



# **CHESAPEAKE BAY FOUNDATION**

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## ***Saving a National Treasure***

**Matthew Ehrhart  
PA Executive Director  
Chesapeake Bay Foundation**

**Testimony before the  
House and Senate Agriculture and Rural Affairs Committees  
August 18, 2010**

Chairman Brubaker, Chairman Hanna, and other distinguished members of the Agriculture and Rural Affairs Committees, my name is Matt Ehrhart and I am the Executive Director of the Pennsylvania Office of the Chesapeake Bay Foundation (CBF). I would like to thank you for the opportunity to discuss issues of concern related to the Chesapeake Bay.

CBF is the largest non-profit organization dedicated to the protection and restoration of the Chesapeake Bay, its tributaries, and its resources. With the support of over 240,000 members, our staff of scientists, attorneys, educators, and policy experts work to ensure that policy, regulation, and legislation are protective of the quality of the Chesapeake Bay and its watershed, the largest tributary of which is the Susquehanna River.

As members of the Agriculture and Rural Affairs Committees, you are well aware of the substantial progress farmers have achieved in reducing pollution to our local streams, the Susquehanna River, and the Chesapeake Bay. Indeed, Pennsylvania agriculture has reduced its share of nitrogen, phosphorus and sediment loads to the Bay more than any other sector. Nevertheless, we still have a considerable way to go in the effort to bring all farms into compliance, restore our watersheds, remove over 19,000 miles of streams from the PA list of impaired waters, and meet other clean water requirements including EPA's new Chesapeake Bay Total Maximum Daily Load (TMDL).

### *Summary*

I offer the following recommendations pertaining to the development of the Commonwealth's Chesapeake Bay Watershed Implementation Plans (WIPs). These recommendations address agriculture and other sources of pollution. I have also attached a copy of a letter CBF recently sent to the members of the WIP teams that includes more detailed recommendations on agriculture, stormwater, and wastewater treatment.

### **Testimony Highlights: Sound Options in a Time of Limited Funds**

- ◆ **Take advantage of “low hanging fruit” while planning for the more expensive steps**
  - **Examples:**
    - Fence cattle out of streams and establish forested stream buffers
    - Install rain barrels and rain gardens throughout urban and suburban communities

- **Hold all sources accountable for compliance with existing regulations**
  - Examples:
    - Conservation and manure management plans on all farms
    - Compliance with all state and federal stormwater control requirements by municipalities and developers
- **Maximize use of available funding and prioritize cost-effective BMPs**
  - Examples:
    - CREP provides federal funds for forested stream buffers
    - EQIP provides federal funds for ag conservation practices
    - Prioritize PENNVEST funding towards green infrastructure projects
- **Prevent future stormwater problems while fixing existing ones**
  - Examples:
    - Replicate forward-thinking efforts such as Chester County Water Resources Authority's *Watersheds* effort
    - Encourage and support strong growth and stormwater management plans coupled with farmland and open space preservation
- **Get citizens and local government involved**
  - Example:
    - Duplicate and broaden efforts such as those by Warwick Township (Lancaster County) and Lititz Run Watershed Alliance and LIVE Green in Lancaster City
- **Leadership on Priority State Water Policies and Funding Needs**
  - Examples:
    - Update Act 167 to reflect today's science, engineering, and regulatory realities
    - Pass House Bill 1390 - the Integrated Water Resources Act
    - Restore funding for the REAP Conservation Tax Credit Program
    - Prioritize state funding for County Conservation Districts
- **Increase support from the federal government**
  - Example:
    - Support passage of SB 1816, the Chesapeake Clean Water Act

### ***Testimony***

#### **New Approach to Bay Cleanup is Here – How Will Pennsylvania Respond?**

After more than 25 years of government and citizen action to reduce pollution flowing from our cities, suburbs, and farms, the Chesapeake Bay and its rivers and streams are still in trouble. Nitrogen and phosphorus - two building blocks of plant and animal life - are at excess levels in many of our waterways. In the Bay and other water bodies, these nutrients feed algal blooms that create fish-killing "dead zones" and starve underwater grasses of light. The sources of these pollutants are many, including sewage treatment plants and septic systems; runoff from developments and farm fields; and air pollution from cars, trucks, and power plants. Likewise, sediment-laden runoff from the land further clouds the water, chokes aquatic life, and degrades habitat. Nutrient enrichment is a leading water quality problem statewide, nationally, and globally. Long before BP's deep water drilling rig began spewing oil into the Gulf of Mexico, nutrient pollution from the Mississippi watershed had caused enormous dead zones every summer.

To combat this problem in the Chesapeake Bay, the states and federal government set a goal of substantially reducing nitrogen and phosphorus pollution by 2000, but missed that target. They then set a new cleanup deadline of 2010, which will again be missed. This is not to say that there have not been important achievements – there have been. For example, Pennsylvania’s CREP program for stream buffers is a national leader. Farmers have made thousands of improvements and management changes, many of which have not yet been accounted for. Improvements are underway, or soon will be, for over 200 sewage treatment plants in the Susquehanna watershed. Growing Greener has enabled substantial investments in watershed protection, farmland preservation and other resources. As recently as several weeks ago, the Independent Regulatory Review Commission approved a package of regulatory improvements for water programs developed by DEP.

Nevertheless, the Chesapeake Bay restoration effort is now undergoing substantial changes to correct the shortcomings of previous agreements and past efforts. By the end of 2010 the Environmental Protection Agency (EPA) finalizes a Total Maximum Daily Load, or TMDL, for the Chesapeake Bay which will affect all Pennsylvania waterways that flow to the Bay. This TMDL or “pollution diet” will allocate numeric pollution caps for nitrogen, phosphorus and sediment for each sector – primarily wastewater treatment plants, urban/suburban runoff, and agriculture.

This is not just a Chesapeake Bay issue. Pennsylvania has, according to DEP’s latest assessment, 19,000 miles of impaired streams that do not meet state and federal standards. TMDLs are already being applied to many of these streams. A TMDL identifies allowable pollutant loads to a water body from both point and non-point sources that will prevent a violation of water quality standards. The fact is that states are legally bound to reduce pollution levels necessary to achieve applicable water quality standards both here and downstream of the Commonwealth. Most of the steps we must take to fix the Bay are steps we must take to fix our local streams.

This Bay TMDL differs from past efforts; there is greater accountability and there are consequences for failure. Pennsylvania and the other signatories to the Chesapeake Bay Agreement will be required to achieve two year milestones as part of EPA-approved Watershed Implementation Plans that are subject to EPA approval. If the states fall behind and fail to take corrective action, they face consequences from EPA that could include tighter (and increasingly expensive) permit limits on wastewater treatment plants and industry, requirements that more businesses get permits, and loss of federal funds. EPA described these and other possible consequences in a December 29, 2009 letter to the states and the District of Columbia.

