REPORT OF THE SECRETARY OF NATURAL RESOURCES

CHESAPEAKE BAY AND VIRGINIA WATERS CLEAN-UP PLAN - PROGRESS REPORT

TO THE GOVERNOR AND THE CHAIRMEN OF THE SENATE AGRICULTURE, CONSERVATION AND NATURAL RESOURCES COMMITTEE, THE HOUSE AGRICULTURE, CHESAPEAKE AND NATURAL RESOURCES COMMITTEE, THE HOUSE APPROPRIATIONS COMMITTEE AND THE SENATE FINANCE COMMITTEE

COMMONWEALTH OF VIRGINIA, RICHMOND, MAY 2014

TABLE OF CONTENTS

Executive Summary

This report was developed to comply with water quality reporting requirements stipulated in §62.1-44.118 of the Code of Virginia. This section of code requires the Secretary of Natural Resources to submit semiannual progress reports May 1 and November 1 regarding implementation of the impaired waters clean-up plan as described in §62.1-44.117. Pursuant to §62.1-44.118, the May 1 progress report focuses exclusively on clean-up plan implementation whereas the November 1 report consolidates additional annual reporting requirements and any plan updates/revisions as appropriate.

During the reporting period, the Department of Environmental Quality (DEQ) has invested significant time and effort in two initiatives that are not specifically addressed by the Virginia Waters Clean-Up Plan but are included in this report: developing the Nonpoint Source Management Plan and responding to the Dan River coal ash spill (in partnership with the Virginia Department of Health [VDH] and the Department of Game and Inland Fisheries [DGIF]). Actions and progress to date are discussed in detail. The remaining updates in this progress report are organized according to the Clean-Up Strategy Components laid out in the Virginia Waters Clean-Up Plan. Programs and initiatives that have not experienced significant changes since the November 2013 report have been excluded from this report but will continue to be covered in the future.

Coordination of Future Reporting

Eight years have passed since the General Assembly adopted the Chesapeake Bay and Virginia Waters Clean-Up and Oversight Act of 2006. The original plan was developed in January of 2007 with updates in 2008 and 2009. While this plan has not been updated in recent years, Virginia has completed development of watershed implementation plans (WIPs) in support of the Chesapeake Bay Total Maximum Daily Load (TMDL) in 2010 and 2012. In addition to the WIPs, the Chesapeake Bay TMDL planning and accountability framework calls for the development of detailed milestone implementation plans every two years. These were completed for the first milestone cycle (2012-2013) and have recently been developed for the 2014-2015 milestone period. The Bay TMDL planning and accountability framework also calls for annual progress reporting. Virginia's participation in this planning and accountability framework is a condition of our Chesapeake Bay Implementation Grant (CBIG) and Chesapeake Bay Regulatory and Accountability Program Grant (CBRAP) that collectively provide about $5 million per year in Federal funds for Bay improvement work.

In 2014, we anticipate the signing of a new Bay Watershed Agreement by the Chesapeake Bay Program partnership, a regional partnership that includes federal and state agencies, local governments, non-profit organizations and academic institutions. This agreement will establish new goals and outcomes for sustainable fisheries, vital habitats, healthy watersheds, land conservation, public access, environmental literacy and water quality in the Bay. Signing of the agreement will be followed by the development of management strategies to drive toward the established outcomes and goals. Receipt of the CBIG and CBRAP grants are conditioned on being a signatory to this new agreement.

Also in 2014, DEQ will complete an update of Virginia's Nonpoint Source Management Plan. This plan is a Clean Water Act §319 requirement. The Environmental Protection Agency (EPA) requires periodic updates to this plan and annual reporting on progress as a condition of §319 nonpoint source grants that provide approximately $3 million per year in Federal funds for statewide TMDL and nonpoint source program work.

Recognizing that significant overlaps exist between the statewide Nonpoint Source Plan requirements and the Chesapeake Bay Milestone planning requirements, DEQ is working to coordinate the development of these plans, which include data requests to other involved State agencies (VDH, VDACS, DOF, VMRC, VDOT and DMME). Coordinating the development and reporting for these water quality plans is a perfect example of the synergies that were envisioned by the General Assembly when deciding to consolidate some water quality programs and authorities from the Department of Conservation and Recreation (DCR) to DEQ in 2013.

