

# Chesapeake Bay Watershed 2009-2011 Milestones

## Interim Progress Assessment/Fact Sheet - June 2011



### Introduction

During the 2009 Chesapeake Executive Council (EC) meeting, the governors and mayor of the Bay watershed jurisdictions - Maryland, Virginia, Pennsylvania, Delaware, West Virginia, New York and the District of Columbia - set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. The collective jurisdictional commitments will result in reducing nitrogen by 15.8 million pounds and phosphorus by 1.05 million pounds during the three-year period, 2009-2011. An interim assessment of pollution control practices being implemented to achieve these reductions follows.

This interim progress assessment compares 2008 (the baseline year prior to the start of the milestone period) and 2010 (the most recent reporting period, which covers practices implemented July 2009-June 2010). Bay jurisdictions have reported on the practices they committed to implement in their “2011 Milestones to Reduce Nitrogen and Phosphorus” factsheets and provided a calculation of percent completion to date. This assessment looks at progress for approximately two-thirds of the 2009-2011 milestones period. Therefore, jurisdictions who have implemented practices that are approximately two-thirds of the way to meeting their commitments are considered to be “on track.” Progress that was significantly more than two-thirds is reported as “ahead of schedule” while results that were significantly less are noted as “behind schedule.”

As of June 2010, the jurisdictions are generally on-track to implement pollution control practices necessary to achieve load reduction commitments. In instances where they are behind, contingencies are being implemented. A final assessment of load reductions achieved during the entire three-year period will be available at next year’s EC meeting.



Graphic courtesy of Choose Clean Water Coalition

### Snapshot: How are the jurisdictions doing on meeting their commitments?

Jurisdiction	Status	Notes
VA, DE	Generally on-track.	In instances where a jurisdiction is behind on specific practices, they have substituted other practices (here called “contingencies”) to meet their pollution reduction commitments.
PA, WV	Generally ahead of schedule.	
NY	Generally ahead of schedule for some practices, behind for others.	
MD	Generally ahead of schedule.	More current information on MD’s progress (through May 2011) is documented and available on BayStat
DC	Generally ahead of schedule.	

For more, contact Margaret Enloe (410) 267-5740, [menloe@chesapeakebay.net](mailto:menloe@chesapeakebay.net)

## Interim Progress Summary

### AGRICULTURE

As of June 2010, jurisdictions are generally on track to implement pollution control practices to achieve nitrogen and phosphorus reductions expected during the three year period. In instances where they are behind, contingency practices are being implemented.

### **Agriculture Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<i>Units</i>	<i>2009-11 Commitment</i>	<i>% Achieved (7/1/08-6/30/10)</i>
Animal Waste Management Systems, All Types	animal units	43,500	34%
Animal Waste Management Systems, All Types	structures	198	59%
Animal Waste Management Systems, All Types	systems	634	112%
Carbon Sequestration/Alternative Crops	acres	25,740	18%
Conservation Plans/SCWQP	acres	584,648	33%
Conservation Tillage, All Types	acres/yr	306,991	78%
Cover Crop Planting, All Types	acres/yr	831,518	44%
Dairy & Poultry Manure Incorporation Technology	acres	5,000	18%
Forest Buffers	acres	39,110	122%
Forest Harvesting Practices	acres	125	3806%
Grass Buffers	acres	14,910	55%
Heavy Use Poultry Areas Concrete Pads	farms	400	73%
Horse Pasture Management	acres	300	26%
Land Retirement	acres	83,676	193%
Manure Transport	net tons reduced	138,015	254%
Mortality Composters	units	22	82%
Nutrient Management, All Types	acres/yr	702,250	68%
Pasture Grazing Best Management Practices, All Types	feet	608,000	67%
Pasture Grazing Best Management Practices, All Types	acres	162,927	59%
Poultry Phytase	P lbs reduced	19,626	67%
Precision Feeding and/or Forage Mgmt.	animal units	7,600	42%
Stream Restoration	linear feet	246,344	88%
Tree Planting	acres	27,995	47%
Water Control Structures, Ag.	structures	200	33%
Wetland Restoration, ag land	acres	3,768	57%
Wetland Restoration, other land	acres	391	100%

### **Agricultural Pollution Control Practices Jurisdictions Substituted for Original 2009-2011 Milestone Commitments**

(i.e. "Contingencies")

	<i>Units</i>	<i>Amount Completed (7/1/08-6/30/10)</i>
Animal Waste Management Systems, All Types	structures	654
Animal Waste Management Systems, All Types	systems	19
Conservation Plans/SCWQP	acres	262,818
Conservation Tillage, All Types	acres/yr	348,230
Cropland Irrigation Management	acres	68,442
Forest Harvesting Practices	acres	30,346
Grass Buffers	acres	711
Heavy Use Poultry Areas Concrete Pads	farms	866
Horse Pasture Management	acres	1
Land Retirement	acres	81
Mortality Composters	units	549
Nutrient Management, All Types	acres/yr	16,322
Pasture Grazing Best Management Practices, All Types	acres	310
Stream Restoration	linear feet	17,700
Tree Planting	acres	1,660
Water Control Structures, Ag.	structures	8,366

**For more, contact Margaret Enloe (410) 267-5740, [menloe@chesapeakebay.net](mailto:menloe@chesapeakebay.net)**

**URBAN/SUBURBAN**

As of June 2010, jurisdictions are generally on track to implement pollution control practices to achieve nitrogen and phosphorus reductions expected during the three year period. In instances where they are behind, contingency practices are being implemented.