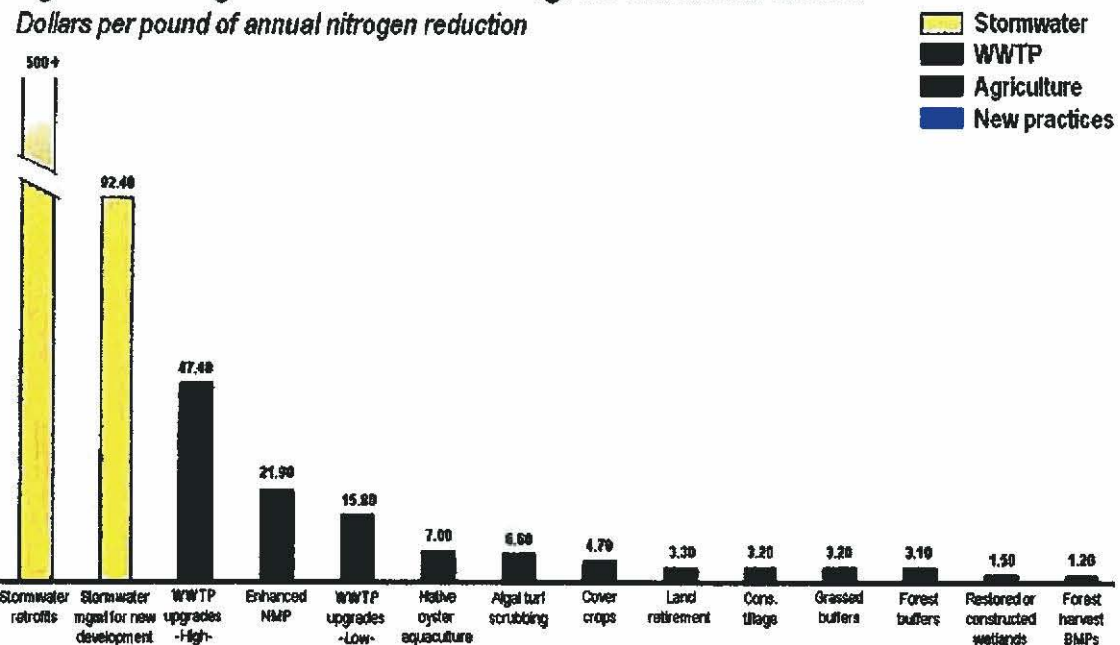
Obviously, the timing of the TMDL is not ideal given the recession, the budget crisis, and the multitude of other pressing needs facing the Commonwealth. Nevertheless, we can no longer put off the tough decisions and policy choices. In the absence of a Pennsylvania plan with the necessary funding and programmatic steps to ensure success, solutions will be imposed upon us.

**Take Advantage of Low Hanging Fruit While Planning for the More Expensive Steps** Keeping agricultural nutrients and topsoil on our farms and out of the water is central to Pennsylvania’s strategy. The good news is that the PA farm sector has reduced its share of Bay pollution loads more than any other sector, and nutrient and sediment trends have been slowly but steadily dropping in the Susquehanna. Much more work remains, however, and given the

current economic climate, relying upon proven, cost-effective solutions is essential. In Pennsylvania, efforts to address agricultural pollution generally produce the greatest reductions at the least cost. Numerous bodies of research have concluded that practices such as forested riparian buffers (i.e., streamside forests), fencing livestock out of streams, implemented nutrient management and conservation planning, no-till farming, and cover crops to name a few, provide substantial reductions in pollution at relatively low cost. Federal and state cost-share programs can help ease the financial burden of these improvements.

I have included a chart prepared by the World Resources Institute (“How Nutrient Trading Can Help Restore the Chesapeake Bay” December 2009, contact: Cy Jones) that illustrates just how much more expensive certain measures are compared to others. Pennsylvania’s nutrient credit trading program was developed to enable municipalities and businesses to fund equivalent pollution controls that will cost less and often generate additional environmental benefits not provided by the more expensive alternatives.

**Figure 1. Average Cost of Selected Nitrogen Reduction Measures**



Note: Cost estimates do not take into account the baseline or minimum practices that agriculture will have to implement prior to selling credits. Depending on which practices farmers implement first, the costs of agricultural nutrient reduction measures may be higher or lower. Costs represent the costs of achieving the nitrogen reduction only. Actual credit prices under a nutrient trading program will be affected by market dynamics of supply and demand.

Sources: Agricultural BMPs: U.S. Environmental Protection Agency and Abt Associates, Inc. *Preliminary*, 2009. *Chesapeake Bay: Next Generation of Tools and Actions to Restore the Bay: Preliminary Economic Analysis of Options*. Washington, D.C.: U.S. Environmental Protection Agency; WWTP upgrades: WRI analysis using plant upgrade costs; New practices: Maryland Department of Natural Resources, Fisheries Service, Oyster Advisory Commission December 20, 2008 conference proceedings: Oyster restoration economic and ecologic cost offsets. Available online at <http://www.dnr.state.md.us/fisheries/oysters/mtgs/122007/meeting122007.html>; New practices (cont'd): Suwanee River Algal Turf Scrubbing System Concept Design Report, Additional agricultural BMPs: Wieland, Robert, et al. 2009. *Costs and Cost Efficiencies for Some Nutrient Reduction Practices in Maryland*. Maryland Department of Natural Resources Coastal Program. Version 11/30/09

For our urban and suburban communities, the cost of fixing non-existent, out-dated and neglected stormwater infrastructure represents a significant challenge. Practices such as installing urban/suburban tree planting, rain gardens, rain barrels, reducing lawn fertilizers, and replacing lawns and turf grass with native vegetation, can add up to yield real local and regional water quality benefits.

At the same time, these measures are no substitute for smart growth. We must ensure that local municipal ordinances and applicable state regulations do not allow new growth and development to exacerbate pollution problems because it is always far less expensive to do it right the first time. And in rural communities, continuing support for the Dirt & Gravel Road program, improving standards and expanding efforts to address stormwater runoff from rural paved roads, and closing the "no net increase" sewage treatment loophole for new septic systems would provide additional pollution reductions at limited or no new investment from the Commonwealth.

We do not need fancy, "black box" solutions. We know what works and agricultural Best Management Practices top the list. Focusing on the most-cost effective pollution reduction practices allows Pennsylvania to employ our limited financial and technical resources where they will achieve the greatest benefit.

### **Compliance with Long-Standing Laws Inadequate**

While the efforts noted above will go a long way, they will not be sufficient to achieve the magnitude of pollution reductions required to meet the federal Clean Water Act.

Regarding agriculture, Pennsylvania has significant regulatory authority under the PA Clean Streams Law, with new enhancements proposed for DEP's Chapter 102 regulations on soil erosion. Moreover, DEP has proposed revisions to its Manure Management Manual that would clarify the measures all livestock farms must undertake to prevent runoff and groundwater contamination. All farms are required to have and implement soil erosion control plans and all farms generating or using manure are to have and implement manure management plans. Although these requirements are undergoing significant revisions, the plans have been required for more than 30 years.

The problem is not primarily inadequate law, but inadequate compliance and enforcement. Too many farms are not meeting erosion control requirements that other farmers have met or exceeded for decades. All farms, regardless of size, need to achieve baseline levels of compliance. Estimates are that roughly half of Pennsylvania farms do not have adequate (or any) conservation plans. Where there is no professionally developed plan, there is no objective roadmap for the water quality improvements on the farm and little basis for tracking improvements. It is difficult for the Commonwealth – and the agricultural community – to take credit for water quality improvements where there is no record.

I mentioned earlier that our failure to act means that requirements may be imposed on us. We have an early example of this playing out in Lancaster County. EPA is sufficiently dissatisfied with current levels of agricultural compliance that it has initiated agricultural watershed assessments in Lancaster County. In Watson Run, the first watershed it assessed, EPA found that 21 out of 24 farms lacked the required manure and conservation plans. EPA has called on all farmers in the Muddy Run watershed to comply with federal and state laws or face federal inspections and potential NPDES permits. The Lancaster County Conservation District is helping serve as a liaison to the farm community there. DEP has proposed its own strategy to gain compliance in targeted watersheds that are impaired by agricultural runoff and has conducted its own assessment of one such watershed in Centre County. The real compliance challenge lies in the fact that there are roughly 40,000 farms in our portion of the Bay watershed.

As for urban/suburban stormwater, the compliance picture is also troublesome. To date DEP has not been willing or able to develop a comprehensive plan to address stormwater loads, particularly for older towns, boroughs, and suburban developments, leaving these communities with little financial ability or expertise to plan and implement practices on their own.

