 12,767 | 13,013 | 15,671 | 17,000 |
| Cumulative statewide acreage of wetlands created, restored, or enhanced other than those required for mitigation under the regulatory program (calendar year) | 14,775 | 15,319 | 17,924 | 16,500 |

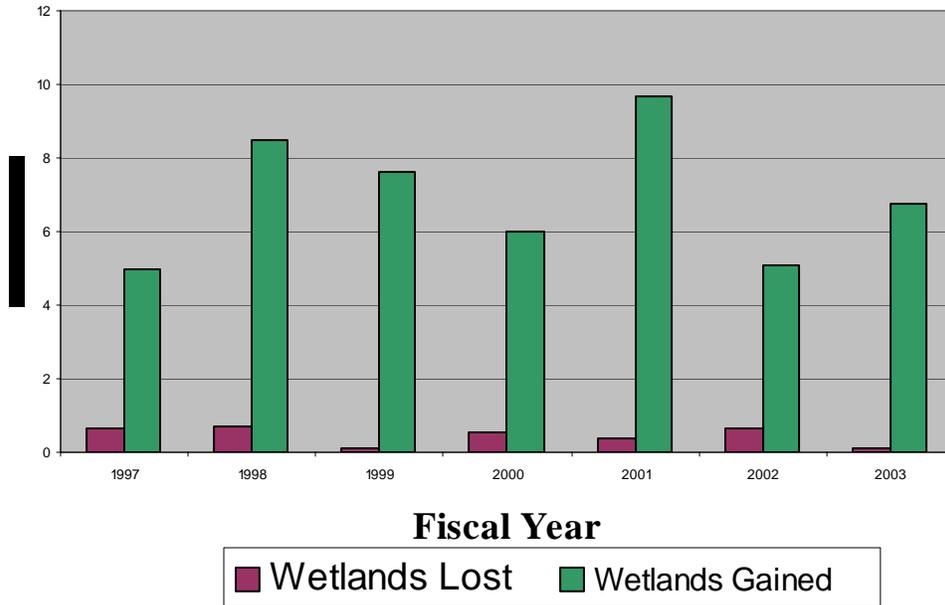
Nontidal Wetland Gains and Losses



Wetland Gains by County 1998-2002



Tidal Wetland Gains and Losses



Progress and Challenges: Many wetlands have already been lost or degraded due to the combined effects of population growth and land use. Further degradation and losses of wetlands will contribute to the decline of the Chesapeake Bay, the Coastal Bays, and other waters of the State. The challenge now is to improve both regulatory and non-regulatory management of wetlands through partnerships with local, federal, and other State agencies, and to continue to pursue a net gain in wetland resources by applying the “no net loss” statutory criteria to project approval in combination with voluntary wetland restoration.

Water Quality

Introduction:

MDE does a significant amount of water quality monitoring and utilizes data from other agencies to provide an outcome-based result for the combined contributions of many water quality programs including the following:

- Total Maximum Daily Loads;
- National Pollution Discharge Elimination System (NPDES) permits for municipal, industrial and stormwater discharges;
- sediment and erosion control;
- inspection and compliance assistance; and
- agricultural best management practices

MDE characterizes water quality across the State on a five-year cycle. Although the same locations are not necessarily monitored in each round, a sufficient number of samples (between 1,900 and 7,000 depending on the year) are taken from a sufficient number of locations to be representative of water quality. However, it is important to note that water quality may be significantly affected by rainfall and differences between years may reflect weather as much as our management activities. To minimize the impact of natural conditions on our evaluation tool, the water quality metric uses a five-year average ending with year indicated. For example, the water quality shown for 2000 is the average of the five years from 1996 through 2000 inclusive.

Objective 4.9: To improve water quality by reducing nitrogen and phosphorus concentrations because these pollutants cause numerous problems in the Chesapeake Bay.

Strategy 4.9.1: Effective implementation of the programs indicated above in combination with incentive-based programs run through the Maryland Department of Agriculture, and cooperative programs coordinated through the Maryland Department of Natural Resources as part of the Tributary Strategies and the non-point source control programs implemented under Section 319 of the Clean Water Act.

