

# **Pollution Prevention Annual Report 2001**

Submitted to:

The Honorable James S. Gilmore, III  
Governor

The Honorable Charles Hawkins, Chair  
Senate Agriculture, Conservation and Natural Resources Committee

The Honorable M. Kirkland Cox, Co-Chair  
The Honorable A. Victor Thomas, Co-Chair  
House Conservation and Natural Resources Committee

By:  
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# EXECUTIVE SUMMARY

Virginia law requires the Department of Environmental Quality (DEQ) to establish a pollution prevention technical assistance program and to report annually to the Governor and the General Assembly on its activities. This report summarizes DEQ's pollution prevention efforts during the year 2001. Since 1999, the "Virginia Innovations in Pollution Prevention" or VIP2 initiative has guided the activities of DEQ's pollution prevention efforts. VIP2 consists of the following seven components designed to significantly expand the level of pollution prevention activity within the public and private sectors:

1. **Virginia Environmental Excellence Program:** The Office of Pollution Prevention (OPP) has primary responsibility for implementation of the VEEP, which provides recognition and incentives to encourage the implementation of environmental management systems and pollution prevention. OPP has developed marketing materials and presented numerous workshops on the program. OPP has developed a web site for the program that provides information on participation and requirements, as well as links to other sources of information on pollution prevention and environmental management systems. There are 81 participants at the E2 level, which requires an environmental policy statement, initial work on a pollution prevention plan and a record of sustained compliance with environmental regulations. In addition, there are currently six participants at the E3 level, which requires a fully implemented environmental management system, pollution prevention plan and a record of sustained compliance with environmental regulations. In June, DEQ announced the completion of its own environmental management system based on the E3 criteria of the VEEP. DEQ is believed to be the first state environmental agency in the nation to complete an EMS.
2. **Facilitation of Environmental Mentoring Activity:** The Virginia Mentoring Network (VMN), an on-line network of environmental mentoring programs, became operational in the spring of 2001. The VMN's database is organized and searchable by areas of expertise. The goal of the VMN is to facilitate as many mentoring events as possible with the expectation that this

information sharing will in turn further pollution prevention and environmentally beneficial projects.

3. **Promotion of Innovative Environmental Technology:** Throughout 2001, DEQ's Office of Innovative Technology continued to provide services to environmental technology developers and vendors, including advice and referrals to technology verification programs, potential funders, and business assistance services.
4. **Financial incentives for environmental improvements:** During 2001, significant progress was made on three financial resources: the development of the *Financial Incentives for Pollution Prevention and Environmental Projects* web site; and, the continued implementation of two revolving loan programs, the Small Business Environmental Compliance Assistance Fund and the Virginia Agricultural Best Management Practices Loan Program.
5. **Integration of Pollution Prevention Concepts Within DEQ's Core Regulatory Programs:** In late 1999, DEQ received a multi-year grant from EPA to undertake a special project to integrate the concepts of pollution prevention into the agency. The purpose of the project, which is now in its final stages, was to test the effectiveness and appropriateness of integrating voluntary pollution prevention within the agency's core regulatory functions such as permitting, inspections, enforcement, and regulation and policy development. Eleven specific pilot projects were initiated under the grant; a number have produced successful results that will be implemented agency-wide during 2002.
6. **Expanded Technical Assistance Services:** In 2001, OPP staff visited 240 facilities in Virginia to provide on-site pollution prevention and environmental management systems technical assistance. OPP has a number of initiatives underway designed to increase the level of pollution prevention activity within a particular business or industry sector or geographic area of the state. The type of facilities targeted by these initiatives include Department of Defense facilities, metal finishers, marinas, facilities within the Chesapeake Bay watershed, and ship builders and repairers. In addition, some efforts focus on reducing the

volume and impact of particular waste streams or products such as electronics waste, and mercury in schools and hospitals.

7. **Environmental Education:** In August 2001, Governor Gilmore created the Virginia Office of Environmental Education within DEQ to continue Virginia Naturally, the Commonwealth's official environmental education initiative. Virginia Naturally has three primary goals: to provide a gateway to statewide environmental education resources; to recognize exemplary efforts and facilitate community access to resources and environmental education programs; and, to link public and private groups together to reach more citizens from all sectors of the Commonwealth to promote a better understanding of scientific and economic challenges. To date, Virginia Naturally has signed up nearly 300 partners and has added over 800 interested citizens to help in the effort to link Virginians to the environment.

# INTRODUCTION

In 1993, the Virginia General Assembly adopted legislation that established a policy to promote source reduction (or “pollution prevention”) over other environmental management techniques such as control, treatment and disposal. The United States Congress adopted a similar policy preference with the passage of the Pollution Prevention Act of 1990. The Virginia law requires the Department of Environmental Quality (DEQ) to establish a pollution prevention technical assistance program and to report annually to the Governor and the General Assembly on its activities. This report summarizes DEQ’s pollution prevention efforts during the year 2001.

The Virginia Pollution Prevention Advisory Committee, consisting of representatives of industry, government and citizen organizations, provides advice and feedback to DEQ on its pollution prevention programs. The committee met twice in 2001, in May and September. A list of the current membership is included on page 37.

## Virginia Innovations in Pollution Prevention

Since 1999, the “Virginia Innovations in Pollution Prevention” or VIP2 initiative has guided the activities of DEQ’s pollution prevention efforts. VIP2 consists of the following seven components designed to significantly expand the level of pollution prevention activity within the public and private sectors:



- 5 **Virginia Environmental Excellence Program**, which provides recognition and incentives to encourage the implementation of environmental management systems and pollution prevention;
- 5 **Facilitation of mentoring activity**, including business-to-business, government-to-government, business-to-government, etc. throughout the Commonwealth;
- 5 **Promotion of innovative environmental technology**;
- 5 **Financial incentives for environmental improvements**, including pollution prevention;
- 5 **Integration of pollution prevention concepts within DEQ’s core regulatory programs**;

- 5 **Expanded technical assistance services** for pollution prevention and environmental management systems; and,
- 5 **Environmental education** activities.

Each component of VIP2 is being implemented by one or more of the programs within DEQ's Division of Pollution Prevention and Compliance Assistance; the Office of Pollution Prevention (OPP) is primarily responsible for pollution prevention activities. Each is explained in further detail in the report.

# VIRGINIA ENVIRONMENTAL EXCELLENCE PROGRAM

The Virginia Environmental Excellence Program (VEEP) was announced by DEQ in April 2000 to promote the use of environmental management systems and pollution prevention by offering positive public recognition and other incentives. A

workgroup consisting of representatives of industry, government, and citizen groups assisted DEQ in developing the program. The VEEP is open to all types of facilities, including manufacturers, agricultural operations, government agencies, and commercial establishments.



There are two types of participation in the program, **Environmental Enterprise** and **Exemplary Environmental Enterprise**. The Environmental Enterprise, or E2 level of participation, is for those organizations that are interested in beginning or are in the early stages of implementing an environmental management system. The Exemplary Environmental Enterprise, or E3 level of participation, is for those organizations with fully implemented environmental management systems and pollution prevention programs. A record of sustained compliance with environmental regulations is a requirement of both levels of participation.