And adherence to existing state and federal regulations has been insufficient. For instance, EPA recently cited approximately 90 south-central municipalities for failing to meet even basic existing federal stormwater requirements known as the municipal separate stormwater sewer system (MS4) permitting program. And Pennsylvania's reissuance of the federal MS4 permit has been delayed for well over 2 years. DEP recently announced another 9-month extension. A model ordinance designed to aid communities in stormwater management has been delayed since the summer of 2006. Stormwater plans under Pennsylvania's stormwater management act (Act 167) were to be completed almost 30 years ago; many watershed plans have still not been developed or are outdated. And indications are that many municipalities have failed to adopt ordinances mandated by the Act. The program to assist counties in developing Act 167 plans has been underfunded for decades and, in fiscal year 2009-10, the legislature zeroed out funding altogether. Finally, DEP's 2003 Comprehensive Stormwater Policy promised to fully integrate the stormwater program so as to fully meet the state's water quality standards. Seven years later, this has yet to fully come to pass.

Tellingly, earlier this year the American Society of Civil Engineers (ASCE) gave Pennsylvania a D- in the condition and adequacy of the Commonwealth's stormwater infrastructure and programs. The ASCE report concluded that while the regulatory footprint for good stormwater management in Pennsylvania exists, the lack of enforcement, education, and assistance prohibit any type of comprehensive stormwater implementation.

If long-standing existing requirements are not being met, it is difficult to comprehend how our communities will be able to address expanded requirements as part of the Bay TMDL. Compounding the problem is that urban/suburban stormwater represents what is by far the most expensive and technically difficult pollution source to our local streams and the Bay.

#### **Legislative Opportunities Await Action**

Where does the General Assembly fit into this picture? Funding is of course key. There is intense pressure to continually cut more and more funding to programs, and the budget situation is only likely to worsen in the coming year. Unfortunately, past years of flat funding combined with recent budget cuts have left Conservation Districts and DEP less able to assist farmers, developers, and urban/suburban residents and enforce the Commonwealth's existing laws at the very time we need to accelerate implementation and adherence to regulations. While we recognize that there must be sacrifice in every program supported by the state, these are not optional programs but legal obligations under the federal Clean Water Act and the PA Clean Streams Law.

When passed in 1978, Act 167 was a unique and progressive step towards better stormwater management. But, in many ways, the Act has outlasted its usefulness and needs to be updated to reflect today's regulatory realities. With updates that require preventing new sources of stormwater pollution and addressing problems from existing development, Act 167 could once again serve as the framework for planning and implementing stormwater management relevant to the challenges of today. As a result, Act 167 could be used as the fundamental tool to achieve

compliance with the stormwater-related requirements of the Chesapeake Bay TMDL, as well as local TMDLs.

The State Water Plan (Act 220) states that the legislature: "Clearly authorize by legislation, regulation, or policy the creation and operation of local Authorities, Utilities, or Management Districts and/or other sustainable funding sources that enable entities to collect fees and generate revenues dedicated to planning, constructing, monitoring, maintaining, improving, expanding, operating, inspecting and repairing public and private stormwater management infrastructure." To date, no such action has been taken by the legislature but we believe it is a vitally important to do so.

House Bill 1390, commonly referred to as the Integrated Water Resources Act, would set a framework for a more consistent, coordinated, and comprehensive approach to stormwater management in the Commonwealth.

On the agricultural front, consider that Conservation Districts help deliver federal farm conservation funds, which the last Farm Bill increased substantially for Pennsylvania under the most recent federal Farm Bill, specifically to accelerate the Chesapeake Bay clean up. These are funds provided to the Commonwealth that not only improve our waterways, but support good jobs in construction and engineering. We simply cannot afford to leave any of these limited conservation funds unspent because we don't have the people in place to deliver them.

The REAP state tax credit program, now in its fourth year and facing even greater demand from the farm community, is a very small but critically important tax credit program. In the first two years the \$10 million cap for the program was exceeded by applications almost immediately. The program has been cut to less than half despite the fact that farmers match the program with their own funds. When you consider our experience with REAP and other oversubscribed farm conservation programs like EQIP, it is apparent that farmers are more than ready to do their part if we do ours. Cuts to a small program like REAP – which supports the most cost effective practices available - do not engender confidence in Pennsylvania's Chesapeake Bay strategy.

#### **Increase Federal Help – Help Us Pass the Chesapeake Clean Water Act**

Finally, the federal Chesapeake Clean Water Act (SB 1816), currently under consideration in Congress, could bring much needed funding to Pennsylvania for urban and suburban stormwater improvements. We ask that you to help by contacting our federal delegation and urging them to support the bill.

Thank you for this opportunity and we look forward to working with you to meet the challenge of clean water in Pennsylvania and in the Chesapeake Bay.



# CHESAPEAKE BAY FOUNDATION

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## *Saving a National Treasure*

17 August 2010

Pennsylvania Watershed Implementation Team Members

Dear Watershed Implementation Plan Team Member:

I want to personally thank each of you for the time, effort, and resources you and your organizations have committed to the Watershed Implementation Plan (WIP) process. The Chesapeake Bay Foundation (CBF) also acknowledges and thanks the Department of Environmental Protection (DEP) for developing and implementing a thorough and open stakeholder process for constructing the WIPs.

In order to construct a WIP that not only contains proposed BMPs to meet the modeled reduction requirements, but includes the implementation capacity to assure that those BMPs are put "on the ground", we have prepared a look at the 2008-2009 implementation progress to compare with the current milestone commitments. This is instructive in seeing where we have the resources or capability to succeed, and where we must place increased emphasis.

### **Methodology**

As you know, two years ago the federal and state governments determined that shorter-term milestones would improve accountability, accelerate pollution reductions, and increase the likelihood of meeting pollution reduction targets for the Chesapeake Bay and its Tidal Tributaries. The jurisdictions announced their first milestones in May 2009 and laid out plans to meet these commitments over the three years between January 1, 2009 and December 31, 2011. A copy of Pennsylvania's first milestone commitment is provided as Enclosure A for your convenience.

For comparison, we have obtained from EPA Pennsylvania's reported BMP implementation levels from the 2008 and 2009 bay model runs (v. 4.3). This information and the milestone commitment levels for the pertinent BMPs are presented as Enclosure B. Additionally, we calculated the percentage of the three year milestone which has been achieved in the first year. While not every BMP would be on a linear trajectory, this does give some indication of whether we are progressing at a rate that will result in PA meeting our 2011 milestone commitments.

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As you evaluate and comment on the draft Phase I WIP, we ask that you consider the enclosed information and comments that we believe are critical creating a Plan that will meet the requirements of the TMDL and avoid Pennsylvania being faced with a "Backstop WIP" from EPA or other consequences from the EPA letter.

## **Results**

While assessing the practices and implementation numbers in Enclosure B, several things are apparent. The first is that we are doing very well in some areas and lagging substantially in others. The second interesting observation is that the areas where PA is doing well can be grouped into three categories:

1. Practices that have broad acceptance and are part of accepted, profitable practice, such as poultry phytase, cover crops and no-till farming.
2. Practices that are supported by robust federal programs, such as animal waste systems and forest buffers.
3. Practices that are required by regulatory programs with oversight capacity such as wastewater treatment plant upgrades.

A third notable observation is that is that, due to inadequate tracking of BMPs installed with private resources, PA is dramatically under-reporting some BMPs, such as cover crops and no-till acres. Numerous other BMPs are also likely under-represented to a lesser extent.

The fourth item, and the one of great concern with respect to crafting the WIP, is that the area's where we are dramatically behind on BMP implementation are those where we have acknowledged inadequacies in programs or funding. Nutrient management plan and Conservation Plan targets in the milestone are far behind schedule. These plans set up the implementation demand for many other BMPs in future years. The gap in this area is largely the result of a lack of compliance, outreach and technical assistance. Our state budgets have not addressed the funding and staffing needs of the County Conservation Districts, who are the front line for doing this work. Another gap is the lack of progress on addressing stormwater runoff from our urban/suburban centers. As has been discussed the Stormwater WIP team, PA continues to struggle with developing a clear strategy and has yet to commit the necessary resources to implement improvements in this area.

