

# 2014-16 Executive Progress Report

Commonwealth of Virginia  
Secretary of Natural Resources

Department of Environmental Quality

## At A Glance

The Department of Environmental Quality protects and enhances Virginia's environment, and promotes the health and well being of the citizens of the Commonwealth.

Staffing 781 Salaried Employees, 6 Contracted Employees, 973 Authorized, and 37 Wage Employees.

Financials Budget FY 2015, \$177.15 million, 25.70% from the General Fund.

Trends ↑ Maximize Use of Federal Funds  
↑ Manage Changing Regulations

Key Perf Areas ↑ Nitrogen Reductions  
↑ Phosphorous Reductions

Legend ↑ Increase, ↓ Decrease, → Steady

Productivity ↑ Inspection Efficiency  
Legend ↑ Improving, ↓ Worsening, → Maintaining

For more information on administrative key, and productivity measures, go to [www.vaperforms.virginia.gov](http://www.vaperforms.virginia.gov)

## Background and History

### Agency Background Statement

One of the Commonwealth's top priorities is to conserve and protect our natural resources so they may be enjoyed for generations to come. The Department of Environmental Quality (DEQ) is committed to enhancing Virginia's environment and protecting the well-being of Virginia's citizens. In its 21 years of operation, the agency has focused on finding solutions to environmental challenges and showing measurable results.

To accomplish this, DEQ administers state and federal laws and regulations for air quality, water quality, water supply and land protection. In addition, other programs cover a variety of environmental activities, such as improving the ability of businesses and local governments to protect the environment, offering technical and financial assistance for air and water quality improvements, promoting recycling and the prevention of pollution and litter, protecting Virginia's coastal areas, reviewing the environmental impacts of state and federal projects, and encouraging voluntary measures that safeguard natural resources. The agency is often tasked by the General Assembly to conduct special studies to evaluate specific projects or pollutants of concern. Through its six regional offices, DEQ issues permits, conducts inspections and monitoring, and enforces regulations and permits.

### Major Products and Services

DEQ monitors air and water quality, issues air quality forecasts, and works to restore the quality of waters such as the Chesapeake Bay and Virginia's rivers. DEQ also investigates fish kills, oversees cleanups at environmental incidents such as coal ash, fuel oil and chemical spills, and conducts special studies to investigate environmental contamination and its sources. As part of its effort to protect human health and the environment, DEQ issues environmental permits to businesses, local governments, and state and federal facilities. DEQ inspects and monitors permitted facilities, ensuring that they comply with regulations and permits. In cases where permit requirements are not met or where regulations are violated, DEQ focuses on bringing facilities into compliance.

DEQ communicates and collaborates regularly with individuals and organizations interested in environmental policy and procedures. DEQ's community involvement policy recognizes that stakeholders are valuable partners and seeks to engage people early and often in environmental decision-making. DEQ develops materials for meetings and public hearings, provides opportunities for meaningful involvement in all agency programs and regulatory actions, and looks for new ways to enhance public input and engagement related to permits and regulations. Citizens can work with citizen groups to monitor water quality, develop cleanup plans for "impaired" streams, rivers and lakes; and nominate waters of exceptional quality for special designation.

On July 1st, 2013, following legislation passed by the 2013 General Assembly, DEQ became the Commonwealth's lead agency for managing

stormwater and nonpoint source pollution programs. This significant consolidation of programs previously managed by the Department of Conservation and Recreation (DCR) include stormwater permits, erosion and sediment control, Chesapeake Bay preservation, nonpoint source reduction, watershed restoration implementation (TMDLs) and training, funding and certifications for these programs. The transferred programs under one roof complement existing programs at DEQ and enhance our service to the public by helping to ensure that local governments, builders and developers, and the public are able to obtain the information and assistance they need for effective management and reduction of water pollution.

DEQ has received \$55 million in bond authorization for the Stormwater Local Assistance Fund, which will provide matching grants to local governments for the planning, design and implementation of stormwater best management practices.

## Customers

### Customer Summary

Ensuring the protection of Virginia's environment is a cooperative effort that involves communities, businesses and industries, educators, government agencies and many others. DEQ collaborates with these stakeholders to strengthen the role everyone plays in environmental protection and to finding lasting solutions.

Demand for services will increase as permit holders implement new mandated requirements for both stormwater and groundwater management. The Groundwater Management Area has expanded from 50 to approximately 125 existing groundwater users that will need to be permitted because their water use is above the threshold limit.

Virginia's VPDES stormwater permitting program regulates stormwater discharges from three potential sources:

- local government's municipal separate storm sewer systems (MS4s),
- construction activities, and
- industrial activities.