## E2 Participation Requirements:

- ◆ Policy statement outlining the facility's commitment to improving environmental quality
- ◆ An evaluation of facility's environmental impacts
- ◆ Objectives and targets for addressing significant environmental impacts
- ◆ Description of the facility's pollution prevention program
- ◆ Sustained record of compliance with environmental regulations



## E2 Benefits of Participation:

- ◆ Positive public recognition
- ◆ Access to environmental mentors
- ◆ Non-regulatory technical assistance

- ◆ Information on financial incentives for environmental improvements
- ◆ Single point-of-contact within DEQ

**E3 Participation Requirements:** Documentation that the components of the Virginia Environmental Management System are in place at the facility:



- ◆ Environmental policy statement, outlining the facility's commitment to the environment;
- ◆ Identification of the facility's actual or potential impacts to the environment from current or future activities and establishment of objectives, targets and procedures and milestones for addressing them;
- ◆ Pollution prevention program, including its achievements, objectives and goals;
- ◆ Identification of the facility's environmental legal requirements and a mechanism for tracking changes in environmental compliance requirements;
- ◆ Description of how the facility defines, documents and maintains roles, responsibilities and authorities for its environmental management system;
- ◆ Procedures for reporting and record keeping to document the status of environmental management system operations and activities;
- ◆ Procedures for ensuring that facility employees have necessary training;
- ◆ Emergency response procedures for responding to, reporting, mitigating and reviewing incidents;
- ◆ Monitoring, investigative and corrective actions for noncompliance with the facility's environmental management system;
- ◆ Voluntary self assessments (external or internal auditing system); and,
- ◆ Procedures to communicate with and inform external and internal audiences.
- ◆ Sustained record of compliance with environmental regulations

**E3 Benefits of Participation:**

- ◆ All E2 benefits
- ◆ Consideration of flexibility with environmental regulatory requirements by DEQ on a case-by-case basis



<b>VEEP Membership (as of 10/01)</b>	
<b>E2 Participation</b>	Safeway (41 stores), Northern Virginia Graham White Manufacturing, Salem Metal Pro, Springfield Fort A.P. Hill Luck Stone (16 facilities) Southeastern Public Service Authority (18 facilities) US Marine Corps – AAV Program, Woodbridge Bath County Michelin North America, Scottsville
<b>E3 Participation</b>	Lockheed Martin, Manassas Canon Virginia, Newport News Siemens Automotive, Newport News PolyOne Engineered Films Group, Winchester DuPont – Spruance, Richmond BAE Systems, Manassas TetraPak Tubex, Louisa Brown & Williamson Tobacco, Chester [pending]

The Office of Pollution Prevention (OPP) has primary responsibility for implementation of the VEEP. OPP has developed marketing materials and presented numerous workshops on the program. OPP has developed a Virginia Environmental Excellence Program web site at [www.deq.state.va.us/veep](http://www.deq.state.va.us/veep). The site provides information on program participation and requirements, as well as links to other sources of information on pollution prevention and environmental management systems. A list of businesses and other organizations that have either applied or have been accepted into the program is also included on the site.



In June, DEQ announced the completion of its own environmental management system based on the E3 criteria of the VEEP. DEQ is believed to be the first state environmental agency in the nation to complete an EMS. The principal goals in developing the EMS were to demonstrate the agency's commitment to EMSs and to raise awareness within DEQ about the agency's environmental footprint.

## VEEP Coordination with other Programs

### ◆ Agriculture and VEEP

In the fall of 2000, DEQ, in conjunction with other state programs oriented towards agriculture, began working to develop a voluntary compliance assistance and environmental enhancement program for Virginia farms. As part of this effort, DEQ drafted an agricultural version of the VEEP Environmental Enterprise (E2) application. OPP technical staff is working with a dairy farm to be the program's first E2 participant. OPP technical staff is also partnering with dairy farms to test innovative equipment and methodologies. DEQ expects to receive Environmental Enterprise (E2) applications from two dairy farms by the end of 2001.



### ◆ Clean Marinas and VEEP

On January 12, 2001, Virginia's Secretary of Natural Resources John Paul Woodley, Jr., officially launched the Virginia Clean Marina program. OPP staff, in coordination with staff of the Virginia Coastal Program, developed the program to motivate marina owners/operators to undertake voluntary pollution prevention and other environmentally responsible initiatives at their facilities. State agency partners include the Department of Conservation and Recreation, US Coast Guard Auxiliary, Virginia Marine Resources Commission, Department of Game and Inland Fisheries, Department of Health, Virginia Institute of Marine Science, and several others. The goal of the program is to reduce negative environmental impacts related to marina operations. A guidebook, titled the *Clean Marinas Best Management Practices (BMPs) Manual*, was developed to help facilities develop and implement successful environmental programs. A web site for the program is available at [www.deq.state.va.us/vacleanmarina](http://www.deq.state.va.us/vacleanmarina).



For a marina to be certified as a "Virginia Clean Marina", the facility must meet a minimum set of criteria (in checklist format) and commit to continual improvement. OPP is working with its partners to integrate the VEEP criteria into both the BMP manual and the checklist, which would

allow a certified clean marina to also be eligible for Environmental Enterprise (E2) status in the VEEP. Benefits of participation to marinas will include positive recognition, reduced environmental impact, and clarification of regulatory issues.

### ◆ **EPA's National Environmental Performance Track Program and VEEP**

In mid-2000, the Environmental Protection Agency (EPA) announced a new program called the National Environmental Performance Track,



which is similar to VEEP in that is designed to motivate and reward top environmental performance. Performance Track is open to facilities of all types, sizes, and complexity, public or private, manufacturing or service-oriented. The program is designed to recognize facilities that consistently meet their legal requirements and have implemented high-quality environmental management systems. Performance Track encourages facilities to continuously improve their environmental performance and to work closely with their community and employees. Facilities applying to Performance Track must have an environmental management system in place, a history of sustained compliance, a commitment to continuous environmental improvement, and community outreach.

Since the program's launch, 253 facilities nationally have been accepted as participants. In Virginia, five facilities are participating: Canon Virginia (Newport News), Custom Integrated Technology (Newport News), E.I. DuPont Spruance Plant (Richmond), Johnson and Johnson Vision Care/The Spectacle Lens Group (Roanoke), and Lockheed Martin (Manassas). Three of these facilities, Lockheed Martin, Canon Virginia and E.I. DuPont Spruance are also VEEP participants.

The National Environmental Performance Track builds on a number of pre-existing state programs such as VEEP. OPP continues to be an active participant in discussions between states and EPA regarding the development and implementation of the Performance Track program. Specifically, DEQ has worked with EPA to ensure that the programs are not duplicative or confusing to potential participants and to identify incentives and opportunities for more coordination among the programs.



# VIRGINIA MENTORING NETWORK

The Virginia Mentoring Network (VMN), at [www.deq.state.va.us/vmn/vmnindex.htm](http://www.deq.state.va.us/vmn/vmnindex.htm), became operational in the spring of 2001. For the purposes of the VMN, a mentor is defined as *an individual or company that has voluntarily committed to provide free assistance and insight on various environmental topics, such as pollution prevention, environmental management systems, or regulatory issues*. A mentoring workgroup consisting of representatives of assistance organizations, governments and industry was established in 1999, and the VMN is the product of its efforts. The VMN promotes peer-to-peer, business-to-business mentoring activity throughout the Commonwealth. Mentoring programs generally target small businesses or other organizations lacking the resources to hire environmental staff or consultants. However, the VMN can also be used as an information-sharing service, where peers can discuss similar issues and problems completely outside of the regulatory arena.



DEQ views mentoring as an invaluable resource that complements its own compliance assistance and outreach activities. Because the program is web-based, “mentorees” are able to find assistance without ever having to contact DEQ directly. OPP plans to facilitate the matching of qualified mentors with those in need based on the mentor’s experience as well as the business’ needs and geographic location.

The Network serves as an umbrella to existing mentoring programs. There are currently five partner organizations: the Chesapeake Bay Program’s *Businesses for the Bay*, the *EnviroMentors* program (administered by DEQ’s Small Business Assistance Program), the Virginia Environmental Business Council, the Virginia Manufacturer's Association, and the Virginia Environmental Excellence Program. The Network will coordinate with other developing mentoring programs and encourage other organizations, such as trade associations and business councils, to develop similar programs.

The VMN's database is organized and searchable by areas of expertise. Because mentoring is strictly a voluntary service, the extent of "mentoring" will be left up to the individual mentor and the mentoree, depending upon their individual needs, abilities, and time commitments.