**Urban/Suburban Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<i>Units</i>	<i>2009-11 Commitment</i>	<i>% Achieved (7/1/08-6/30/10)</i>
Abandoned Mine Reclamation	acres	2,219	73%
Dirt & Gravel Road Erosion & Sediment Control	feet	124,913	408%
Downspout Connections	downspouts	300	325%
Erosion & Sediment Control	acres	69,550	99%
Green Roofs	square feet	2,500,000	52%
Litter Trap Installation Demo Projects	lbs. trash diverted	6,800	100%
Rain Barrels	barrels	250	390%
Rain Gardens	gardens	100	92%
Retrofit Catch Basins for Trash Control	catch basins	100	200%
Sanitary Sewer Replacement	miles	2	25%
Septic Improvements, All Types	systems	27,125	296%
Storm Drain Marker Installation	markers/yr	1,000	100%
Stormwater Management, All Types (incl. urban nut. mngt.)	acres	281,740	33%
Stream Restoration	linear feet	18,656	19%
Tree Canopy Expansion	trees	21,500	45%
Tree Planting	acres	30	100%

(i.e. "Contingencies")

**Urban/Suburban Pollution Control Practices Jurisdictions Substituted for Original 2009-2011 Milestone Commitments**

	<i>Units</i>	<i>Amount Completed (7/1/08-6/30/10)</i>
Abandoned Mine Reclamation	acres	43
Green Roofs	square feet	700
Rain Barrels	barrels	50
Rain Gardens	gardens	3
Storm Drain Marker Installation	markers/yr	800
Stormwater Management, All Types (incl urb. nut. man.)	acres	34,826
Tree Planting	acres	1,073

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For more, contact Margaret Enloe (410) 267-5740, [menloe@chesapeakebay.net](mailto:menloe@chesapeakebay.net)

**WASTEWATER**

As of June 2010, jurisdictions are generally on track to implement pollution control practices to achieve nitrogen and phosphorus reductions expected during the three year period.

**Wastewater Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<i>Units</i>	<i>2009-11 Commitment</i>	<i>% Achieved (7/1/08-6/30/10)</i>
Wastewater Nitrogen	N lbs reduced	3,349,200	120%
Wastewater Phosphorus	P lbs reduced	250,914	216%

**Wastewater Pollution Control Practices Jurisdictions Substituted for Original 2009-2011 Milestone Commitments**

(i.e. "Contingencies")

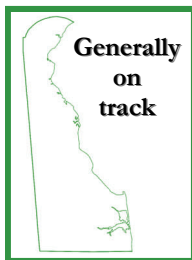
	<i>Units</i>	<i>Amount Completed (7/1/08-6/30/10)</i>
Wastewater Nitrogen	N lbs reduced	129,446
Wastewater Phosphorus	P lbs reduced	100,271

**AIR**

As of June 2010, jurisdictions are generally on track to implement pollution control practices to achieve nitrogen and phosphorus reductions expected during the three year period.

**Air Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<i>Units</i>	<i>2009-11 Commitment</i>	<i>% Achieved (7/1/08-6/30/10)</i>
Heavy Truck Anti-Idling Rule	hours reduced	9,780,000	100%
Maryland Healthy Air Act, Air	N lbs reduced	305,882	100%



# Delaware

## 2011 Milestones to Reduce Nitrogen & Phosphorus Interim Progress Assessment June 2011



### Introduction

During the 2009 Chesapeake Executive Council (EC) meeting, Delaware set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. Delaware's 2011 milestone commitments are to reduce nitrogen by 292,072 pounds and maintain the 2008 phosphorus levels during the three-year period, 2009-2011. An interim assessment of pollution control practices being implemented to achieve these reductions follows. As of June 2010, Delaware is generally on-track. In instances where they are behind, contingencies are being implemented. A final assessment of load reductions achieved during the entire three-year period will be available at next year's EC meeting.

### Interim Progress

#### **Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<b>2009-2011 Commitment</b>	<b>% Achieved (7/1/08- 6/30/10)</b>
<b>Agriculture:</b>		
Cover Crop Planting, All Types (acres/yr)	37,200	<b>49%</b>
Forest Buffers (acres)	2,700	<b>83%</b>
Manure Transport (net tons reduced)	55,100	<b>90%</b>
Nutrient Management, All Types (acres/yr)	177,000	<b>100%</b>
Tree Planting (acres)	200	<b>6%</b>
Wetland Restoration (acres)	420	<b>104%</b>
<b>Urban/Suburban:</b>		
Septic Improvements, All Types (systems)	8,800	<b>4%</b>

#### **Pollution Control Practices Delaware Substituted for Original 2009-2011 Milestone Commitments**

*(i.e. "Contingencies")*

	<b>Amount Completed</b>
<b>Agriculture:</b>	
Animal Waste Mgmt. Systems, All Types (structures)	654
Conservation Plans/SCWQP (acres)	194,666
Conservation Tillage, All Types (acres/yr)	197,799
Cropland Irrigation Management (acres)	68,442
Forest Harvesting Practices (acres)	3,838
Grass Buffers (acres)	711
Heavy Use Poultry Areas Concrete Pads (farms)	866
Mortality Composters (units)	549
Pasture Grazing Best Mgmt Practices, All Types (acres)	310
Poultry Phytase	100% implementation
Stream Restoration (linear feet)	17,700
Water Control Structures (structures)	8,343
<b>Urban/Suburban:</b>	
Erosion & Sediment Control (acres)	100% new sites E&S Control
Stormwater Management, All Types, Urban/Suburban (acres)	33,385
Tree Planting (acres)	99
Storm Drain Marker Installation (markers/yr)	800
<b>Wastewater:</b>	
Wastewater Nitrogen (N lbs reduced)	90,141
Wastewater Phosphorus (P lbs reduced)	1,485

**For more, contact Jennifer Volk, (302) 739-9939, [Jennifer.volk@state.de.us](mailto:Jennifer.volk@state.de.us)**



### **Interim Progress Highlights**

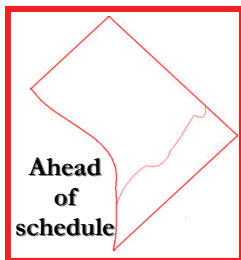
Since developing Delaware's 2009-2011 milestones, progress has been made on several fronts. First, funding, especially in the agriculture sector, has been focused in Delaware's portion of the Chesapeake Bay Watershed resulting in increased levels of implementation of several best management practices. Second, Delaware's data tracking and reporting systems have substantially improved so that more data on practices that have routinely been implemented within the State can finally be reported and credited within the Bay Program model. Finally, in addition to reducing the Invista wastewater permitted load, it was decided through the Watershed Implementation Plan process that the permitted loads of the three major municipal facilities should also be reduced. All of this progress is the result of better communication and coordination amongst partner agencies and organizations.

