An aerial photograph of a river valley. The river flows through the center, surrounded by lush green forests and some agricultural fields. In the background, there are rolling hills and mountains under a clear sky. The text is overlaid on this image.

**THE CHESAPEAKE BAY TMDL:
Restoring Waters of
Pennsylvania and the
Chesapeake Bay**

**PA Draft Chesapeake Watershed
Implementation Plan (WIP)**

October 2010

Public Meetings

PA's Chesapeake Basin

- PA encompasses 35.2% of the Bay watershed -- that's 14,358,159 acres
- Four PA watersheds
 - Susquehanna River (13,298,520 acres, 32.6%)
 - Potomac River (1,012,222 acres, 2.5%)
 - Eastern Shore (40,262 acres, 0.1%)
 - Western Shore (7,155 acres, 0.02%)
- Impaired PA waters due to major sources:
 - Agriculture 3,558 m.
 - Mine drainage 1,952 m.
 - Urban runoff/stormwater 518m.



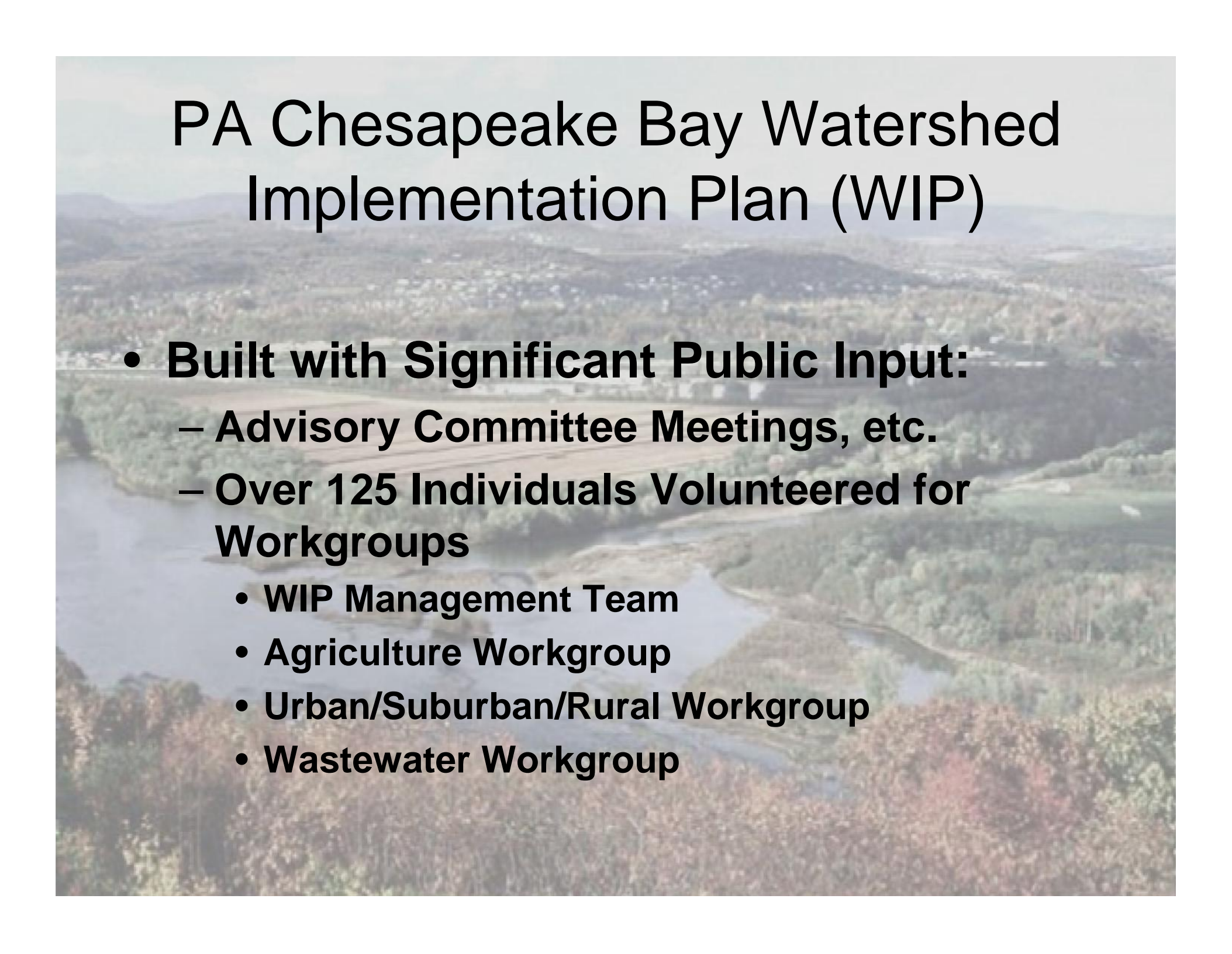
PA Reduction Target

TN & TP in Million Pounds/Year -- S in Million Tons/Year (Phase 5.3 Watershed Model)			
	Nitrogen (TN)	Phosphorous (TP)	Sediment (S)
2009 Progress			
Susquehanna	99.83	3.41	2,226
Potomac	6.11	0.537	307
Eastern and Western Shore	0.468	.02056	32.347
Total:	106.408	3.96756	2565.347
Draft Allocation			
Susquehanna	71.74	2.31	1,826
Potomac	4.72	0.42	243
Eastern and Western Shore	0.3	0.011	23.41
Total:	76.76	2.741	2092.41
Remaining Reductions			
Susquehanna	28.09	1.1	400
Potomac	1.39	0.117	64
Eastern and Western Shore	.168	0.00956	8.937
Total:	29.648	1.22656	472.937

PA Sources: % TN Contribution

- **Wastewater - 12%**
- **Agriculture - 56%**
- **Urban/Suburban Stormwater – 6%**
- **Onsite Wastewater – 3%**
- **Forestry – 22%**
- **Resource Extraction - <0.5%**
- **NOx Deposition to Open Water - 1%**

Source: 2009 Chesapeake Watershed Model “progress” run.
Values represent the projected TN load delivered to the Bay.