The goal of the VMN is to facilitate as many mentoring events as possible with the expectation that this information sharing will in turn further pollution prevention and environmentally beneficial projects. A mentoring event occurs any time that a mentor assists or provides information to another business. DEQ plans to send a monthly email reminder to all of its mentors to report on their recent mentoring events. In addition, DEQ will periodically ask its mentors to attempt to quantify the results of their assistance efforts. DEQ has set a target of documenting at least thirty mentoring events per month by the end of 2001.

# ENVIRONMENTAL TECHNOLOGY

The Office of Innovative Technology promotes the development and use of new environmentally preferable technologies. Although the Office is in the Division of Pollution Prevention and Compliance Assistance, its activities cover all environmental media over the whole environmental management hierarchy from pollution prevention and energy efficiency through control and treatment to remediation and restoration.

Over the course of 2001, the Office continued to provide services to environmental technology developers and vendors, including advice and referrals to technology verification programs, potential funders, and business assistance services. The Office serves as a point of contact for fielding regulatory questions from technology proponents and as a disseminator of technical information to DEQ's media programs, regional offices, and pollution prevention and compliance assistance division. The Office has also worked to enhance interagency and interstate collaboration and cooperation on technical and regulatory aspects of innovative environmental technology.

The following are among the accomplishments of the Office of Innovative Technology during 2001:

- ◆ Frequent updates of the Office's web site ([www.deq.state.va.us/innovtech](http://www.deq.state.va.us/innovtech)) The web site contains information and links to help companies access resources for technology demonstration and verification; research, development, and technology transfer; financing and business assistance; export promotion; environmental business directories; and, environmental technology news. The web site's scope of content has also assisted ongoing development of a National Environmental Technology Database effort funded by EPA, the Chesapeake Bay Program's Innovative Technology web pages, and Pennsylvania Department of Environmental Protection's innovative technology web site.
- ◆ Continued provision of advice, leads, and assistance on environmental technology issues in response to inquiries from businesses and citizens. This includes



providing data, clarifying regulatory questions, sharing perspective on business approaches, and providing leads on financial resources.

- ◆ Participation of DEQ in the Technology Acceptance and Reciprocity Partnership (TARP), a partnership of states (CA, IL, MA, NJ, NY, PA, and VA) promoting interstate reciprocal acceptance of environmental technologies through the development of common technology protocols. The Office coordinated interagency reviews of the TARP stormwater protocol among DEQ, the Department of Conservation and Recreation, and Chesapeake Bay Local Assistance Department; collaborated with the Virginia Department of Health regarding the on-site/septic treatment protocol; and secured DEQ review of a beneficial use determination protocol. TARP has also served as a forum for informal technical exchange among the states.
- ◆ Increased DEQ participation in the Interstate Technology and Regulatory Cooperation Workgroup (ITRC), an organization of 40 states and the District of Columbia working in cooperation with federal, tribal, and private entities to provide technical exchange and training in environmental technologies, primarily for contaminated site characterization, monitoring, and remediation. The Office's service as ITRC point-of-contact has led to increased DEQ staff use of ITRC documents and training, DEQ concurrence with three ITRC guidance documents, and staff participation on several ITRC technical teams, as well as less formal opportunities for technical exchange.
- ◆ Participation on the Chesapeake Bay Program's Technology Task Force, including development of the Task Force's Internet-based Innovative Technology Clearinghouse.
- ◆ Support of other entities assisting Virginia environmental businesses, including collaboration with the Virginia Environmental Business Council and its Electronic Commerce for Environmental Technology (EC4ET) initiative; sponsorship of the Annual Small Business Innovation Research Workshop organized by the Office of Science and Technology of the Virginia Department of Technology; and, exchange of leads and referrals with such groups as the Center for Innovative Technology, Department of Business Assistance, and Virginia Economic Development Partnership.
- ◆ Award of U.S. Department of Energy (DOE) and Virginia Department of Mines, Minerals, and

Advanced distributed power technologies, such as microturbines, can help provide high-quality, reliable, efficient, and clean energy.





Energy (DMME) funding for a study of administrative and regulatory impediments to combined heat and power and distributed energy resource applications.

- ◆ Management of the Virginia Environmental Services Network (VESN) ([www.vesn.org](http://www.vesn.org)) web-based directory of Virginia environmental businesses.
- ◆ With the Office of Pollution Prevention, Office of Environmental Education, and the Division of Environmental Enhancement, facilitated dialog with DMME, the state Department of Education, DOE, and Virginia Housing and Environment Network to enhance awareness of opportunities to improve energy efficiency and environmental performance in K-12 schools.
- ◆ Coordinated informal discussions among state, academic, non-profit, and business stakeholders to explore opportunities to enhance beneficial use of non-hazardous mineral byproducts from mining and construction activities.
- ◆ Provided technical support to other DEQ offices, such as information to the Office of Pollution Prevention on specific technologies; data and analyses on energy use and emissions in collaboration with the Office of Environmental Enhancement; selected support of DEQ's environmental management system; and, as mentioned above, technical exchange through ITRC, TARP, and individual vendors to DEQ staff.
- ◆ Developed and distributed a PowerPoint presentation entitled "EMS PRIMER" for local governments.

# FINANCIAL INCENTIVES FOR ENVIRONMENTAL IMPROVEMENTS

Under VIP2, DEQ has worked to identify new and existing financial resources for environmental improvements. During 2001, significant progress was made on three specific resources, the development of the *Financial Incentives for Pollution Prevention and Environmental Projects* web site and the continued implementation of two revolving loan programs, the Small Business Environmental Compliance Assistance Fund and the Virginia Agricultural Best Management Practices Loan Program.

## Financial Incentives for Pollution Prevention and Environmental Projects Web Site

Pollution prevention and other environmentally beneficial projects often require significant capital investment. Many times, even when such projects will result in significant cost savings, obtaining funding may prove difficult for facilities. A wide array of financial incentives is available through various state and local programs; however, the administrators, target audiences, legalities, and other terms vary greatly, and there is no single, comprehensive source for this information.



To address this need, in early 2001, OPP developed the *Financial Incentives for Pollution Prevention and Environmental Projects* web site at [www.deq.state.va.us/p2/financial.html](http://www.deq.state.va.us/p2/financial.html). The site catalogs grants, loans, tax incentives, and other financing options available to assist in the implementation of pollution prevention and other environmental projects. The web site, which currently includes information on over thirty different financial assistance programs, has been designed to be user-friendly and was developed with input from a workgroup comprised of industry and state representatives in the fall of 2000. OPP expects the resource to significantly expand over time.

## Small Business Environmental Compliance

## **Assistance Fund**

Under the Small Business Environmental Compliance Assistance Fund (SBECAF), which became operational in mid-2000, Virginia small businesses can obtain direct loans of up to \$100,000 to finance the purchase of equipment to implement voluntary pollution prevention, equipment to comply with the federal Clean Air Act, or equipment or structures to implement agricultural best management practices. The loans are offered at a 3% interest rate with favorable repayment terms based on the borrower's ability to repay and the useful life of the project being implemented. To be eligible for financing through the SBECAF, a business must meet the following criteria:

- ◆ Be a qualified small business (employing 100 or fewer people or be a small business as defined in the federal Small Business Act);
- ◆ Maintain business operations in Virginia; and,
- ◆ Demonstrate a reasonable assurance of repayment.

Some examples of eligible loan uses under the pollution prevention category of the SBECAF include high-volume low-pressure spray guns, alternative curing technologies, and ultrasonic cleaning equipment to replace solvent systems. Through the end of September 2001, \$464,279 in loans had been awarded to ten companies for pollution prevention projects.