Performance Measure:

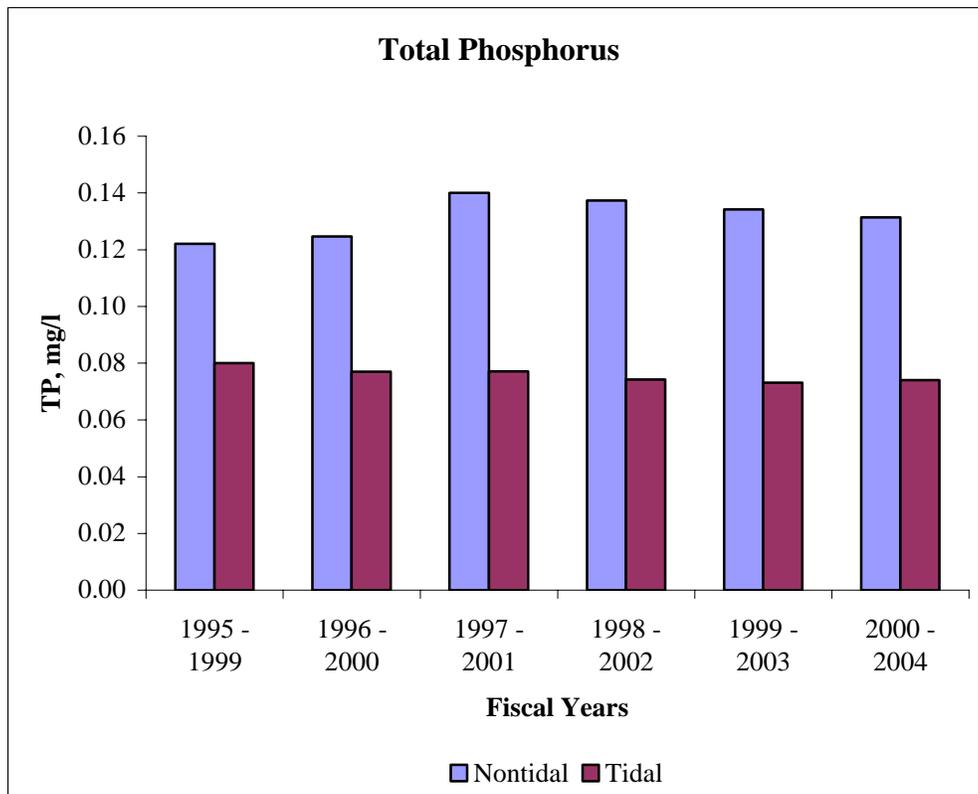
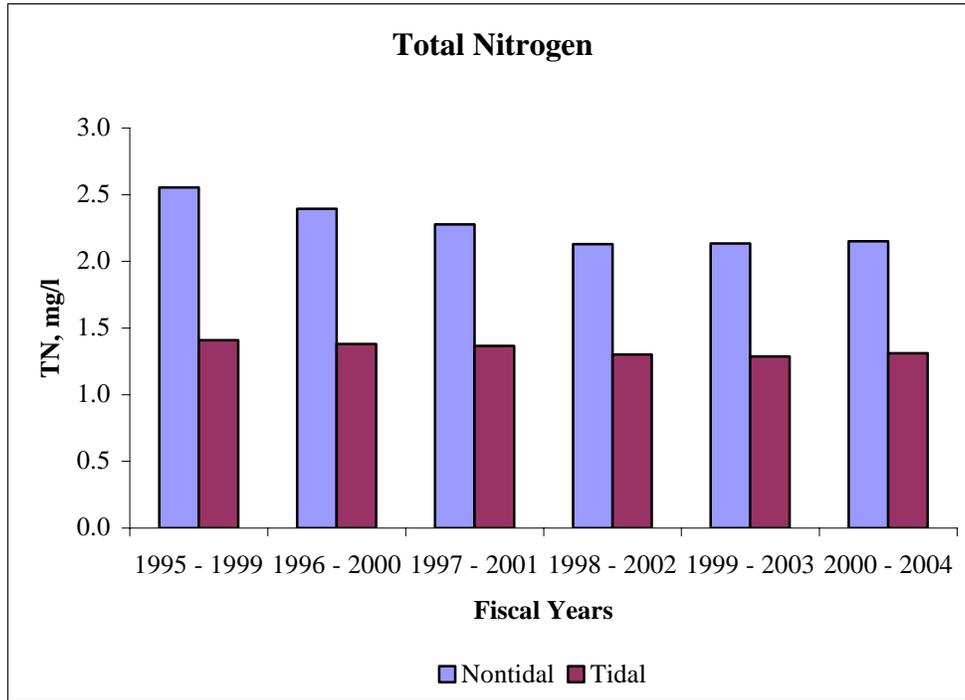
| Performance Measure | FY 2003 Actual | FY 2004 Estimate ^{1,2} | FY 2005 Estimate ² | FY 2006 Estimate ² |
|---|-------------------|------------------------------------|----------------------------------|----------------------------------|
| (Five-year running average of) Total nitrogen concentrations monitored in tidal waters | 1.29 | 1.25 | 1.22 | 1.19 |
| (Five-year running average of) Total nitrogen concentrations monitored in nontidal waters | 2.14 | 1.98 | 1.88 | 1.78 |
| (Five-year running average of) Total phosphorus concentrations monitored in tidal waters | 0.073 | 0.071 | 0.070 | 0.068 |
| (Five-year running average of) Total phosphorus concentrations monitored in nontidal waters | 0.134 | 0.141 | 0.144 | 0.147 |