### **Current and Anticipated Shortfalls**

As shown in the table above, the rate of implementation for Delaware's targeted practices has varied, with some practices reaching goal levels faster than others. In the case of cover crops, implementation levels have fluctuated in recent years as a result of weather conditions in the fall – when it is dry, more acres can be planted than when it is wet. There have also been changes made to the cost share programs and a new reporting system, so these factors may have also played a minor role in total acres reported. With respect to the septic improvement goals, a new regulation requiring a system pump out and inspection at the time of a property sale has not yet been promulgated, so the implementing mechanism is still under development. Fortunately, progress on other practices and programs not specifically identified during this milestone period will likely cushion individual practice shortfalls and result in a net improvement for water quality.

### **Contingencies to Address Shortfalls**

During the development of Delaware's 2009-2011, several additional reduction options were identified to serve as gap filling strategies and contingences for potential shortfalls. Specific implementation levels could not, at the time, be identified for several of the practices, while nutrient reductions could not be calculated for others as they were programmatic in nature. Since identifying these additional options, implementation levels have increased for many of the practices listed. Improvements in data tracking and reporting systems have resulted in the reporting of more practices that receive credit in the watershed model and the capture of data fields that were previously missing or unpopulated. The table above shows data for these other BMPs that have resulted in additional reductions for Delaware. Additionally, progress has been made on many of the programmatic options. As an example, the State-wide regulation review for both the stormwater and onsite (septic) programs is underway and new controls for both sectors will be required when the regulations are promulgated by the end of this year. Finally, staff from both DDA and DNREC are working with Chesapeake Bay Program modeling staff to discuss possibly modifying model assumptions and variables to be more representative of the agriculture situation in Delaware and these changes may result in loading improvements.



# District of Columbia

## 2011 Milestones to Reduce Nitrogen & Phosphorus Interim Progress Assessment June 2011



### 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. DC's 2011 milestone commitment is to reduce nitrogen by 159,000 pounds during the three-year period, 2009-2011. An interim assessment of pollution control practices being implemented to achieve this reduction follows. As of June 2010, DC is generally ahead of schedule. A final assessment of load reductions achieved during the entire three-year period will be available at next year's EC meeting.

### Interim Progress

#### **Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<b>2009-2011 Commitment</b>	<b>% Achieved (7/1/08- 6/30/10)</b>
<b>Urban/Suburban:</b>		
Downspout Connections (connections)	300	<b>325%</b>
Green Roofs* (square feet)	2,500,000	<b>52%</b>
Litter Trap Installation Demo Projects (pounds trash diverted)	6,800	<b>100%</b>
Rain Barrels (barrels)	250	<b>390%</b>
Rain Gardens (gardens)	100	<b>92%</b>
Retrofit Catch Basins for Trash Control (catch basins)	100	<b>200%</b>
Sanitary Sewer Replacement (miles)	1.5	<b>25%</b>
Storm Drain Marker Installation (markers/yr)	1,000	<b>100%</b>
Stream Restoration, 2.7 miles of Watts and Pope Branches (linear feet)	14,256	<b>25%</b>
Tree Canopy Expansion (percent increase)	5	<b>45%</b>
Tree Planting, 4150 trees (30 acres) per year	30	<b>100%</b>
<b>Wastewater:</b>		
Wastewater Nitrogen (N lbs reduced)	159,000	<b>605%</b>

\* Unfortunately, the number for this 2 year milestone was miscalculated and this goal will not be met. Currently 1.3 million sq. ft. of green roof are approved for construction on 128 buildings through spring 2012. The goal is to install 2.5 million sq. ft. by 2017.

#### **Pollution Control Practices D.C. Substituted for Original 2009-2011 Milestone Commitments**

*(i.e. "Contingencies")*

	<b>Amount Completed</b>
Wastewater Phosphorus (P lbs reduced)	15,264

**For more, contact Diane Davis, (202) 741-0847, [Diane.davis2@dc.gov](mailto:Diane.davis2@dc.gov)**

## Programmatic Controls in 2009-2011 Milestone Commitments

	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	Ongoing
Create new tree box standards to allow for better tree growth	Ongoing
Develop lot-level residential stormwater detention/retention through RiverSmart Homes incentive program	Ongoing
Train federal facilities on new stormwater requirements	Ongoing
Implement a program to control discharges from District and federally owned facilities	Ongoing
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	Ongoing
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 that require LID construction as a first option and mandate training for site managers	Ongoing
Implement 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	Ongoing
Incorporate LID into 24 percent of all District DOT projects	Completed

### Interim Progress Highlights

More than 1,500 homes have been audited through the RiverSmart Homes Program. This is a program focusing on lot-level stormwater retention/detention practices which include incentives for homeowners to install landscaping features, such as shade trees and porous paving to improve water quality through stormwater control methods. Due to the District Department of the Environment's (DDOE) successful outreach and education campaign, more than 3,000 DC homeowners are interested in the RiverSmart Homes Program and are on a waiting list to be audited.

### Current and Anticipated Shortfalls

The District will fall short on 2 milestones: green roof coverage and the tree canopy goal.

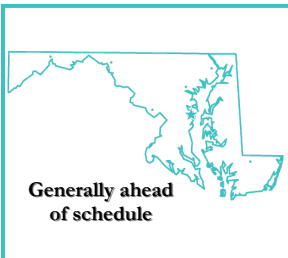
### Contingencies to Address Shortfalls

Unfortunately, the 2 year milestone for square feet of green roof coverage was miscalculated. Currently 1.3 million square feet of green roof have been approved for construction on 128 buildings through spring 2012. The goal is to have 2.5 million square feet of green roof installed by 2017.

