

OFFICE OF WETLANDS AND WATER PROTECTION

Wetlands - Surface Waters - Surface Water Withdrawals and Impoundments



Virginia Water Protection Permit Program Overview

August 2010

Executive Summary

This report summarizes trends in permitting, compensation, and compliance activities carried out by the VDEQ Water Division's Office of Wetlands and Water Protection. We report on total wetland, open water, and stream impacts from July 1, 2001 to December 31, 2009. During this period, 1,992 acres of wetland and open water impacts were authorized through VWPP permits. These impacts were compensated through a combination of restoration, creation, enhancement or preservation of 7,156 acres of wetlands. In the same time frame, we reported 1,400,104 linear feet of permitted impacts to streams, and 2,658,861 linear feet of compensation through a combination of restoration, enhancement, or preservation. This report also provides maps of permitted surface water impacts and approved and proposed mitigation banks in the Commonwealth of Virginia.

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Basic Steps to Obtain a VWPP

- 1) Optional pre-application coordination
- 2) Joint permit application is completed and submitted for concurrent federal and state review
- 3) Avoidance and minimization documentation
- 4) Compensation package negotiation/approval
- 5) Public Involvement (for Individual Permits)
- 6) Permit Issuance or Denial
- 7) CEDS data entry by VWPP staff
- 8) Compensation
- 9) Impacts
- 10) Compliance reporting

Wetlands and Surface Water Protection in Virginia

An exceptional diversity of wetlands and surface waters occur across the Virginia landscape. Swamps, streams, tidal marshes, wet meadows, bogs, pocosins, and sinkhole wetlands are just some of Virginia's surface water communities.



Photo: Mitigation Bank in Suffolk by Jovan Dodson

Through the Virginia Water Protection Permit (VWPP) Program, VDEQ is tasked with upholding no net loss of surface water function and maintaining "beneficial uses", such as fish and wildlife habitat.

In addition to its regulatory programs, VDEQ advances surface water protection through grant funded initiatives. Assessing the "health" of Virginia's wetlands and using satellite imagery to track geographic wetland trends and unpermitted impacts are two recent grant funded initiatives.

Scope of the Virginia Water Protection Permit Program

Any of the following activities in streams, lakes, wetlands or other surface waters typically require a VWPP permit from VDEQ:

- *land clearing*
- *dredging*
- *filling*
- *excavating*
- *draining*
- *ditching*
- *water withdrawal*

These activities are considered impacts which affect beneficial uses of state waters. Impacts are avoided or minimized whenever practicable and are mitigated through creating, restoring, or preserving similar surface water communities, preferably in the same watershed. For example, a swamp might be restored and preserved to mitigate for clearing and filling a nearby swamp. The process of avoidance, minimization, and compensation is facilitated through the VWPP process.

Authorizing Permits Applications for VWPP permits are made by submitting a completed [Joint Permit Application](#). VDEQ reviews the permit application for completeness. Next, VDEQ will begin processing either a general permit authorization or an individual permit depending on the complexity and scope of the proposed impact. While processing a permit application VDEQ ensures the following:

- Impacts have been avoided and minimized to the maximum extent practicable;
- Potential impacts to special resources, such as bald cypress forest or threatened and endangered species have been identified, avoided and minimized;
- The proposed compensation plan adequately compensates the proposed impacts; and
- The beneficial uses, such as human consumption, the protection of fish and wildlife habitat; maintenance of waste assimilation; recreation; navigation; and cultural and aesthetic values will not be impaired.

A VWPP permit is issued when the proposed activity complies with state laws and regulations.

VDEQ coordinates with the U.S. Army Corps of Engineers (Corps), the Virginia Marine Resources Commission (VMRC), the Virginia Department of Game and Inland Fisheries (DGIF), and the Virginia Department of Conservation and Recreation (DCR) for many permit and compliance actions. In some specific cases, permits by these other agencies provide sufficient authorization and VDEQ may waive VWPP permit requirements or provide prior state certification (as is the case for certain Corps Nationwide Permits).

Figure 1 presents the annual number of permit applications received and permits issued by VDEQ from 2001 to 2009.

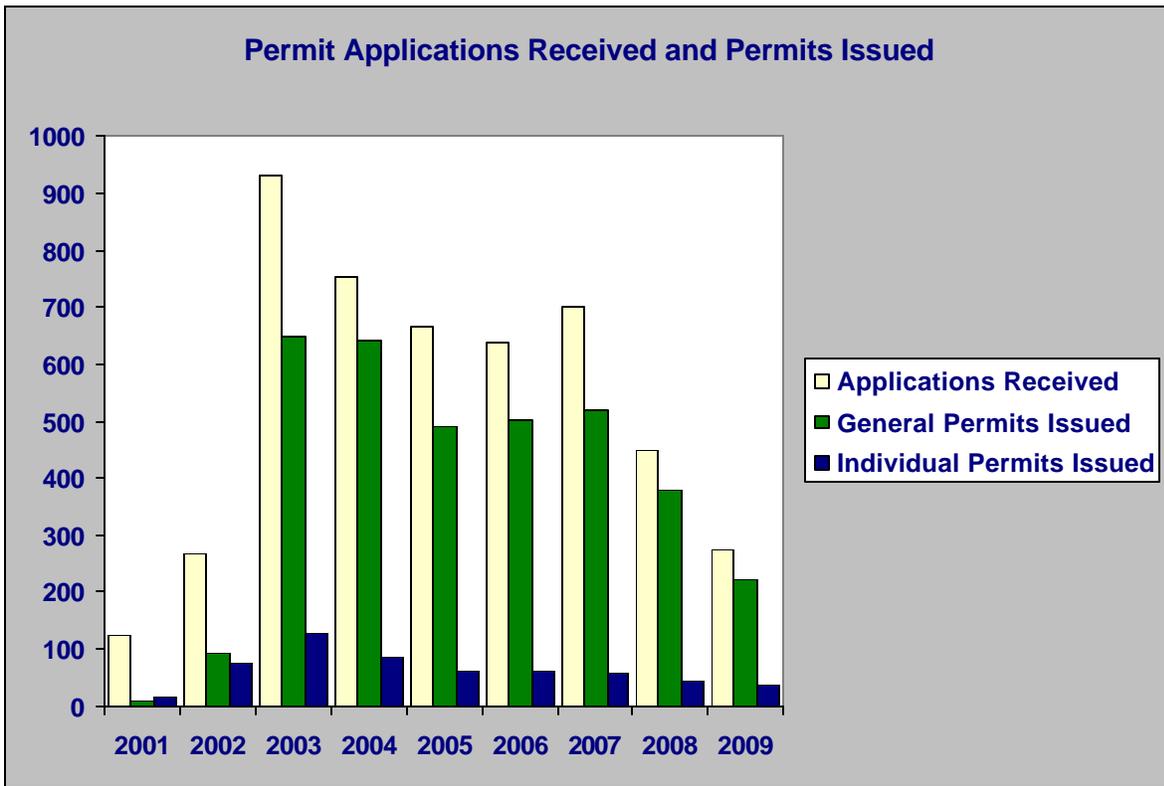


Figure 1. Number of Joint Permit Applications Received and Number of Permits Issued (Per Year 2001-2009).