¹ These numbers can only be estimated using currently available information, as not all samples collected in FY04 have been analyzed

² These numbers were projected using a regression analysis based upon data from previous years

The reader is encouraged to refer also to the related performance measures reported for Objective 4.6 (Financial Assistance for Capital Programs).

Performance Indicator:



Progress and Challenges:

Maryland has taken a major step forward in the reduction of nutrient pollutants through the passage of the Chesapeake Bay Restoration Fund during the 2004 session of the Legislature. This bill will provide funds for significantly reducing pollutants that are a primary cause of the decline in the Bay's health. Continuing efforts to encourage other reductions through voluntary and regulatory programs will further enhance this goal. Promulgation of new and revised water quality standards will also provide the basis for further and more appropriate limitations on many pollutants, including nutrients.

Additionally, Maryland is in the process of developing a statewide water quality monitoring strategy to integrate monitoring efforts from smaller watersheds and efforts addressing biological and physical habitat impacts into a more all-encompassing Statewide monitoring framework.

Sustained State and Chesapeake Bay Program funding in support of monitoring initiatives to assure timely assessment of use attainment of the new water quality standards poses a challenge for fiscal year 2005 and out years. Meeting the goal of improved Chesapeake Bay water quality by 2010 poses a challenge, due to delays in development of living resource-based regulations in the Chesapeake Bay and tidal tributaries. Additionally, improved Chesapeake Bay water quality is not within Maryland's control alone. Nutrient reduction initiatives must be implemented by upstream states as well.

Attainment of Federal Ozone Standards

Introduction:

Under federal and state law and regulations, the Department is charged with ensuring that Maryland's air is safe to breathe. Air pollution contributes to illnesses, including cancer, and detrimentally affects respiratory and reproductive systems. Air pollution can also reduce visibility; damage crops, forests and buildings; and acidify lakes and streams.

The federal government has established public-health-based ambient air quality standards for six pollutants: ozone (ground level), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), lead, and particulate matter. Maryland's air quality complies with all standards except ozone and fine particulate matter. The air quality in parts of Maryland, generally the Baltimore and Washington metropolitan areas and Cecil County, fail to meet both the one-hour and the eight-hour ozone standards at times between May and September of each year. More than 89% of the population of Maryland resides in these areas. Monitoring data show that portions of these same areas have air quality that does not meet the new federal standard for fine particulate matter.

Objective 5.1: Work to reduce transported ozone through legal action and through requests to EPA, either alone or in concert with similarly affected states, for stricter controls on sources upwind of Maryland.

Strategy 5.1.1: Work with the University of MD and regional air pollution organizations to develop the necessary scientific information to demonstrate the degree to which transported pollution needs to be addressed so that Maryland's air quality needs are met.

Strategy 5.1.2: Work with regional and national organizations, such as the Ozone Transport Commission, STAPPA/ALAPCO and NESCAUM, to evaluate the effect that proposed national legislation may have on Maryland's air quality and to develop and promote reasonable alternatives where they are warranted.

Objective 5.2: By November 2005, achieve attainment with the one-hour ozone standard in the Baltimore and Washington metropolitan areas and Cecil County.