## **Virginia Agricultural BMP Loan Program**

Through the Virginia Wastewater Revolving Loan Fund, a new program known as the Virginia AgBMP Loan Program was initiated by DEQ in January 2000. This program provides loans to Virginia's agricultural producers (farmers and growers) throughout Virginia at an interest rate of 3% to assist them in implementing any of the twenty-two agricultural best management practices (BMPs) identified as being eligible under the program. The goal of the program is to help reduce or eliminate non-point source pollution of state waters from agricultural operations.

An initial set-aside of \$5 million from Virginia's Wastewater Revolving Loan Fund repayment proceeds was established for program implementation, and in June 2001 the State Water Control Board authorized an additional \$5 million set-aside. The loans can be used in conjunction with other funding programs (i.e., State Cost

Share, EQUIP, etc.) or as stand alone financing. Any Virginia agricultural producer who is interested in implementing an eligible BMP may apply for assistance from DEQ program by submitting a simple two-page pre-application form. A minimum loan amount of \$5,000 has been established, but there is no maximum limitation. Some examples of eligible practices are animal waste control facilities, loafing lot management systems, animal waste structure pumping equipment, stream exclusion and grazing land protection fencing and alternative watering systems etc.

The first AgBMP loan of \$147,000 was presented in May 2000 to Lloyd McPherson of Christian Creek Holsteins. As of September 1, 2001, seventy-five additional AgBMP loans had been closed, totaling \$4,269,296. Another fourteen loans, totaling \$1,117,750 were under review in September 2001. The authorized loans include projects which will provide and allow for environmentally responsible storage and handling of approximately 47.7 million gallons of slurry (liquid) manure and 10,464 tons of dry manure (based on the farms' projected operation each year through the design life of the practices or facility installed).

# **INTEGRATION OF POLLUTION PREVENTION CONCEPTS WITHIN DEQ'S CORE REGULATORY PROGRAMS**

In late 1999, DEQ received a grant from EPA to undertake a special project to integrate the concepts of pollution prevention into the agency. The purpose of the project is to test the effectiveness and appropriateness of integrating voluntary pollution prevention within the agency's core regulatory functions such as permitting, inspections, enforcement, and regulation and policy development. A number of specific pilot projects were initiated under the grant.

Examples of pollution prevention integration projects developed in other states using this process have included:

- ◆ Integrating pollution prevention in the inspections of metal finishing facilities;
- ◆ Establishing a pollution prevention coatings partnership and training program for industry, government, suppliers and coatings applicators;
- ◆ Integrating pollution prevention into the enforcement process; and,
- ◆ Creating a coordinated effort to integrate pollution prevention into pre-permit meetings, the permit renewal process and permit writer facility visits.



**DEQ staff discussing pollution prevention**

Successful results of the DEQ pollution prevention integration pilot projects include the following:

- ◆ **Hazardous Waste Compliance Assistance Visits:** During 2001, DEQ pilot tested a strategy for integrating pollution prevention concepts and principles into the hazardous waste compliance program. An EPA-approved inspection strategy was implemented which involved pollution prevention-biased compliance assistance visits (CAVs) in select target industry sectors. Hazardous waste compliance inspectors and pollution prevention staff performed the CAVs jointly. Marinas and vehicle maintenance facilities were chosen as the target sectors for the pilot project because they typically have little interaction with DEQ hazardous waste compliance staff and are often small businesses with little environmental expertise.

The process involved conducting a compliance assistance/pollution prevention/waste minimization visit at a facility; providing the facility with a verbal and written assessment of the evaluation; and following up with a regular compliance enforcement inspection (CEI) at a later date. Potential enforcement of minor violations would be deferred until the CEI, if uncorrected.

This approach proved beneficial because it promotes DEQ's mission as "environmental problem solvers", reduces the facility's regulatory burden, and refocuses DEQ resources, through generator category reduction. Where implemented, facility reaction to the program has been overwhelmingly positive.

- ◆ **Water Permitting:** In an effort to integrate and reinforce pollution prevention ideals into the Virginia Pollutant Discharge Elimination System (VPDES) permit process, water permits writers and OPP staff are collaborating with facility personnel during the permit issuance/reissuance process. The goal of the pilot project is to reduce overall discharges of wastewater and reduce pollutant concentrations in wastewater by negotiating and incorporating pollution prevention-based special conditions into VPDES permits. This has been accomplished through the evaluation of pollution prevention opportunities by OPP staff and water permits writers during facility inspections. Pollution prevention opportunities outside the realm of VPDES permitting are also identified during these pre-permit discussions/inspections.

- ◆ **Construction Grants Initiative:** OPP staff, in coordination with DEQ Construction Grants Assistance Program staff, revised the definition of “innovative technology” used in the Virginia Wastewater Revolving Loan Fund and the Virginia Agricultural BMP Loan Program applications and materials to include pollution prevention technologies. The change was highlighted in 2001 solicitations for the grant program.
  
- ◆ **Staff Recognition:** The following “agency objective” for environmental management was added to the Employee Work Profile for all DEQ employees in 2001:

“Uses innovative techniques, including pollution prevention, environmental management systems, and program flexibility to achieve the agency mission of protecting Virginia's environment and promoting the health and well-being of the citizens of the Commonwealth.”

DEQ is believed to be the first environmental agency in the country to have incorporated environmental management and pollution prevention concepts into agency position descriptions. In mid-2001, DEQ’s newly created Training Committee identified environmental management systems as one its core training needs. In the fall of 2001, OPP received grant funding from EPA Region III to present staff training on pollution prevention and environmental management systems during 2002. In addition to the new training, DEQ will expand the use of its existing Employee Recognition Program to provide incentives such as prizes, bonuses and vacation days as rewards for staff promotion of pollution prevention and environmental management systems.

# **EXPANDED TECHNICAL ASSISTANCE & OUTREACH SERVICES**

Under the VIP2 initiative, DEQ has committed to significantly increasing the level of technical assistance it provides to facilities on pollution prevention and environmental management systems. The Office of Pollution Prevention (OPP) provides two basic types of assistance: on-site pollution prevention assessments, in which OPP staff visit facilities, review their processes and make pollution prevention recommendations, and targeted outreach for particular industry sectors, geographic areas or pollutants. Each of these categories of technical assistance is discussed below.

## **On-Site Assessments**

During 2001, OPP staff visited 240 facilities in all areas of Virginia to provide on-site pollution prevention and environmental management systems technical assistance. In a continuing effort to integrate pollution prevention concepts into all regulatory functions at DEQ, 120 of the site visits were made jointly with compliance inspectors. The goal of the joint visits is to identify pollution prevention opportunities that will reduce the facility's impact on the environment while lowering their costs and improving working conditions.

### **Highlights of Pollution Prevention Successes in Virginia Documented by OPP (1998-2001)**

- ◆ Over 488 million gallons of wastewater avoided
- ◆ Over 1.5 million pounds air emissions avoided
- ◆ Over 710 million pounds of wastes avoided

OPP staff worked closely with DEQ's hazardous waste program in implementing a pilot project involving compliance assistance inspections at marinas and vehicle maintenance shops. The goal of this initiative was to work cooperatively with businesses through compliance assistance rather than enforcement. OPP staff accompanied inspectors on compliance assistance visits to identify regulatory problems and suggested appropriate best management practices and pollution prevention alternatives to correct the situations.

The amounts of pollutants that have been reduced at facilities where OPP has had some interaction continued to be documented in a pollution prevention database. Environmental improvements



reported from these facilities during the period from 1998 to 2001 include:

- ◆ Reductions in air emissions of over 1.5 million pounds
- ◆ Reduction in water discharges of over 488 million gallons
- ◆ Reductions of waste disposal of over 710 million pounds

Because pollution prevention in Virginia is not a mandatory requirement, information in this database has been voluntarily submitted. It is not a complete record of all environmental improvements, but the numbers reported are significant.