Now, an opportunity exists to better align these federally required plans and reports with existing Virginia legislative planning and reporting requirements. To initiate this action, DEQ will work to update the Chesapeake Bay and Virginia Waters Clean-Up Plan required by §62.1-44.117 to align it with the Chesapeake Bay WIPs and Milestones, the Nonpoint Source Management Plan and the new Bay Agreement. The next piece of this consolidation would involve the elimination of outdated state reporting requirements. The Chesapeake Bay Tributary Strategies progress reports required by §§ 2.2-218 – 2.2-220 of the Virginia Code have been superseded by Virginia's Chesapeake Bay WIPs and Milestones for the Chesapeake Bay TMDL. The Chesapeake Bay 2000 Agreement report required by § 2.2-220.1 will be superseded by the new 2014 Chesapeake Bay Watershed Agreement. Appropriate elements of each of these new Bay plans will be included in the updated Clean-up Plan. The last step is to reduce the duplicative and overly burdensome semiannual progress reports required in §62.1-44.118 with an annual report to align with the federal plan reporting requirements. The water quality reporting requirements in §62.1-44.118 (Clean-up Plan Report), subsection D of § 10.1-2127 (Cooperative Nonpoint Source Pollution Programs report), subsection C of § 10.1-2128.1 (Virginia Natural Resources Commitment Fund Agricultural Needs Report), § 10.1-2134 (Annual Report on the Water Quality Improvement Fund) and § 10.1-1193 (Watershed Planning and Permitting Activities Report) could be annually consolidated in a single November 1 report. The elimination of these outdated or duplicative reporting requirements will in no way hinder Virginia's efforts to protect and restore water quality statewide and will allow agency resources to be more effectively used.

Nonpoint Source Management Plan

Update regarding the development of Virginia's Nonpoint Source Management Plan

During the 2013 session, the Virginia General Assembly passed legislation moving several programs, including the Nonpoint Source Management Program, from DCR to DEQ. As the lead nonpoint source agency, DEQ is now responsible for reporting and planning related to this program including Virginia's Nonpoint Source (NPS) Management Plan.

The NPS Management Plan was last updated in 1999. It describes Virginia's programs which quantify and limit the effects of nonpoint source pollution and help attain water quality standards. Federal guidance issued in December of 2012 requires that all states update NPS management plans in fiscal year 2014 and commit to periodic updates. This new guidance requires all states to have updated management plans by September 30, 2014. With significant interagency assistance and in close coordination with the Chesapeake Bay Milestone process, DEQ is updating the state Nonpoint Source Management Plan. The plan will detail short term and longer term actions the Commonwealth will take to reduce nonpoint source pollution. A draft of the NPS Management Plan was made available for review during a public informational meeting held on February 25, 2014. This latest draft is available on the DEQ website: http://www.deq.virginia.gov/Portals/0/DEQ/Water/Nonpoint%20Source/Draft_NPS_Management_Plan_2_20_14.pdf.

Dan River Coal Ash Spill

Virginia's environmental evaluation of the Dan River following the coal ash spill in North Carolina continues to focus on potential long-term effects on water quality and aquatic life in the river. Sampling results of the treated drinking water for Virginia localities that use the Dan River have consistently met or exceeded all applicable federal and state standards, and at this point there are no public health concerns with drinking water.

Duke Energy reported the spill from a facility in Eden, N.C., on February 2. The release of coal ash into the river has been halted, and removal of ash deposits in the river is under way. DEQ is coordinating the Virginia state agency response and has taken these actions:

- Compiled historical monitoring data and drafted a summary of water quality conditions on the Dan River from before the spill to enable comparison with post-spill conditions.
- Collected water and sediment samples from the North Carolina line to an area west of South Boston. No violations of Virginia's water quality standards have been found, and sample collections are continuing.
- Coordinated with local water treatment facilities and the Virginia Department of Health to ensure the ongoing safety of public water supplies. The drinking water quality has not been impaired and remains safe.
- Collected fish samples from the river in an area west of Danville to evaluate for metal contaminants. The resulting data have been reviewed by DEQ Water Quality Standards staff and VDH toxicologists. Based on those results, VDH does not recommend issuing a new consumption advisory for the upstream section of the Dan River (to the North

Carolina line). Further information on the coal ash release is available at this DEQ website: http://www.deq.virginia.gov/ConnectWithDEQ/EnvironmentalInformation/NorthCarolinaCoalAshSpill.aspx. Additional information on health protection related to the spill is available at this VDH website: http://www.vdh.virginia.gov/CoalAsh.pdf.

- Coordinated with VDH on the posting of signs along the river advising limited contact with coal ash.
- Reviewed records and current conditions at coal ash impoundments in Virginia.
- Initiated plans for long-term assessment of water quality, aquatic life and habitat in the river.

VDH recommends that local fish consumers follow the existing advisory for mercury and PCBs (no more than two meals per month for certain fish species). Based on pending fish sample results, VDH will determine whether existing fish consumption advisories need to be updated. Catch-and-release fishing remains safe.

Virginia's long-term efforts will include a cooperative state and federal monitoring plan to identify impacts to bottom-dwelling organisms that form the base of the food chain in the river. The study also will identify effects on fish and possible bioaccumulation of metals in fish tissue.