## **Wastewater Treatment**

Pennsylvania's strategy<sup>1</sup> with regard to permitting for wastewater treatment facilities appears to be on track. For all phase 1 facilities, cap loads based on concentrations of 6.0 mg/l TN and 0.8 mg/l TP at design annual average daily flow have been placed in permits and will become effective on 10/01/2010. Permits for phase 2 facilities will be effective 10/01/2011; and phase 3 facilities on 10/01/2012. Permit limits will be achieved through capital upgrades, nutrient trading, or combinations of both.

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<sup>1</sup> Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting. PADEP. April 24, 2007. [http://www.portal.state.pa.us/portal/server.pt/community/chesapeake\\_bay\\_program/10513](http://www.portal.state.pa.us/portal/server.pt/community/chesapeake_bay_program/10513)

We continue to support DEP's wastewater treatment strategy as the most cost-effective and equitable approach towards achieving this sectors cap load allocation; however, we remain concerned that financing through grants and loans remains limited, particularly in comparison to Maryland and Virginia. Given the current economic conditions, prioritizing existing statewide water infrastructure funding towards project with the Bay watershed that facilitate achieving this sectors cap load should be explicitly integrated into the decision-making criteria of PENNVEST and other state financing sources.

## **Agriculture**

Pennsylvania's progress on the Ag milestones has been a mixed bag. As noted earlier we are on or ahead of implementation schedule for a number of key BMPs, including buffers, cover crops, and no-till. We also know that we are substantially underreporting some BMPs, including cover crops and no-till. According to recent estimates from evaluations in Bradford and Lancaster counties, we are under-reporting by as much as 40 to 80 percent.

The problematic issue for the agricultural sector is the degree to which we are behind in developing nutrient management plans and conservation plans. This reality is consistent with the compliance problem facing PA's agricultural sector, as an estimated 50-60% of farms do not have the required conservation plan, consistent with PA Chapter 102, and manure management plan. These plans serve as the conservation and compliance road maps for farms and drive the future implementation of many BMPs.

The grave concern about PA's performance in these areas is threefold:

1. It translates to a continued problem with compliance, leaving water quality unaddressed, and farms subject to enforcement.
2. It may lead to greater difficulties in meeting the implementation goals for other BMPs in future years.
3. Our ability to meet these targets is predicated on the availability of technical assistance.

The technical assistance necessary to develop conservation plans and nutrient management & manure management plans has primarily come from the UDSA NRCS and our County Conservation Districts. State funding for conservation districts has been steadily declining, not increasing as will be necessary to reverse the current trend. NRCS staffing has also been declining, while their project funding has increased – creating a growing bottleneck. Further, preparation of these plans by private sector agricultural consultants has been hampered by the substantial reduction of the Resource Enhancement And Protection (REAP) tax credit, the lack a robust, streamlined Technical Service Provider (TSP) scenario with USDA, and the lack of compliance outreach and enforcement.

The Phase I WIP must address the issues of compliance, an increase in technical assistance availability, and resource availability. CBF recommends that the WIP Team and the Commonwealth consider incorporating the following concepts in the WIP:

- **Develop an Agricultural Compliance Plan which identifies the process, resources and timelines necessary to achieve compliance with state and federal requirements.** Enclosure C is a copy of CBF's comments on PA DEP's draft Ag. Water Quality Initiative.
- **Increase funding for the Resource Enhancement And Protection (REAP) tax credit to \$20 million per year.** This efficient and over subscribed tax credit program has established a tremendous track record of matching tax credits with private resources to achieve conservation goals.
- **The Commonwealth should work with the USDA NRCS to develop a broader, more flexible TSP to enable greater private sector delivery of critical conservation programs such as EQIP and CBWI.** PA's private sector agricultural groups should be enabled to play a greater role in providing the critical technical assistance necessary to implement the federal agriculture program dollars.
- **Increase the state funding to County Conservation Districts.** The WIP should estimate the additional staffing and resources for the conservation districts to implement the additional outreach, compliance and technical assistance necessary for implementation of the Agricultural portion of the Bay TMDL and provide the necessary increase in future budgets beginning in the 2011-2012 budget.
- **Improve Phosphorous Management.** The current Phosphorus Index allows phosphorus to accumulate in some soils, and therefore does not adequately protect water quality. Nutrient management planning requirements should be revised to prevent over-saturation of soil phosphorus, such as by incorporating P Saturation into the P Index, without losing the protection that the P Index provides to steep slopes and areas near streams.
- **Develop a system for tracking all BMPs.** As noted above, we do not effectively track nor, therefore, report and model most BMPs that are privately funded and not part of an organized program. CBF agrees with many other partners that we are dramatically under-reporting numerous key BMP's and that accurately tracking those BMPs is critical.

## **Stormwater**

Pennsylvania's decentralized and fragmented local governmental system presents a particular conundrum in addressing pollutant loads from urban and suburban runoff. As evidenced by the extensive discussions within the stormwater WIP workgroup,

achieving and maintaining the necessary reductions from this sector under our current framework is unlikely, if not impossible, and certainly very costly.

In order to circumvent such challenges, we believe that the following recommendations should be undertaken by DEP and, where appropriate, the legislature:

- **Employ a scientifically justifiable and accurate methodology to determine the MS4 pollutant load.** Pennsylvania's currently-proposed methodology equates the publicly owned roads with the MS4 drainage network. Under this methodology, the land area contributing to the MS4 would not be calculated as part of the load. This approach is inadequate and scientifically unjustifiable and, if implemented, could result in other sectors shouldering the burden for a large percentage of the urban stormwater load. And, as noted in EPA's July 9, 2010 letter to DEP, the methodology is inconsistent with the Clean Water Act and MS4 permitting program. However, we understand and appreciate the unique difficulties Pennsylvania's fragmented local governmental system present in instituting an MS4 program, particularly a program which achieves quantifiable reductions in stormwater load. These issues are especially evident in the context of a TMDL. We recommend that DEP consider employing the methodology used in The Christina River Basin Watershed Stormwater Source TMDL (2006)<sup>2</sup>, which included all or parts of MS4 communities in Pennsylvania, Delaware, and Maryland. The Christina TMDL MS4 WLA methodology could be employed as the stormwater load calculation approach in the Phase I WIP with the requirement that all new and reissued MS4 permits contain requirements for delineating the drainage areas of each outfall within the MS4 in order to more precisely determine the WLA versus LA loads within each urbanized area.
- **Revise Act 167 requirements to explicitly and quantitatively integrate achieving and maintaining TMDL WLA and LA allocations for stormwater.** When passed in 1978, Act 167 was a unique and progressive step towards better stormwater management. But, in many ways, the Act has outlasted its usefulness and needs to be updated to reflect today's regulatory realities. With updates that require preventing new sources of stormwater pollution and addressing problems from existing development, Act 167 could once again serve as the framework for planning and implementing stormwater management relevant to the challenges of today. As a result, Act 167 could be used as the fundamental tool to achieve compliance with the stormwater-related requirements of the Chesapeake Bay TMDL, as well as local TMDLs.
- **Prioritize passage of House Bill 1390, commonly referred to as the Integrated Water Resources Act.** HB 1390 would set a framework for a more consistent, coordinated, and comprehensive county-based approach to stormwater management in the Commonwealth.