Strategy 5.2.1: Reduce emissions from mobile, stationary and area sources by developing and administering emission reduction programs within each of these source sectors to levels adequate to allow Maryland to achieve attainment with the 1-hour ozone standard by 2005.

Strategy 5.1.3: Issue permits to regulate the construction and operation of ozone precursor air emission stationary sources, conduct inspections and audits and review compliance-related documents to ensure that permit and regulatory requirements are being met within all source categories.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY2006 Estimate |
|--|---------------------------|---------------------------|-----------------------------|----------------------------|
| Number of exceedances of the 1-hour ozone standard ^{1,2} | 2 | 1 | 1 | 1 |
| Percentage of MD population living in areas not meeting air quality standards ³ | 89% | 89% | 89% | 89% |
| Tons per year emissions reported for criteria pollutants at high-impact sources | 525,494 | 506,020 | 500,000 | 495,000 |
| Number of air pollution permits Issued | 950 | 1,744 | 1,300 | 1,300 |
| Number of air pollution sites inspected, including audits and spot checks/ total number of sites | 1,050/11,227 | 2,683/11,511 | 2,500/11,500 | 2,500/11,500 |
| Number of VEIP inspection station/repair facility audits ⁴ | 3,521/1,075 | 4,246/1,132 | 4,000/1,100 | 4,000/1,100 |

¹ These are calendar-year data; e.g. Maryland experienced two exceedances in calendar 2003.

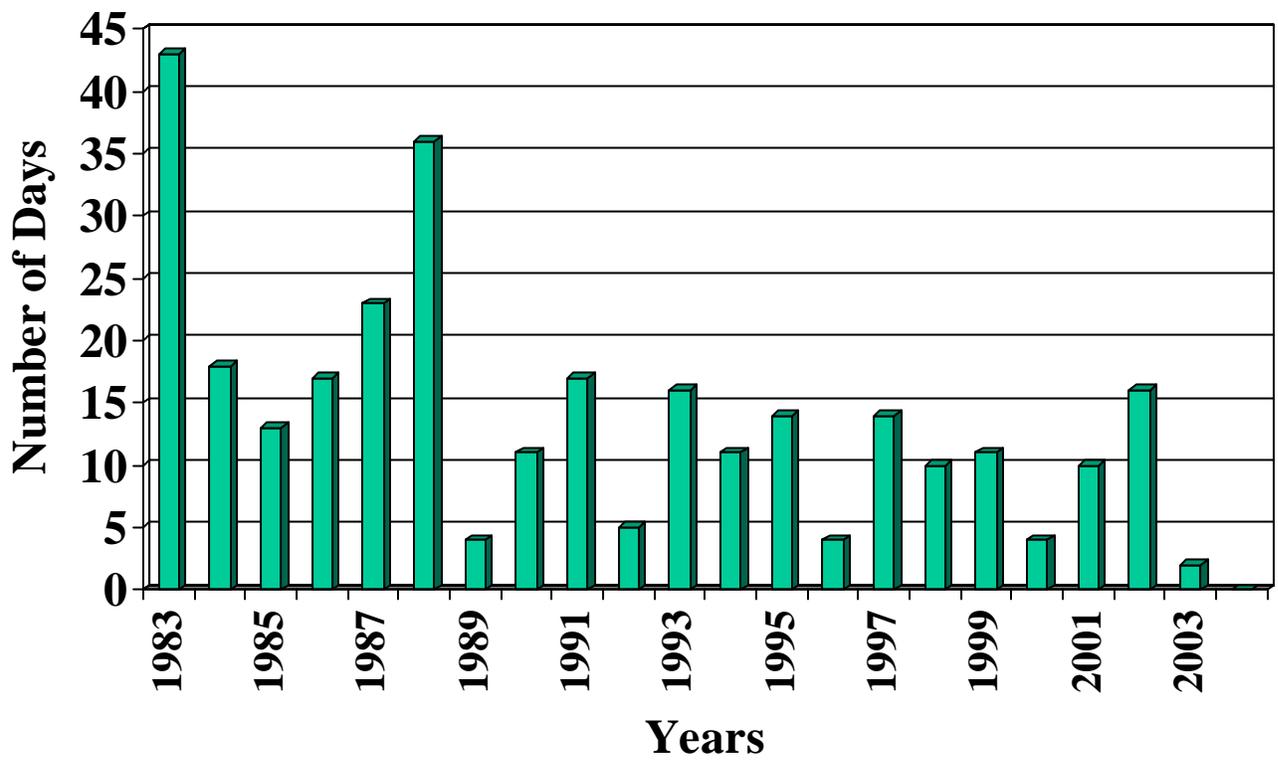
² The number of days within a given calendar year in which an exceedance of the federal ozone standard occurred. While reported quarterly during the fiscal year, the total is a calendar year total in order to reflect the actual number of exceedances during the ozone season which crosses fiscal years. The data sources are the ARMA air monitoring sites and the AIRS database.