Wastewater

No Discharge Zones
Report semi-annually on outreach efforts and No Discharge Zone designations being pursued

DEQ has completed four No Discharge Zone (NDZ) applications for Virginia's Northern Neck (the peninsula of land separating the tidal Potomac and Rappahannock Rivers). The bodies of water affected by these applications are contained in 22 bacteria TMDLs, covering over 90 individual shellfish impairments. DEQ has recently validated impairments reported in the applications with shellfish impairments reported by the VDH Division of Shellfish Sanitation as of December 31, 2012. Three other NDZ initiatives are in progress. The Go-Green Committee of Gloucester County and the Virginia Institute of Marine Science continue to progress in the development of an NDZ application for the Sarah and Perrin Creeks in Gloucester County. The Elizabeth River Project, an independent non-profit organization, has committed to creating a task force to achieve increased pump-out compliance by addressing education and accessibility issues. A NDZ application for Owl Creek and Rudee Inlet in Virginia Beach is currently in abeyance at EPA; completion of the construction of a year-round pump-out station accessible to all boats is scheduled in 2014, after which EPA will be asked to review the NDZ application for affirmative determination.

Discharges of Toxic Substances
Report semi-annually on TMDL clean-up plan development and implementation on waters impacted by toxic contamination

Broad Run: DEQ continued work on monitoring for the upcoming development of bacteria and benthic TMDLs for the Broad Run watershed located in Fairfax County. Clean water metals sampling were performed for the purpose of investigating potential stressors on the benthic biological community. Additionally, routine bimonthly sampling for nutrients and solids continue on all stations in the watershed.

Jeffries Branch: DEQ began work on monitoring for the upcoming development of the Benthic TMDLs for Jeffries Branch located in Loudoun County. Jeffries Branch is listed as impaired for not meeting the aquatic life use due to poor health in the benthic biological communities in the Draft 2012 Integrated Report.

North Fork Catoctin Creek: DEQ continued water monitoring work in 2013 in advance of the development of a TMDL for the North Fork Catoctin Creek, located in Loudoun County. North Fork Catoctin Creek is listed as impaired for not meeting the aquatic life use due to poor health in the benthic biological communities.

Elizabeth/Tidal James: The Polychlorinated biphenyl (PCB) impaired area of the Elizabeth River includes the main channel, the Western, Southern and Eastern Branches of the Elizabeth River, St. Julian's Creek, Deep Creek and Broad Creek. Willoughby Bay is also included. The PCB impaired area for the tidal James includes the James River from the I-95 Bridge in Richmond downstream to the Hampton Roads Bridge Tunnel and the tidal portion of the following tributaries: Appomattox River up to Lake Chesdin Dam, Bailey Creek up to Rt. 630, Poythress Run, Bailey Bay, and Chickahominy River up to Walkers Dam. A PCB TMDL is scheduled for completion by early 2015.

A Municipal Separate Storm Sewer System (MS4) monitoring study was completed with the objective of producing PCB data that will be used for TMDL development. Specifically, the data will provide information on concentrations associated with regulated stormwater outfalls originating from different land uses including residential, industrial, commercial, and forested (i.e., background). The data will allow more accurate load derivation from the MS4 source category. MS4 PCB data, effluent data collected from point sources, ambient collections by DEQ (2009, 2010 and 2013) as well as watershed historical information and source assessment are all necessary for the TMDL development and allocation of PCB loadings.

While it is premature to understand what these PCB results mean relative to actual loadings, collection of these data provide a comparison of loadings from different land use types which may be indicative of the respective PCB contributions to the impaired waterbodies. A more detailed discussion of these PCB data will be conducted during forthcoming MS4 Technical Advisory Committee meetings.

Roanoke River PCB TMDL: Implementation has been initiated on the Roanoke River for purposes of reducing total PCBs. Numerous facilities have screened their effluents for PCBs using a highly sensitive EPA method. Accurate PCB loadings will be calculated and compared to the TMDL Waste Load Allocation (WLA). Those Virginia Pollutant Discharge Elimination System (VPDES) facilities that exceed the WLA will be required to submit a Pollutant Minimization Plan (PMP). To date, two Best Management Practices (BMPs) have been submitted and approved from two different VPDES facilities located in the lower Roanoke River. A third VPDES facility, which shut down manufacturing operations near the end of the TMDL study (although continued to release wastewater), developed and implemented a facility closure plan. PCBs that could have been released under the allotted TMDL WLA allocation were significantly reduced under the closure plan.

2010-2013 New River PCB Study: A PCB study was initiated in 2010 to investigate potential PCB sources in the New River watershed, and the source investigation study for PCBs continues as part of TMDL development. A third water column sampling event was conducted in fall 2013. The full data set is not yet available.