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<sup>2</sup> This document can be found at: [http://www.epa.gov/reg3wapd/tmdl/pa\\_tmdl/ChristinaMeetingTMDL/index.htm](http://www.epa.gov/reg3wapd/tmdl/pa_tmdl/ChristinaMeetingTMDL/index.htm)

- **Establish a sustainable source of funding to support local implementation of new and the retrofitting of existing stormwater practices and initiatives.** Through legislation, regulation, or policy establish the framework for the creation and operation of local Authorities, Utilities, or Management Districts and/or other sustainable funding sources that enable entities to collect fees and generate revenues dedicated to planning, constructing, monitoring, maintaining, improving, expanding, operating, inspecting and repairing public and private stormwater management infrastructure.
- **Establish through regulation or policy a pollution offset program for all new or increased permitted discharges.** President Obama's Executive Order and the Chesapeake Bay Foundation's settlement agreement with EPA commits requires that states must offset all new nitrogen, phosphorous and sediment loads by reducing them from another source, including new or increased permitted discharges. This requirement includes new or increased permitted discharges from construction and post-construction stormwater. It should be noted that this is not an endorsement of the concept of offsetting volume from new development which is entirely different.
- **Through legislation, consider a statewide lawn fertilizer restriction.** By law, ban the sale of all fertilizers designed for turf lands that contain phosphorus and those that contain less than 25 percent slow release nitrogen. Further, by law, prohibit the application of fertilizer that contains nitrogen to turf lands more than once a year unless required by a valid soil test. Citizen education programs will be needed to ensure homeowner compliance with the once-a-year nitrogen application rate. Alternatively, the passage of a local municipal ordinance which affectively achieves the same outcome could be an explicit requirement of all reissued and new MS4 permits could be considered.
- **Create by law a state incentive program for the redevelopment and reduction of impervious surfaces in existing urban corridors.** Incentives could include tax reductions/credits, density bonuses, parking waivers, fee reductions, and rapid project approval. Some local governments already provide a mix of incentives for certain actions. Incentives should only apply to projects that are either in US census-designated urbanized, consistent with the local comprehensive plans, and include specific sound land use elements, such as supporting higher density, compact development, transit-oriented design, multiple uses, increased open space/buffers/tree canopy, and onsite capture and water reuse.
- **Close the "no net increase" sewage treatment loophole for new septic systems.** Unlike new or expanded sources of sewage discharges, under current Pennsylvania policy septic systems are not required to acquire offsets for nutrient loads. Through regulation or policy, all new or rehabilitated septic systems should be required to either install nutrient-reduction technology or purchase offsets equivalent for the expected life of the system.

- **Establish of a series of urban stormwater pollution reduction demonstrations.** While moving forward with permits that meet the pollution reduction requirements of the Federal MS4 program and the Chesapeake Bay and local TMDLs, prioritize and implement a series of demonstrations to implement on-ground installation of new and retrofitted stormwater practices designed to quantitatively reduce stormwater pollutant loads within currently suburbanized/urbanized areas. The demonstrations should be sufficiently detailed so as to identify “critical sources areas” of stormwater load within the pertinent area and the most cost-effective solutions available to address these areas. Such an effort will provide valuable lessons learned as to how local implementation can occur and be integrated comprehensively into latter phases of the WIPs.
- **Develop a stormwater pollutant offset program for existing developed areas.** In some areas, it may make sense to achieve load reductions through an offset program to be consistent with local targets and the cap allocation in the TMDL. A program that is designed at the appropriate spatial scale (e.g., county) that allows local governments to purchase pollution offsets in lieu of on-the-ground practices should be considered. Such an effort, however, should not relinquish local entities from not achieving an appropriate baseline and threshold prior to being able to offset remaining loads.

## **Conclusions**

CBF strongly supports the milestone approach to restoring the Chesapeake Bay. The use of short-term targets should, in theory, provide for greater accountability and accelerate pollution reductions and more responsive adaptive management. While Pennsylvania has made significant, accelerated progress on some specific BMPs, the Commonwealth has demonstrated an inability to deliver on core programmatic items that are critical to achieving the milestone and the longer term goals of TMDL implementation. The new WIP must contain programmatic and resource commitments necessary meet all the milestone commitments and to accelerate nutrient pollution reductions.

The WIP is Pennsylvania’s final opportunity to create a strategy for implementing the TMDL that is built by PA, for PA, and utilizes the details and efficiencies that are specific to the Commonwealth. Integration of the necessary resources and implementation strategies to achieve the reduction goals is critical to the success of the WIP and its acceptability to EPA. CBF urges you to consider the recommendations contained in this letter and to develop similar recommendations for consideration by the WIP Teams and the Commonwealth. If we do not construct a strategy that that is credible for accomplishing the necessary reductions, the Federal Government will use the authorities and digression at its disposal to attempt to accomplish those reductions in Pennsylvania. The outcomes of that approach will be for more difficult and less efficient for the stakeholders and the Commonwealth.

I urge you to consider the recommendations enclosed, the ramifications of inaction or insufficient action, and the opportunities that we have to create a strategy that creates clean water for the Chesapeake watershed and the rivers and streams of Pennsylvania.

If you have any questions regarding our information or recommendations, please contact me at (717) 234 5550. Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew J. Ehrhart", with a long horizontal line extending to the right.

**Matthew J. Ehrhart**  
Pennsylvania Executive Director

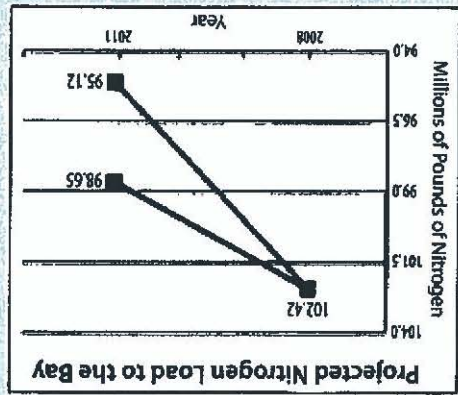
Enclosure A: Pennsylvania's First Milestone Commitment  
Enclosure B: Pennsylvania BMP Implementation Levels  
Enclosure C: CBF's Comments on PA DEP's Draft Agricultural Water Quality Initiative

Cc: John Hanger, Secretary, PA Department of Environmental Protection  
Russell C. Redding, Secretary, PA Department of Agriculture



# Pennsylvania 2011 Milestones to Reduce Nitrogen and Phosphorus

## Nitrogen Reduction Milestone

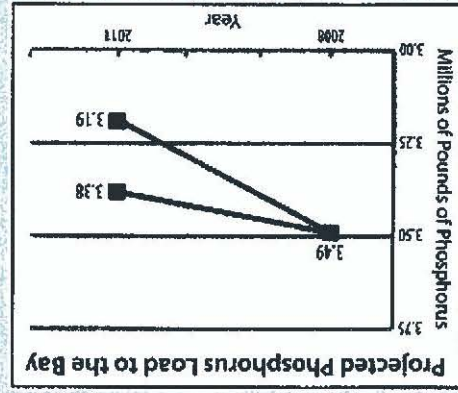


Pennsylvania's 2011 milestone commitment is to reduce nitrogen by 7.3 million pounds over the three year period (2009-2011).

**Projected\*** 3.78M  
Reduction at Previous Rate of Progress 98.65M  
Reduction at Milestone Rate of Progress 7.30M  
Pollution Load after Milestone Rate of Progress 95.12M  
Increase in Rate of Progress 93%

*M = Millions of Pounds of Nitrogen*

## Phosphorus Reduction Milestone

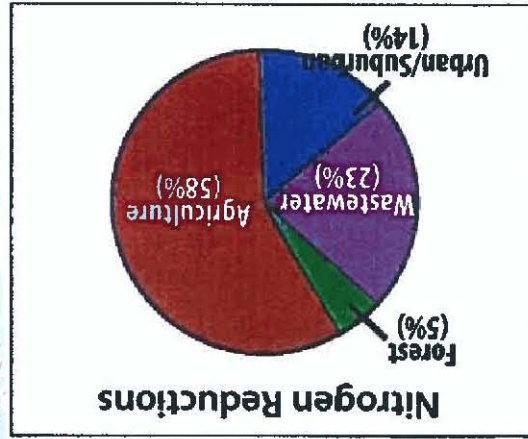
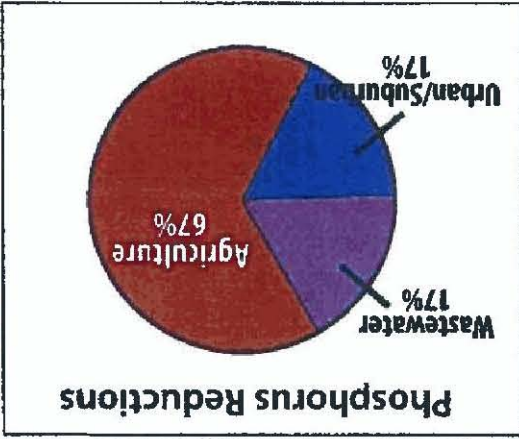


Pennsylvania's 2011 milestone commitment is to reduce phosphorus by 300,000 pounds over the three year period (2009-2011).