OPP on-site pollution prevention assessments continue to be tracked in the pollution prevention module in the central DEQ database CEDS (Comprehensive Environmental Data System). Information entered into CEDS includes pollution prevention suggestions made by OPP staff, project implementation status, and the amounts of pollutants reduced and dollars saved. A more comprehensive report is also prepared for internal distribution and is placed in the facility files at OPP. Some recent success stories that have been documented by OPP staff follow:

#### Solvent Reductions:

- ◆ A printer in the Tidewater area modified their lithographic press cleaning procedures and reduced solvent use by over 4,000 gallons per year and saved \$40,000 annually.
- ◆ An aluminum fabricator in Waynesboro is switching from solvent vapor degreasing to aqueous cleaning, which will reduce their volatile organic compound (VOC) emissions by over 10 tons per year.

#### Oil Recycling:

- ◆ A bearing manufacturer in Petersburg installed a system that segregates, recovers, and recycles the lubrication and hydraulic oils used in their process, which were being sent off-site as a waste. The capital investment of \$25,000 will generate savings in excess of \$75,000 annually.

- ◆ A compressor manufacturer in southwestern Virginia recently began an on-site recovery program to reuse their cutting oils, saving \$60,000 per year.

#### Painting Improvements:

- ◆ An equipment manufacturer in the Richmond area switched from spray painting to powder coatings and eliminated their VOC emissions (20 tons annually).
- ◆ A truck manufacturer in the western Virginia area switched to high efficiency paint spray guns to reduce VOC emissions by over 10 tons per year.

#### Beneficial Reuse:

- ◆ Two foundries (one in Lynchburg and one in Radford) no longer landfill 40,000 tons per year of waste molding sands, instead sending it to a cement manufacturer where it is used as a raw material. Waste slag from a local steel mill is also used in the cement manufacturing process.

### **Targeted Outreach Initiatives**

OPP has a number of initiatives underway designed to increase the level of pollution prevention activity within a particular business or industry sector, geographic area of the state or particular waste stream. Although the specific activities vary from initiative to initiative, generally OPP provides information in the form of workshops, fact sheets, case studies, and specific guidance for each initiative. A number of OPP's outreach efforts are summarized below.

#### **◆ Virginia/DOD Pollution Prevention Partnership**

On October 19, 2001 officials from the Commonwealth of Virginia, the Environmental Protection Agency, and Department of Defense signed the "Virginia-DOD P2 Partnership Charter" at a ceremony in the House of Delegates Chambers at the Virginia State Capitol. The agreement promotes the use of pollution prevention techniques at military facilities and is being implemented by a group consisting of environmental managers from DEQ, defense installations, and EPA.

In 2001, the implementation team met three times. Each meeting was held at a different DOD installation and included a presentation and tour of the host facility's pollution prevention successes and challenges. Fort Lee, Quantico Marine Corps Base, and the Pentagon hosted meetings. A fall 2001 meeting is planned at Langley Air Force Base in November.

Specific goals and accomplishments of the partnership include:

- ◆ The review of five practices/processes common to partnership members for pollution prevention opportunities. The implementation team selected solvent use, universal waste, affirmative procurement, hazardous materials and aqueous fire fighting foam (AFFF). Initial reports were completed in the fall of 2001. Another workgroup was created to address common issues related to alternative fuel vehicles.
- ◆ The initiation of four cooperative projects every eighteen months:
  - ☐ Businesses for the Bay and Virginia Naturally as state/regional programs for partnership participation (full participation in Businesses for the Bay is expected by the end of 2001; six partnership members have signed on to Virginia Naturally).
  - ☐ Training on sustainable building techniques and technologies was selected as an area to promote (nine partnership installations attended a January 2001 training seminar).
  - ☐ Review and identify reduction opportunities for identified Chemicals of Concern.
  - ☐ Encourage participation in the Virginia Environmental Excellence Program (one DOD facility has joined the program to date).
- ◆ The sharing of information at externally five times each year. The implementation team has communicated about the partnership through presentations and displays at existing conferences, articles in existing newsletters and papers and a newly created web page.

### ◆ **Energy Efficiency**

In 2001, OPP technical assistance staff worked with over ninety Virginia businesses, facilities and organizations on issues related to energy efficiency. The goal of this outreach is to promote energy efficiency and alternative energy technologies that provide a cleaner, safer and economic alternative to many conventional power sources. Related information is disseminated to facilities, by request or through general outreach efforts. Concepts in energy efficiency are

also being integrated into many aspects and operations of DEQ, including the Virginia Environmental Excellence Program, Businesses for the Bay, Virginia's Strategic Goals Program for Metal Finishers and the College and University Pollution Prevention Challenge. Other projects focus on the integration of energy efficiency into DEQ's internal operations such as environmentally preferable purchasing and the agency's environmental management system.



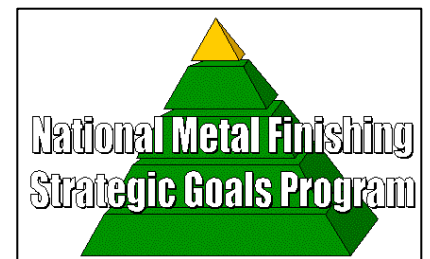
**OPP's Keith Boisvert presenting information on energy efficiency.**

### ☐ **Rebuild America EnergySmart Schools**

**Campaign.** EnergySmart Schools is a campaign of the Department of Energy-supported Rebuild America partnership. The campaign provides information and technical support to promote the improved energy efficiency in k-12 schools. Energy efficient design, equipment, and operations and maintenance can save school districts money while enhancing the learning environment and protecting the natural environment. The Offices of Innovative Technology, Pollution Prevention, and Environmental Education have helped the Rebuild America EnergySmart Schools campaign by hosting briefings of the program to officials from the state Department of Education and Department of Mines, Minerals, and Energy. In cooperation with the Virginia Housing and Environment Network, DEQ is working to help promote the program to public school districts in Virginia. DEQ has also helped DOE disseminate its "Get Smart About Energy" CD-ROM to science teachers.

### ◆ **Virginia Strategic Goals Program for Metal finishers**

Over the past two years, OPP staff has been implementing the Virginia Strategic Goals Program (SGP) for metal finishers and publicly owned treatment works (POTWs) facilities. Under the program, there are seven core environmental goals to be achieved by metal finishers:



- ☐ 98% metals utilized on products;
- ☐ 50% water reduction;
- ☐ 25% energy reduction;

- ⊘ 90% reduction in organic Toxic Release Inventory emissions;
- ⊘ 50% reduction in metals emissions to air and water;
- ⊘ 50% reduction in land disposal of hazardous sludge and a reduction in sludge generation; and,
- ⊘ Reduction in human exposure to toxic materials in the facility and the surrounding community.

There are currently twenty-one metal finishing facilities and ten POTW facilities participating in the Virginia SGP. OPP has worked to promote the program and provide technical assistance to members. Three workshops were presented during 2001. Workshop participants received information on improving process efficiency and the benefits of an environmental management system.

Virginia SGP members are making headway in achieving the program goals. One facility was awarded the Bronze Level certificate, and three other facilities have significantly reduced their costs and regulatory liabilities. Each participating facility has received recognition in the OPP newsletter and in a DEQ letter sent to all metal finishers in Virginia explaining the benefits of the program.

At the suggestion of the steering committee, the Virginia's A.L.Philpott Manufacturing Extension Partnership (VPMEP) organization has been invited to assist DEQ in soliciting new members and to provide another avenue for technical assistance. VPMEP and DEQ staffs are jointly meeting with metal finishers to explain this partnership in detail.

### ◆ **Healthcare Sector**

During 2001, OPP worked with non-profit organizations such as Healthcare Without Harm and Hospitals for the Environment to develop a strategy to promote pollution prevention efforts within hospitals. In late 2001, OPP intends to meet with individual hospitals in order to pursue a partnership between DEQ and the industry. In addition, OPP will offer technical assistance in the form of pollution prevention assessments to participating facilities. These efforts are based on the 1998 Memorandum of Understanding between EPA and the American Healthcare Association, which includes a commitment to reduce wastes and eliminate mercury in hospitals by 2005.

