



Delaware

2009-11 Milestones to Reduce Nitrogen & Phosphorus - Assessment June 2012 FINAL PROGRESS



Introduction

During the 2009 Chesapeake Executive Council meeting, Delaware set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. A final assessment of progress follows.

Final Progress

	2011 Commitment*	Total 2011 Implementation*	% Achieved*
Agriculture			
Cover Crops, late and early planting (acres/yr)	37,200	48,062	129%
Forest Buffers (acres)	2,700	2,226	82%
Manure transport (tons/yr)	55,100	26,365	48%
Nutrient Management (acres)	177,000	196,155	111%
Tree Planting (acres)	200	346	173%
Wetland Restoration (acres)	420	588	140%
Urban/Suburban			
Septic Pumpouts (systems/yr)	8,800	135	2%

* All of DE's numeric commitments for 2011 were for total acres on the ground in 2011. For all practices (cumulative and annual), the 2011 implementation level is compared to the commitment to calculate % achievement.

Pollution Control Practices Substituted for Original 2009-2011 Milestone Commitments

	Progress (7/1/08-6/30/11)
Agriculture	
Animal Waste Management Systems, All Types (structures)	71
Conservation Plans/SCWQP (acres)	61,779
Conservation Tillage, All Types (acres)	25,087
Grass Buffers (acres)	54
Pasture Grazing Best Management Practices, All Types (acres)	704
Land retirement (acres)	121
Urban/Suburban	
Stormwater Management, All Types (acres)	7,334
Urban Nutrient Management (acres)	630
Septic Denitrification (systems)	23
Wastewater	
Progress (1/1/09-6/30/11)	
Wastewater Nitrogen (pounds reduced)	93,400
Wastewater Phosphorus (pounds reduced)	293

Programmatic Accomplishments, 2009-11

	Status
Agriculture	
• Revised Concentrated Animal Feeding Operation regulations (effective November 2011)	Completed
• Hired two Strategic Watershed Action Team (SWAT) planners to increase nutrient management planning capacity	Completed
Stormwater	
• Created website where stormwater forms and educational material can be accessed	Completed
• Created Access database that tracks all inspections and enforcement actions	Completed

For more, contact Jennifer Walls, (302) 739-9939, Jennifer.Walls@state.de.us

Programmatic Accomplishments, 2009-11 (Continued)

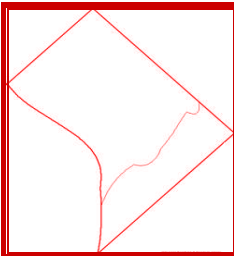
Wastewater	
Hired full-time permit writer to help reduce permit backlog	Completed
Transitioned from Permit Control System to Integrated Compliance Information System to track wastewater facility permitted loads	Completed
Created a Compliance and Enforcement Response Guide	Completed
Land Use	
Produced a build-out analysis of county and local jurisdictions through 2025	Completed
Submitted a "Start Action Notice" for development of a Nutrient Offset Regulation	Completed
Other	
Update Delaware's Nonpoint Source Best Management Practice Implementation Data Quality Assurance Project Plan	Completed
Revised and validated a restoration database to list and prioritize potential restoration projects	Completed
Developed education and outreach materials in regards to the WIP	Completed

Progress Highlights

- In the 2009-2011 period, Delaware saw steady decreases in the modeled nitrogen, phosphorus, and sediment loads due to increased implementation, improved data tracking and reporting efforts, and improved communication and coordination with partner agencies through the Watershed Implementation Plan (WIP) development process.
- Several of the specific implementation goals set in 2009 were achieved and surpassed. The total acres of cover crops planted increased more than anticipated, likely due to modified cost share programs and focused funding; data tracking and reporting (species planted, planting date and method, standard/commodity) for this practice also improved. Wetland restoration and tree planting goals were surpassed due to supporting funds from both the Chesapeake Bay Implementation Grant and a National Fish and Wildlife Foundation grant and better coordination and reporting of partner efforts due to the creation of a WIP Restoration Subcommittee. The acres of agriculture nutrient management planning were also maintained. Finally, the total nitrogen load from the Invista facility decreased more than projected and that permit will be reissued in 2012.
- Several regulatory revisions also got underway. The Concentrated Animal Feeding Operation regulations were revised to be consistent with federal standards and became effective in November 2011. Revisions to both the Sediment and Stormwater Regulations and the Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems also went through the regulatory revision process. Both sets of regulations propose actions to reduce nutrient inputs from urban and suburban areas and will likely be finalized in 2012.
- Important improvements have been made to data tracking and reporting systems through the conversion to the National Environmental Information Exchange Network (NEIEN) platform too. As a result, more data on practices that have routinely been implemented but previous not reported are now captured and missing and unpopulated fields have been filled. In addition, several studies or literature reviews to examine the effectiveness of BMPs currently not modeled were initiated and include an assessment of the impacts of irrigation management and heavy use area pads. Delaware's non-farm fertilizer sales data was also examined and significant decreases in phosphorus are apparent, likely as a result of residential fertilizer P-bans in neighboring states. DNREC and DDA are working with Chesapeake Bay Program committees to determine appropriate credit for these practices.
- Finally, a WIP Communications Subcommittee was formed and this group is preparing a marketing strategy to increase education and outreach to the general public and encourage behavior change.