Fifty-five localities have opted to have DEQ administer their stormwater management programs. The number of industrial dischargers is much more dynamic in nature and will fluctuate based on economic demands.

The coastal population of Virginia continues to increase causing significant stresses on coastal ecosystems, habitats and wildlife due to polluted runoff, habitat fragmentation and increased shipping and recreational boating. Waterfront properties are at increasing risk from rising sea levels and more frequent and intense storms. The number of people who can make a living in Virginia harvesting and processing wild seafood has decreased but the number who are making a living from shellfish aquaculture and ecotourism has increased.

DEQ's efforts to address stakeholder requests for more air and water monitoring stations, along with Environmental Protection Agency (EPA) requirements to monitor more pollutants, is an on-going and evolving process. As more health based information is released about the adverse effects of pollution, especially to sensitive population groups, the need to maintain comprehensive monitoring networks, effective permitting, compliance and enforcement is vital to the public's health and well-being. The customer base will change as the needs and concerns described above are addressed.

### Customer Table

Predefined Group	User Defined Group	Number Served Annually	Potential Number of Annual Customers	Projected Customer Trend
Employer/ Business Owner	Business & Industry in Virginia	4,633	5,557	Increase
Environmental Pollution and Control	Facilities Subject to Stationary Source Air Inspection	1,350	4,663	Increase
Environmental Pollution and Control	Hazardous Waste Facilities	400	30,000	Increase
Environmental Pollution and Control	Solid Waste Facilities	355	5,000	Increase
Environmental Pollution and Control	Water Runoff Permittees	4,900	4,900	Stable
Environmental Pollution and Control	Wastewater Treatment Facilities	700	6,000	Increase
Environmental Pollution and Control	Groundwater Withdrawal Permittees	250	375	Stable
Environmental Pollution and Control	Regulated Tank Owners (Land Protection Compliance and Enforcement)	8,000	15,000	Increase
Farm/Forest Owner	VPA General Permits for Animal Feeding Operation Facilities	1,025	1,025	Stable
Local or Regional Government Authorities	Local Governments in Virginia	324	324	Stable

Local or Regional Government Authorities	Regional Planning District Commissions, and Soil and Water Conservation Districts	97	181	Stable
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## Finance and Performance Management

### Finance

#### Financial Summary

DEQ is funded 25% by general fund appropriations, 28% with federal funds, and 47% through other non-general fund appropriations in the base budget. The other non-general fund appropriations are primarily for the Virginia Petroleum Storage Tank Fund, Title V air permit fees, water and waste permit fees, and indirect cost revenue from federal grants and the Title V program. A variety of other smaller fund sources are also included in DEQ's budget. The Water Quality Improvement Fund (WQIF) is not funded in the agency's base budget appropriation as these appropriations are periodic in nature and are dedicated solely for the reimbursements to waste water treatment facilities for mandatory upgrades. Of the total agency base budget, a large portion (38%) of expenditures are "pass-through" funds for clean water revolving loans, reimbursements to tank owners, and payments to local governments and other state agencies. The remaining 62% of funds are used to support DEQ staff and operational programming.

#### Fund Sources

Fund Code	Fund Name	FY 2015	FY 2016
0100	General Fund	\$45,535,093	\$43,303,046
0200	Special	\$2,057,370	\$2,057,370
0214	Voluntary Remediation Fund	\$252,570	\$252,570
0245	Hazardous Waste Management Permit	\$593,717	\$593,717
0258	Operator Training	\$28,091	\$28,091
0280	Appropriated Indirect Cost Recoveries	\$5,836,026	\$5,836,026
0510	Operating Permits Program	\$12,359,321	\$12,359,321
0708	Dominion Power Settlement Fund	\$169,889	\$169,889
0748	Underground Petroleum Storage Tank Fund	\$36,925,181	\$36,925,181
0755	Dupont Shenandoah River Mercury Monitoring	\$25,500	\$25,500
0902	Virginia Stormwater Management Fund	\$2,384,922	\$2,384,922
0906	Waste Tire Trust Fund	\$2,718,377	\$2,718,377
0907	Va Environmental Emergency Response Fund	\$2,960,754	\$2,960,754
0908	Sludge Management Fund	\$1,639,742	\$1,639,742
0909	Air Pollution Permit Program	\$15,000	\$15,000
0911	Va Waste Management Board Permit Program Fund	\$3,019,805	\$3,019,805
0914	State Water Control Board Permit Program Fund	\$5,529,189	\$5,529,189
0919	Vehicle Emissions Inspection Program Fund	\$3,133,495	\$3,133,495
0925	Litter Control And Recycling Fund	\$1,997,978	\$1,997,978
0964	Virginia Water Facilities Revolving Fund	\$455,668	\$455,668
1000	Federal Trust	\$49,511,482	\$49,511,482