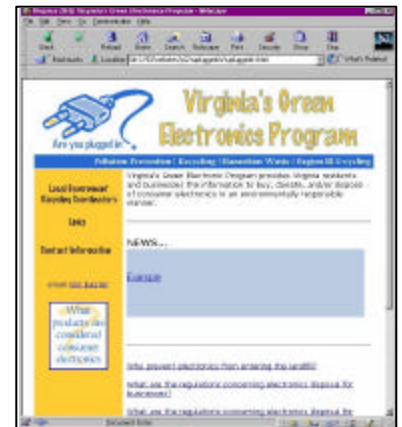


## ◆ Computer/Electronics Recycling

In response to a number of inquiries, OPP initiated an effort to identify landfilling alternatives for computers and other electronic devices. By some estimates, about three-quarters of all computers ever bought in the U.S. are currently stored in warehouses, attics, basements, and office closets as a result of a lack of information on proper disposal or recycling. In 2001, DEQ partnered with EPA Region III, other Region III states, electronics manufacturers, electronics distributors and solid waste haulers to create a pilot program on electronics reuse and recycling. The “eCycling Program” was officially initiated throughout the Mid-Atlantic region during October. In Virginia, the kick-off included the announcement of a partnership with five localities that will host pilot collection programs. Upon completion of the pilot program in late 2002, EPA will compile and disseminate information on the lessons learned from testing the various types of collection programs for electronics.



OPP staff have created a web site entitled “Are You Plugged In?” at [www.deq.state.va.us/rupluggedin](http://www.deq.state.va.us/rupluggedin) for homeowners, businesses and manufacturers to learn the environmental impacts of electronics and actions they can take to prevent electronics from entering the waste stream. The web site focuses on a closed loop philosophy with pages on recycling, reuse, donation, education, leasing, smart purchasing, green design and green procurement. OPP staff have incorporated electronics into DEQ’s WasteWi\$e goals (see below) and are working in cooperation with the Virginia Department of General Services to assist other state agencies to recover and recycle electronics.



## ◆ Shipbuilding Sector

OPP became a participant in EPA’s Sustainable Industry Program sector project for the Shipbuilding and Repair Industry in April 2000. The Sustainable Industry Program works in partnership with industry and state governments to find the most effective and innovative ways to improve environmental performance. The project analyzes, evaluates,

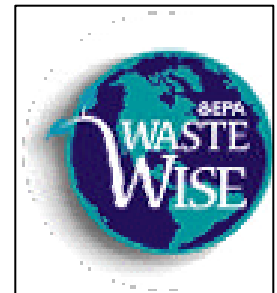


and tests incentives and tools that can promote “beyond compliance” actions by businesses acting in their own interest.

On March 27, 2001, representatives of DEQ (water permits and OPP), EPA, the US Maritime Administration and a number of local shipyards met at Newport News Shipbuilding and Drydock Company to discuss the program and identify pilot projects that would benefit the environment and the viability of Mid-Atlantic shipyards. Several workgroups were formed to address issues such as the development of an industry-specific environmental management system template, the reduction of volatile organic compounds, hazardous air pollutants emitted and hazardous waste generated at shipyards, and the reduction of metals loadings in stormwater through improved or revised Best Management Practices (BMPs). The workgroup developed to examine current Virginia stormwater BMPs and revise them where appropriate has met on several occasions since the March session.

### ◆ **EPA’s WasteWiSe Program**

In the spring of 2000, DEQ joined EPA’s WasteWiSe program, committing to lead by example and expand the agency’s solid waste reduction activities. WasteWiSe is a voluntary partnership program that assists and challenges organizations to find savings through innovative waste reduction activities. There are currently over 1,000 members.



WasteWiSe offers planning, measurement and educational tools, and assistance to aid partners in creating and reaching solid waste reduction goals with an annual reporting requirement.

OPP is focusing on the Central Office’s activities for its first year reduction goals; the regional offices will gradually be incorporated into the program. DEQ’s goals focus on office waste paper, waste electronics, and promotion of the WasteWiSe Program to local governments and businesses within Virginia. During 2001, DEQ disseminated WasteWiSe information to local governments, via a display, at three conferences attended by local government representatives. DEQ joined the EPA eCycling Project to create a regional system for collection of electronics (see above) and supplied information during the creation of the DEQ EMS on electronics use within the agency. OPP plans to examine agency procurement practices and recycling efforts over the next three years as part of its WasteWiSe program.

## ◆ **Environmentally Preferable Purchasing for Virginia Governments**

Environmentally preferable purchasing or EPP is a procurement process that specifically identifies goods and services that have a reduced negative impact on the environment and on human health when compared to other goods and services that are used for the same purpose. The Commonwealth of Virginia has enacted legislation governing EPP (Environmentally Preferable Purchases. 11-41.02), recycling duties of state agencies, agency responsibilities for purchase programs of recycled goods, periodic review of the Department of General Services' procurement standards and bid preferences.

DEQ-OPP is working with the Department of General Services (DGS) to promote environmentally preferable purchasing (EPP) among Virginia state agencies and local governments. EPP is a major Environmental Protection Agency initiative and is a component of Executive Order 13101 and the Federal Acquisition Regulation, which requires federal procurement officials to evaluate and give preference to both products and services that are deemed to be environmentally preferable.

OPP has partnered with DGS concerning the designation of recycled goods and increasing the awareness of the benefits of using such products. OPP is currently developing a web site that defines EPP, describes the benefits of green purchasing, identifies the state procurement law, lists green products/services and promotes Virginia-based vendors who manufacture/distribute green goods/services. The website will provide links to other sources of EPP information and will publicize success stories from both the public and private sectors.

In 2001 DEQ developed and began implementation of an Environmental Management System (EMS). The EMS includes an EPP component that will provide guidance and direction in DEQ's procurement and contracting activities. When the website goes on-line, the next phase will be EPP workshops for DEQ officials involved in purchasing and contracting. EPP workshops will also be conducted in cooperation with the DGS for state agency and local government officials.



## ◆ Environmental Lodging

The Virginia Environmental Lodging is OPP's public recognition and awareness initiative for the hospitality industry. Participation in the program has increased dramatically due to expanded and more specific outreach efforts. In June, Environmental Lodging was featured at the Virginia's Sustainable Future II Conference. That presentation and ensuing discussions helped to identify additional interest and opportunities for partnerships to promote the program in conjunction with the Virginia Tourism Corporation's (VTC) "eco-tourism" initiative. The VTC is interested in promoting the use of Environmental Lodging facilities as a logical compliment to its efforts.



In addition, OPP has improved the Environmental Lodging tool kit and created a website ([www.deq.state.va.us/p2/lodging/lodging.html](http://www.deq.state.va.us/p2/lodging/lodging.html)), adding fact sheets on conference/events planning and providing success stories for each of the participants. In September, DEQ presented the first Environmental Lodging "certificate of environmental commitment" to Kingsmill Resort in Williamsburg. In early October, Wintergreen Resort in Nelson County and the Airlie Center in Fauquier also received certificates for display at their facilities. OPP has received commitment to the program from approximately twenty facilities, and another twenty are working with OPP staff to identify their activities.

OPP staff is working on various ideas for increasing public recognition for the participating facilities. In addition, the facilities are being made aware of the pollution prevention technical assistance that is available through OPP and through the Virginia Mentoring Network. Finally, OPP is contracting for a series of comprehensive "pollution prevention assessments" which will be provided at no charge to volunteering facilities.