Shortfalls

While we have met or exceeded our overall load reduction goals, we did not achieve a few specific implementation goals. The exact goals for early/standard/late cover crops were not achieved, but cost share programs have been modified to emphasize early plantings and this acreage is expected to increase in the future. Forest buffer acreage did not increase and members of the agriculture community have indicated that current market prices of crops do not support land conversion for buffers at this time. A collaborative group plans to examine how much of an additional cost share incentive is needed to encourage additional enrollment in buffer programs. The tons of poultry litter transported has decreased in recent years; Delaware believes in general that the total volume of litter has decreased as has the nutrient content of the litter and staff are working with the CBP Ag Workgroup to assess the data and make necessary model modifications. Finally, the onsite pump out goal was not achieved, but regulations have been proposed requiring a pump-out and inspection at the time of property sale or transfer and will also require reporting when inspections occur; both requirements are expected to increase the number of pump-outs reported each year.



District of Columbia

2011 Milestones to Reduce Nitrogen & Phosphorus - Assessment June 2012

FINAL PROGRESS



Introduction

During the 2009 Chesapeake Executive Council meeting, the mayor of the District of Columbia set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. A final assessment of progress follows.

Final Progress

Urban/Suburban	2009-11 Commitment ¹	Total Implementation in 2011 ¹	% Achieved ¹
Downspout Connections (connections) ²	300	975	325%
Green Roofs (square feet) ^{2,3}	2,500,000	1,300,000	52%
Litter Trap Installation Demo Projects (lbs. trash diverted) ²	6,800	6,800	100%
Rain Barrels (barrels) ²	250	975	390%
Rain Gardens (gardens) ²	100	122	122%
Retrofit Catch Basins for Trash Control (catch basins) ²	100	200	200%
Sanitary Sewer Replacement (miles) ²	1.5	0.8	53%
Storm Drain Marker Installation (markers/yr) ²	1,000	1,000	100%
Stream Restoration: 2.7 miles of Watts & Pope Branches (linear feet) ⁴	14,256	8,976	63%
Tree Canopy Expansion: 5 percent increase in 25 years (trees) ^{2,5}	21,500	13,770	64%
Tree Planting, 4,150 trees per year (30 acres)	30	51	170%
Wastewater	2009-2011 Commitment	Achievement (1/1/09-12/31/11)	% Achieved (1/1/09-12/31/11)
Wastewater Nitrogen (pounds reduced)	159,000	1,270,900	799%

¹ Most of DC's numeric commitments for 2011 were for total implementation in 2011; the 2011 implementation levels are compared to commitments to calculate % achievement for all practices except stream restoration.

² Practices not included in CBP Watershed Model; 2011 implementation data from DC compared to commitment to calculate % achievement.

³ Unfortunately, commitment value was miscalculated; this goal will be met in 2017.

⁵ Trees planted in conjunction with DDOE. This number does not include Federal Partners.

Pollution Control Practices Substituted for Original 2009-2011 Milestone Commitments

	Progress (1/1/09-12/31/11)
Wastewater Phosphorus (pounds reduced)	32,162

For more, contact Diane Davis, (202) 741-0847, Diane.davis2@dc.gov



Programmatic Accomplishments, 2009-2011

	Status
ENR – Award Contract for design by June 1, 2009	Completed
ENR – Award contract for construction by December 31, 2011	Completed
CSO reductions – completion of nine minimum control projects in May 2009	Completed
Create new tree box standards to allow for better tree growth	Completed
Develop lot-level residential stormwater detention/retention through RiverSmart Homes incentive program	Completed
Train federal facilities on new stormwater requirements	Completed
Implement a program to control discharges from District and federally owned facilities	Completed
Strengthen auto repair shop education campaign in Hickey Run (pilot)	Completed
Inspect all auto repair shops, laundromats and dry cleaners at least once every five years	Completed
Develop and implement a pet waste strategy	Completed
Mandate installation and use of pumpout stations at all District marinas	Completed
Complete a DPW street sweeping study and implement long-term enhanced street sweeping and fine particle removal	Completed
Implement and promote new stormwater regulations requiring LID construction as first option	Ongoing (in 2012-13 goals)
Develop an impervious area-based stormwater fee	Completed
Review and update zoning regulations to encourage green building	Ongoing
Determine the type of trash control devices that would be the most effective in retaining large debris and sediment in hot-spot areas identified by a trash survey	Completed
Incorporate LID into 24 percent of all District DOT impervious retrofit projects	Completed

Progress Highlights

- More than 2,400 homes have been audited through the RiverSmart Homes Program, an innovative program designed to reduce stormwater runoff from residential properties and improve water quality within the District. It focuses on increasing the use of lot-level stormwater retention/detention practices, such as shade trees and porous paving, and includes fiscal incentives to homeowners to install these types of landscaping features. Due to the District Department of the Environment’s (DDOE) successful outreach and education campaign, more than 300 DC homeowners are interested in the RiverSmart Homes Program and are on a waiting list to be audited.
- In 2011, according to Green Roofs for Healthy Cities’ “Top 10 US Metropolitan Regions Rankings”, the District vaulted into first place (surpassing Chicago) for its installation of 800,000 square feet of green roofs, the largest amount in the country. Currently 1.3 million square feet of green roof have been approved for construction on 128 buildings through spring 2012.