Figure 2 shows the variation in number of VWPP permits issuances by county since 2001.

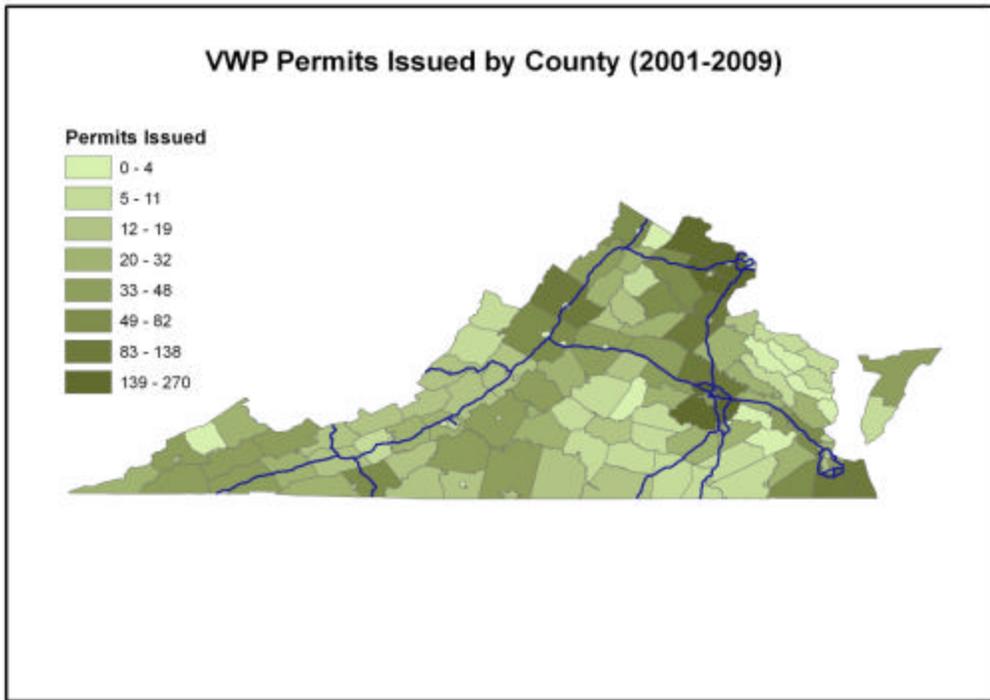


Figure 2. Cumulative number of VWPP permits Issued from 2001 to 2009 for each county in Virginia.

Surface water impacts and demand for permits vary from county to county. Demand for permits reflect proximity to Virginia’s population centers, as well as concentrations of

surface waters. Additional factors influence VWPP permitting activity for specific locations. These include overall development pressure, amount of suitable uplands available for build out, and local demand for water-related recreation access.

Permit Efficiency VDEQ works to process needed permits as quickly and efficiently as possible. State law sets time limits for permit decisions, especially when impacts are considered to have minimal effect on human health and the environment. Table 1 presents the number of days of staff time allowed for certain permit actions.

Table 1. Calendar days allowed for certain permitting activities.

Calendar Days	Permit Processing Activity
15	Completeness Review of Applications
45	Permit Decision for General Permits or Automatic Issuance
120	Guideline for Time to Permit Decision for Individual Permits
195	Guideline for Public Hearing and Individual Permit Decision

Figure 3 presents the average number of days taken to issue permits for the years 2001 through 2009. The 45-day line in orange and 120-day line in red show the time allowed to process general permits and individual permits. The 195-day line in purple shows additional time allowed for public hearings on individual permits, demonstrating that VDEQ consistently meets these stringent permitting deadlines.

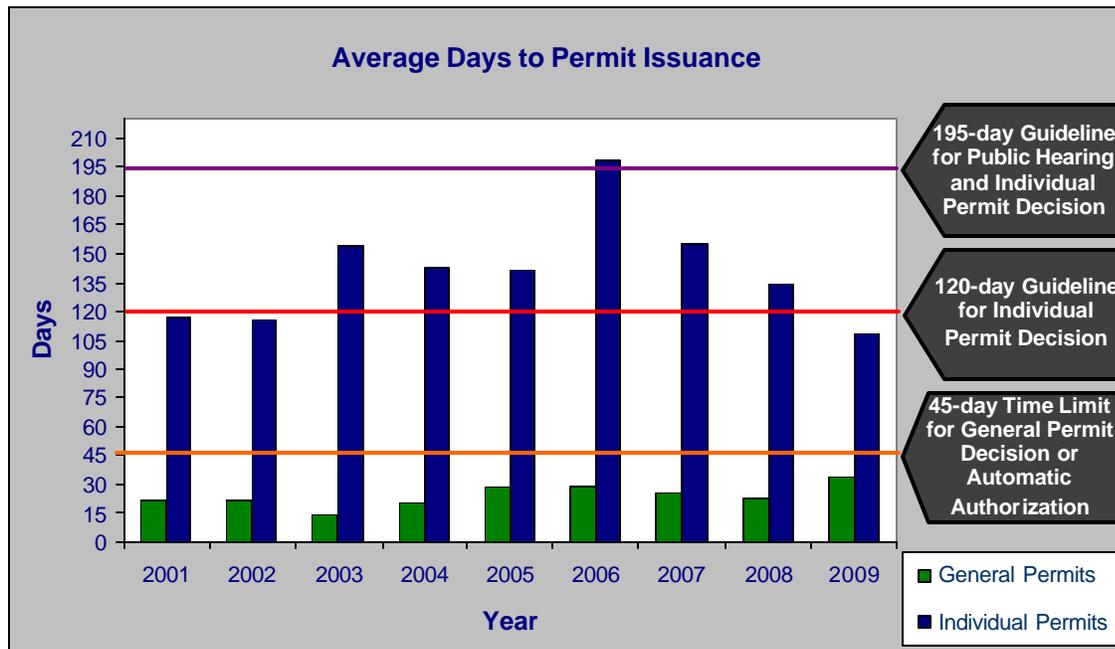


Figure 3. Average number of days to issue Virginia Water Protection Permits. Lines indicate time allowances for permit actions.