³ That fraction, expressed as a percentage, of the population of Maryland that according to the latest U.S. census data and as updated by local or regional governmental planning agencies recognized by the Department of the Environment, resides in the geographical area that, based on applicable federal attainment designation criteria, does not meet the federal air quality standards for all six federal criteria pollutants (lead, carbon monoxide, ozone, sulfur dioxide, nitrogen dioxide, and particulate matter) during the course of the year. The data sources are U.S. Census Bureau data on population and non-attainment designations made by EPA under the federal Clean Air Act.

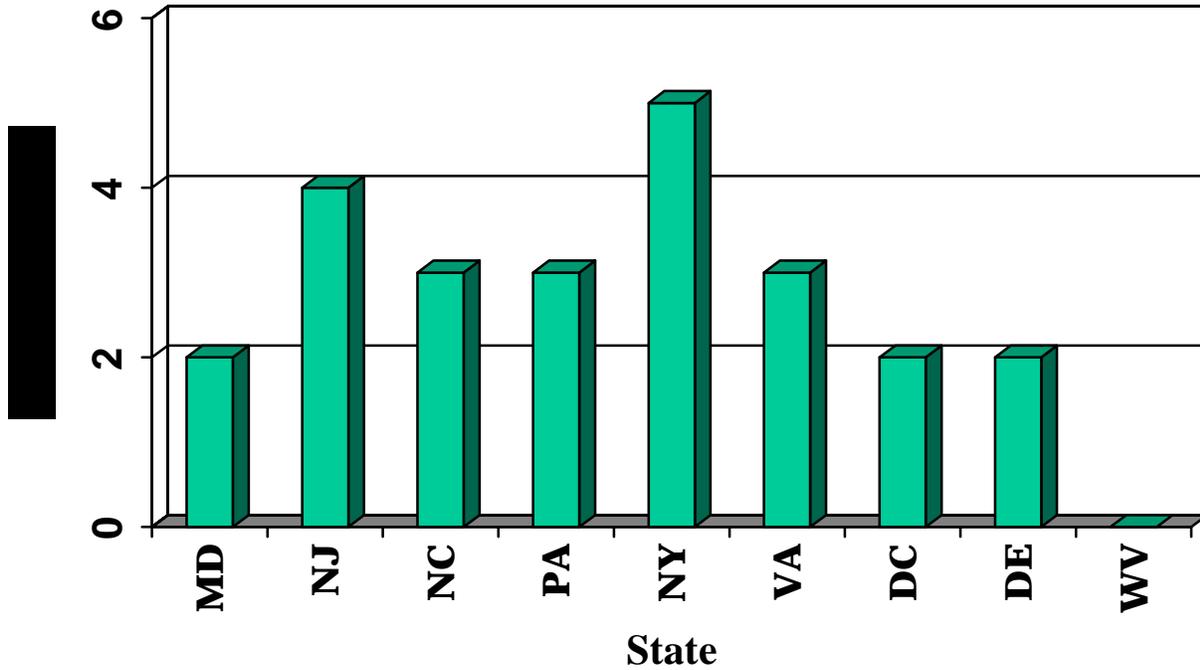
⁴ Number of actual audits performed in a particular year to certify that these facilities meet State requirements. The data source is the ARMA/Mobile Sources/VEIP Master Data database.