Clinch River low level Hg Sampling Study: A sampling was developed for the study of low level mercury (Hg) in the Clinch River. Quarterly samples from five stations are being collected along an 80-mile segment of the river. Sampling began during the spring of 2010 and will continue for six years. In addition to low level Hg, monitoring parameters will also include 17 other metals, hardness, nutrients, solids, and E. coli. Sampling is continuing on a quarterly basis in accordance with the original monitoring plan.

South River Science Team: DEQ staff members continue to coordinate with members of the South River Science Team on a number of surveys and studies in which data are gathered for water, sediments, floodplain soils, and biota in and along the South River. The South River Science Team is comprised of representatives from industry, academic institutions, state and federal agencies, environmental groups and independent researchers. This group meets quarterly to coordinate efforts, collaborate on future work, and communicate results. Ongoing studies address mercury source identification, fate and transport, methylation processes, and ecological processes. Information on the activities of the South River Science Team can be found at http://www.southriversciencteam.org/. Studies by South River Science Team partners and contractors will serve as the basis for damage assessment and will also help identify opportunities for restoration and mitigation. The Natural Resource Damage Assessment (NRDA) team of technical, policy, and legal staff has been meeting several times per year as this process moves forward. Final settlement is expected within 2-3 years.

Mercury Monitoring: Results from Total Mercury Monitoring for future TMDLs in First Tissue Impairments (conducted in 2012 and 2013) showed that the Meherrin River held the highest average total Hg at 4.1 ng/L, followed by the Blackwater River (3.7 ng/L), the Nottoway River (3.1 ng/L), the James River (2.7 ng/L), the Rappahannock River (2.0 ng/L), the Pamunkey River (1.9 ng/L), and the Mattaponi River (1.7 ng/L). Total Hg monitoring in preparation for future TMDLs for fish tissue impairment will continue in 2014.

Onsite Sewage Disposal
Report Semi-Annually on the number of failing systems or straight pipes that have been repaired

The Virginia Department of Health (VDH) database, the Virginia Environmental Information Systems (VENIS), is the main record keeping tool for all VDH environmental health programs. The database includes records of on-site sewage disposal system repair permits. Progress for 2013 includes approximately 25,102 pumpouts in the Chesapeake Bay Watershed.

On December 7, 2011, the Regulations for Alternative Onsite Sewage Systems (AOSS; 12 VAC 5-613) were adopted by VDH. These regulations require that all new alternative onsite sewage systems applying for construction permits after December 7, 2013 reduce nitrogen by 50% as compared to a conventional onsite sewage system. VDH released draft guidance for these requirements in November 2013. Furthermore, implementation of the Operations and Maintenance portions of the AOSS Regulations is underway. VDH is finalizing an implementation manual to improve consistency in application of the regulations and will offer training to agency staff when the manual is complete. As of December 31, 2013 (closeout of the 2012-2013 Bay TMDL Milestone period), 216 nitrogen reducing systems had been installed voluntarily within the Chesapeake Bay watershed in the Milestone period.

VDH continues to work with the Chesapeake Bay Program and other TMDL stakeholders to approve additional onsite systems for 25% and 75% reductions in total nitrogen. VDH representatives participated in the Chesapeake Bay Program Onsite Wastewater Treatment Systems Nitrogen Reduction Technology Expert Review Panel and developed additional BMP strategies. A draft document is currently under review by CBP workgroups and implementation teams.

Agriculture and Forestry

Agricultural Priority Practices
Report pounds of nitrogen and phosphorous reduced through the implementation of priority practices

Implementation of priority agricultural BMPs continues to be a core area of focus for the Commonwealth as it endeavors to achieve its water quality goals. Agricultural conservation practices are highly effective at reducing excessive nutrients. State financial incentives for BMP implementation are administered by the Agricultural BMP Cost-Share Program at DCR. Levels of Priority Practice Implementation in the Chesapeake Bay, through December 31, 2013 are listed in Table 1. Chesapeake Bay estimated loads and reductions for all source sectors in 2013 are listed in Table 2.

Table 1: 2013 Chesapeake Bay Watershed Priority Practice Implementation

Practice	Level of Implementation
Nutrient Management on Crop	545,873 acres
Nutrient Management on Pasture	70,855 acres

Cover Crops	107,722 acres
Livestock Exclusion	52,390 acres
Stream Buffers	46,874 acres
Conservation Tillage w/ Continuous No-Till	383,524 acres

Table 2: 2013 Chesapeake Bay Watershed Nutrient and Sediment Reductions by Source Sector