Distribution of Impacts VDEQ authorized impacts to 1,992 acres of wetlands and open water, and 1,400,104 linear feet of streams from July 1, 2001 to December 31, 2009. Figure 4 presents the distribution of impacts by county and quantifies wetland and open water impacts in progressively darker shades of green. The development pressure in Northern Virginia, greater Richmond, and Tidewater is reflected in the larger amount of surface water impacts in these regions.

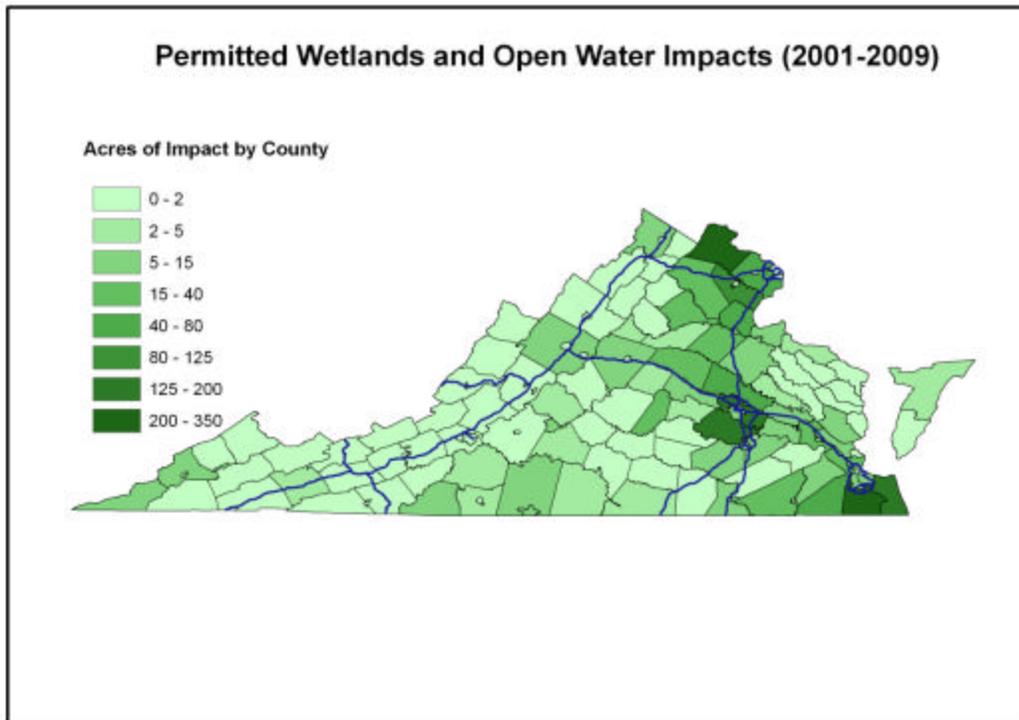


Figure 4. Cumulative total wetland and open water impacts for counties in Virginia (2001-2009)

Wetland impacts are particularly difficult to avoid in Tidewater as this area of the commonwealth has the highest proportion of wetlands to uplands. In general, wetlands become increasingly more common east of Interstate 95. Stream systems are the most common surface waters in Western and Northern Virginia.

Figure 5 presents the distribution of impacts by county and quantifies stream impacts in progressively darker shades of blue. The dark blue lines represent interstate highways. The stream impacts shown in Figure 5 again reflect the development pressure in Northern Virginia, and the greater Richmond area.

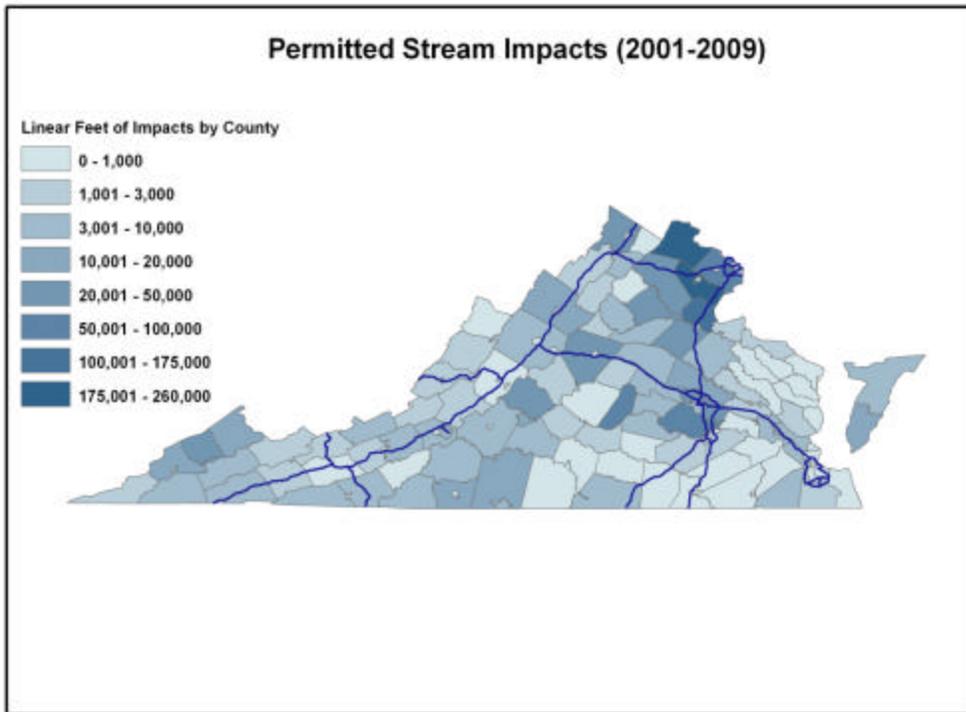


Figure 5. Cumulative total stream impacts for counties in Virginia (2001-2009)

The stream impacts shown in Figure 5 again reflect the development pressure in Northern Virginia, and the greater Richmond area.