## ◆ Virginia College and University P2 Challenge

In May of 2001, DEQ convened representatives from thirty-five Virginia colleges and universities, both public and private, to participate in an initiative proposed by Virginia Secretary of Natural Resources, John Paul Woodley, Jr. The *Virginia College & University P2 Challenge* encourages institution of higher education to assume a

leadership role as models of environmental stewardship. Furthermore, the challenge encourages the institutions to strive for superior environmental performance and leadership in environmental education and innovations. It is envisioned that the challenge will be the higher education component of the Virginia Naturally program, a campaign to promote life-long learning opportunities in environmental education.

The challenge consists of four components:

- ⊘ **Virginia Naturally:** that Virginia colleges and universities pledge to join the Virginia Naturally network of environmental education and information providers.
- ⊘ **Pollution Prevention:** that Virginia colleges and universities pledge to consider voluntary pollution prevention methods and technologies as the preferred means for achieving improved environmental performance.
- ⊘ **Education:** that Virginia colleges and universities pledge to integrate pollution prevention concepts wherever applicable in the classroom so that students embrace these concepts and use them in the working world.
- ⊘ **Information Sharing and Problem Solving:** that Virginia colleges and universities pledge to work together with each other to share information and experiences on similar topics, assess applicable technologies and techniques, and assist each other in the implementation of practical measures which benefit the environment.



**Anne Regn, Director of  
DEQ's Office of  
Environmental Education,  
discusses Virginia  
Naturally**

Participating challenge institutions will work together to achieve agreed upon goals and work tasks, and it is expected that the group will serve in an advisory capacity to the Secretary of Natural Resources and as a voice for environmental issues faced by colleges and universities.

Challenge participants have identified more than twenty-five potential work tasks that can be addressed through the effort. OPP is in the process of grouping similar tasks and identifying leaders to address the tasks. The committees will share information, address problems, make recommendations to the larger group, and work with OPP to facilitate pollution prevention projects and improved environmental performance.

## ◆ **Businesses for the Bay**

There are 215 Virginia businesses and organizations participating in the Businesses for the Bay Program. Businesses for the Bay is a voluntary pollution prevention program designed to encourage industry, business, and other organizations to adopt pollution prevention principles and technologies. There are also 65 members who have volunteered to serve as business-to-business mentors for pollution prevention. Sponsored by EPA's Chesapeake Bay Program, Businesses for the Bay was designed in conjunction with the Chesapeake Bay Basinwide Toxics Reduction and Prevention Strategy. The program has received national recognition for its environmental education and mentoring programs. Businesses for the Bay recognizes pollution prevention as an important tool for improving condition in the Bay and is designed to reduce the impact of toxics on the watershed.



Each participating facility develops its own pollution prevention goals and each year participants are asked to report on their successes and to establish their goals for the next year. Businesses for the Bay members receive positive public recognition, access to mentoring, participation in workshops and conferences, and eligibility for annual awards presented by the Chesapeake Bay Program Executive Council.

The new long-term goals for the program are:

- ⊘ By 2005, Businesses for the Bay will have 1,000 participants throughout the watershed;
- ⊘ By 2005, Businesses for the Bay will have 300 mentors performing a total of 500 mentoring events per year; and,
- ⊘ By 2005, Businesses for the Bay participants will prevent a cumulative total of one billion pounds of hazardous substances from entering the waste stream.

OPP promotes these goals through mailings to members, newsletter features, newspaper articles and advertisements, one-on-one recruitment meetings, displays at conferences, and presentations. Some of the highlights include:

- ⊘ Participation by members in Virginia's "Fall River Renaissance" program.
- ⊘ Participation at the Environment 2001 Conference held at Virginia Military Institute in April.
- ⊘ Exhibitor at the Virginia Sustainable Futures Conference in June.
- ⊘ Participation and support of the Virginia Clean Marinas Program.
- ⊘ Participation and support of the Virginia Naturally Environmental Education initiative.
- ⊘ Support of the Virginia Environmental Lodging program.
- ⊘ Support of the Virginia College & University Pollution Prevention Challenge and of state agency/local government pollution prevention planning and initiatives.
- ⊘ Participation by members in Virginia's Operation Spruce-Up.
- ⊘ Exhibitor at the Fort Monroe's Environmental Fair.
- ⊘ Exhibitor at the Piedmont Environmental Fair at the Airlie Center.
- ⊘ Presentation of the Businesses for the Bay Annual Meeting and Awards in Hershey, Pennsylvania in November.
- ⊘ Support of the Virginia Environmental Excellence Program.

### ◆ **Mercury Reduction Initiative**

DEQ is working to promote and coordinate statewide efforts to reduce the use of mercury and mercury-containing products and to collect unused elemental mercury for proper management and recycling. The Mercury Reduction Initiative draws heavily upon the strengths of other successful mercury-related programs in other states and cities. OPP is utilizing existing partnerships with industry, state and local governments, and non-profit organizations to create new partnerships with state and federal government entities, the healthcare industry, local school systems, colleges and universities, and other groups.

To date, OPP has completed two of the proposed mercury efforts: a coordinated “dental mercury sweep” in 2000 and the “schools sweep” in 2001. Mercury reduction projects are being developed with the healthcare industry and with Virginia colleges and universities. Additional projects targeting specific industry sectors, such as the heating and cooling service and repair industry have been proposed.

A pilot *Mercury Collection & Thermometer Exchange* project was coordinated with the Virginia Department of Education. In May and

June, OPP collected elemental mercury and/or conducted mercury thermometer exchanges with seventeen Virginia high schools. The three-week mercury “sweep” resulted in the collection of approximately 330 pounds of elemental mercury and nearly 1,900 thermometers. In addition, OPP distributed approximately 900 digital, mercury-free thermometers and educational materials on the risks of mercury, where it is used, and what alternatives are available. The results of this project are available on the program website, and OPP is developing a “how-to” package for organizations that are interested in hosting their own events.

### ◆ **Information Clearinghouse and Requests**

OPP's information clearinghouse consists of fact sheets, success stories, industry specific literature, general pollution prevention information, EPA publications, posters, and instructional videos. In 2001 much of the information was incorporated into the OPP web site and available for downloading. The web site is a link on other environmental and government homepages. Requests for information are received via phone calls, electronic mail, faxes, and regular mail. Pollution prevention information is the most widely requested, but in 2001 there has been an increased interest in energy conservation, hazardous waste, construction/demolition debris recycling and the development of environmental management systems (EMS). Frequently the nature of the question requires OPP staff to conduct research to derive the most current and effective information. Most requests come from within the Commonwealth, but there are also inquiries from across the nation and sometimes even international locations. In 2001, a pollution prevention module was developed for DEQ's Comprehensive Environmental Database System (CEDs) to facilitate more complete tracking of pollution prevention activities and requests for information.

### **Coordination with Other Pollution Prevention Programs**

The Office of Pollution Prevention works closely with pollution prevention organizations within Virginia and those with regional and national interests.

## ◆ **Waste Reduction Resource Center**

OPP has continued to downsize its hardcopy files and information clearinghouse functions. It now relies heavily upon the efforts of the Waste Reduction Resource Center (WRRC), which serves the states of EPA Regions III and IV and is located in Raleigh, North Carolina, for its information search functions. WRRC's "industry sector" database and library is highly regarded nationally as a source of pollution prevention technical information. OPP and other states in the region are assisting WRRC in the research, assessment, and updating functions of the industry sector databases.



## ◆ **National Pollution Prevention Roundtable**

DEQ has been a participant in the National Pollution Prevention Roundtable (NPPR), since the late 1980s. NPPR is the largest membership organization in the U.S. devoted solely to pollution prevention. The mission of the NPPR is to provide a national forum for promoting the development, implementation, and evaluation of efforts to avoid, eliminate, or reduce pollution at the source.