Performance Indicators:

**# Days the One-Hour Ozone Standard
Was Exceeded in Maryland
By Calendar Year (1983 – 2003)**

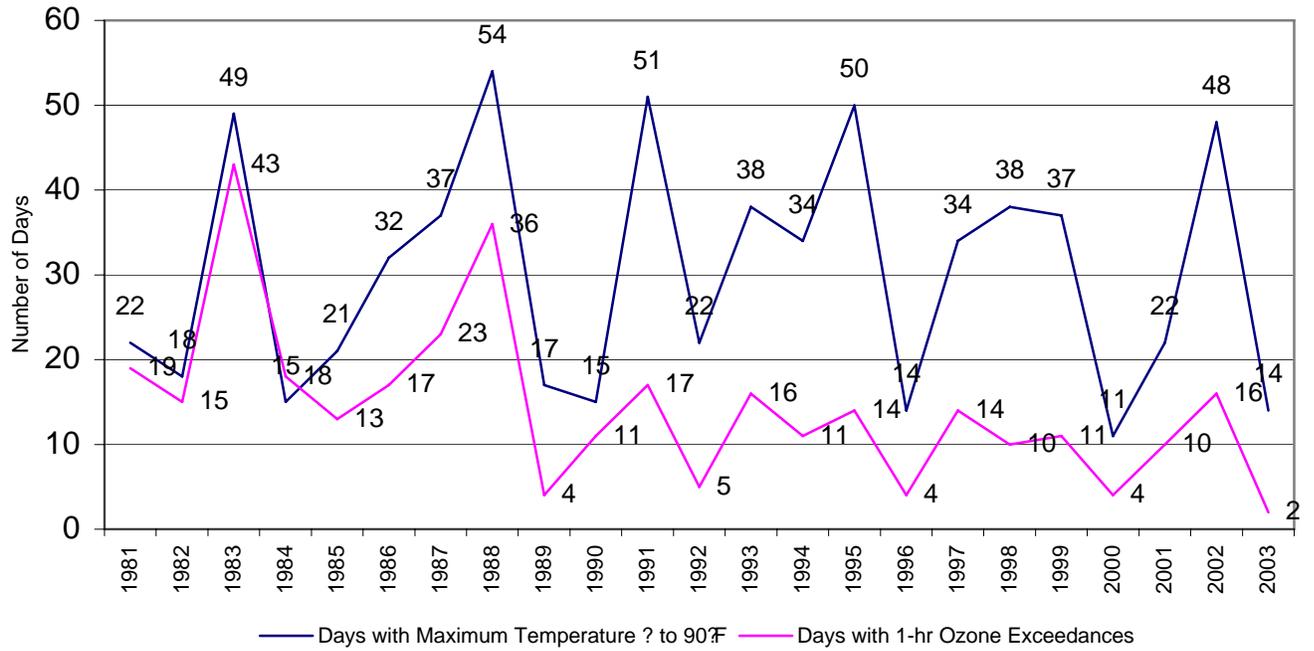


2003 Ozone Exceedance Days by State



Progress and Challenges: Although Maryland's number of ozone exceedances continues to be minimal, the State still faces the challenge of meeting the new standards for 8-hour ozone and fine particulate matter. A plan for bringing Maryland into compliance with the fine particulate matter standard will be in the early stages of development in FY06. Additionally, until a regional approach is taken to the issue of pollution transport, Maryland will continue to have difficulty reaching full attainment status.

Maryland 1-Hour O₃ Exceedances and 90 Degree Days



Asbestos

Objective 5.3: Protect workers and the public from asbestos exposure.

Strategy 5.3.1: Conduct inspections, audits, and spot checks of asbestos projects that are notified to the Department or are the results of complaints received by the Department.

Strategy 5.3.2: Issue asbestos licenses and asbestos occupation accreditations to businesses, public units and individuals to ensure that companies meets the requirements to acquire asbestos licenses and individuals are properly trained to conduct various types of asbestos-related jobs.

Strategy 5.3.3: Train state employees who remove asbestos in the proper removal and safety techniques.

Strategy 5.3.4: Reduce hazards presented by asbestos in State-owned buildings, by addressing abatement projects that present an imminent health hazard and by working with the Asbestos Oversight Committee to establish priorities for asbestos abatement in State buildings.

Strategy 5.3.5: Undertake enforcement actions for improper removal of asbestos.

Strategy 5.3.6: Assist schools in implementing and following their asbestos management plans in accordance with the Asbestos Hazards Emergency Response Act (AHERA).