**Projected\*** 116,000 lbs.  
Reduction at Previous Rate of Progress 3.38M  
Reduction at Milestone Rate of Progress 300,000 lbs.  
Pollution Load after Milestone Rate of Progress 3.19M  
Increase in Rate of Progress 159%

*M = Millions of Pounds of Phosphorus*

## Pollution Reductions by Source



\* Nitrogen and phosphorus reductions are based on Phase 4.3 Watershed Model data for agricultural, urban/suburban and air reductions and monitored data for wastewater reductions.

For more, contact: Kenn Pattison, (717) 772-5652, kpattison@state.pa.us



## FY 2008-2009 Funding

### Pennsylvania Department of Environmental Protection (DEP)

Nutrient Management Delegation Agreements	\$1,749,000
Conservation District Fund Allocation Program	\$2,065,320
Chesapeake Bay Implementation Grant State Match Plus	\$3,410,000
PA Stormwater Planning and Management (Act 167)	\$2,200,000
Growing Greener Watershed Protection Grant Program	\$13,512,087

### Pennsylvania State Conservation Commission (SCC)

Dirt and Gravel Road Maintenance Program	\$2,441,000
Nutrient Management Program	\$2,301,000
Conservation District Fund Allocation Program	\$1,091,600
NRCS Engineering Assistance for BMP installation	\$64,000
Commercial Manure Hauler and Broker Certification Program	\$89,400
Resource Enhancement and Protection Program (REAP)	\$8,450,000

### Pennsylvania Infrastructure Investment Authority (PENNVEST)

Loans and grants for wastewater projects	\$30,078,120
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### **TOTAL**

**\$67,451,527**

## Pollution Reduction Actions by End of 2011

Abandoned Mine Reclamation	2,219 acres	Nutrient Management	473,801 acres
Animal Waste Management Systems	275 units	Off-Stream Watering with Fencing	6,143 acres
Carbon Sequestration/Alternative Crops	25,740 acres	Off-Stream Watering w/ Fencing & Rotational Grazing	21,249 acres
Conservation Plans/SCWQA	327,599 acres	Off-Stream Watering without Fencing	7,335 acres
Continuous No-Till	86,567 acres	Other Conservation Tillage	88,924 acres
Cover Crops (late planting)	174,818 acres	Poultry Litter Transport Out of Watershed	55,659 tons
Dirt and Gravel Road Erosion and Sediment Control	124,913 feet	Poultry Litter Transport Into Watershed	3,256 fewer tons
Enhanced Nutrient Management	450 acres	Poultry Phytase	19,626 pounds P
Erosion and Sediment Control	181 acres	Septic Connections	7,353
Forest Buffers (all land uses)	19,059 acres	Tree Planting	15,065 acres
Forest Harvesting Practices	125 acres	SWM Practices	8,690 acres
Grass Buffers	1,161 acres	Urban Stream Restoration	4,400 feet
Land Retirement	58,876 acres	Wetlands	1,548 acres
Mortality Composters	22 units	Heavy Truck Anti-Idling Rule	9.78M fewer hours
Non-Urban Stream Restoration	215,088 feet	Wastewater Treatment Plant Nutrient Reduction	40 plants

## Additional Reduction Options

### **Erosion and Sediment Control Regulations**

- Codification of post-construction stormwater requirements
- Mandatory riparian forest buffers for exceptional value waters
- Conservation Plan revision to include animal heavy use areas

### **Stormwater Management Planning Act expansion to provide for Integrated Water Resource Planning**

### **Legacy Sediment BMP Development and Implementation**

### **Phosphate Dishwasher Detergent Ban**

**Enclosure B: Pennsylvania BMP Implementation Levels**

Agricultural BMPs	(Units)	2008 EPA Value	2009 EPA Value	Progress (2008 EPA-2009 EPA)	2011 Milestone Implementation	Implementation Remaining	Percentage of Milestone Achieved at 2008-09 Implementation Rate
Nutrient Management	(acres)	1,310,814	1,334,908	24,294	473,801	449,807	5
Precision Agriculture	(acres)	0	0	0			
Enhanced Nutrient Management	(acres)	861	2,239	1,278	450	0	100
<b>Total Nutrient Management (All Types)</b>	<b>(acres)</b>	<b>1,311,575</b>	<b>1,337,147</b>	<b>25,572</b>			
Continuous No-Till	(acres)	57,780	61,478	3,698	86,567	82,870	4
Other Conservation-Tillage*	(acres)	672,082	666,524	-5,558	88,924	94,482	-6
<b>Conservation-Tillage (All Types)</b>	<b>(acres)</b>	<b>729,862</b>	<b>728,002</b>	<b>-1,860</b>			
Cover Crops-Standard Planting	(acres)	131,431	197,704	66,273	174,818	108,545	38
Cover Crops-Early Planting	(acres)	0	0	0			
Small Grain Enhancement-Standard Planting	(acres)	0	0	0			
Small Grain Enhancement-Early Planting	(acres)	0	0	0			
<b>Total Cover Crops (All Types)</b>	<b>(acres)</b>	<b>131,431</b>	<b>197,704</b>	<b>66,273</b>			
Off-Stream Watering w/ Fencing	(acres)	20,279	21,015	736	6,143	5,407	12
Off-Stream Watering w/o Fencing	(acres)	7,445	7,656	211	7,335	7,124	3
Off-Stream Watering w/ Fencing & Rotational Grazing	(acres)	41,429	46,952	5,523	21,249	15,726	26
Precision or Intensive Rotational Grazing	(acres)	0	29	29			
<b>Total Pasture Grazing BMPs (All Types)</b>	<b>(acres)</b>	<b>69,153</b>	<b>75,652</b>	<b>6,499</b>			
Forest Buffers*	(acres)	29,673	34,405	4,733			
Wetland Restoration*	(acres)	2,837	2,973	136			
Land Retirement	(acres)	134,978	147,329	12,353	58,876	46,523	21
Grass Buffers*	(acres)	2,788	3,911	1,123			
Tree Planting	(acres)	7,663	7,581	-82			
Carbon Sequestration/Alternative Crops	(acres)	25,740	27,599	1,859	25,740	23,881	7
Conservation Plans/SCWQP	(acres)	1,413,048	1,483,247	70,199	327,599	257,400	21
Animal Waste Management Systems (All Types)	(manure acre) = 145 Animal Units	4,086	4,293	206	275	69	75
Water Control Structures	(acres)	0	0	0			
Horse Pasture Management	(acres)	0	1	1			
Non-Urban Stream Restoration (Agriculture)	(feet)	76,323	94,511	18,188			
Dirt & Gravel Road Erosion & Sediment Control	(feet)	0	828,094	828,094			
Poultry Phytase	Reduction of Cropland Applications (lbs TP)	3,227,331	3,233,873	6,542	19,626	13,084	33
Dairy Precision Feeding and/or Forage Management	Reduction of Applications (lbs TN)	0	0	0			
Dairy Precision Feeding and/or Forage Management	Reduction of Applications (lbs TP)	0	0	0			
Swine Phytase	Reduction of Cropland Applications (lbs TP)	0	0	0			
Manure Transport	(net tons transported)	43,633	51,121	7,488	55,659	48,171	13
Ammonia Emissions Reductions	Reduction of Atmospheric Deposition (lbs TN)	0	0	0			

