

2018-20 Executive Progress Report

Commonwealth of Virginia
Secretary of Natural Resources

Department of Environmental Quality

At A Glance

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

Staffing 766 Salaried Employees, 2 Contracted Employees, 973 Authorized, and 47 Wage Employees.

Financials Budget FY 2019, \$200.32 million, 30.13% from the General Fund.

Trends

Legend

↑ Increase, ↓ Decrease, → Steady

Key Perf Areas

Productivity

Legend

↑ Nitrogen Reductions

↑ Phosphorous Reductions

↑ Inspection Efficiency

↑ Improving, ↓ Worsening, → Maintaining

For more information on administrative key, and productivity measures, go to 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 almost 25 years of operation, the agency has focused on finding solutions to environmental challenges and achieving 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 and the central office, 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 fuel 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 is the Commonwealth's lead agency for managing stormwater and nonpoint source pollution prevention.

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 provides opportunities for meaningful involvement in all agency programs, looks for new ways to enhance public input, and develops materials and opportunities for public engagement in meetings and public hearings related to permits and regulations. Citizens can work with citizen organizations to monitor water quality, develop cleanup plans for "impaired" streams, rivers and lakes; and nominate waters of exceptional quality for special designation.

DEQ implements the Virginia Clean Water Revolving Loan Fund, which includes a number of loan programs including: Wastewater loans to local governments for upgrades and expansions of publicly-owned wastewater collection and treatment facilities; Brownfield loans to local governments, public authorities, partnerships or corporations for remediation activities undertaken at brownfield sites; Land Conservation loans to local governments and certain nonprofit organizations for permanent conservation or open space easements to protect water quality; Stormwater BMP loans to local governments for the construction of facilities or structures or implementation of stormwater best management practices; and, Living Shoreline loans to either fund local government living shoreline projects or allow the local government to establish a low-interest loan program for their residents to install living shoreline projects on private property.

DEQ serves as the lead agency for the Commonwealth's Coastal Zone Management Program, a network of Virginia state agencies and local governments that administers enforceable laws, regulations and policies that protect coastal resources and fosters sustainable development. DEQ administers the program's annual grant program of about \$2.5 million. DEQ also coordinates the Commonwealth's response to environmental documents for proposed state and federal projects. The Office of Environmental Impact Review staff distributes documents to appropriate state agencies, planning districts, and localities for their review and comment; upon consideration of all comments, the staff prepares a single state response. DEQ's Office of Pollution Prevention hosts a number of programs and initiatives that serve as a conduit for non-regulatory assistance to businesses, institutions, and communities. These efforts are aimed at motivating Virginia facilities to minimize their environmental footprint through actions that often exceed requirements while enhancing their bottom line.

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.

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 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, are 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
Environmental Pollution and Control	Facilities subject to stationary source air inspection	1,350	4,663	Increase
Environmental Pollution and Control	Groundwater withdrawal permittees	322	427	Stable
Environmental Pollution and Control	Hazardous waste facilities (regulated)	843	7,500	Increase
Environmental Pollution and Control	Permits for land application of pollutants	167	175	Stable
Environmental Pollution and Control	Pretreatment program permittees	43	47	Stable

Environmental Pollution and Control	Regulated Tank Owners	8,000	15,000	Increase
Environmental Pollution and Control	Solid Waste Facilities	348	5,000	Increase
Environmental Pollution and Control	Voluntary Remediation Program	424	10,000	Increase
Environmental Pollution and Control	VPDES general permit holders	6,493	6,493	Stable
Environmental Pollution and Control	VPDES individual point source discharge permittees	895	1,000	Stable
Environmental Pollution and Control	VWP permit holders (general)	330	2,315	Stable
Environmental Pollution and Control	VWP permit holders (individual)	51	482	Stable
Farm/Forest Owner	VPA General Permits for animal feeding operation facilities	1,028	1,028	Stable
Local or Regional Government Authorities	Citizens, businesses, local governments reporting pollution incidents	3,900	3,900	Increase
Local or Regional Government Authorities	Local Governments in Virginia	518	518	Stable
Local or Regional Government Authorities	Wastewater Operators	600	4,500	Stable
Resident	Homeowners with leaking heating oil tanks	1,200	250,000	Stable
Vehicle Owner	Vehicle owners subject to emissions inspections	809,466	1,560,975	Increase
Environmental Pollution and Control	Chemical manufacturing and storage facilities	4,500	7,000	Stable
Local or Regional Government Authorities	Regional Planning District Commissions, and Soil and Water Conservation Districts	68	68	Stable

Finance and Performance Management

Finance

Financial Summary

DEQ is funded 30% by general fund appropriations, 25% with federal funds, and 45% 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 one-time 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 (41%) 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 59% of funds are used to support DEQ staff and operational programming.

Fund Sources

Fund Code	Fund Name	FY 2019	FY 2020
01000	General Fund	\$60,361,783	\$40,901,658
02149	Voluntary Remediation Fund	\$250,039	\$250,039
02440	Deq Special Revenue Fund	\$1,952,192	\$1,952,192
02450	Hazardous Waste Mgmt Permit	\$449,835	\$449,835
02580	Operator Training	\$68,875	\$68,875
02800	Appropriated Idc Recoveries	\$6,377,064	\$6,377,064
02870	Surp Suppy/Equip Sale-Gf-Nonhe	\$50,000	\$50,000
05100	Operating Permits Program	\$13,037,574	\$13,037,574
07083	Dominion Power Settlement Fund	\$169,889	\$169,889
07480	Undergrd Petroleum Storage Tnk	\$37,663,009	\$37,663,009
07550	Dupont Shenandoah Rvr Hg Mntrg	\$25,500	\$25,500
09024	Va Stormwater Management Fund	\$3,913,221	\$3,913,221
09036	Small Renewable Energy Project	\$100,000	\$100,000
09042	Environmental Covenants Fund	\$15,000	\$15,000
09060	Waste Tire Trust Fund	\$5,015,952	\$5,015,952
09070	Va Envrnmntal Emergncy Respns	\$2,880,746	\$2,880,746
09080	Sludge Management Fund	\$1,648,006	\$1,648,006
09110	Va Waste Mgmt Board Permit Pgm	\$3,220,783	\$3,220,783
09143	St Water Ctrl Board Permit Pgm	\$5,455,967	\$5,455,967
09190	Vehcl Emissions Inspection Pgm	\$3,871,777	\$3,871,777
09250	Litter Control And Recycling	\$2,097,978	\$2,097,978
09640	Va Water Facilities Revolving	\$1,002,538	\$1,002,538
10000	Federal Trust	\$50,694,424	\$50,694,424