Shortfalls

- The District fell short on the sanitary sewer replacement and stream restoration milestones. Due to outside circumstances, the stream restoration project on Pope Branch did not begin on schedule. Although this project is expected to go forward and the money for it is still in place, its delay resulted in these milestones not being met since sanitary sewer replacement was tied into the stream restoration goals.
- In 2011, individuals and groups planted more than 13,608 trees across DC resulting in an A+ grade from Casey Trees for plantings. As a result, for the second straight year, collective tree plantings in DC exceeded the minimum number of trees (8,600) needed annually to reach the District’s tree canopy goal of 40% by 2035 (Casey Trees Report, 2012). Therefore, DDOE can only be said to be behind on its 25 year tree canopy expansion goal if its efforts are the only ones considered. However, with the full-time support of outside groups such as DDOT and Casey Trees (and many more) DC is not in shortfall.
- While the District has made great strides on green roof installations, it misreported the two year milestone for square feet of green roof coverage. The goal is to have 2.5 million square feet of green roof installed by 2017. Currently 1.3 million square feet of green roof have been approved for construction on 128 buildings through spring 2012.



Maryland

2009-11 Milestones to Reduce Nitrogen & Phosphorus - Assessment June 2012 FINAL PROGRESS



Introduction

During the 2009 Chesapeake Executive Council meeting, Maryland Governor Martin O'Malley set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. A final assessment of progress follows.

Final Progress

	Original 2009-2011 Commitment	Achieved (7/1/08- 6/30/11)	% Achieved (7/1/08- 6/30/11)	Adapted 2009-2011 Commit- ment*	% Achieved Adapted Commitment (7/1/08- 6/30/11)*
Agriculture					
Animal Waste Management Systems, livestock & poultry (structures)**	198	142	72%	130	109%
Animal Waste Management Systems, runoff control (systems)**	75	204	272%	175	117%
Conservation Plans/SCWQP (acres)	257,049	148,908	58%	N/A	N/A
Cover Crops (acres/yr)**	460,000	400,311	87%	325,000	123%
Dairy & Poultry Manure Incorporation Technology (acres/yr)**	5,000	4,743	95%	2,500	190%
Forest Buffers: private and public land (acres)	5,100	1,490	29%	895	166%
Grass Buffers: private and public land (acres)	8,000	3,597	45%	2,319	155%
Heavy Use Poultry Areas Concrete Pads (farms)**	400	364	91%	N/A	N/A
Land Retirement: private and public land (acres)	3,800	4,332	114%	2,500	173%
Manure Transport (tons/yr)	10,000	33,898	339%	N/A	N/A
Nutrient Management Plan Enforcement (acres)**	100,000	99,878	100%	N/A	N/A
Pasture Grazing BMPs: stream protection w/ and w/ out fencing (acres)**	6,000	7,940	132%	7,400	107%
Water Control Structures (structures)**	200	49	25%	125	39%
Wetland Restoration: private and public land (acres)	1,700	1,341	79%	1,155	116%
Urban/Suburban					
Septic Retrofits in & out of Critical Area (systems)	3,000	3,020	101%	3,139	96%
Stormwater Management, retrofits (pounds)***	N/A	105,768	N/A	119,700	88%
Wastewater					
Wastewater Nitrogen (pounds reduced)	930,000	1,531,195	165%	N/A	N/A
Wastewater Phosphorus (pounds reduced)	39,000	143,069	367%	N/A	N/A
Air					
Maryland Healthy Air Act (N pounds reduced)**	305,882	305,882	100%	N/A	N/A

* Maryland's table contains two additional columns (compared to other jurisdictions) since this information is documented and available to the public on BayStat. ** Achievement data from BayStat. ***Original commitment was 90,000 acres; acres converted to pound reduction; achievement data from BayStat.

Pollution Control Practices Substituted for Original 2009-2011 Milestone Commitments

Agriculture	Progress (7/1/08-6/30/11)
Continuous No Till Conservation (acres)**	150,000
Cropland Irrigation Management (acres)**	92,800
Tree Planting (acres)	10,174
Vegetated Environmental Buffers (acres)	13
Urban/Suburban	
Nutrient Management (acres)**	220,000