The District is currently behind on the tree canopy goal. Efforts through DC agencies and non profits are meeting with the provisions detailed in the District's MS4 permit, of planting 4150 trees per year. However, in order to increase the urban tree canopy by 5% (from 35% to 40% by 2035), 8600 trees need to be planted each year. The hope is that through a partnership with the federal agencies and lands in the District that this goal will eventually be met. DC does not currently have tree planting data from the federal land holders in DC that comprise almost 30% of the land area. DC hopes for coordination from federal and District sister agency partners through the WIP phase 2 process to meet its tree canopy goal. Without federal cooperation, DC cannot meet this important and aggressive 40% goal outlined by the Mayor's incoming commitment in 2009.

**For more, contact Diane Davis, (202) 741-0847, [Diane.davis2@dc.gov](mailto:Diane.davis2@dc.gov)**





# Maryland

## 2011 Milestones to Reduce Nitrogen & Phosphorus Interim Progress Assessment June 2011



### Introduction

During the 2009 Chesapeake Executive Council (EC) meeting, Maryland Governor Martin O'Malley set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. Maryland's 2011 milestone commitments are to reduce nitrogen by 3.75 million pounds and phosphorus by 193,000 pounds during the three-year period, 2009-2011. An interim assessment of pollution control practices that Maryland has implemented to achieve these reductions follows. Maryland is generally ahead of schedule. In instances where they are behind, the State is implementing contingency practices. A final assessment of load reductions achieved during the entire three-year period will be available at next year's EC meeting.

### Interim Progress

#### **Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	Original 2009-2011 Commitment	% Achieved (7/1/08- 6/30/10)	Adapted 2009-2011 Commitment*	% Achieved (7/1/08- 5/30/11)*
<b>Agriculture:</b>				
Animal Waste Mgmt. Systems, livestock and poultry (structures)	198	59%	130	109%
Animal Waste Mgmt. Systems, runoff control (systems)	75	180%	175	102%
Conservation Plans/SCWQP (acres)	257,049	14%	257,049	77%
Cover Crop Planting (acres/yr)	460,000	6%	325,000	123%
Dairy & Poultry Manure Incorporation Technology (acres)	5,000	18%	2,500	55%
Forest Buffers (acres)	5,100	11%	895	83%
Grass Buffers (acres)	8,000	20%	2,319	104%
Heavy Use Poultry Areas Concrete Pads (farms)	400	73%	N/A	N/A
Land Retirement (acres)	3,800	39%	2,500	102%
Manure Transport (net tons transported/yr)	10,000	82%	10,000	64%
Nutrient Management Plan Enforcement (acres)	100,000	96%	100,000	100%
Pasture Grazing BMPs, stream protection (acres)	6,000	94%	7,400	107%
Water Control Structures (structures)	200	33%	125	37%
Wetland Restoration (acres)	1,700	47%	1,155	78%
<b>Urban/Suburban:</b>				
Septic Improvements, retrofits in and out of Critical Area (systems)	3,000	64%	3,139	79%
Stormwater Management, retrofits (acres)	90,000	17%	90,000	44%
<b>Wastewater:</b>				
Wastewater Nitrogen (N lbs reduced)	930,000	206%	930,000	103%
Wastewater Phosphorus (P lbs reduced)	39,000	306%	39,000	TBD
<b>Air:</b>				
Maryland Healthy Air Act (N lbs reduced)	305,882	100%	305,882	100%

\*Maryland's table contains two additional columns (compared to the other jurisdictions) since this more current information (through May 2011) is documented and available to the public on BayStat.

#### **Pollution Control Practices Maryland Substituted for Original 2009-2011 Milestone Commitments**

(i.e. "Contingencies")

	Amount completed
<b>Agriculture:</b>	
Continuous No Till Conservation (acres)	150,000
Cropland Irrigation Management (acres)	92,800
Tree planting (acres)	1,766
Vegetated Environmental Buffers (acres)	13
<b>Urban:</b>	
Urban Nutrient Management (acres)	220,000



### **Interim Progress Highlights**

- Established BayStat: For the first time in the Maryland Bay Restoration effort, the Governor and senior staff meet regularly with 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 track efforts watershed-wide.
- Created the Chesapeake and Coastal Bays Trust Fund: This fund provides up to \$50 million annually for projects targeted to the most effective Bay restoration practices and locations.
- Achieved Record Cover Crop Enrollment: Maryland enrolled a record 1,567 farmers to plant more than 400,331 acres of cover crops on their fields in 2010, exceeding Maryland's 2-year milestone for cover crops.
- Required Use of Low Impact Environmental Site Design: Adopted legislation requiring that, where feasible, management techniques that keep water on-site and allow water to infiltrate into the ground -- vegetated swales, pervious pavers, green roofs -- must be used. Previously, these practices were an option. These state-of-the-art storm-water techniques apply to all new development approved after May 2010.
- Issued New and Updated Stormwater Pollution (MS4) Permits: Since 95% of stormwater runoff in Maryland comes from already developed land, there is significant regulatory focus on stormwater discharge permits issued to Maryland's 10 largest counties and the State Highway Administration—that require control of stormwater pollution from existing developed land. After several legal challenges, the first of a new generation of permits went into place in January.
- Expanded Septic System Upgrades: Maryland passed a law in 2009 requiring new or replacement nitrogen-removing septic systems in the Critical Area (and prioritizing funding to help homeowners comply). In 2007, \$17M in septic upgrade funds were unspent and Marylanders upgraded fewer than 50 systems. Today, Maryland spends revenue as it is collected and has upgraded more than 2,200 systems.
- Issued new CAFO regulations: Maryland issued new regulations and a permit in 2009 for the first time to implement manure handling requirements on 85% of poultry litter generated from Maryland's poultry operations. Maryland is also the first state in the region to implement a regulatory program approved by EPA to meet new federal requirements. Maryland went beyond federal requirements to protect surface waters and implemented a state permit to protect State groundwater as well.
- Maryland scientists have updated the P Site Index (PSI), which is an assessment tool that identifies the relative risk for phosphorus (P) losses from agricultural production fields to nearby bodies of water. Farmers use the PSI to develop agricultural nutrient management plans. We anticipate completing the remaining technical evaluations necessary to support regulatory changes on phosphorus application to Maryland's farm fields beginning in spring, 2013.