Source	Pollutant	2009 Loads	2013 Loads	Reductions	
Agriculture	Nitrogen (N)	20,731,837	18,964,008	1,767,829	
	Phosphorous (P)	4,823,748	4,448,750	374,998	
	Sediment (TSS)	2,410,341,314	2,152,530,962	257,810,352	
Urban Runoff	N	10,118,577	11,275,911	-1,157,334	
	P	1,255,429	1,261,240	-5,811	
	TSS	698,119,454	800,908,728	-102,789,274	
Wastewater + CSO	N	21,730,225	14,979,930	6,750,295	
	P	1,756,688	1,122,888	633,800	
	TSS	47,136,674	44,040,149	3,096,525	
Septic	N	2,468,117	2,755,933	-287,816	
	P				
	TSS				
Forest	N	12,500,782	12,306,332	194,450	
	P	779,573	770,962	8,611	
	TSS	587,323,868	580,547,594	6,776,274	
Atmospheric Deposition	N	578,001	578,001	0	
	P	56,374	56,374	0	
	TSS	0	0	0	
	Pollutant	**2009 Loads**	**2013 Loads**	**Reductions**	**% Progress toward 2017 Reductions**
	Total Nitrogen	65,659,422	58,104,182	7,555,240	**77.9%**
	Total Phosphorous	8,671,812	7,660,214	1,011,598	**74.3%**
	Total Sediment	3,742,921,310	3,578,027,433	164,893,877	**55.9%**

By 2017, Virginia is expected to reach 60% of the 2025 WIP reductions. The last column in Table 2 indicates Virginia's progress toward the 60% goal as of December 31, 2013. It should also be noted that negative reductions in Urban and Septic sectors are due to population growth within the Bay watershed and subsequent changes in the associated model landuse. The model's projected growth in these sectors outpaces the reductions in loads from the reported BMPs in these sectors.

Virginia Resource Management Plan Program

The Virginia Resource Management Plan (RMP) program has the potential to capture a large number of currently unreported voluntary BMPs and to encourage the implementation/adoption of additional reportable BMPs on crop, hay and pasture land. These BMPs include a wide array of practices such as nutrient management, soil conservation measures, stream exclusion fencing and buffers. BMPs may be installed through the Virginia Agricultural Cost Share (VACS) program or federal programs, or may be completely voluntary. The RMP Program is developing the tools and tracking systems needed to successfully assess Virginia's progress towards meeting applicable water quality goals.

In return for implementing a high level of conservation practices on a farming operation, during the nine year life of an RMP certificate of implementation, the RMP area of a farming operation will receive "safe harbor" from new state issued nutrient, sediment or bacterial water quality requirements that are not required by a federal or state permit. Once this nine year period has ended, if the operation wishes to continue in the program for an additional nine year cycle, the operation will be required to implement any new BMPs required at the time of renewal. The program has the potential to appeal to a significant sector of the agricultural community in Virginia, identify existing voluntary BMPs, and encourage the implementation of new BMPs.

DCR is working closely with other departments and stakeholders to encourage the implementation of RMPs as a vehicle to meet the state's Bay TMDL implementation goals by 2025. The RMP is being considered as the "baseline" in the draft Virginia nutrient trading regulations. This could further increase the implementation of RMPs in Virginia. The final implementation timeline is currently pending approval by the Virginia Soil and Water Conservation Board.

Developed & Developing Lands

Stormwater Management
Legislative Updates

During the reporting period, House Bill 1173 and Senate Bill 423 (companion bills) were passed during the 2014 Session of the General Assembly. The bills amended the Stormwater Management Act to require localities that operate regulated MS4s to adopt Virginia Stormwater Management Programs (VSMPs) by July 1, 2014 (January 1, 2015, for the three counties that were newly designated as MS4s earlier this year). All other localities have the option of

adopting and operating a VSMP, or letting DEQ administer a program for them. The revised stormwater management regulations, including the technical criteria addressing water quantity and water quality, will be implemented statewide on July 1, 2014; the new legislation affects who will be administering the VSMPs at the local level, but not the standards that will be applied.

Stormwater Local Assistance Fund

The 2013 General Assembly authorized $35 million in bond proceeds to fund the Stormwater Local Assistance Fund (SLAF), which will provide 50% cost-share for local Stormwater Management Plan (SWMP) implementation projects, including new stormwater BMPs, installation or retrofit of stormwater control structures, low impact development projects, and stream and wetlands restoration. In response to a Request for Proposals (RFP), $39.4 million in total grant funding was requested from 35 localities, covering 113 individual projects.

All 113 projects were evaluated in accordance with the programs eligibility requirements and priority ranking criteria. Given the specific reference in the authorizing legislation to "practices that address cost efficiency", and the need to be fiscally prudent with this new state grant program, not funding the low efficiency projects was determined to be appropriate.