Strategy 5.3.7: Audit training courses provided by private contractors to ensure that all applicable standards are met.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|-------------------|-------------------|---------------------|---------------------|
| Percent of inspected asbestos projects in significant compliance | 97% | 98% | 98% | 98% |
| Number of inspections, audits and spot checks conducted | 1,168 | 1,218 | 1,200 | 1,200 |
| Number of asbestos licenses issued | 175 | 148 | 150 | 150 |
| Number of asbestos occupation accreditations issued | 5,415 | 5,072 | 5,000 | 5,000 |
| Percentage of Licenses and Training Provider Approvals issued within the established standard turnaround times | 97% | 95% | 95% | 95% |
| Number of State employees trained | 401 | 361 | 400 | 400 |
| Number of asbestos abatement projects in State buildings that presented an imminent health hazard that were addressed | 71 | 57 | 50 | 50 |
| Number of asbestos projects enforcement actions | 4 | 2 | 3 | 3 |
| Percentage of asbestos training courses provided by private contractors that meet all applicable standards | 78% | 58% | 80% | 80% |

Progress and Challenges: The percentage of inspected projects in significant compliance remains high, and the Department's challenge is to maintain that high level of performance in FY06.

Applying Technology to Improve Customer Service

Introduction:

The Agency's effective delivery of services to the public and to the entities it regulates relies heavily upon the prudent application of information technology. Currently, MDE's business systems are a series of stand-alone applications that were developed over time to typically serve a single business need. These diverse and dissimilar systems range from PC-based spreadsheets and databases to more complex server-based applications. In this type of operating environment, data standardization is inconsistent and there is a significant degree of data redundancy that makes it very difficult to compile a holistic view of MDE's activities and operational performance. To resolve these issues, MDE is continuing a multi-year initiative that will result in improved delivery of services to our customers and improved efficiencies and effectiveness of the Department's human and financial resources.

The Enterprise Environmental Management System (EEMS) addresses the realization within the environmental statutory, regulatory and oversight framework that although environmental media types (i.e. air, water, and waste) are different, the activities necessary to issue permits, monitor compliance, and conduct enforcement are basically the same. In addition, the EEMS is a shift from environmental-media-focused systems to a system based on the regulated entity (i.e. facility, location, or person). This shift is key to providing the services that customers need to manage their regulatory obligations and that MDE needs to effectively execute its mission.

When fully implemented, regulated entities will benefit from on-line submission of permit applications and compliance data, on-line access to permit and process statuses, and a single point of reference for environmental information. The public will benefit from the same single point of reference for environmental information as well as detailed information relevant to their particular needs. MDE will benefit through the streamlining of processes, improved business decisions, a reduction in maintenance requirements necessary to support a unified system versus multiple systems, and reductions in the effort necessary to satisfy mandatory reporting obligations.

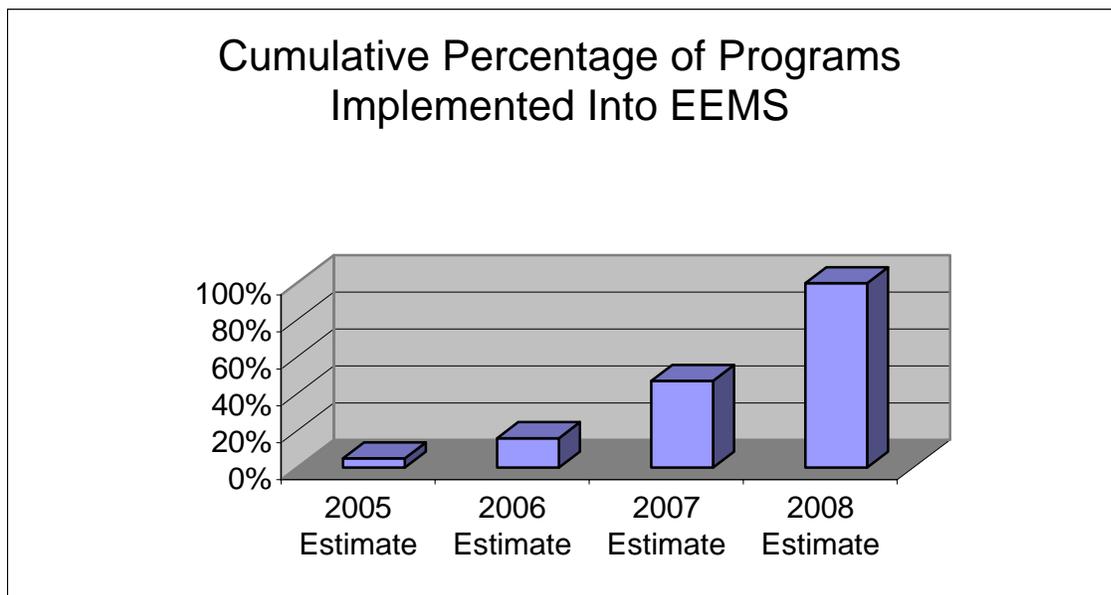
Objective 6.1: In FY 06, improve multimedia data management and integration, operational effectiveness and efficiencies and accessibility by achieving an overall 16% MDE program implementation into EEMS.