#### Revenue Summary

The majority of DEQ revenue is derived from federal grants, a motor vehicle fuel tax for the Virginia Petroleum Storage Tank Fund, and permit fees for specific land, water and air sources. In FY 2014, DEQ received \$140 million from various revenue sources. The following is a summary of major revenue sources by category:

#### **Dedicated Special Revenue — \$63 million in FY 2014 (Funds 0902, 0904, 0906, 0907, 0908, 0911, 0914, 0919, 0925, 0934, 0964)**

These are revenues from specific fees, taxes, licenses, permits or assessments that are the sole or primary source of support for the activities and services provided. Major sources in this revenue type include the Virginia Clean Water Revolving Loan Fund grants, Solid Waste

and Water permit fees, Biosolids fees and Air Emission fees for Northern Virginia.

**Trust and Agency — \$33 million in FY 2014 (Funds 0748, 0755)**

These are revenues received and held by government in the capacity of trustee, custodian or agency for government entities and non-public organizations. The main source of revenues in this category is from the Motor Vehicle Fuels (gas) tax. All revenues received from this tax are used to reduce the number and severity of leaks from underground and aboveground storage tanks through regulation, inspection, and cleanup.

**Federal Trust — \$26 million in FY 2014 (Fund 1000)**

These are grants and monies received from the federal government in support of mandated environmental activities to ensure Virginia's compliance with all federal laws for Land Protection, Air Protection, and Water Protection.

**Enterprise — \$11 million in FY 2014 (Fund 0510)**

These are activities which require full funding through revenue collections (self-supporting). All revenues in this category are collected in support of the Title V clean air permitting and compliance activities in Virginia.

**Special Revenue — \$7 million in FY 2014 (Funds 0200, 0214, 0245, 0258, 0280, 0287)**

These are activities supported from revenues derived from various other special (non-general) revenue sources. Major sources in this revenue type include permit fees for hazardous waste, indirect cost recoveries, and classes and certification fees for the stormwater program.

**Performance**

**Performance Highlights**

DEQ has a number of performance measures for the many programs that the agency administers. The three key measures below are representative of how agency efforts positively impact citizen and environmental health in the Commonwealth. Specifically, as portrayed by these highlighted measures, the amount of nitrogen and phosphorus discharged from point sources in the Chesapeake Bay watershed has a direct impact on the health and recovery of the water quality in the Bay, while a reduction in the amount of carbon dioxide emitted from electric generating units in Virginia helps lessen the impact of greenhouse gases that contribute to climate change. By increasing underground storage tank inspections, the agency's primary productivity measure improves compliance with pollution prevention requirements, which reduces the number of petroleum releases into the environment.

**Selected Measures**

Measure ID	Measure	Alternative Name	Estimated Trend
44051510.001.001	The number of pounds of nitrogen discharged from major pollution point sources in the Chesapeake Bay watershed.	Nitrogen Reductions	Improving
44051510.001.002	The number of pounds of phosphorous discharged from major pollution sources in the Chesapeake Bay watershed.	Phosphorous Reductions	Improving
440.0017	Tons of carbon dioxide emitted by power plants in Virginia	CO2 Reductions	Improving
440.0014	The number of inspections completed by each underground storage tank inspector.	Inspection Efficiency	Improving

**Key Risk Factors**

Several factors will have a significant impact on the agency in the future:

Long-term Groundwater Declines - Current rates of pumping have led to groundwater level declines, land subsidence, and intrusion of saline water into Virginia's aquifers. These rates cannot be sustained; measured water levels and model simulations show that the state's primary coastal aquifers are being pumped faster than replenishment. By 2040, nearly 30 million gallons per day of additional groundwater needs are identified in local and regional water supply plans within the Eastern Virginia Groundwater Management Area. Increased needs for water will require additional tools and resources for the agency, public water suppliers, and the private sector to assess and address these needs while reducing groundwater declines. Along with other regulatory and non-regulatory efforts, reductions in permitted groundwater withdrawal allocations will be needed by 2017 in order to reduce the rate of decline.

Chesapeake Bay Watershed Implementation Plan (WIP) - As the implementation of the plan progresses over the next decade and beyond, the interaction between point and nonpoint source pollution abatement efforts and voluntary and regulatory programs will become more frequent and complex. Difficult policy and budgetary decisions must be made based on a comprehensive view of the impact of various water pollution sources and the interaction between them.