An aerial photograph of a river valley. The river flows through the center, surrounded by lush green trees and fields. In the distance, a town is visible, and further back, there are rolling hills and mountains under a clear sky.

PA Chesapeake Bay Watershed Implementation Plan (WIP)

- **Built with Significant Public Input:**
 - **Advisory Committee Meetings, etc.**
 - **Over 125 Individuals Volunteered for Workgroups**
 - **WIP Management Team**
 - **Agriculture Workgroup**
 - **Urban/Suburban/Rural Workgroup**
 - **Wastewater Workgroup**

An aerial photograph of a river valley. The river flows through the center, surrounded by lush green trees and fields. In the background, a town is visible, and further back, there are rolling hills and mountains under a clear sky. The overall scene is a mix of natural and developed landscapes.

PA Chesapeake Bay Watershed Implementation Plan (WIP)

- **Three Key Elements:**
 - **Milestone Implementation and Tracking**
 - **Advanced Technologies & Nutrient Trading**
 - **Enhancing Compliance Efforts**

Milestone Implementation & Tracking

- **Chesapeake Bay Model is only reflective of what is entered.**
- **Need more accurate input of BMPs to help guide decision-making.**
- **BMPs are in place that have not been reported, including agricultural and stormwater BMPs.**
- **External groups interested in helping.**

Advanced Technologies & Nutrient Trading

- PA's Nutrient Trading Program is a model program that has generated interest across the country. Nine contracts have been signed and over 3 million Nitrogen credits certified. DEP collaborated with PENNVEST to develop a Nutrient Credit Exchange.
- Advanced Technology: Cove Area Regional Digester Project – CARD
 - Enhanced Digester to process dairy manure in Blair/Bedford
 - 14 enhanced digesters placed in the top two counties (Lancaster & Franklin) for dairy manure could possibly reduce TN load by about one-third, or 9 million pounds.
 - 42 digesters in forty counties in PA's Chesapeake watershed could reduce TN by about 27 million pounds.
- These technologies are not inexpensive to develop -- they can require as much as \$35 to \$50 million in start-up revenue/loans. Nutrient credits, renewable energy credits and selling electricity to the grid are potential funding sources.

Enhancing Compliance Efforts

- Agriculture:
 - Development of an agricultural water quality initiative focused on 4 elements
 - Expand outreach and technical assistance
 - Continue Existing Regulatory Programs
 - Evaluate and modify regulatory or administrative tools
 - Targeted Watershed Approach to achieve agricultural compliance
- Stormwater:
 - Regulation and Programmatic Revisions for Chapter 102 and incorporation of Post Construction Stormwater Management requirements and Revisions to PAG-13.
 - Increased technical assistance for professional stormwater staff, elected officials and the public to assist in identifying opportunities for retrofitting or trading/offsetting to address existing stormwater problems .
- Point Sources (Municipal and Industrial Wastewater):
 - December 2006 Pa Point Source Strategy does not change

Other PA WIP Solutions

- Identify and implement new BMPs such as Legacy Sediment removal, manure technologies, urban tree canopy.
- Advance the “Million Pound” Project Initiative.
- Develop an Urban Nutrient Management Program.
- Implement innovative approaches for SW management such as IWRP’s, watershed permitting and offset/trading initiatives.
- Integrate the State Forestry Assessment & Report.
- Remediate Acid Mine Drainage (AMD) sites in forested areas.
- Promote County Initiatives: Lancaster County Clean Water Consortium; Lycoming County Chesapeake Bay Initiative
- Advance Air Reductions (State)
 - Glass Melting Furnaces; Cement Kilns; Renewable Energy/Energy Efficiency (RE/EE) and Demand Reductions

Next steps:

- **Address EPA's Comments to remove backstop TMDL allocations:**
 - Articulate and quantify existing programs
 - Expand on new concepts and placeholder BMPs
- **Address submitted Public Comments.**
 - Comment deadline is November 8,2010.
- **Final WIP to be submitted November 29,2010.**

To Submit Comments on PA's WIP

- **Written comments:** Submit to the Department of Environmental Protection, Water Planning Office, P. O. Box 2063, Harrisburg, PA 17105-2063.
- **E-mail:** ep-chesapeakebayprogram@state.pa.us . Return name and address must be included.
- **Comments submitted by facsimile will not be accepted.**

An aerial photograph of a wide river valley. The river flows through the center, surrounded by lush green trees and fields. In the background, rolling hills and mountains are visible under a clear sky. The overall scene is a scenic landscape.

Questions ?

<http://www.depweb.state.pa.us>

**“DEP Programs A-Z”
click Chesapeake Bay**