No Net Loss of Surface Waters

Achieving “No Net Loss” of Wetlands, Streams and Open Water State law requires wetlands, streams, and open water that are impacted through permits to be replaced such that the overall benefits to people, aquatic wildlife, and water quality remain unchanged. In other words, VDEQ must require compensation for wetland, stream and open water impacts sufficient to ensure no-net-loss of wetland acreage and function as well as no-net loss of function in all surface waters.

Avoidance and Minimization Many applicants avoid and minimize impacts to surface waters through careful project planning. In addition, VDEQ staff frequently recommend building alternatives and request protection of avoided, or non-impacted, wetlands. For the period from 2001 to 2009, impacts to 68 acres of wetland and 73,353 feet of stream were avoided or minimized through permit review and subsequent changes to the originally proposed project design. For the same period, 2,918 acres of wetlands and 1,177,783 feet of stream were preserved as compensation on the project sites. By requiring preservation of wetlands and streams, VDEQ is ensuring impacts to these surface waters will be avoided in the future.

Compensation Purchasing wetland mitigation bank credits, contributing to an in-lieu fee fund, or engaging in wetland creation or restoration, and/or stream restoration are methods commonly used to compensate for the loss of surface waters and aquatic resources. All compensation resources are required to be protected in perpetuity. On some sites, preservation of existing aquatic resources or upland buffers is acceptable to satisfy a portion of the compensation requirement. From July 1, 2001 to December 31, 2009 VDEQ has

required enhancement, restoration, creation, or preservation of over 2.65 million (2,658,861) linear feet of streambed, and 7,156 acres of wetlands and open water as compensation for surface water impacts. Figures 6 and 7 present total surface water impacts compensated through VDEQ permitting.

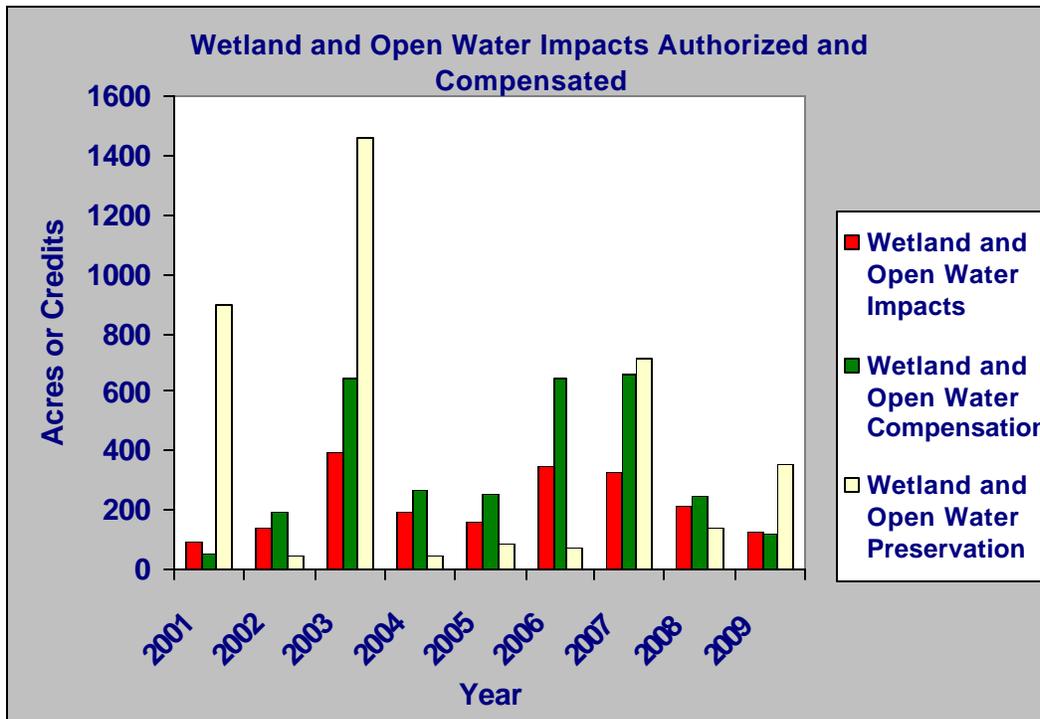


Figure 6. Surface Water Impacts and Compensation (Per Year 2001-2009).

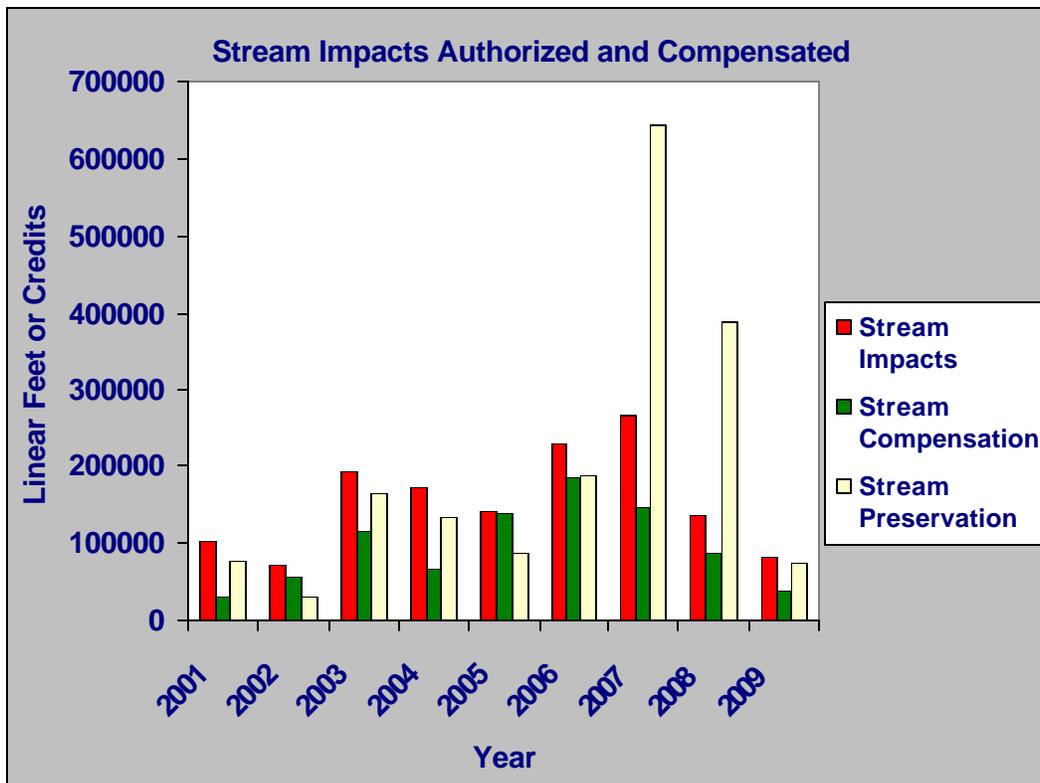


Figure 7. Surface Water Impacts and Compensation (Per Year 2001-2009).