Programmatic Accomplishments

- **Established BayStat:** For the first time in Maryland Bay restoration efforts, the Governor and senior staff meet regularly with Cabinet Secretaries from key agencies to review progress and make critical decisions. The [BayStat website](#) provides transparent tracking of progress to inform the public and hold agencies accountable. BayStat is now a model for a new federal ChesapeakeStat effort to track restoration actions watershed-wide.
- **Chesapeake and Coastal Bays Trust Fund:** This new dedicated fund, authorized for up to \$50 million annually, supports projects and programs to reduce non-point source pollution in Maryland waterways and the Bay. In its first three years, the Trust Fund targeted more than \$34 million in priority watersheds resulting in an estimated total reduction of 1.5 million pounds of nitrogen, 117,000 pounds of phosphorus, and 111 tons of sediment. The Trust Fund also supports key nutrient reduction activities including 16 Soil Conservation District staff positions, new nonpoint source reduction technologies, and the local economies through the Innovative Technology Fund.
- **Record Cover Crop Implementation:** In the fall of 2010 (FY 2011), 1,567 farmers planted 400,331 acres of cover crops on their fields exceeding Maryland's first 2-year milestone goal of 325,000 acres. In 2011 (FY 2012), 1,585 farmers planted 429,818 acres of cover crops, exceeding the State's second 2-year milestone goal of 355,000 acres.
- **New CAFO regulations:** Maryland issued new regulations for handling 85 percent of the poultry litter generated from its poultry operations. The first state in the region to implement an EPA-approved regulatory program, Maryland went beyond new federal requirements to protect surface waters and implemented a state permit to protect groundwater as well.
- **New Municipal Separate Storm Sewer System (MS4) Permits:** There has been significant regulatory focus on stormwater discharge permits issued to Maryland's 10 largest jurisdictions and the State Highway Administration, which require control of stormwater pollution from existing developed land. The first in the next generation of MS4 permits was issued to Montgomery County in February 2010. This and all subsequent permits will accelerate restoration of developed land area through improved stormwater management practices.
- **Septic System Upgrades:** Maryland passed a law in 2009 requiring that all new or replacement septic systems in the Critical Area include the best available technology for the removal of nitrogen. Bay Restoration Fund grants help homeowners with failing systems comply with this requirement. In 2007, \$17 million in septic upgrade funds were unspent and Marylanders upgraded fewer than 50 systems. Today, Maryland spends revenue as it is collected, resulting in upgrades to more than 3,000 systems.
- **Anacostia Trash TMDL:** The EPA, the District of Columbia and the State of Maryland established a new TMDL for trash in the Anacostia River, making it the first interstate river in the nation with this Clean Water Act limit.
- **Fertilizer Use Act:** Because 44 percent of purchased fertilizers are for non-agricultural purposes, Maryland passed a law to reduce the amount of nutrient run-off from lawns, golf courses, parks, recreation areas and other non-agricultural sources. According to the Chesapeake Bay Commission, about 14 percent of the nitrogen and 8 percent of the phosphorus entering the Bay can be traced to non-agricultural urban and suburban sources (lawns).
- **Maryland Trading Program:** Maryland passed a law to enable the exchange (buying and selling) of nutrient-reduction credits that have monetary value to help reduce nitrogen and phosphorus in the Bay and its tributaries.
- **P Site Index (PSI):** Maryland scientists updated the PSI, an assessment tool that identifies the relative risk for phosphorus (P) losses from agricultural production fields to nearby bodies of water.
- **Environmental Site Design:** In 2007, Maryland adopted legislation requiring the use of better site planning techniques, non-structural practices and small-scale stormwater management facilities to control new development runoff. Practices such as vegetated swales, pervious pavers, green roofs, and micro-bioretenion and rain gardens can mimic natural hydrology and replicate the runoff characteristics of woods. These state-of-the-art, cost-efficient stormwater techniques now apply to all new development approved after May 2010.

Progress Highlights

Maryland met its 2009-2011 milestone goals, even after accounting for expected growth (150,000 pounds nitrogen).

Shortfalls/Continued Progress

Maryland continually assessed and adapted the milestone achievements and goals to reflect actual conditions. As an added security, Maryland's contingency plan overshoots reduction goals. This plan included accelerated reductions from Blue Plains WWTP (+125,000 pounds per year nitrogen), cover crop requirements on farmland and a myriad of incremental goal increases to our other Best Management Practices.



New York

2009-11 Milestones to Reduce Nitrogen & Phosphorus - Assessment June 2012

FINAL PROGRESS



Introduction

During the 2009 Chesapeake Executive Council meeting, New York set short-term goals to continue implementation of the New York State Tributary Strategy for Chesapeake Bay Restoration. A final assessment of progress follows.

Final Progress

	2009-2011 Commit- ment	Achievement (7/1/08- 6/30/11)	% Achieved (7/1/08- 6/30/11)
Agriculture			
Animal Waste Management Systems, including barnyard runoff controls (animal units)	43,500	138,750	319%
Conservation Tillage, All Types (acres)	3,000	-6,277	-209%
Cover Crop Planting, All Types (acres)	1,000	1,597	160%
Forest Buffers (acres)	2,051	698	34%
Grass Buffers (acres)	3,549	7,409	209%
Horse Pasture Management (acres)	300	77	26%
Land Retirement (acres)	2,000	1,098	55%
Nutrient Management (acres)	38,000	34,518	91%
Pasture Grazing Best Management Practices, stream protection w/ fencing (feet)	608,000	81,951	13%
Pasture Grazing Best Management Practices, rotational grazing (acres)	18,700	8,365	45%
Precision Feeding (animal units)	7,600	1,217	16%
Tree Planting (acres)	200	195	97%
Wetland Restoration, ag and other land (acres)	450	1,185	263%
Urban/Suburban			
Erosion & Sediment Control (acres)	150	2,911	1,940%
Wastewater			
Wastewater Nitrogen (pounds reduced)	348,200	274,208	79%
Wastewater Phosphorus (pounds reduced)	36,414	24,428	67%

Pollution Control Practices Substituted for Original 2009-2011 Milestone Commitments

Agriculture	Progress (7/1/08-6/30/11)
Conservation Plans/SCWQP (acres)	26,042

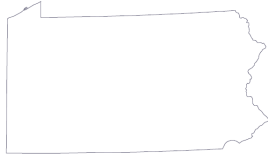
For more, contact Jacqueline Lendrum, (518) 402-8111, jmlendru@gw.dec.state.ny.us