Increasing Number of Environmental Regulations - New environmental regulations promulgated at the federal level result in the need for states to implement policy changes, to adopt or amend state regulations, and increase the workload on existing permit, compliance and monitoring. The majority of these federal requirements do not include associated funding and thus constitute unfunded federal mandates.

Workforce Continuity - DEQ faces the risk of workforce attrition due to an aging workforce, reduced staffing levels and recruitment competition from the federal government and private environmental companies. Currently, 12.5% of DEQ staff are eligible to retire with an unreduced benefit and another 45% are eligible to retire with a reduced benefit. Being understaffed poses significant risk to agency operations.

## Agency Statistics

### Statistics Summary

DEQ devotes significant resources to the basic environmental regulatory functions of issuing permits, conducting inspections, monitoring air and water, providing financial assistance to wastewater treatment facilities and enforcing state law and regulations. The statistical data table below contains a few examples of these basic regulatory actions. These are broad categories providing a high level view of the types of key statistics collected by DEQ to evaluate performance measures. All statistics shown in the table are reported on an annual basis.

### Statistics Table

Description	Value
Air Permits Issued	568
Air Facility Inspections Completed	823
Solid Waste Landfill Groundwater Quality Reviews	1,191
Solid Waste Facility Inspections	796
Land Application of Biosolids Inspections	1,338
Wastewater Discharge Individual Permits Issued	183
Wastewater Discharge Facility Inspections	832
Underground Storage Tank Facility Inspections	2,006
Petroleum Program Reimbursement Claims Processed	2,792
Enforcement Cases Resolved	222
Corrective Action Oversight at Hazardous Waste Facilities	121

## Management Discussion

### General Information About Ongoing Status of Agency

DEQ works to achieve its vision of cleaner water, improved air quality and productive re-use of contaminated land through a culture of efficient and effective government, excellent customer service, and continuous improvement. With limited resources and increasing demands, DEQ continues to meet all of its core obligations through strategic planning and prioritization of services. This focus has enabled the agency to maintain a high level of service despite a high rate of staff vacancy. As critical vacancies are filled, DEQ examines ways to enhance environmental management and improve services to customers while controlling costs in an environment of limited resources and increasing demands.

Focusing on these goals has helped DEQ achieve significant environmental improvements in the past 20 years. These improvements include:

- Air pollution in Virginia has decreased by 55 percent, and the number of high-ozone days has dropped by 97 percent statewide.
- 315 waterways—2,710 acres of lakes/reservoirs, 4 square miles of estuaries, and 264 miles of rivers/streams—are considered “fully restored” and now meet designated uses.
- Abandoned tire sites, which once numbered more than 1,300 statewide, have declined to less than 120.
- The state’s recycling rate has grown from 32 percent to 43.5 percent, saving energy and conserving landfill space.
- 37,526 leaking petroleum tank sites have been cleaned.
- 93% of hazardous waste facilities now meet all human health standards.
- Integration of stormwater, erosion and sediment, Bay preservation and nonpoint source programs with other DEQ water programs.
- Less waste production, water consumption and energy use by more than 400 Virginia Environmental Excellence Program members, including manufacturers, military bases, agencies and universities who go “above and beyond” in an effort to save money and natural resources.

DEQ embraces the concept of continuous improvement, and one of the tools DEQ uses for program evaluations is “Lean Six Sigma” (a proven cost and waste elimination method that has been used successfully in public and private organizations). In addition, DEQ performs internal program reviews and audits that assess the efficiency and effectiveness of agency programs. These efforts identify potential operational changes that will improve the efficiency and effectiveness of agency operations and provide opportunities to reduce the costs of compliance.

### Information Technology

DEQ is committed to using technology to provide more efficient service and to reduce operational costs. DEQ’s current technology-based initiatives include:

- Comprehensive Environmental Data System (CEDS): DEQ’s system of record for environmental data. DEQ is converting the outdated

legacy modules to an architecture that will enable integration among DEQ's enterprise applications and mobile/web deployments.

- Enterprise Content Management System (ECM): DEQ's repository for documents of record, implementing approved document retention. DEQ is upgrading the system to include single sign-on and enhanced ability to integrate seamlessly with the other enterprise applications.
- Geographic Information System (GIS): Geospatial information across DEQ used for modeling, analysis, and public information. DEQ is developing a GIS strategic plan to ensure future efforts in this area are focused, cost effective, and continue to provide staff with time and cost saving tools.
- Oracle E-Business Suite (eBiz): DEQ's transaction and reporting database for financials, human resources, purchasing, and project costing. DEQ continues to upgrade and enhance eBiz to meet technical support requirements and evolving business needs.
- Twenty-four inspectors were equipped with iPads to capture technical and GPS data while inspecting underground petroleum storage tanks sites.