### Urban/Suburban Lands BMPs

Wet Ponds & Wetlands	(acres)	75,631	76,026	395			
Dry Detention Ponds & Hydrodynamic Structures	(acres)	451,214	453,539	2,325			
Dry Extended Detention Ponds	(acres)	92,647	92,564	-83			
Urban Infiltration Practices	(acres)	84,999	85,453	454			
Urban Filtering Practices	(acres)	0	0	0			
Recant/Retrofit Stormwater Management	(acres)	0	0	0			
<b>Total Stormwater Management (All Types)</b>	<b>(acres)</b>	<b>704,491</b>	<b>707,582</b>	<b>3,091</b>	<b>8,690</b>	<b>5,699</b>	<b>36</b>
Forest Conservation	(acres)	0	0	0			
Impervious Surface & Urban Growth Reduction	(acres)	0	0	0			
Forest Buffers (Urban)*	(acres)	2	0	-2			
Tree Planting (Urban)*	(acres)	0	0	0			
Grass Buffers (Urban)*	(acres)	7	0	-7			
Stream Restoration (Urban)	(feet)	2,200	2,200	0	4,400	4,400	0
Erosion & Sediment Control*	(acres)	8,184	8,118	-66	181	247	-37
Nutrient Management (Urban)	(acres)	0	0	0			
Street Sweeping	(acres)	0	0	0			
Street Sweeping	(tons sediment)	0	0	0			
Forest Buffers (Mixed Open)*	(acres)	6,291	8,693	2,403			
Wetland Restoration (Mixed Open)*	(acres)	862	862	0			
Tree Planting (Mixed Open)*	(acres)	34,765	36,311	1,546			
Nutrient Management (Mixed Open)	(acres)	0	0	0			
Abandoned Mine Reclamation	(acres)	10,769	12,063	1,294			
Non-Urban Stream Restoration (Mixed Open)*	(feet)	67,069	73,779	6,710			
Dirt & Gravel Road Erosion & Sediment Control (Mixed Open)*	(feet)	356,654	823,094	471,440			
Abandoned Mineland Reclamation	(acres)	10,769	12,063	1,294	2,219	926	58

### Urban/Suburban Lands BMPs: Septic

Septic Connections	(systems)	41,644	44,074	2,430	7,353	4,923	33
Septic Denitrification	(systems)	0	0	0			
Septic Pumping	(systems)	0	0	0			

### Resource BMPs

Forest Harvesting Practices	(acres)	125	228	103	125	22	82
Non-Urban Stream Restoration (Forest)*	(feet)	0	0	0			
Dirt & Gravel Road Erosion & Sediment Control (Forest)*	(feet)	2,637,709	1,656,188	-981,521	124,913	1,106,434	-786

### Cummulative BMPs

Forest buffers (all uses)	(acres)	35,965	43,098	7,133	19,059	11,928	37
Dirt & Gravel Road Erosion & Sediment Control (all uses)	(feet)	2,994,363	3,312,375	318,012	124,913	0	100
Non-urban Stream Restoration (all uses)	(feet)	143,392	168,289	24,897	215,088	190,191	12
Tree Planting (all uses)	(acres)	42,428	43,892	1,464	15,065	0	100
Wetland Restoration (all uses)	(acres)	3,699	3,835	136	1,548	1,412	9
Grass buffers (all uses)	(acres)	2,795	3,911	1,116	1,161	45	98

### BMPs Not Reported to EPA Model

Mortality Composters	(systems)				22		
Heavy Truck Anti-idling Rule	(fewer hrs)				9,780,000		
Poultry Litter Transport Into Watershed	(tons)				55,659		
Poultry Litter Transport Out of Watershed	(fewer tons)				3,256		

\* These BMPs are applicable in two or more land uses. Therefore, a tally for all uses for which the BMP is employed is included under Cumulative BMPs. The Cumulative BMPs value is used in comparison to the 2011 Milestone value.

\* Negative values for these BMPs reflect lower reported implementation in 2009 than in 2008. No further explanation is readily apparent.

**Enclosure C: CBF's Comments on PA DEP's Draft Agricultural Water Quality Initiative**



**CHESAPEAKE BAY FOUNDATION**  
*Saving a National Treasure*

June 8, 2010

**Chesapeake Bay Foundation's Comments for  
 Pennsylvania's Proposed Chesapeake Bay Agricultural Water Quality Initiative**

The Chesapeake Bay Foundation agrees with the goals of "Pennsylvania's Proposed Chesapeake Bay Agricultural Water Quality Initiative." We applaud the objectives of nutrient and sediment reductions on all farms within the Chesapeake Bay watershed, while maintaining the economic viability of these farms and meeting federal and state laws and Chesapeake Bay legal requirements.

We consider it appropriate that the initiative focus in part on education and outreach to meet existing regulatory requirements for Erosion and Sediment Control and Manure Management, along with technical assistance to meet these requirements, especially for farms that have been outside of the realm of the Nutrient Management and Concentrated Animal Feeding Operation (CAFO) programs. We also believe that compliance assurance coupled with targeted enforcement actions are needed for operations that are not taking the necessary steps to comply with these requirements, and that the enforcement actions will serve as an incentive to encourage other farms to comply with these regulations to reduce nutrient and sediment pollution to Pennsylvania's waters.

The Chesapeake Bay Foundation recommends the following changes to strengthen the initiative:

**1. Targeted Watersheds**

The targeted watershed approach must be complemented with a broad and robust compliance outreach effort throughout the Chesapeake Bay watershed. The focus on small watersheds is very limiting, especially since Pennsylvania has approximately 5,500 miles of streams impaired by agricultural pollution alone. Focusing on a small number of watersheds at any given time will limit DEP's ability to restore all impaired streams and the Chesapeake Bay in a timely fashion. The work within the prioritized watersheds should not eclipse the effort throughout the watershed.

Also, there are DEP, Conservation District, and other relevant staff located throughout the Chesapeake Bay watershed, including those in small watersheds not in the initial prioritization. Their efforts for outreach, education and enforcement are essential. A targeted watershed focus without a complimentary outreach to farms throughout the watershed could allow these staff, as well as the farmers in those areas, to be complacent and not take the necessary steps to improve water quality.

**INFORMING • ENGAGING • EMPOWERING**

THE OLD WATER WORKS BUILDING | 614 NORTH FRONT STREET, SUITE G | HARRISBURG, PA 17101  
 717/234-5550 | FAX: 717/234-9632 | CBF.ORG

## **2. Total Maximum Daily Load Compliance**

All Manure Management Plans and Erosion and Sediment Control Plans, and their associated conservation practices, should be developed so that they will be adequate given expectations for agriculture's portion of local and Chesapeake Bay Total Maximum Daily Loads (TMDLs). Individual plans satisfying only state and federal regulatory requirements could be insufficient to reduce nutrient and sediment pollution to meet the TMDL. This would require further outreach and effort to refine plans and encourage adoption of additional conservation measures, adding to the work load of agency staff. It would also impose significant hardship for farmers who could be required to develop multiple plans in succession.

The Manure Management Plans and Erosion and Sediment Control Plans should address all measures needed to meet both water quality goals and regulatory requirements. For example, a farm with contour strips and manure application setbacks from streams may satisfy regulatory requirements, but the addition or substitution of no-till cultivation, cover crops and riparian buffers may be needed to address water quality goals. The plans should include these practices so that farms are not faced with the further challenges at a later date to establish additional practices.