Stream and Wetland Mitigation Banks As of December 2009, Virginia has 60 operational mitigation banks. An additional 33 mitigation banks are proposed. Virginia accounts for approximately 10 percent of the mitigation banking activity nationwide. In Virginia and across the U.S. there is a trend toward a large scale, watershed approach for compensation. Mitigation banks provide such an ecologically preferable, watershed-based form of compensation. VDEQ is the Co-Chair of the Interagency Review Team, which reviews and authorizes mitigation banks in Virginia. Figure 8 presents the number of mitigation banks approved per year and total number of banks in existence for each year from 2001 to 2009.

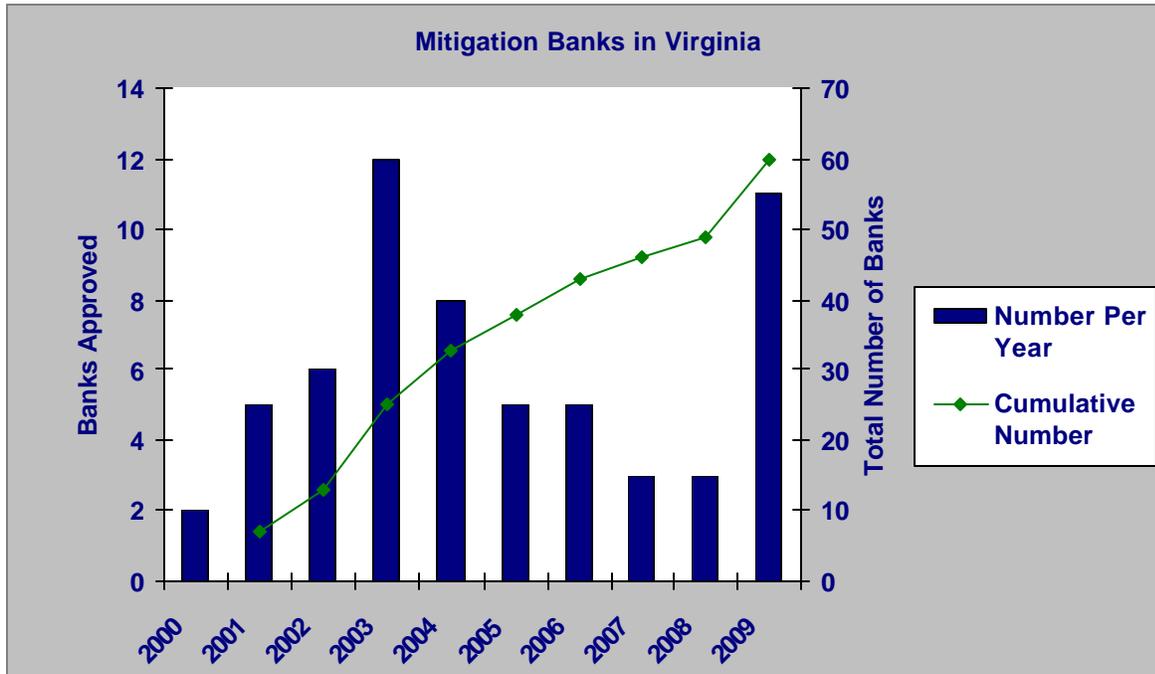


Figure 8. Number of Mitigation Banks Approved per Year and Total Number of Mitigation Banks Approved.

Mitigation banks tend to be more numerous in watersheds with the most permitted impacts. Figure 9 shows the location of active mitigation banks, and proposed banks nearing approval. The map does not depict mitigation banks operated by the Virginia Department of Transportation, nor proposed banks that are "inactive".

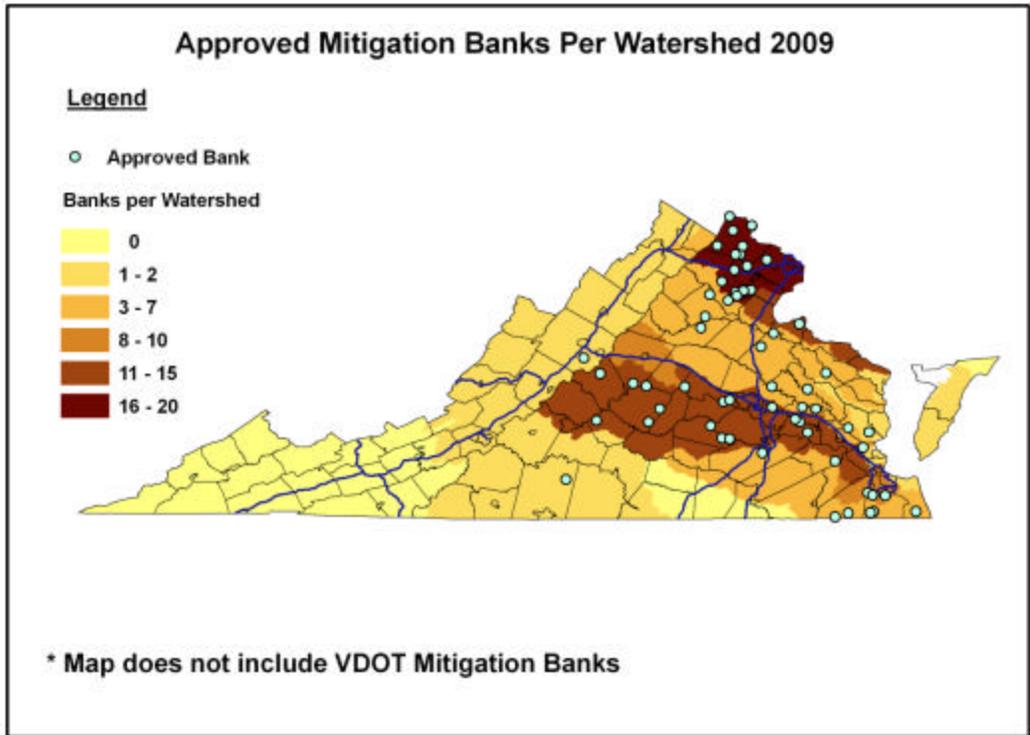


Figure 9. USGS Hydrologic Units Color Coded to Represent Cumulative Number of Mitigation Banks Servicing the Watershed with Dots Showing Mitigation Bank Locations.