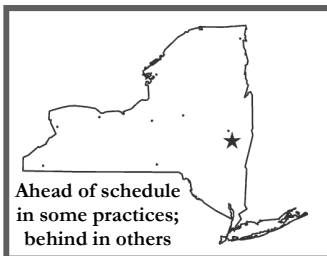
### **Current and Anticipated Shortfalls**

As of May 2011, Maryland is very close to meeting its 2-year milestone goal, including offsetting loads from expected growth (150,000 pounds nitrogen). However, we will not know the full extent of our progress until EPA runs its computer models at the end of the first 2-year milestone period. Approximately 10% of Maryland's 2-year milestone strategies are new and innovative agricultural technologies. Several states are using these practices, and the Bay Program's scientific community is working to assess what the benefits to the Bay will be. Until that review is finished, we can only estimate the benefits.

### **Contingencies to Address Shortfalls**

Maryland continually assesses and adapts our 2-year milestone achievements and goals to reflect actual conditions. As an added security, Maryland's has a 5% contingency plan that essentially overshoots our reduction goals. This plan includes accelerated reductions from Blue Plains WWTP (+125,000 pounds per year nitrogen), cover crop requirements on farm land that the state leases out, and a myriad of incremental goal increases to other Best Management Practices.

**For more, contact Helen Stewart, 410-260-8783, [hstewart@dnr.state.md.us](mailto:hstewart@dnr.state.md.us)**



# New York

## 2011 Milestones to Reduce Nitrogen & Phosphorus Interim Progress Assessment - June 2011



### 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. In 2010, New York developed and submitted its Phase 1 Watershed Implementation Plan (WIP) to EPA. New York's WIP 1 outlines the path forward for New York to achieve the nutrient and sediment reductions required by the TMDL. As such, this milestone alone will not fully inform future milestone commitments. Here we are reporting preliminary data on interim progress that has not been but will be fully vetted through the necessary quality control procedures for the full milestone reporting period. Not included in this initial milestone was the prospect of widespread natural gas extraction activity. At this juncture, NYS DEC is devoting significant resources to evaluating the potential environmental impacts of horizontal drilling and high-volume hydraulic fracturing in the Susquehanna and Chemung River watersheds. An interim assessment of pollution control practices being implemented to achieve these reductions follows. As of June 2010, NY is ahead of schedule for some practices but behind in others. In instances where they are behind, contingencies are being implemented. A final assessment of load reductions achieved during the entire three-year period will be available at next year's EC meeting. This initial milestone helps us examine how we are establishing our WIP commitments and provides insight into progress thus far.

### Interim Progress

#### **Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<b>2009-11 Commitment</b>	<b>% Achieved (7/1/08- 6/30/10)</b>
<b>Agriculture:</b>		
Animal Waste Mgmt. Systems, including barnyard runoff controls (animal units)	43,500	34%
Conservation Tillage, All Types (acres/yr)	3,000	50%
Cover Crop Planting, All Types (acres/yr)	1,000	72%
Forest Buffers (acres)	2,051	20%
Grass Buffers (acres)	3,549	17%
Horse Pasture Management (acres)	300	26%
Land Retirement (acres)	2,000	4%
Nutrient Management, All Types (acres/yr)*	38,000	36%
Pasture Grazing Best Mgmt Practices, stream protection w/ fencing (feet)	608,000	67%
Pasture Grazing Best Mgmt Practices, rotational grazing (acres)	18,700	34%
Precision Feeding and/or Forage Mgmt. (animal units)	7600	42%
Tree Planting (acres)	200	7%
Wetland Restoration, ag. land (acres)	100	130%
Wetland Restoration, other land (acres)	350	100%
<b>Urban/Suburban:</b>		
Erosion & Sediment Control (acres)	150	1,254%
<b>Wastewater:</b>		
Wastewater Nitrogen (N lbs reduced)	348,200	80%
Wastewater Phosphorus (P lbs reduced)	36,414	50%

#### **Pollution Control Practices New York Substituted for Original 2009-2011 Milestone Commitments**

(i.e. "Contingencies")

	<b>Amount Completed</b>
Conservation Plans/SCWQP (acres)	2,872
Water Control Structures (structures)	23
Stormwater Management, All Types, Urban/Suburban (acres)	1,441

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

### **Interim Progress Highlights**

New York works closely in partnership with the Upper Susquehanna Coalition (USC) to seek solutions for water resource protection and conservation needs, including wetland restoration and flood damage reduction.