One of the most important roles of NPPR is to provide members with timely and accurate information on pollution prevention. It does this by providing forums for the direct exchange of ideas and expertise as well as through a number of programs designed for dissemination of the most current data on pollution prevention policy developments, practices and resources. One of the ways NPPR does this is by holding national meetings that facilitate pollution prevention network building and the exchange of ideas, resources and research on various topics. In 2001, Sharon Baxter of OPP represented EPA Region III on NPPR's Board of Directors.

## ENVIRONMENTAL EDUCATION

Since January 2000, Virginia Naturally, the Commonwealth's official Environmental Education Initiative, has signed up nearly 300 partners and has added over 800 interested citizens to help in the effort to link Virginians to the environment.



Virginia Naturally has three primary goals:

- ◆ To provide a gateway to statewide environmental education resources;
- ◆ To recognize exemplary efforts and facilitate community access to resources and environmental education programs; and,
- ◆ To link public and private groups together to reach more citizens from all sectors of the Commonwealth to promote a better understanding of scientific and economic challenges.

With the success of Virginia Naturally, in August 2001, Governor Gilmore created the Virginia Office of Environmental Education within DEQ to continue the initiative. The website, [www.vanaturally.com](http://www.vanaturally.com) has grown substantially and is a gateway to environmental and pollution prevention information in Virginia.



**DEQ Office of Environmental Education staff with Governor Jim Gilmore**

Other pollution prevention-oriented environmental education activities in 2001 included:

- ◆ In September and October, 300 elementary students from Fluvanna and Northumberland Counties attended all-day festivals designed to educate students about water quality concepts and pollution prevention efforts and assist teachers with implementation of the related Standards of Learning.
- ◆ Twenty-nine schools across the Commonwealth will be recognized for their exemplary efforts in environmental education in December, 2001.
- ◆ Pollution prevention instruction was provided to forty high school students at the second annual Governor's Academy for

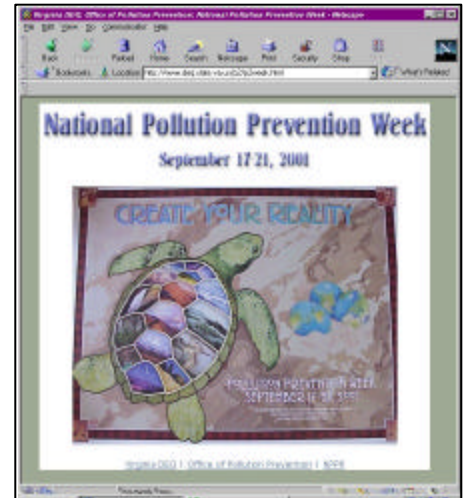
Environmental Stewardship at Natural Tunnel State Park during the summer.

- ◆ Several publications were reprinted and distributed, including 2,000 "Pollution Solutions", a litter prevention and recycling activity guides for teachers K-12; 3,000 "Love A Tree" kits for elementary students; and 15,000 "25 Ways to Help Virginia's Environment" brochures.

## Pollution Prevention Week 2001

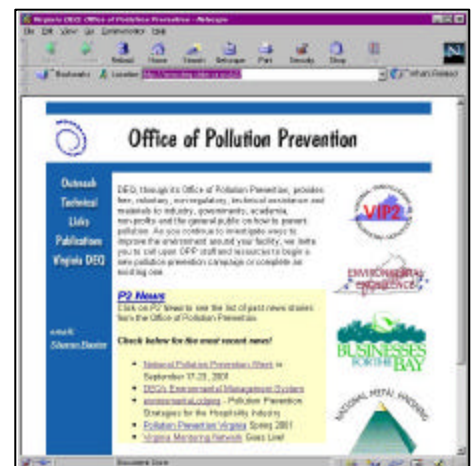
National Pollution Prevention Week was observed during the week of September 17 – 23, 2001. Activities presented by OPP included the following:

- 5 Daily emails for DEQ staff, other state agencies, businesses and other organizations on common sense pollution prevention solutions;
- 5 "P2 Everyday Activity", which encourages participants to document their personal pollution prevention activities throughout the week;
- 5 Distribution of 300 National Pollution Prevention Week 2001 posters;
- 5 Development of a Pollution Prevention Week web site to catalog activities and resources ([www.deq.state.va.us/p2/p2week.html](http://www.deq.state.va.us/p2/p2week.html)); and,
- 5 A photo contest to capture pollution prevention in action (winners will be displayed on the web site).



## Office of Pollution Prevention Web Site

The OPP web site ([www.deq.state.va.us/p2](http://www.deq.state.va.us/p2)) is constantly undergoing changes and updates to ensure that the most current information and news is available to the citizens of Virginia as well as the employees of DEQ. The site contains detailed information on many of the program's initiatives as well as informational resources and links to other pollution prevention sites. The site has





become the primary means for OPP to provide current information on its programs and services.

## Pollution Prevention Virginia Newsletter

The Office of Pollution Prevention has published the program newsletter, *Pollution Prevention Virginia*, for almost eight years. It reaches over 5,500 individuals, government organizations, private businesses, and other organizations. Three issues of the newsletter were produced and mailed this year. The newsletter features information such as descriptions of innovative environmental technologies, updates on various OPP initiatives programs, and pollution prevention success stories from Virginia facilities.



In 2001, the newsletter was offered electronically for the first time. There are now over 500 people that are receive their copy of the newsletter electronically, cutting down on printing and mailing costs. Copies of old newsletters are available on-line at [www.deq.state.va.us/p2/pubs.html](http://www.deq.state.va.us/p2/pubs.html). OPP plans to complete the migration to an electronic newsletter in early 2002.

## **Virginia Pollution Prevention Advisory Committee**

Professor Gregory Boardman, Virginia Tech  
Annette Christian, Virginia Power  
Jeff Corbin, Chesapeake Bay Foundation  
Matt Cox, HRSD  
Debbie Crofford, HRSD  
Harry DeLong, Lockheed Martin  
John DePerro, Department of Mental Health, Mental Retardation  
and  
    Substance Abuse Services  
Evans Drake, Honeywell  
Robert Dunn, DuPont  
Ernest Hartman, Canon Virginia  
John Hudson, Virginia's Philpott Manufacturing Extension  
Partnership  
Denise Jeffries, City of Newport News  
Tedd Jett, Merck & Company  
Larry Land, Virginia Association of Counties  
Rob Lowe, Virginia Tech  
Greg Marsh, CR Hudgins Plating  
Chuck Mason, Ensafe Incorporated  
James McKean, Department of Business Assistance  
Doug Palmore, Luck Stone  
Phil Robinson, Environmental Solutions  
Dennis Slade, Infineon  
Cathy Taylor, Virginia Manufacturers Association

## **DEQ Pollution Prevention Web Site Resources**

**Department of Environmental Quality:** [www.deq.state.va.us](http://www.deq.state.va.us)

**Office of Pollution Prevention:** [www.deq.state.va.us/p2](http://www.deq.state.va.us/p2)

**Office of Environmental Education:**  
[www.deq.state.va.us/education](http://www.deq.state.va.us/education)

**Virginia Environmental Excellence Program:**  
[www.deq.state.va.us/veep](http://www.deq.state.va.us/veep)

**Virginia Mentoring Network:**  
[www.deq.state.va.us/vmn/vmnindex.htm](http://www.deq.state.va.us/vmn/vmnindex.htm)

**Financial Resources for Pollution Prevention  
& Environmental Projects:**  
[www.deq.state.va.us/p2/financial.html](http://www.deq.state.va.us/p2/financial.html)

**Virginia Naturally:** [www.vanaturally.org](http://www.vanaturally.org)

**Office of Innovative Technology:** [www.deq.state.va.us/innovtech](http://www.deq.state.va.us/innovtech)

**Small Business Assistance Program:**  
[www.deq.state.va.us/osba/smallbiz.html](http://www.deq.state.va.us/osba/smallbiz.html)

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