Progress Highlights

- **Dishwasher Detergent and Nutrient Runoff Law:** The Dishwasher Detergent and Nutrient Runoff Law was signed into law on July 15, 2010. This law will improve water quality in New York by reducing phosphorus runoff into the State's waterbodies.
- **Chesapeake Bay Program Forest Conservation Directive:** In the 2009 and 2010 calendar years, over 1,400 acres of land within the Upper Susquehanna Watershed were preserved by land trusts and parcels gifted to the State. This included a parcel along Otsego Lake, the source of the Susquehanna River. Also, on December 29, 2010, DEC announced the completion of the Final Strategic Plan for State Forest Management describing how State Forests will be sustainably managed by promoting ecosystem health, enhancing landscape biodiversity, protecting soil productivity and water quality.
- **TOGS 1.4.2 Compliance and Enforcement of SPDES Permits:** In 2010, the NYSDEC Division of Water finalized the revision and update to the 1988 Technical and Operational Guidance Series (TOGS) 1.4.2. This document strengthens the Department's guidance on compliance and enforcement activities related to the State Pollutant Discharge Elimination System (SPDES) program. The 1988 guidance predated New York's current SPDES general permits for Stormwater and Concentrated Animal Feeding Operations (CAFOs). These programs are now specifically addressed in TOGS 1.4.2.
- **Susquehanna-Chemung Action Plan:** In 2009, the Southern Tier Central Regional Planning and Development Board (STCRPDB) received a \$285,000 American Recovery and Reinvestment Act competitive grant from NYSDEC to create an ecosystem-based management plan for the Chemung and Susquehanna River basins. The Susquehanna-Chemung Action Plan outlines steps for protecting and improving the region's water resources. The Action Plan will be complete in February 2012.
- **Concentrated Animal Feeding Operation Program:** In 2009, New York issued a CAFO permit for all medium- and large-sized farms. New York regulates dairy farms with as few as 200 cows; poultry laying operations with as few as 25,000 hens; swine operations with as few as 750 pigs. This permit supplements New York's Clean Water Act CAFO permit for medium and large facilities, which has been in place since 1999 and remains in full force and effect.
- **Wastewater Treatment Plant Optimization:** New York has included permit language for the 28 Bay-Significant wastewater treatment facilities in the Susquehanna/Chemung watershed to complete nutrient removal optimization and engineering analysis of feasibility and costs for greater levels of treatment and implementation of treatment modifications that would improve nutrient removal without a major capital upgrade. Subsequently, some facilities have implemented treatment modifications, such as chemical addition, to achieve TP load reductions.
- **Agricultural Environmental Management Program:** AEM funding was provided to Soil and Water Conservation Districts to inventory and assess farms; and to plan, design and evaluate BMP effectiveness on those farms. In 2009 and 2010, Conservation Districts in the Upper Susquehanna Coalition completed AEM work in the watershed with a total of \$924,973.50 of state funding.

Shortfalls

- **Unexpected Setback:** The Binghamton-Johnson City municipal treatment plant experienced a major structural failure. Investigations are underway to determine the cause of the failure and to establish a path forward to meet the nutrient and sediment reductions necessary.
- **Graze-NY Program:** The [Graze-NY Program](#) works to help farm families with the adoption of prescribed grazing management systems. Funding for the Graze NY program is uncertain and will likely impact this valuable BMP.
- **Contractual Issues:** Several projects were postponed because of the fiscal climate in New York State. However, with recent contract completions, New York will be executing contracts and implementing projects from grants awarded through the [New York State Non-Point Source Abatement and Control Grant Program](#), [Water Quality Improvement Project Statewide Grant Program](#) and the New York State Chesapeake Bay Program Forest Conservation Directive. These projects will support water quality improvement for New York in the coming years.



Pennsylvania

2011 Milestones to Reduce Nitrogen & Phosphorus - Assessment June 2012

FINAL PROGRESS



Introduction

During the 2009 Chesapeake Executive Council meeting, the governor of Pennsylvania set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. A final assessment of progress follows.

Final Progress

	2009-2011 Commitment	Achievement (7/1/08-6/30/11)	% Achieved (7/1/08- 6/30/11)
Agriculture			
Animal Waste Management Systems (systems)	275	361	131%
Carbon Sequestration/Alternative Crops (acres)	25,740	1,918	7%
Conservation Plans/SCWQP (acres)	327,599	149,932	46%
*Conservation Tillage: continuous no-till and other conservation tillage (acres)	175,491	-96,252	-55%
Cover Crops: late planting (acres)	174,818	65,535	37%
Forest Buffers (acres)	19,059	39,508	207%
Forest Harvesting Practices (acres)	125	9,948	7,959%
Grass Buffers (acres)	1,161	3,389	292%
Land Retirement/Environmental Planting (acres)	58,876	153,141	260%
Manure Transport: poultry litter (tons)	58,915	227,671	386%
Mortality Composters (units)	22	21	95%
*Nutrient Management, including enhanced nutrient management (acres)	129,250	76,600	59%
Pasture Grazing BMPs: off-stream watering w/ and w/out fencing and rotational grazing (acres)	34,727	126,840	365%
*Poultry Phytase (pounds P)	19,626	0	0%
Stream Restoration (feet)	215,088	395,347	184%
Tree Planting (acres)	15,065	39,945	265%
Wetland Restoration (acres)	1548	1,872	121%
Urban/Suburban			
Abandoned Mine Reclamation (acres)	2,219	2,157	97%
Dirt & Gravel Road Erosion & Sediment Control (feet)	124,913	583,574	467%
*Erosion & Sediment Control (acres)	7,000	0	0%
Septic Connections (connections)	7,353	7,751	105%
*Stormwater Management (acres)	8,690	-6,440	-74%
Stream Restoration (feet)	4,400	3,765	86%
Wastewater			
Wastewater Nitrogen (pounds reduced)	1,679,000	1,259,348	75%
Wastewater Phosphorus (pounds reduced)	49,500	126,099	255%
Air			
Heavy Truck Anti-Idling Rule	9,780,000	9,780,000	100%