In-Lieu Fee Funds An in-lieu fee fund is usually sponsored by a public natural resources agency or a non-governmental organization. The fund collects fees as compensatory mitigation for unavoidable impacts to wetland and stream resources. Next, the fund administrator uses the fees to find and restore sites in need of restoration and preservation. Virginia law states that DEQ has to approve these sites for use. There are currently two in-lieu fee funds operating in the Commonwealth of Virginia: the Living River Restoration Trust (LRRT) and the Virginia Aquatic Resources Trust Fund (VARTF).

The primary focus of the LRRT is compensation for impacts to tidal submerged lands and tidal wetlands within the Elizabeth River watershed.

The VARTF, Sponsored by The Nature Conservancy, has been used to mitigate for non-tidal wetland, tidal wetland, and stream impacts in the fourteen major river basins in Virginia since its inception in 1995. VARTF is currently revising their Program Instrument, their contract with the government agencies, to comply with federal regulation. The revisions are expected to be in place by Fall of 2010. DEQ will serve as Co-Chair of the VARTF Interagency Review Team.

Annual reports from the in-lieu fee funds are available on the Office of Wetland and Water Protection website at <http://www.deq.virginia.gov/wetlands/mitigate.html>.

Compliance Compliance activities include inspections of permitted and unpermitted sites, and warning letters to notify persons when they are not in compliance with the State Water Control Law (SWCL) or the VWPP Regulation. Significant or on-going non-compliance can result in a notice of violation (NOV). The NOV also serves as a referral to the VDEQ Division of Enforcement. In 2005, VDEQ received a grant from the U.S. Environmental Protection Agency (EPA) to increase compliance inspections of surface water impacts and to explore use of a remote sensing program. Remote sensing uses satellite imagery to detect changes in surface waters and document unpermitted impacts. VDEQ is in the process of expanding the remote sensing effort to cover the entire state under an EPA grant received in October 2009.

Figure 10 presents the number of compliance inspections since initiation of the compliance grant and number of warning letters and NOV letters sent since 2007. While VDEQ has performed site inspections and issued warning letters and NOV letters since inception of the program, prior to receiving the grant in 2005, VDEQ did not track inspections in a database. VDEQ started tracking warning letters and NOV letters in the database in 2007.

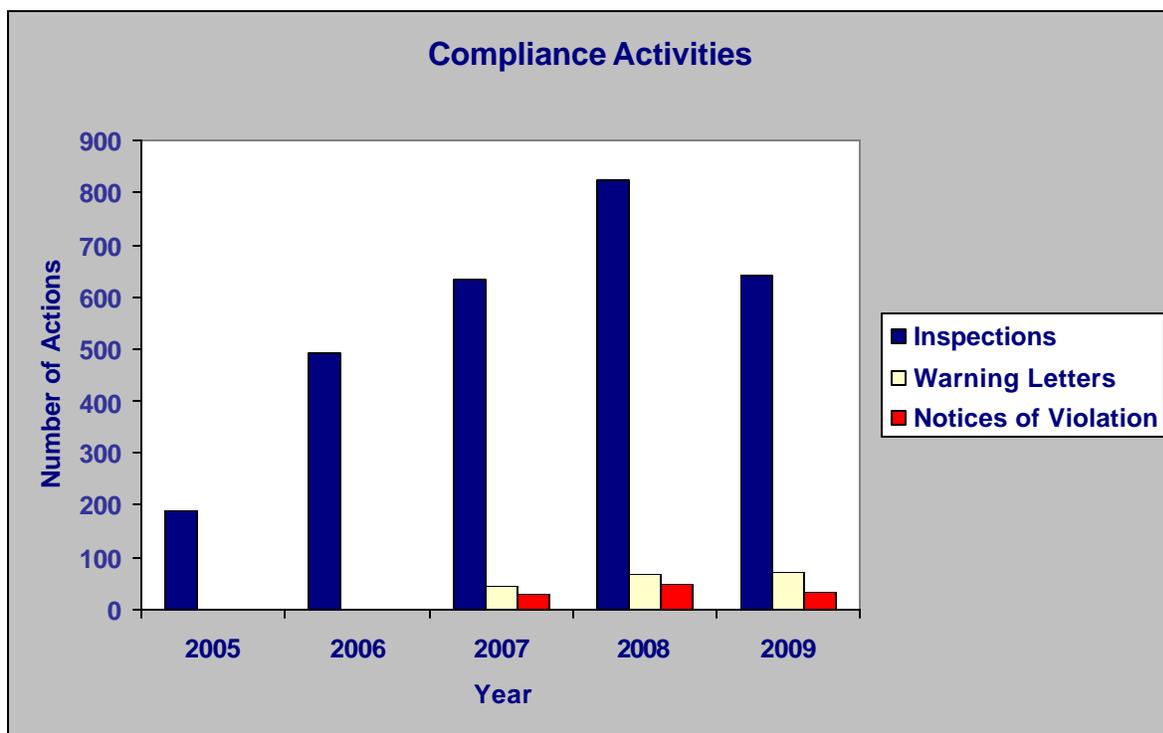


Figure 10. Compliance Activity Tracked since the initiation of the EPA Compliance Grant.

As depicted in Figure 10, most inspections do not result in issuance of a warning letter or notice of violation. The majority of inspections confirm that a project is in compliance with the permit or identify minor deficiencies that can be immediately corrected, known as informal resolution. Other outcomes include: corrective action plan, permit modification, restoration, or compensation for unauthorized impacts. A corrective action plan is a course of action to meet the permit requirements that may take months or years. A permit modification is used to address deficiencies that arise from unexpected site conditions or minor changes in a project plan. Restoration is required for unauthorized impacts that could be avoided. Compensation is required for deficiencies causing a permanent loss of surface waters.