To initiate the projects with better environmental benefit and cost-effectiveness, staff believes that the FY14 SLAF funding should be distributed in phases, with only projects with costs below $50,000 per pound of total phosphorous (TP) removal per year being funded in the first phase and the remaining funds being carried over for another funding solicitation in 2014. Virginia localities are currently in the planning phase for developing projects designed to meet MS4 permit requirements. MS4 Permitees are required to complete Local TMDL Action Plans (for TMDLs established by July 2008) and Chesapeake Bay-TMDL Action Plans by July 2015. The Bay WIP also calls for localities to consider reducing urban stormwater in areas not covered by permit requirements. A 2014 solicitation will allow localities more time to identify and prioritize projects with better environmental benefits and cost effectiveness and for MS4s to better align requests for grant funding with retrofit projects in their TMDL Action Plans.

The recommended project funding list shown below provides funding for the 71 eligible projects identified in the applications received from 31 localities with costs below $50,000 per pound of TP removal per year, totaling $22,937,158. This first phase of funding will allow for the initiation of projects with better environmental benefit and relative cost-effectiveness and allow the remaining $12,062,842 to be carried over for an additional solicitation in 2014.

Table 3: 2013 Localities and Projects selected for funding through SLAF

LOCALITY	PROJECT	AMOUNT AUTHORIZED	TOTAL PER LOCALITY
*Albemarle County	Church Road Basin Retrofit	$137,750	$137,750
*Arlington County	Ballston Pond retrofit to constructed wetland	$500,000	$500,000
*Chesterfield County	Mid-Lothian Mines Park stream restoration	$421,653	

LOCALITY	PROJECT	AMOUNT AUTHORIZED	TOTAL PER LOCALITY
	Swift Creek Watershed - stormwater pond with a sediment forebay.	$878,200	
	Wrens Nest Road - bank stabilization & channel grade control structural (rock weir) retrofits	$320,783	$1,620,636
*City of Alexandria	Lake Cook conversion to Wet Pond	$1,200,000	$1,200,000
*City of Chesapeake	Washington Manor Outfall - 2 new wet ponds	$1,250,000	$1,250,000
*City of Fairfax	Daniels Run stream restoration	$285,000	$285,000
*City of Hampton	Coliseum Lake retrofit	$481,155	$481,155
*City of Lexington	New School: perm pavement, bioretention & dry detention pond	$225,000	$225,000
*City of Manassas	Prince William Hospital Regional Stormwater Management Facility	$1,921,471	$1,921,471
*City of Newport News	Stony Run Region Stormwater BMP-modified	$629,645	
	Glen Allen Court stream restoration	$140,773	
	Turnberry Wells stream restoration	$238,585	
	Atkinson Boulevard level 1 wet pond	$191,000	
	Warwick Boulevard level 2 wet pond	$242,500	$1,442,503
*City of Norfolk	Norfolk Juvenile Detention Center Dry Pond Retrofit	$86,000	
	Ballentine School Retention Pond Retrofit	$124,500	
	Greenway Park Enhanced Retention Basin	$144,941	
	Parkdale Stream Restoration	$184,000	$539,441
*City of Petersburg	Brickhouse Run: stream restoration (ID 5.11)	$32,500	
	Lt. Run @ Animal Shelter: stream restoration (ID 5.12)	$104,000	
	Canal Street: bioretention (ID 4.26)	$7,000	
	Forest Lane Washout: stream restoration (ID 4.01)	$36,500	$180,000
*City of Richmond	Master Plan ID # 01.01, 03.01, 04.01, 05.01 - Pocosham Creek Stream Restoration	$1,218,945	
	Maury Cemetery Stream Restoration	$451,894	$1,670,839
*City of Suffolk	Design & retrofit existing pond into stormwater management facility	$500,000	$500,000
*City of Virginia Beach	Mill Dam Creek stream restoration	$220,750	
	Thalia Creek permeable pavers, curb & gutter removal and distributed bio-retention basins	$145,152	$365,902
*City of Waynesboro	South River constructed wetland	$850,000	$850,000
*Fairfax County	Pohick Creek Tributary stream restoration	$630,500	
	Rabbit Branch stream restoration	$510,000	