*See background information on reverse.

For more, contact Ted Tesler, ThTesler@pa.gov

Programmatic Accomplishments, 2009-11

	Status
Manure Management Manual	Published 10/29/2011
Agriculture Compliance	Completed
<ul style="list-style-type: none"> • 1,100 County conservation district staff site visits • 38 County conservation district Outreach Plans • "Am I in Compliance" brochure and barn sheet • "Basics of Agricultural Erosion and Sedimentation Control Requirements" barn sheet • "Basics of Manure Management Requirements" barn sheet • Draft Model Agriculture Compliance Policy • 4 CBRAP regional compliance and inspection staff hired 	12/31/2010 11/31/2011 1/2011 7/2011 12/2011 7/2011 7-12/2011
Erosion and Sediment Control Regulations	Published 11/19/2010
<ul style="list-style-type: none"> • Codification of post-construction stormwater requirements • Mandatory riparian forest buffers for exceptional value waters • Conservation Plan revision to include animal heavy use areas 	
Stormwater MS4	Published 09/17/2011
<ul style="list-style-type: none"> • Approved PAG-13—includes Chesapeake Bay Pollutant Reduction Plan 	
Legacy Sediment BMP Development and Implementation	11/02/2011-ongoing
<ul style="list-style-type: none"> • Targeted Demonstration Site: Big Spring Run Basin of Mill Creek Watershed, Lancaster County. Approx. 5 acres of natural floodplain and riparian wetland restoration and 3,200 linear feet of natural stream restoration 	
Phosphate Dishwater Detergent Ban	Effective 7/1/2010
Wastewater Treatment Plant Permits	Status as of 7/2011
<ul style="list-style-type: none"> • 47 of the 190 significant sewage facilities had cap loads that were effective on or before July 2011. (NOTE: 2009 – 2011 commitment was 40 plants.) 	
Nutrient Trading	2010 -2011
<ul style="list-style-type: none"> • 3 PennVEST Nutrient Trading Auctions • 16 WWTP facilities purchased credits to obtain compliance 	12/2011

Progress Highlights

- **Dirt & Gravel Road Erosion & Sediment Control: 467%.** PA's milestone was based on early program BMP implementation rates that have shown large increases over the last four years based on steady funding of this program.
- **Forest Harvesting Practices: 7,959%.** PA's milestone was based on historical BMP reporting levels. The PA Department of Conservation and Natural Resources has significantly increased its reporting.
- **Manure Transport: 386%.** A survey of Manure Brokers was completed that more accurately represents manure transport within and out of the Bay watershed.
- **Septic Connections: 105%.** The increase resulted from the first time reporting of septic system hook-ups by Penn-Vest and an increase in hook-ups reported by USDA's Rural Development Program.
- **Wastewater:** PA committed to having 40 Wastewater Treatment Plants (WWTPs) operating under reduced nutrient limit permits by June 2011. 47 of the 190 significant sewage facilities had cap loads that were effective by June 2011.
- **Pasture Grazing BMPs: 365 %.** Increased reporting of pasture grazing BMPs is attributed to the South Central Project Grass administered by the Capital RC&D Area Council. National Fish and Wildlife Funds supplemented existing cost-share programs including EQIP, CREP and DEP CBIG.

Shortfalls

- **Conservation Tillage: -55%.** USDA/NASS reported that 78% of the tilled land in PA during 2009 used either "No-Till" or other conservation tillage. Efforts are underway to better track voluntary conservation tillage activities including a planned 2012 tillage transect study to better characterize this practice.
- **Erosion & Sediment Control: 0%.** Efforts are underway to better track the implementation of this practice through reporting of data collected from existing state permits.
- **Nutrient Management: 59%.** Evidence in south-central Pennsylvania counties and a recent USDA/CEAP study suggests that implementation levels may range from 50-70%. Efforts are underway to better track voluntary implementation activities.
- **Poultry Phytase: 0%.** No increase in implementation of this practice has been gauged during this milestone period. DEP plans to work with industry groups and stakeholders to characterize the current implementation of phytase feed additive use during the next milestone period.
- **Stormwater Management: -74%.** Ongoing efforts to better track urban BMPs through existing storm water management permits will result in a higher level of implementation than is currently reported.



Virginia

2009-11 Milestones to Reduce Nitrogen & Phosphorus - Assessment June 2012

FINAL PROGRESS



Introduction

During the 2009 Chesapeake Executive Council meeting, the governor of Virginia set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. A final assessment of progress follows.