Figure 11 shows the possible outcomes of inspections that identify deficiencies entailing unpermitted impacts.

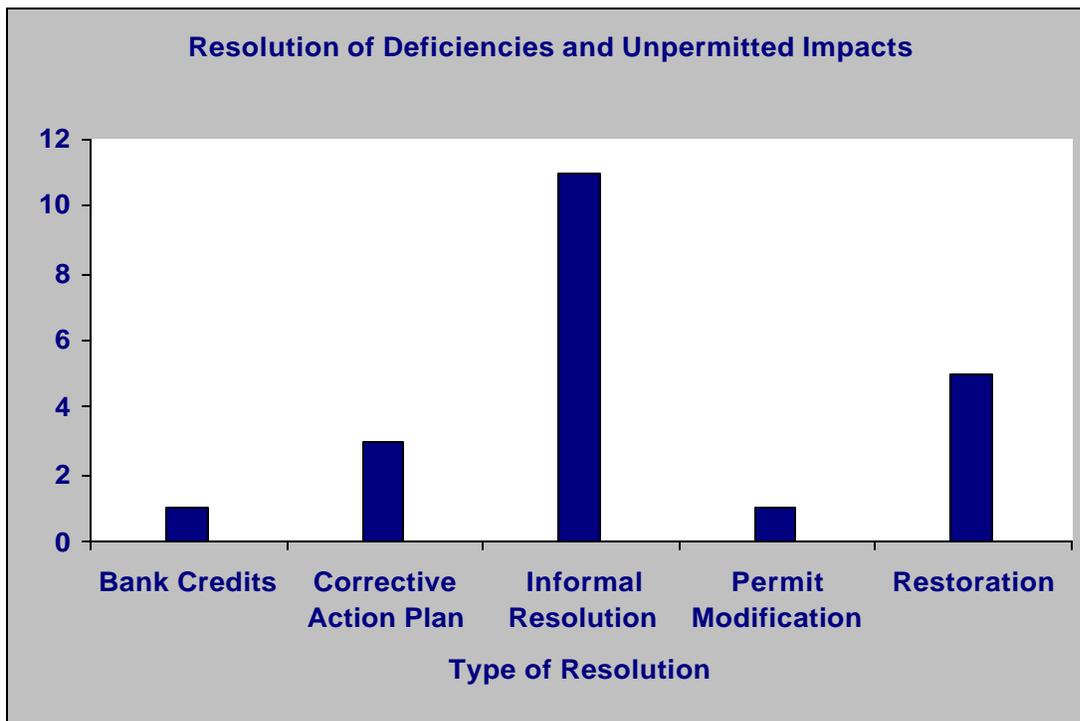


Figure 11. Resolutions for deficiencies identified from 22 inspections conducted December 1, 2007 to December 31, 2009.

In a random sample of 22 inspections finding deficiencies, the resolutions included the following: one case where impacts were compensated using bank credits, three corrective action plans, 11 informal resolutions, one permit modification, and five resolutions resulting in restoration of unauthorized impacts. The one inspection that required the use of bank credits compensated for 30 feet of stream impact with 63 stream credits and 0.02 wetland credits. The five unauthorized impacts requiring restoration of 0.90 acres of wetland impact and 1000 linear feet of stream impact in total.

Wetland Monitoring and Assessment A key aspect of Virginia's nontidal wetlands program is ensuring that there is no net loss of wetland acreage and function through permitted impacts and a net gain in wetland resource through voluntary programs. To establish a baseline for evaluating these goals, VWPP is determining the ambient conditions of wetland resources in Virginia, in terms of location, extent, and overall quality of wetlands in each watershed. Using this information, the VWPP program can then track changes in wetland acreage and function and target certain watersheds and help determine the effectiveness of compensatory mitigation replacing lost wetland acreage and function. As a first step, Virginia has developed a long-term strategy for wetland monitoring and assessment, including the goals and objectives of a monitoring and assessment program and a time frame for implementation. This strategy will provide the ultimate framework for an ongoing assessment of the status of the Commonwealth's wetland resources and the success of both our wetland regulatory and voluntary programs. The end result will be the incorporation of on-going wetland monitoring and assessment into the Commonwealth's water monitoring programs.

Synopsis

The VWPP Program is meeting its statutory requirements to provide prompt permit decisions that protect water quality. General permits are consistently issued before the 45-day deadline and individual permits are issued before 270-day allowance for processing and public involvement. VDEQ is meeting no-net-loss and continuing to facilitate compensation opportunities. From July 1, 2001 to December 31, 2009 impacts to an estimated 2,986 acres of wetland and 842,143 feet of stream were avoided or minimized through permit review or approval of on-site preservation. Also from July 1, 2001 to December 31, 2009, unavoidable impacts to 1,992 acres of wetlands and open water were compensated with 7,156 acres of similar resources. In the same time frame, 1,400,104 linear feet of unavoidable stream impacts were compensated with 2,658,861 linear feet of stream. VDEQ has thorough permitting procedures, compliance initiatives, established compensatory mitigation standards and methods, and significant efforts to monitor and assess Virginia's wetlands.



Photo: Stream in Powhatan County by Jovan Dodson

Program Milestones

Since the promulgation of the VWPP Regulation in 2001, the program has continually become more efficient. The following milestones represent recent VWPP Program improvements.

Milestone: VWPP Compliance Program Enhancements

In 2005, VWPP received a grant from the EPA to provide a systematic VWPP compliance program. The VWPP compliance program hired staff dedicated to inspect regulated surface water activities and wetland compensation sites. The grant also funded database improvements and a remote sensing pilot study to strengthen VWPP compliance.

Milestone: State Program General Permit Modified in 2007 and Programmatic Agreement Enacted in 2008

The State Program General Permit (SPGP) eliminates much of the duplication between the VDEQ and the Corps permitting programs by allowing VDEQ to issue the Corps-SPGP permit for certain smaller impacts. The modified SPGP became effective in 2007, and gave VDEQ responsibility for initial screening of potential impacts to Federal threatened and endangered species. In 2008, VDEQ became responsible for screening for potential impacts to historic resources to address Section 106 of the National Historic Preservation Act.