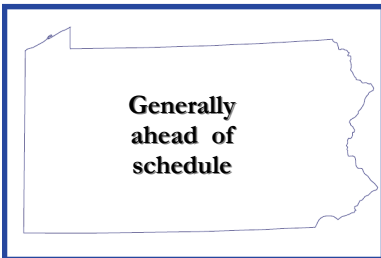
- The **Dishwasher Detergent and Nutrient Runoff Law** was signed into law on July 15, 2010. [This law](#) will improve water quality in New York by reducing phosphorus runoff into the State's waterbodies.
- In the 2009 and 2010 calendar years, **under the Chesapeake Bay Program Forest Conservation Directive**, over 1400 acres of land within the Upper Susquehanna Watershed were preserved by land trusts and parcels gifted to NY. Also in December 2010, DEC completed the [Final Strategic Plan for State Forest Management](#).
- The NYSDEC Division of Water finalized the revision and update to the 1988 [Technical and Operational Guidance Series \(TOGS\) 1.4.2 Compliance and Enforcement of SPDES Permits](#), which strengthens the Department's guidance on compliance and enforcement activities related to the State Pollutant Discharge Elimination System program. Stormwater and Concentrated Animal Feeding Operations are specifically addressed too.
- Southern Tier Central Regional Planning and Development Board received a grant from NYSDEC to create the [Susquehanna-Chemung Action Plan](#) - an ecosystem-based management plan to be complete in 2012.
- In 2009, NY issued a **Concentrated Animal Feeding Operation Program (CAFO)** Permit for all medium and large sized farms. This permit supplements [New York's Clean Water Act CAFO permit](#) for medium and large facilities – in place since 1999 and still in full force and effect.
- NY has required the 28 Bay Significant wastewater treatment facilities in the Susquehanna/Chemung watershed to complete **Wastewater Treatment Plant Optimization** for nutrient removal and engineering and cost analysis for greater levels of treatment without a major capital upgrade. Subsequently, some facilities have implemented new innovations and are looking to alternative methods to reduce nutrients in effluents.
- [Agricultural Environmental Management \(AEM\) Program](#) funding was provided to Conservation Districts to inventory and assess farms, and to plan, design and evaluate BMP effectiveness on those farms. In 2009 and 2010 Conservation Districts completed \$924,973 of state-funded AEM work in the watershed.

### **Current and Anticipated Shortfalls**

- The Binghamton-Johnson City municipal treatment plant has recently experienced a major structural failure.
- The [Graze-NY Program](#) helps farm families with the adoption of prescribed grazing management systems. Funding for the program is uncertain and will likely impact this valuable BMP.

### **Contingencies to Address Shortfalls**

- New York is working to ensure that **Data Quality Control Procedures** for nonpoint sources meet the new data requirements of the model (v. 5.3.2) and Scenario Builder. Point source data for non-significant facilities is also being reviewed to improve the accuracy of the data being reported to CBP.
- The new **Green Infrastructure** criteria of the Stormwater Design Manual will be requiring the implementation of green roofs, rain barrels and rain gardens. Permit and more info available [here](#).
- The DEC is working to use funds received under a **Chesapeake Bay Regulatory and Accountability Program Grant** to build capacity to develop permits, ensure consistency with water quality needs, improve compliance monitoring, enforcement follow-up, increased inspections, and improved tracking and accountability.
- Despite state fiscal challenges, recent contract completions mean NY will be executing contracts and projects from **grants awards** in the NY State [Non-Point Source Abatement and Control Grant Program](#), [Water Quality Improvement Project Statewide Grant Program](#) and in the New York CBP Forest Conservation Directive.
- **Eligibility for Federal Cost Share Programs** More than half of the waterbodies in the Susquehanna basin are not listed on the [1996 Waterbody Inventory/Priority Waterbodies List](#) and are therefore ineligible for CREP funding. New York continues to look for mechanisms to make these watersheds eligible.
- **New Programs and Initiatives** Some budget constraints are being addressed by grant support requests to Federal and State sources. USC recently received grants for grazing projects, stream rehabilitation and for "Ecosystems Based Management". USC has established the NY Agronomic Cover Crop Workgroup and the Conservation Tillage Initiative. Funding is being sought to develop Mass Nutrient Balances, conduct Precision Feed Management benchmarking, and employ adaptive Nitrogen management tools.



# Pennsylvania

## 2011 Milestones to Reduce Nitrogen & Phosphorus Interim Progress Assessment June 2011

### Introduction

During the 2009 Chesapeake Executive Council meeting, the governor of Pennsylvania (PA) set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. PA's 2011 milestone commitments are to reduce nitrogen by 7.3 million pounds and phosphorus by 300,000 pounds during the three-year reporting period, July 2008-June 2011. An interim assessment of pollution control practices being implemented to achieve these reductions follows. As of June 2010, PA is generally ahead of schedule. In instances where they are behind, contingencies are being implemented. As evidenced by this progress, PA takes its milestone commitments seriously and recognizes that continued vigilance will be necessary to meet the Chesapeake Bay TMDL allocations. A final assessment of load reductions achieved during the entire three-year period will be available at next year's EC meeting.

### Interim Progress

#### **Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<b>2009-2011 Commitment</b>	<b>% Achieved (7/1/08- 6/30/10)</b>
<b>Agriculture:</b>		
Animal Waste Mgmt. Systems, All Types (animal units/structures/systems)	275	100%
Carbon Sequestration/Alternative Crops (acres)	25,740	18%
Conservation Plans/SCWQP (acres)	327,599	48%
Conservation Tillage, All Types (acres/yr)	175,491	58%
Cover Crop Planting, All Types (acres/yr)	174,818	115%
Forest Buffers (acres)	19,059	187%
Forest Harvesting Practices (acres)	125	3,806%
Grass Buffers (acres)	1,161	265%
Land Retirement/Environmental Planting (acres)	58,876	242%
Manure Transport (net tons transported)	58,915	474%
Mortality Composters (units)	22	82%
Nutrient Management, All Types (acres/yr)	129,250	54%
Pasture Grazing Best Mgmt Practices, All Types (acres, animal units, feet)	34,727	38%
Poultry Phytase (P lbs reduced)	19,626	67%
Stream Restoration (linear feet)	215,088	92%
Tree Planting (acres)	15,065	21%
Wetland Restoration (acres)	1,548	52%
<b>Urban/Suburban:</b>		
Abandoned Mine Reclamation (acres)	2,219	73%
Dirt & Gravel Road Erosion & Sediment Control (feet)	124,913	408%
Erosion & Sediment Control (acres)	7000	117%
Septic Improvements, All Types (systems)	7,353	571%
Stormwater Management, All Types, Urban/Suburban (acres)	8,690	1%
Stream Restoration (linear feet)	4,400	0%
<b>Wastewater:</b>		
Wastewater Nitrogen (N lbs reduced)	1,679,000	83%
Wastewater Phosphorus (P lbs reduced)	49,500	245%
<b>Air:</b>		
Heavy Truck Anti-Idling Rule (hours reduced)	9,780,000	100%