Strategy 6.1.1: Continue the phased implementation of the EEMS. Implementation schedule is based on the Project's Phase II gap analysis of existing business processes to the EEMS, prioritization of the Department's business drivers, and the availability of funding.

Performance Measures:

| Performance Measures | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|------------------------|--------------------------------|--------------------------------|--------------------------------|
| EEMS Project Schedule | Procurement Activities | Acquire, Requirements Analysis | Commence Integration & Testing | Continue Integration & Testing |
| Cumulative percentage of programs implemented into EEMS | N/A | N/A | 5% | 16% |
| Cumulative percentage of permit types issued by EEMS | N/A | N/A | 2% | 30% |
| Annual cost benefit achieved via EEMS | N/A | N/A | N/A | \$509K |

Performance Indicators:



Progress and Challenges: Significant progress has been made to date in analyzing requirements and preparing to implement the new system. The challenge for FY06 will be to continue progress in implementing additional programs and information systems into EEMS.

Customer Service and Stakeholder Involvement

Objective 6.2: Improve customer service, promote pollution prevention, and enhance stakeholder involvement. Specific FY 06 targets appear in the strategies below.

Strategy 6.2.1: In FY 06, all programs will meet the Department's goal of processing 90% of all permit applications within applicable standard permit application review times, which are established by the Department and reviewed annually with stakeholder review and input. Also, MDE will not be required to refund any permit application fees for inappropriately-delayed permits pursuant to §1-606 of the Environment Article (the Predictable Permitting Services Program, or PPSP).

Strategy 6.2.2: In FY 06, maintain FY05 levels of pounds of pollution prevented and costs savings achieved as voluntarily reported by both members of *Businesses for the Bay* and facilities receiving pollution prevention technical assistance through MDE's P2 program.

Strategy 6.2.3: In FY 06, maintain FY05 levels in the number of companies receiving Environmental Management System implementation assistance and on-site pollution prevention technical assistance.

Performance Measures:

| Performance Measures (data are annual, not cumulative, unless otherwise noted) | FY 2003 Actual | FY 2004 Actual | FY 2005 Estimate | FY 2006 Estimate |
|---|--|--|--|-----------------------------|
| Percent of applications processed within standard review times | 92% | 96% | 90% | 90% |
| Number of refunds made under PPSP | 0 | 0 | 0 | 0 |
| Pounds of pollution prevented and costs savings achieved as voluntarily reported by both members of <i>Businesses for the Bay</i> and facilities receiving pollution prevention technical assistance through MDE's P2 program | 22,652,284 (+239% over FY02)/ \$553,318 (+52% over FY 02) | 27,355,734 lbs (+21%)/ \$746,098 (+35%) | 8,674,469 lbs/ \$689,475 (ACTUAL) | 8,674,469 lbs/ \$689,475 |
| Number of facilities receiving Environmental Management System implementation assistance and on-site pollution prevention technical assistance | 19 | 18 | 19 (ACTUAL) | 19 |

Progress and Challenges:

Regarding the percentage of permit applications processed within the standard review times, the percentage was higher for FY04 because the Department received an unusually large number of applications for relatively simple permits and approvals, which are generally easier to issue quickly. Although the Department's overall permit-turnaround performance has been satisfactory, the Department continues to address particular areas where the 90% goal is not consistently met.