The dynamic nature of environmental regulation demands ever-changing environmental data for analysis and decision-making, requiring a sustained effort toward efficient capture, storage, protection, and exchange of this data. By integrating CEDS, ECM, GIS, and eBiz, DEQ is laying the foundation for future initiatives that will benefit citizens, the regulated community and other government agencies. DEQ's plans for the future include:

- Web-based permit application process and reporting for the regulated community;
- Mobilization of more inspectors, water quality assessors, and monitoring staff with tools for on-site data capture and global positioning;
- Sophisticated environmental data modeling and forecasting tools; and
- Efficient data retrieval using Business Intelligence technology and an enterprise data warehouse.

### **Workforce Development**

DEQ strategically addresses risks of an aging workforce, reduced staffing levels, and recruitment competition through training, recruitment and retention, succession planning and continuous improvement initiatives. DEQ has identified key agency roles and core skills, as well as knowledge, skills and abilities (KSAs) for those roles in order to facilitate targeted recruitment for KSA gaps and targeted retention/succession planning for key roles.

DEQ faces workforce challenges due to an increasing number of employees who are eligible to retire; the loss of staff to the federal and local governments; and private industry firms that offer salary ranges much greater than DEQ can offer. Currently, 31.3% of DEQ's workforce will be eligible to retire without a reduced benefit in the next five years. DEQ has developed strategic objectives for a strong workforce development program described below.

A competency based career progression program (Career Path I & II) that develops staff technical competence and provides incentive for staff to stay with the agency by providing advancement and development opportunities within one's current job. DEQ's turnover rate continues to trend downward compared to the state average. For 2014, DEQ's turnover rate is 2.6% compared to the state turnover rate of 10.5%.

A competency-based leadership development program (Career Path III) that identifies and develops high performing staff to ensure the agency has a pipeline of qualified leaders to meet future challenges. This program helps ensure DEQ has leadership bench strength to promote from within. DEQ's internal promotion rate in 2013 was 20% compared to the state promotion rate of 12.6%. In FY2014 DEQ's promotion rate dropped to 6.3% due to a slow-down in higher payband positions within our agency. However, DEQ's lateral transfer rate was 43.8% compared to the state average of 26.3%. Lateral transfers within DEQ provide employees with new opportunities to acquire new/additional competencies to help them better compete for future leadership roles.

DEQ's leadership training program for middle management integrates succession planning into operational areas and increases coaching frequency, facilitates knowledge transfer, and creates development opportunities. The program also holds managers accountable for displaying core leadership competencies through performance appraisals and requires 10 hours of leadership training every year.

DEQ offers a Graduate Tuition Reimbursement Program whereby staff are reimbursed up to \$1,500 per fiscal year for graduate courses at an accredited university. Participants must sign a retention agreement that is active for one year after the graduate course is complete.

DEQ's focus on lean business processes and operational business improvement plans (BIPs) addresses staffing vacancy challenges by streamlining business processes, identifying inefficiencies, and reducing costs.

DEQ's Job Partnering Program allows employees to gain new skills and experience greater job satisfaction offered by increased work diversification. The agency benefits by having more versatile staff to address resource constraints or other challenges. This program strives to develop motivated employees through cross-media and cross-program work assignments.

DEQ has a robust unpaid volunteer and Summer Student Intern Program. The program's objective is to provide professional level work experience for college students and was established as one of the key initiatives in the Department's commitment to expand and enhance the agency's workforce. Students participating in these programs must exhibit a genuine interest in learning about the agency as well as gaining practical work experience.

Other DEQ recruitment and retention strategies include: teleworking, tuition reimbursement, recognition and reward programs, formal training, access to technology tools, and building an outcome-oriented organizational culture.

### **Physical Plant**

DEQ operates a central office in Richmond, six regional offices and two satellite offices across the state. All operating space is leased. With the exception of an office in Charlottesville (shared space with the Department of Forestry), office space is privately-owned. Lease terms vary based on estimated local market conditions. Each time a lease comes up for renewal, DEQ works with the Department of General Services (DGS) to analyze the market conditions, physical location in relation to customers and field work, the availability of state-owned space, telecommuting opportunities, the potential for space reductions in relation to programmatic or budget changes, reducing paper file storage costs through the use of DEQ's Enterprise Content Management (ECM) System, and other metrics to make decisions about future lease agreements. Since office space is leased, there is always a concern that space will not be available when a lease is up for renewal.

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