#### **Pollution Control Practices Pennsylvania Substituted for Original 2009-2011 Milestone Commitments** *(i.e. "Contingencies")*

	<b>Amount Completed</b>
Horse Pasture Management (acres)	1
Tree Planting – Urban Land (acres)	652
Barnyard Runoff Controls (systems)	19



### **Interim Progress Highlights**

- **Dirt & Gravel Road Erosion & Sediment Control: 408%.** PA's milestone was based on early program BMP implementation rates. There have been large increases in BMP implementation over the last two years.
- **Forest Harvesting Practices: 3,806%.** 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: 474%.** A survey of Manure Brokers was completed in 2010 that more accurately represents manure transport within and out of the Bay watershed.
- **Septic Improvements: 571%.** The increase resulted from the first time reporting of septic system hook-ups by PennVest and a significant increase in hook-ups reported by USDA's Rural Development Program.
- **Wastewater: 75%.** PA committed to having 40 Wastewater Treatment Plants (WWTPs) operating under reduced nutrient limit permits by June 2011. Through June 2010, 10 WWTPs have reduced nutrient limit permits. Since then, an additional 36 WWTPs have such permits, placing PA ahead of schedule.

### **Current and Anticipated Shortfalls**

- **Conservation Tillage: 58%.** 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.
- **Nutrient Management: 54%.** 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 activities.
- **Pasture Grazing BMPs: 38%.** This implementation rate is believed to be low due to the lack of complete data. When "voluntary" and "Grass Roots" project data are available, the rate will increase.
- **Stormwater Management: 1%.** Ongoing efforts to better track urban BMPs will result in a higher implementation rate than is currently reported.

### **Contingencies to Address Shortfalls**

- Erosion and Sediment Control Regulation revisions adopted November 19, 2010: Codification of Post Construction Stormwater Requirements; Mandatory Riparian Forest Buffer for Exceptional Value waters; Conservation Plan revision to include animal heavy use areas
- Natural Floodplain, Stream and Riparian Wetland Restoration Best Management Practice: This BMP is being developed to address legacy sediment. Nutrient and sediment reduction efficiencies will be developed by October 2013 through monitoring the Big Spring Run restoration project in Lancaster County. BMP benefits include sediment and nutrient reduction, storm water management, flood conveyance/reduction, wetland restoration, native flora and fauna restoration and reduced maintenance costs.
- Phosphate Detergent Ban for household detergent: Became effective on July 1, 2010.

Generally  
on track



# Virginia

## 2011 Milestones to Reduce Nitrogen & Phosphorus Interim Progress Assessment - June 2011



### Introduction

At 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. Virginia's 2011 milestone commitments are to reduce nitrogen by 3.39 million pounds and phosphorus by 470,000 pounds during the three-year period, 2009-2011. An interim assessment of pollution control practices being implemented to achieve these reductions follows. As of June 2010, Virginia is generally on-track. In instances where they are behind, contingencies are being implemented. A final assessment of load reductions achieved during the entire three-year period will be available at next year's EC meeting.

### Interim Progress

#### **Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	2009-2011 Commitment	% Achieved (7/1/08- 6/30/10)
<b>Agriculture:</b>		
Animal Waste Mgmt. Systems (systems)	241	94%
Animal Waste Mgmt. Systems, runoff control (systems)	32	115%
Conservation Tillage, NRCS (acres/yr)	47,500	84%
Continuous No-Till, State Cost-Share (acres/yr)	81,000	118%
Cover Crops (acres/yr)	119,000	78%
Cover Crops, small grain commodities, harvestable (acres/yr)	38,000	68%
Forest Buffers (acres)	10,000	78%
Grass Buffers (acres)	2,000	143%
Land Retirement (acres)	19,000	92%
Nutrient Management, agricultural (additional acres/yr)	258,000	47%
Pasture Grazing BMPs, off stream watering w/ fencing (acres)	89,500	68%
Stream Restoration, agricultural (linear feet)	13,000	62%
Tree Planting (acres)	12,500	80%
Wetland Restoration (acres)	36	110%
<b>Urban/Suburban:</b>		
Erosion & Sediment Control (acres)	61,000	90%
Nutrient Management (additional acres/yr)	133,000	16%
Septic Improvements, All Types (systems)	806	3,487%
Stormwater Management BMPs (acres)	49,000	114%
		<b>% Achieved (1/1/09-12/31/10)</b>
<b>* Wastewater:</b>		
Wastewater Nitrogen (N lbs reduced)	233,000	-225%
Wastewater Phosphorus (P lbs reduced)	126,000	224%

\*Please see the "Current and Anticipated Shortfalls" section on page 2 for explanation regarding this interim wastewater report.

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



### **Interim Progress Highlights**

Virginia is ahead of schedule or on schedule for meeting milestone commitments for BMPs including cover crops, conservation tillage, continuous no-till, cover crops, grass buffers, wetland restoration, stormwater management, erosion and sediment control and septic pumpouts. Several bills to assist in achieving nutrient reductions were approved by the 2011 General Assembly, although these legislative initiatives will not be fully effective until future milestone periods due to phase-in provisions that will enable orderly implementation. These new laws will require sale restrictions on phosphorus containing fertilizers for non-agricultural use, require all golf courses to develop and implement nutrient management plans, and encourage farmers to develop comprehensive resource management plans that will include nutrient and sediment reduction practices. Despite poor economic conditions adversely impacting the state budget, Virginia adopted in statute a dedicated funding stream for agricultural BMPs derived from an additional recordation fee associated with property transfers. This fee is projected to generate approximately \$9 million per year. These funds are administered by the Department of Conservation and Recreation and Virginia's 47 soil and water conservation districts. Virginia is also addressing issues relating to small animal feeding operations through a strategy being jointly developed by the Department of Environmental Quality and the Department of Agriculture and Consumer Services.