Revenue Summary

The majority of DEQ revenue is derived from federal grants, a motor vehicle fuel tax for the Virginia Petroleum Storage Tank Fund, proceeds from the sale of bonds and permit fees for specific land, water and air sources. In FY 2018, DEQ received \$129 million from various revenue sources. The following is a summary of major revenue sources by category:

Dedicated Special Revenue - \$50 million in FY 2018

These are revenues obtained 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 - \$34 million in FY 2018

These are revenues received and held by government in the capacity of trustee, custodian or agency for government entities and nonpublic 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 - \$27 million in FY 2018

These are federal 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 - \$9 million in FY 2018

These are activities of government 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 - \$9 million in FY 2018

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 and Indirect Cost Recoveries.

Debt Service - \$0 million in FY 2018

These are revenues from the sale of bonds. For DEQ, the General Assembly sometimes approves bond financing for the Water Quality Improvement Fund, the Stormwater Local Assistance Fund and/or Combined Sewer Overflow projects.

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 significant 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 power plants 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 - Recent rates of pumping have led to groundwater level declines, land subsidence, and intrusion of saline water into Virginia's aquifers. To address these issues and to reduce the overall rate of decline, Virginia implemented reductions of over 50% in permitted groundwater withdrawals in permits reissued through 2017 for the largest 14 withdrawals in the Eastern Virginia Groundwater Management Area. These reductions are expected to significantly slow the groundwater level declines over the next 50 years and were an important step toward sustainable groundwater use, especially in the Potomac Aquifer. Along with other regulatory and non-regulatory efforts currently underway, the Sustainable Water Initiative for Tomorrow (SWIFT) recharge project has started as a 1 million gallons per day demonstration pilot and may reach full capacity of 100 million gallons per day by 2027 if all regulatory and technical steps are cleared. The combination of the reduced permit withdrawal limits and the SWIFT project have the potential to increase water levels in the Eastern Virginia Groundwater Management Area significantly over the next decade, but will need continued evaluation as more information and data become available. For the Eastern Shore Groundwater Management Area, there is increased awareness of potential sustainability issues that will need systematic attention and management. In addition, water supply plan updates, including expectations of future groundwater need, will be submitted by the end of 2018 and may indicate the need for additional management actions both within and outside of the established groundwater management areas.

Chesapeake Bay Watershed Implementation Plan (WIP) - As the implementation of the plan progresses through 2025 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.

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, 31.5% of DEQ staff are eligible to retire with an unreduced benefit within the next five years. 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	432
Air Facility Inspections Completed	780
Solid Waste Landfill Groundwater Reviews	799
Solid Waste Facility Inspections	803
Land Application of Biosolids Inspections	311
Wastewater Discharge Individual Permits Issued	124
Wastewater Discharge Facility Inspections	832
Underground Storage Tank Facility Inspections	2,131
Petroleum Program Reimbursement Claims Processed	2,693
Enforcement Actions Terminated	275
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 24 years. These improvements include:

- Air pollution in Virginia has decreased by more than 50 percent, and the number of high-ozone days has by about 96% statewide.
- 379 waterways— 21,800 acres of lakes/reservoirs, 29 square miles of estuaries, and 1,820 miles of rivers/streams—are considered “fully restored” and now meet designated uses.
- The state’s recycling rate has grown from 32 percent to 42 percent, saving energy and conserving landfill space.
- Since the early 1990s, more than 30,000 leaking petroleum tank sites have been cleaned.
- More than 4000 acres of contaminated lands have been remediated.
- The continuous and successful Chesapeake Bay restoration efforts are illustrated in increases in birds, fish, wildlife, oysters, crabs and native plants.
- 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 allocates resources to process and program improvements. DEQ uses Lean Six Sigma (a proven cost and waste elimination method that has been used successfully in public and private organizations). In addition, DEQ actively aligns operational and strategic plans and develops business improvement plans which target operational process improvements. DEQ also 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 continuing to incorporate environmental program data into its system of record to ensure data integrity, deduplication and compliance with the Commonwealth IT security directives and policies. DEQ uses Agile iterative project development methodology to successfully deploy these system updates. The agency also uses business-led governance structure to manage technology project development across the agency based on agency need and alignment with its strategic goals.
- 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 continues to implement its 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.

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, which will reduce the cost of handling paper reports and increased accessibility to the public to facility-specific details through EPA's website.
- 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 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, 31.5% 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) 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. Lateral transfers within DEQ provide employees with new opportunities to acquire new/additional competencies to help them better compete for future leadership roles. For 2018, DEQ's turnover rate was 6.6% compared to the state turnover rate of 14.5%.

A competency-based leadership development program 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 leadership training program for middle management integrates planning for the future 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 8 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.

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Physical Plant

DEQ operates a central office in Richmond, six regional offices and two satellite offices across the state. All operating space is leased. 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.