## **3. Concentrated Animal Feeding Operations**

The proposed plan includes working with EPA Region 3 to improve the CAFO program. The Chesapeake Bay Foundation strongly recommends that the program designate livestock operations with discharges as CAFOs, as specified in the federal CAFO rule. The farms should have an opportunity (within 60 days) to correct the discharges before designation. The goal should be to remove the discharges, rather than expand the number of farms under the CAFO program.

Farms' efforts to prevent CAFO designation would be a valuable tool to address problems such as: livestock directly depositing manure in streams, stormwater flowing from manure management facilities, and other sources of stream degradation. CAFO designation would provide a regulatory tool to address some of the most significant sources of pollution to the Commonwealth's waters.

In Pennsylvania, requiring farms to eliminate discharges or face regulation as CAFOs is likely to be a more effective tool to improve water quality than lowering the threshold of animal numbers to include more farms as CAFOs.

## **4. Enforcement**

The proposed initiative lacks necessary details on the "tiered compliance process." For example, it does not specify the timeframe provided to farms to comply with requirements. It provides for enforcement discretion that is not detailed. "Escalated enforcement" is not defined. There are no timelines for ensuring that all farms will have the necessary plans developed and implemented.

The initiative should focus enforcement on the most problematic farms first. Complaint-driven enforcement of environmental regulations is inadequate because it drives regulatory action to the farms where there are observant neighbors, not necessarily where the greatest pollution risks exist. Throughout the watershed, there are farms that have not participated in voluntary technical and financial assistance, and some of these operations contribute to serious water quality problems. Publicized enforcement on these farms would serve as an incentive to many others to quickly develop the plans and establish the conservation practices needed on their farms to avoid similar regulatory action.

### **5. Details needed**

Most importantly, the proposed Chesapeake Bay Agricultural Water Quality Initiative is lacking some of the most important details to assess the potential effectiveness. Achieving the Initiative's goals will require a substantial revision of existing Conservation District and DEP staff job descriptions and/or expectations to prioritize a significant increase in outreach and compliance work. The plan should specifically address how this technical assistance and enforcement will occur. The draft begs many questions:

- What is the timeline? How many farms will have plans developed each year? When will the plans be implemented?
- How and when will farms be notified of the requirements?
- What type of outreach and educational activities will be conducted?
- Who will conduct these outreach and educational activities?
- What will be the specific roles and responsibilities of Conservation District and DEP staff?
- How will other partners, such as the USDA Natural Resources Conservation Service, Penn State Cooperative Extension, Pennsylvania Department of Agriculture, PennAg Industries Association, Pennsylvania Farm Bureau, Chesapeake Bay Foundation, private sector technical assistance providers, and other public agencies, agricultural and conservation organizations collaborate?

### **Recommended strategy for reaching compliance throughout Chesapeake Watershed**

The outreach, education and enforcement requirements to meet the Chesapeake Bay Agricultural Water Quality Initiative are immense, but they are achievable goals with a concerted effort. The Chesapeake Bay Foundation provides the following estimates as a framework to ensure that every farm across the Chesapeake Bay watershed develops and implements the necessary plans.

According to the Census of Agriculture, Pennsylvania's portion of the Chesapeake Bay watershed includes approximately 40,000 farms needing Erosion and Sediment Control Plans, and about 18,000 livestock operations needing Manure Management Plans. About 2,000 already have Nutrient Management Plans, so the remaining 16,000 require Manure Management Plans. The Lower Susquehanna Watershed should see the most emphasis initially, because this area contributes both the greatest nutrient and sediment loads to the Chesapeake Bay and has greater staff resources. The Lower Susquehanna Watershed contains about 21,000 farms, approximately 10,000 of which have livestock.

Some farms will require only verification that they have current Erosion and Sediment Control or Conservation Plans and Manure Management Plans that are being implemented on schedule. Other farms will require only modest updates to their plans to address water quality concerns. A third set of farms will require far more assistance in developing and implementing plans where none currently exist. Anecdotal information suggests that about approximately one third of farms are in each of the three above groups. We estimate that an average of two days of technical assistance staff time per farm are needed to develop a basic Erosion and Sediment Control plan with a Manure Management Plan in the case of livestock operations.

CBF's assessment of technical resources estimates that reaching about 5,000 farms each year is possible, so that developing the necessary plans for all farms in the Chesapeake Bay watershed is an achievable goal within eight years. These estimates include:

- 49 Chesapeake Bay Technicians in Conservation Districts, that could spend about 2/3 of their time (140 days/year) on outreach and plan development, with an average of two days per farm. They could develop 3430 plans annually.

- About 40 Nutrient Management Technicians, Erosion and Sediment Control Technicians and other Conservation District staff, that could spend 10% of their time, or about 21 days/year to develop 420 plans per year.
- USDA Natural Resources Conservation Service assistance with approximately 500 plans per year through various programs, such as the Environmental Quality Incentives Program and the Conservation Stewardship Program.
- Eight Department of Environmental Protection regional staff encouraging the most problematic farms to develop the necessary plans immediately, through the private sector if Conservation District staff unavailable. They could reach about 50 farms per year per person, or about 400 total plans per year.
- The private sector's development of an additional 250 plans in the initial year, and more in the future. These people must play a significant role in plan development and implementation, and their ranks would likely expand with demand, as farms see stronger regulatory requirements or nutrient credit trading opportunities.
  - Farms in geographic proximity could be grouped together (possibly with Conservation District assistance) to obtain lower cost bids for planning.
  - Additional funding from EPA could support private sector plan development.
  - Farms that pollute Pennsylvania's waters should develop the necessary plans immediately, and many will need to rely on private sector planners, or face enforcement actions.

According to these estimates of combined technical resources of the public and private sector, about 5,000 farms in the Chesapeake Bay Watershed would have plans each year. Initial efforts should be targeted to livestock operations currently lacking plans. All livestock operations in the Lower Susquehanna watershed should have plans by the third year, and by the fifth year in the rest of the watershed. By the eighth year, all Chesapeake Bay Watershed farms should have an Erosion and Sediment Control plan with a Manure Management Plan when needed, although some may need adjustments.

**Timeframe for plan development:**

	Lower Susquehanna Watershed		Remaining Chesapeake Watershed		Total
	Livestock farms	Crop farms	Livestock farms	Crop farms	
2010	4,000		1,000		5,000
2011	4,000		1,000		5,000
2012	2,000	1,000	2,000		5,000
2013		2,000	3,000		5,000
2014		2,000	1,000	2,000	5,000
2015		3,000		2,000	5,000
2016		3,000		2,000	5,000
2017				5,000	5,000
total	10,000	11,000	8,000	11,000	40,000

Once plans are developed, we recommend the following timeframe for implementation and establishment of the necessary conservation practices.

- Manure application rates, setbacks, management of temporary storage areas, and winter application criteria will be applied according to Manure Management Plan immediately after plan development.
- Livestock management near streams should be addressed within three months of plan development (when required in plan). People should be encouraged to participate in the

Conservation Reserve Enhancement Program (CREP) when possible. Public funds should only be used when buffers of at least 35 feet are included. Flexible fencing without public funds is an option for a quick remedy when needed.

- Structural changes such as animal concentration areas or manure storages must be completed within three years of plan development.
- Cover crops, no-till cultivation, and other in-field practices should be established during the same crop year when possible, but at a maximum, within two years when crop rotations and equipment purchases cause delays.

The Chesapeake Bay Foundation recognizes that this strategy is ambitious, but can be achieved with concerted effort. It will require significant outreach and technical assistance, combined with targeted enforcement of cases where there are verified pollution problems. These enforcement cases will drive many people to seek the necessary assistance, rather than relying solely on time-consuming outreach. Since requirements for Erosion and Sediment Control Plans and Manure Management Plans have been required for over 30 years, although now undergoing major revisions, farms that are not able to receive assistance from public agencies should not be exempt from the requirements, and should be expected to seek help from the private sector.

Sincerely,



Kelly M. O'Neill  
Agriculture Policy Analyst