Milestone: Unified Stream Methodology Introduced in 2007 and Updated in 2008

Developed as a collaborative effort between the Corps and the VDEQ, the Unified Stream Methodology (USM) was launched in February 2007. The purpose of the USM is to describe a method to rapidly assess what the stream compensation requirements would be for permitted stream impacts and the amount of "credits" obtainable through implementation of various stream compensation practices. In May 2008, the COE and the VWPP Program released revisions and Frequently Asked Questions in response to public comment.

Milestone: Comprehensive Environmental Data System Improved in 2008

In 2008, VWPP greatly enhanced the general permit module of the Comprehensive Environmental Data System (CEDS), which is an enterprise database system that supports staff in tracking permits and aides accountability to the public. A compliance module to track compliance for general permits and non-permitted activities was completed in early 2009.

Milestone: Wetland Monitoring and Assessment in Virginia Implemented in 2008

Since 2003, VDEQ and the Virginia Institute of Marine Science (VIMS) have been awarded several grants by the EPA to conduct a Wetland Monitoring and Assessment model to assess the current conditions of Virginia's wetlands, and to ultimately protect the physical, chemical, and biological integrity of all the Commonwealth's water resources. Virginia is one of 3 states in the Mid-Atlantic Region to perform this work for EPA.

Milestone: Wetland Change Monitoring Process Using Remotely Sensed Data Developed in 2009

Funded by a grant from the EPA and under the direction of VDEQ, the Conservation Management Institute at Virginia Tech developed and evaluated a landscape-scale wetland change detection program employing satellite imagery and aerial photography to effectively identify non-permitted wetland losses in Virginia. Through this pilot study wetland change in two rapidly-changing areas of Virginia was identified remotely, and remote sensing was determined to be a useful and cost-effective means for monitoring wetland losses in Virginia.

VDEQ Office of Wetlands and Water Protection Contacts

Central Office, P.O. Box 1105, Richmond, VA 23218

Dave Davis, Director	804-698-4105	Dave.Davis@deq.virginia.gov
Liz McKercher, VWP Permit Coordinator	804-698-4291	Elizabeth.McKercher@deq.virginia.gov
Brenda Winn, Water Withdrawal	804-698-4516	Brenda.Winn@deq.virginia.gov
Michelle Henicheck, Wetlands	804-698-4007	Michelle.Henicheck@deq.virginia.gov
Tina Sullivan, Streams and Mitigation Banking	804-698-4204	Bettina.Sullivan@deq.virginia.gov
Jovan Dodson, Compliance	804-698-4303	Jovan.Dodson@deq.virginia.gov
Lee Crowell, Wetlands Enforcement Manager	804-698-4450	Lee.Crowell@deq.virginia.gov

Regional Office Managers

Blue Ridge Regional Office- Lynchburg (434) 582-5120 7705 Timberlake Road Lynchburg, VA 24502

Kip Foster, VWP Regional Manager 540-562-6782 Kip.Foster@deq.virginia.gov

Counties: Amherst, Appomatox, Buckingham, Campbell, Charlotte, Cumberland, Halifax, Lunenburg, Mecklenburg, Nottoway, Prince Edward, Pittsylvania
Cities: Danville, Lynchburg

Blue Ridge Regional Office- Roanoke (540) 562-6700 3019 Peters Creek Parkway Roanoke, VA 24019

Kip Foster, VWP Regional Manager 540-562-6782 Kip.Foster@deq.virginia.gov

Counties: Alleghany, Bedford, Botetourt, Craig, Floyd, Franklin, Giles, Henry, Montgomery, Patrick, Pulaski, Roanoke
Cities: Bedford, Clifton Forge, Covington, Martinsville, Radford, Roanoke, Salem

Northern Regional Office (703) 583-3800 13901 Crown Court Woodbridge, VA 22193

Trisha Beasley, VWP Regional Manager 703-583-3940 Trisha.Beasley@deq.virginia.gov

Counties: Arlington, Caroline, Culpeper, Fairfax, Fauquier, King George, Loudoun, Madison, Orange, Prince Wm., Rappahannock, Spotsylvania, Stafford, Louisa
Cities: Alexandria, Falls Church, Fairfax, Fredericksburg, Manassas, Manassas Park

Piedmont Regional Office (804) 527-5020 4949-A Cox Road Glen Allen, VA 23060

Corwin Chamberlain, VWP Regional Manager 804-527-5081 Corwin.Chamberlain@deq.virginia.gov

Counties: Amelia, Brunswick, Charles City, Chesterfield, Dinwiddie, Essex, Gloucester, Goochland, Greensville, Hanover, Henrico, King and Queen, King William, Lancaster, Mathews, Middlesex, New Kent, Northumberland, Powhatan, Prince George, Richmond, Surry, Sussex, Westmoreland
Cities: Colonial Heights, Emporia, Hopewell, Petersburg, Richmond

Southwest Regional Office (276) 676-4800 355 Deadmore Street Abingdon, VA 24210

Mailing address: P.O. Box 1688, Abingdon, VA 24212

Allen Newman, VWP Regional Manager 276-676-4804 Allen.Newman@deq.virginia.gov

Counties: Bland, Buchanan, Carroll, Dickenson, Grayson, Lee, Russell, Scott, Smyth, Tazewell, Washington, Wise, Wythe
Cities: Bristol, Galax, Norton

Tidewater Regional Office (757) 518-2000 5636 Southern Blvd Virginia Beach, VA 23462

Bert Parolari, VWP Regional Manager 757-518-2166 Bert.Parolari@deq.virginia.gov

Counties: Accomack, Isle of Wight, James City, Northampton, Southampton, York
Cities: Chesapeake, Franklin, Hampton, Newport News, Norfolk, Portsmouth, Poquoson, Suffolk, Virginia Beach, Williamsburg

Valley Regional Office (540) 574-7800 4411 Early Road Harrisonburg, VA 22801

Brandon Kiracofe, VWP Regional Manager 540-574-7892 Brandon.Kiracofe@deq.virginia.gov

Counties: Albemarle, Augusta, Bath, Clarke, Fluvanna, Frederick, Greene, Highland, Nelson, Page, Rockbridge, Rockingham, Shenandoah, Warren
Cities: Buena Vista, Charlottesville, Harrisonburg, Lexington, Staunton, Waynesboro, Winchester