LOCALITY	PROJECT	AMOUNT AUTHORIZED	TOTAL PER LOCALITY
	Banks Property stream restoration	$625,000	
	South Lakes H.S. outfall stream restoration	$423,000	$2,188,500
*Goochland County	Midpoint Industrial Park - 4 wet ponds	$77,294	
	County Administrative Bldg - dry swale	$24,700	$101,994
*Hanover County	Church of the Creator - Brandy Branch	$368,360	
	Laurel Meadows E.S. - Beaverdam Creek	$48,390	$416,750
*Henrico County	Belmont Golf Course stream bank stabilization	$176,563	
	Hoehns Lake stream restoration	$146,850	$323,413
*Isle of Wight County	Franklin Municipal - John B. Rose Airport BMPs	$165,000	
	Nike Park BMPs	$80,300	
	Carrsville E.S. BMP	$44,220	
	Carrollton E.S. BMP	$48,620	$338,140
*James City County	Southpoint Outfall repair	$84,048	
	Williamsburg Regional Library - Croaker Rd. Partnership	$105,000	
	Brook Haven WQ Improvements	$181,273	
	James Terrace WQ Improvements	$209,817	
	Jolly Pond Convenience Center BMP Upgrade	$75,000	$655,138
*Loudoun County	County park constructed wetland & bioretention basin	$194,250	$194,250
*Prince William County	Cow Branch steam restoration	$280,000	$280,000
*Roanoke County	Glade Creek at Vinyard Park - stream restoration	$474,600	
	Murray Run / Ogdon Rd. - stream restoration	$278,950	$753,550
*Stafford County	Whitsons Run watershed retrofit Detention Ponds (DP257) & (DP339)	$125,000	$125,000
*Town of Ashland	Ashland Police permeable pavement & stream restoration	$157,500	$157,500
*Town of Christiansburg	Diamond Hills Phase I stream restoration & detention basin	$230,000	
	Christiansburg Industrial Park Basin detention basin conversion to wetland	$122,500	
	Depot Street Drainage Basin stream restoration	$196,000	
	Diamond Hills Phase II stream restoration & detention basin	$82,500	$631,000
*Town of Leesburg	Exeter Wet Pond retrofit with constructed wetlands	$392,688	
	Greenway Pond retrofit to extended dry detention	$77,325	

LOCALITY	PROJECT	AMOUNT AUTHORIZED	TOTAL PER LOCALITY
	Stratford #1 Pond retrofit to extended dry detention	$90,438	
	Exeter Dry Pond retrofit to extended dry detention	$63,175	
	Stowers Wet Pond retrofit with constructed wetlands	$110,050	
	Tuscarora Creek stream restoration	$641,075	
	Kohl's Pond retrofit to extended dry detention	$81,838	
	Foxridge Pond retrofit to extended dry detention	$147,575	$1,604,163
*Town of Vienna	Hunters Branch stream restoration	$670,000	$670,000
*York County	Dare Elementary stream restoration, constructed wetlands & retrofit practices	$507,009	
	Wormley Creek constructed wetland & stream restoration (Cook Rd. Phase II)	$406,250	
	Cook Road constructed wetland (Phase I)	$414,806	$1,328,065

TMDL Development

To meet the requirements of a 1999 Consent Decree (CD) that resulted from settlement of a court case brought against EPA regarding enforcement of the TMDL provisions of the Clean Water Act, Virginia completed TMDLs covering approximately 225 shellfish and 375 non-shellfish CD listed impairments, and approximately 198 non-CD listed impairments. Virginia has received credit under the CD for an additional 145 delisted or recategorized impairments. Since completing the requirements of the 1999 CD, Virginia has continued to develop approximately 50 TMDLs per year in accordance with a TMDL development pace agreement with EPA (Table 4). Virginia currently develops TMDLs using a "watershed approach" when possible. The watershed approach to TMDL development allows watersheds with similar characteristics to be combined under a single TMDL equation resulting in cost and time efficiencies. Virginia also has established a structure to batch TMDLs and Implementation Plans for even greater efficiency. Watersheds are prioritized for TMDL development based on risk, public interest, available monitoring, regional input, and available funding. TMDL development schedules are developed about every two years, and posted on Virginia's TMDL website.

Table 4: Development of TMDLs from 2000-2013

Year	1999-2010 CD TMDL	1999-2010 Non-CD TMDL	Post CD TMDL	Totals
2000	11	0		11
2002	24	0		24
2004	91	8		99
2006	170	36		206

2008	132	82		214
2010	172	72		244
2012			111	111
2013			49	49
2014			18*	18
Totals	600	198	178	976

*Thus far in 2014, VADEQ has submitted TMDLs covering 18 impaired segments. Thirty nine additional impaired segments are nearing completion and are expected to be submitted to EPA by September 30, 2014.

Implementation Plan Development

Once a TMDL study report is developed and approved the Water Quality Monitoring, Information and Restoration Act, VA. Code §62.1-44.19:4 et seq., requires the development of a TMDL implementation plan. There is not a mandated schedule for implementation plan development; however, local or state agencies, as well as community watershed groups, can take the lead in developing TMDL implementation plans. The implementation plan describes the actions needed to reduce pollution levels in the stream and includes a schedule of actions, costs, and monitoring. From July 1-December 31, 2013, DEQ and other partners developed 2 implementation plan covering 8 impairments. In addition, 5 implementation plans covering 68 impairments are under development. Since 2000, Virginia has completed 70 implementation plans, covering 270 TMDL impaired stream segments and addressing 344 impairments.