Final Progress

	Original 2011 Commitment	2011 Reported ¹	% Achieved Original Commitment	Adapted 2011 Commitment ²	% Achieved Adapted Commitment ³
Agriculture					
Animal Waste Management Systems (systems)	241	1,724	715%	1,719	100%
Animal Waste Management Systems, runoff control (systems)	32	935	2,922%	461	203%
Conservation Tillage, NRCS (acres/yr)	47,500	96,297	203%	N/A	N/A
Continuous No-Till, State Cost Share (acres)	81,000	95,882	118%	80,900	119%
Cover Crops (acres/yr)	119,000	58,746	49%	118,800	49%
Cover Crops, small grain commodities, harvestable (acres/yr)	38,000	21,955	58%	37,900	58%
Forest Buffers (acres)	10,000	18,691	187%	23,045	81%
Grass Buffers (acres)	2,000	54,823	2,741%	11,723	468%
Land Retirement (acres)	19,000	89,165	469%	93,317	96%
Nutrient Management, agricultural (new acres)	258,000	668,692	259%	875,600	76%
Pasture Grazing BMPs, off stream watering w/ fencing (acres)	89,500	150,097	168%	191,205	79%
Stream Restoration, agricultural (linear feet)	13,000	19,332	149%	30,979	62%
Tree Planting: reforestation (acres)	12,500	24,217	194%	24,125	100%
Wetland Restoration (acres)	36	495	1,375%	118	419%
Urban/Suburban					
Erosion & Sediment Control (acres)	61,000	29,906	49%	20,333	147%
Septic System BMPs: pumpouts (systems)	806	28,368	3,520%	N/A	N/A
Add'l Urban Nutrient Management (new acres)	133,000	37,997	29%	133,166	29%
Stormwater Management, All Types, Urban/Suburban (acres drained)	49,000	387,781	791%	342,125	113%
Wastewater					
	2009-2011 Commitment	Achieved (1/1/09-12/31/11)	% Achieved (1/1/09-12/31/11)		
Wastewater Nitrogen (pounds reduced)	233,000	4,826,996	2,072%		
Wastewater Phosphorus (pounds reduced)	126,000	585,433	465%		

¹ With the exception of "Stream Restoration, agricultural" and "Additional Urban Nutrient Management", VA's 2011 BMP implementation data is the amount reported by VA, not the amount credited in the CBP Watershed Model because of the state's disagreement with CBP methods.

² All of VA's numeric commitments for 2011 (both original and adapted) were for total amount on-the-ground in 2011. For all practices (cumulative and annual), the 2011 implementation level is compared to the commitment to calculate % achievement.

³ For some practices, VA has 2 sets of commitments, Original 2011 Commitment and Adapted 2011 Commitment. With practices that list both sets of commitments, 2011 data is compared to both commitments to determine % achievement of the original and adapted commitments.

For more, contact Russ Baxter (804) 698-4382, Russ.Baxter@deq.virginia.gov



Pollution Control Practices Substituted for Original Milestone Commitments

Agriculture	2011 Reported
Pasture Fence (acres)	23,933

Programmatic Accomplishments, 2009-2011

	Status
Adoption of Revised Stormwater Regulations	Completed
Issuance of Watershed General Permit with TMDL allocations	Completed
Study and Proposed Framework for Expansion of the Use of Nutrient Credits	Completed
Improvement in oversight of Erosion and Sediment Control Programs	Ongoing
Development of Resource Management Plan Regulations	In Progress
Study on the Use of Slow Release Nitrogen in Fertilizer	Completed
Adoption of Alternative Septic System regulations	Completed
Evaluation of James River chlorophyll standard	In Progress
Passage of Household fertilizer control legislation	Completed

Progress Highlights

Urban Stormwater

- Revised stormwater management regulations were approved and became effective on September 13, 2011. An extensive education and outreach campaign began by the Department of Conservation and Recreation (DCR) in 2011 for local governments who are charged with implementing these regulations. These regulations will serve as a cornerstone of Virginia’s efforts to protect the Bay from stormwater runoff.
- In 2011 the Governor signed landmark legislation that, among other things, bans the use of phosphorus in most home use lawn fertilizers. Despite the 2013 implementation date, the new law has prompted fertilizer manufacturers to remove phosphorus in their products now and water quality benefits are already being seen.

Agriculture

- In 2011 the Virginia General Assembly passed legislation establishing the framework for agricultural Resource Management Plans (RMPs). The purpose of RMPs is to encourage farm owners and operators through a regulatory framework to voluntarily implement a high level of BMPs on their farmlands that protect water quality and offer them “safe harbor” from further regulatory requirements. The program is expected to become active in early 2013 following completion of a regulatory development process through the Virginia Soil and Water Conservation Board.
- In 2011 six Soil and Water Conservation Districts (SWCD) begin pilot program of tracking voluntary BMPs on agricultural operations. The districts are developing individual tracking protocols and will be gathering BMP data to include in the existing tracking database. As the pilot phase ends in June 2012, the six SWCDs will present their findings to DCR and other stakeholders. From these pilot work efforts, DCR will choose the most appropriate path to gather this information.
- The Virginia Department of Agriculture and Consumer Services and the Department of Environmental Quality has begun a cooperative effort to reduce the water quality impacts from animal operations.