Virginia continues its aggressive program to upgrade sewage treatment plans. There are currently 57 active grants agreements for nutrient control upgrades that commit \$659 million in state cost-share funds. Calendar year 2011 is the first compliance period for wastewater dischargers to meet river basin-wide nutrient allocations established by Virginia's watershed general permit. Virginia is on-track to reissue the permit in 2012 with nutrient allocations that conform to EPA's Chesapeake Bay TMDL.

### **Current and Anticipated Shortfalls**

Some shortfalls are expected for some of the BMPs. The Commonwealth recently modified the tracking and reporting procedures for nutrient management plans (NMPs) prior to the beginning of the milestone period to more accurately account for the average lifespan of NMPs. While many NMPs are developed for a three year time period for cropland, the NMPs are sometimes revised to reflect farm operational changes prior to expiration of the previous NMP. Therefore Virginia decided to reduce the average lifespan of NMPs to reflect these revisions, this resulted in a one-time decrease in plan acres under current NMPs and adversely impacting milestone results. This also impacted urban nutrient management acres which are lagging behind the milestone commitment levels. Livestock stream exclusion practices equating to 32% of the goal have been installed.

Virginia's wastewater facilities are generally on track to meet the allocations established in the Watershed General Permit and meet the first set of milestone established for 2009 -2011. However, while the interim progress shows a greater than expected decline in phosphorus, it shows a temporary increase in nitrogen. This is the result of ongoing construction to install nutrient control upgrades at a few facilities in the York, James and Eastern Shore basins. Treatment efficiency is temporarily affected by taking units off-line for retrofitting and subsequently starting up new processes, with a period needed to optimize biological nitrogen removal. Virginia expects to meet the nutrient waste load allocations under the Watershed General Permit for calendar year 2011, which is the first full compliance period and the last year of the initial milestone period.

### **Contingencies to Address Shortfalls**

Law changes have been enacted that will increase acreage of the urban nutrient management practice substantially in future periods. To increase the pace of installation of livestock exclusion practices, an additional \$4 million in state cost-share funding has recently been earmarked for livestock stream exclusion practices offered through soil and water conservation districts. The Governor and General Assembly have appropriated approximately \$20 million per year for agricultural BMPs for FY12 and FY13. Since the FY12 funds are available beginning in July 2011, this greatly increased funding level will provide a boost to agricultural BMP adoption efforts for the remainder of the 2011 milestone reporting period.





# West Virginia

## 2011 Milestones to Reduce Nitrogen & Phosphorus Interim Progress Assessment June 2011



### 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. West Virginia's 2011 milestone commitments are to reduce nitrogen by 42,254 pounds and phosphorus by 3,364 pounds during the three-year period, 2009-2011. An interim assessment of pollution control practices being implemented to achieve these reductions follows. As of June 2010, West Virginia is generally ahead of schedule. In instances where they are behind, contingencies are being implemented. A final assessment of load reductions achieved during the entire three-year period will be available at next year's EC meeting.

### Interim Progress

#### **Pollution Control Practices Included in 2009-2011 Milestone Commitments**

	<b>2009-2011 Commitment</b>	<b>% Achieved (7/1/08- 6/30/10)</b>
<b>Agriculture:</b>		
Animal Waste Mgmt. Systems, All Types (systems)	11	<b>345%</b>
Cover Crop Planting, All Types (acres/yr)	1,500	<b>210%</b>
Forest Buffers (acres)	200	<b>449%</b>
Grass Buffers (acres)	200	<b>0%</b>
Manure Transport (net tons transported)	14,000	<b>94%</b>
Pasture Grazing Best Mgmt Practices, All Types (acres)	14,000	<b>73%</b>
Stream Restoration (linear feet)	4,000	<b>227%</b>
Wetland Restoration (acres)	5	<b>4%</b>
<b>Urban/Suburban:</b>		
Erosion & Sediment Control (acres)	1,400	<b>250%</b>
Septic Improvements, All Types (systems)	7,166	<b>110%</b>
Stormwater Management, All Types, Urban/Suburban (acres)	1,050	<b>117%</b>

#### **Pollution Control Practices West Virginia Substituted for Original 2009-2011 Milestone Commitments**

*(i.e. "Contingencies")*

	<b>Amount Completed</b>
<b>Agriculture:</b>	
Conservation Plans/SCWQP (acres)	65,280
Conservation Tillage, All Types (acres/yr)	431
Forest Harvesting Practices (acres)	26,508
Land Retirement (acres)	81
Nutrient Management, All Types (acres/yr)	16,322
Poultry Phytase (P lbs reduced)	Average of 22.7% reduction
Tree Planting (acres)	556
<b>Urban/Suburban:</b>	
Abandoned Mine Reclamation (acres)	43
Green Roofs (square feet)	700
Rain Barrels (barrels)	50
Rain Gardens (gardens)	3
Tree Planting (acres)	322
<b>Wastewater:</b>	
Wastewater Nitrogen (N lbs reduced)	39,350
Wastewater Phosphorus (P lbs reduced)	83,522

**For more, contact Teresa Koon, (304) 926-0495, [teresa.m.koon@wv.gov](mailto:teresa.m.koon@wv.gov)**



### **Interim Progress Highlights**

The West Virginia Department of Agriculture has greatly increased its Nutrient Management Planning activities. The Department currently has three (3) certified Nutrient Management Planners on staff and will increase this number to five (5) before the end of the current fiscal year.

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.

**For more, contact Teresa Koon, (304) 926-0495, [teresa.m.koon@wv.gov](mailto:teresa.m.koon@wv.gov)**