The graph below summarizes TMDL implementation plan development in Virginia since 2001 and the number of impairments covered by those plans. In the majority of cases, watersheds that have a completed implementation plan also have TMDL implementation projects underway.

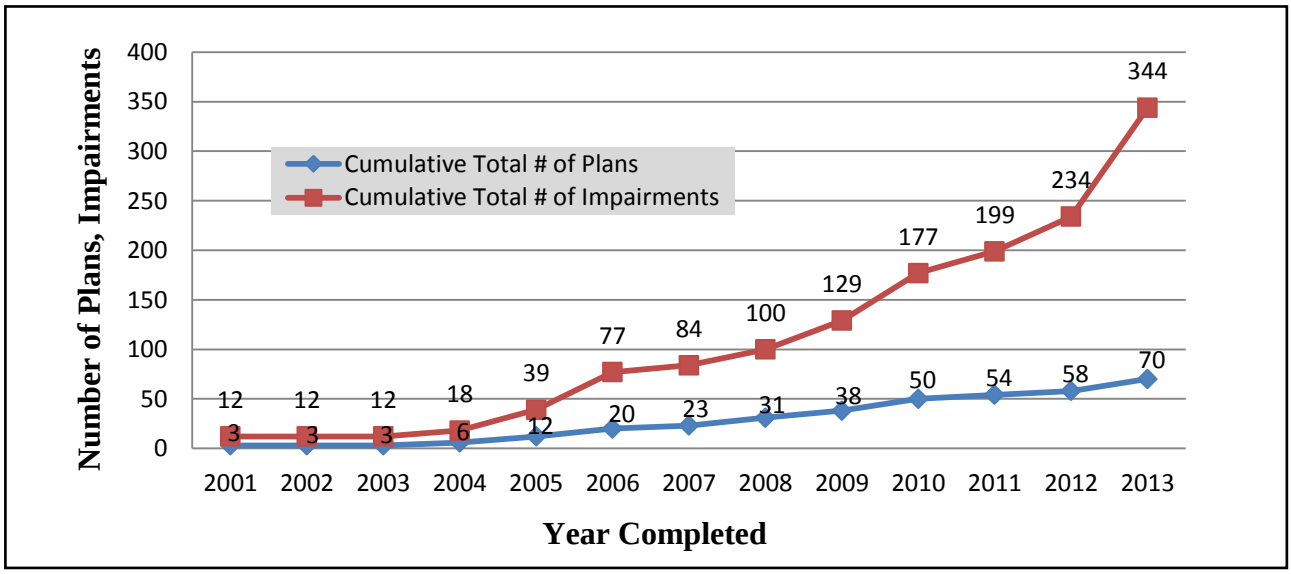

Chart 1: Cumulative Summary of TMDL Implementation Plan Development in Virginia: 2001-2013

Land Conservation Efforts

Progress towards preservation, for conservation purposes, of 400,000 acres of land statewide

Protecting land, particularly riparian lands, is a critical element of Virginia's Chesapeake Bay strategy and will help restore and protect waters statewide. Permanently preserving land not only benefits water quality, but it also protects Virginia's natural, historic, recreational, scenic, and cultural resources. For the period January 2010 - January 2014, approximately 230,081 acres were conserved in the Commonwealth. For more information on the Commonwealth's land conservation efforts, see www.dcr.virginia.gov/land_conservation/index.shtml.

Glossary of Acronyms

AOSS – Alternative Onsite Sewage Systems
BMP – Best Management Practice
BMP – Best Management Practice
CBIG – Chesapeake Bay Implementation Grant
CBRAP – Chesapeake Bay Regulatory and Accountability Program
DCR – Department of Conservation and Recreation
DEQ – Department of Environmental Quality
DMME – Department of Mines, Minerals, and Energy
DOF – Department of Forestry
FY – Fiscal Year
MS4 – Municipal Separate Storm Sewer System
NDZ – No Discharge Zone
NPS – Nonpoint Source
NRDA – Natural Resource Damage Assessment
PCB – Polychlorinated Biphenyl
PMP – Pollution Minimization Plan
RFP – Request for Proposals
SFY – State Fiscal Year
SLAF – Stormwater Local Assistance Fund
SWMP – Stormwater Management Plan
TMDL – Total Maximum Daily Load
TP – Total Phosphorous
VDACS – Virginia Department of Agriculture and Consumer Services
VDH – Virginia Department of Health
VDOT – Virginia Department of Transportation
VENIS – Virginia Environmental Information System
VENIS - Virginia Environmental Information System
VPDES - Virginia Pollutant Discharge Elimination System
VMRC – Virginia Marine Resource Commission
VSMP – Virginia Stormwater Management Program
WIP –Watershed Implementation Plan
WLA – Waste Load Allocation