Onsite Septic

- In 2011, the Governor approved amendments to Department of Health that require a 50% reduction in nitrogen for all alternative onsite systems in the Chesapeake Bay watershed.

Sewage Treatment Plants

- Virginia continues its aggressive program to upgrade sewage treatment plans. There are currently 57 active grant agreements for nutrient control upgrades that commit \$654 million in state cost-share funds. Work has been completed on 29 of these retrofit projects, with the remaining 28 in various stages of construction and many likely to be finished by the end of 2012. Calendar year 2011 was the first compliance period in which wastewater dischargers were to have met river basin-wide nutrient allocations established by Virginia’s Chesapeake Bay Watershed general permit. Virginia reissued the general permit in 2012 with nutrient allocations and schedules that conform to EPA’s Chesapeake Bay TMDL.

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West Virginia

2009-11 Milestones to Reduce Nitrogen & Phosphorus - Assessment June 2012

FINAL PROGRESS



Introduction

During the 2009 Chesapeake Executive Council meeting, West Virginia set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. A final assessment of progress follows.

Final Progress

	2009-2011 Commitment	Achievement (7/1/08-6/30/11)	% Achieved (7/1/08- 6/30/11)
Agriculture			
Animal Waste Management Systems, All Types (systems)	11	65	590%
Cover Crop Planting, All Types (acres/yr)	1,500	7,363	491%
Forest Buffers (acres)	200	1,486	743%
Grass Buffers (acres)	200	146	73%
Manure Transport* (tons/yr)	14,000	12,224	87%
Pasture Grazing Best Management Practices, All Types (acres)	14,000	117,128	837%
Stream Restoration (linear feet)	4,000	9,082	227%
Wetland Restoration (acres)	5	0	4%
Urban/Suburban			
Erosion & Sediment Control (acres/yr)	1,400	11,824	845%
Septic Connections (systems)	364	602	165%
Septic Pumping (systems/yr)	6,800	3,324	49%
Septic Denitrification (systems)	2	4	200%
Stormwater Management: Wet ponds & Wetlands; Extended Dry Ponds; Filtering Practices (acres drained)	1,050	1,981	189%

*Commitment was for a cumulative total of 14,000 tons transported in 2010 and 2011. 10,664 tons were transported in 2010 and 1,560 tons in 2011).

Pollution Control Practices Substituted for Original 2009-2011 Milestone Commitments

	Progress (7/1/08-6/30/11)
Agriculture	
Forest Harvesting Practices (acres)	16,356
Land Retirement (acres)	1,454
Tree Planting (acres)	3,080
Urban/Suburban	
Tree Planting (acres)	15
Wastewater	
Wastewater Phosphorus (pounds reduced)	29,656

For more, contact Teresa Koon, (304) 926-0495, teresa.m.koon@wv.gov

Programmatic Accomplishments

- The West Virginia Department of Agriculture has greatly increased its Nutrient Management Planning activities. The Department currently has four (4) certified Nutrient Management Planners on staff.
- West Virginia's most recent Municipal Separate Storm Sewer System (MS4) General Permit, which regulates stormwater in urbanized areas, became effective on July 22, 2009. This permit requires regulated local governments to develop ordinances requiring all new development and redevelopment of one acre or greater to capture and manage the first one inch of rainfall by utilizing runoff reduction stormwater practices. In addition to adding aesthetic and economic value, these practices will help reduce nutrients in stormwater runoff from regulated urbanized areas.
- During the 2011 Legislative session, West Virginia passed a bill to provide funding assistance to municipalities and public service districts for wastewater treatment plant upgrades to reduce nitrogen and phosphorus. This funding will be instrumental in moving forward with nutrient upgrades to West Virginia's wastewater treatment plants.
- A two (2) day stormwater/sediment and erosion workshop was held in cooperation with DOH in 2011 and focused on construction. Inspectors, engineers and private contractors (90+) were targeted. The focus was on construction NPDES and USACOE permits as well as the upcoming NTU and ELG compliance standards. On-site demos were held along the most recent section of highway construction and showcased newest applications in stormwater management. In addition, two (2) rain gardens were installed at DOH facilities as demonstrations to manage stormwater and educate the public.
- The Frankfort Public Service District (PSD) wastewater treatment plant was constructed to replace 9 smaller wastewater treatment plants and to meet the Chesapeake Bay TMDL wasteload allocation of 5 mg/l Nitrogen and 0.5 mg/l Phosphorus. Performance will be documented in West Virginia's 2012 - 2013 milestones.
- At this time, a comprehensive offset and trading program has not been demonstrated to be needed in WV to accomplish Watershed Implementation Plan objectives. Nor are resources available long term for program development or implementation. Therefore, WVDEP plans to continue to evaluate offset and trading requests on a case-by-case basis through documentation and controls established in the NPDES permitting process.

Progress Highlights

West Virginia exceeded its nitrogen and phosphorus reduction goals for the 2009-2011 timeframe.

Shortfalls

While falling short in some areas, such as wetland restoration, grass buffers, manure transfer and septic pumping, West Virginia installed more than predicted on BMPs such as animal waste management systems, cover crops, and forest buffers. These agricultural BMPs are installed on a voluntary basis in West Virginia so some variation was to be expected.