

**DRAFT**

**Pennsylvania Draft County Level Planning Targets  
For  
Chesapeake Bay Phase II Watershed Implementation Plans**



**Office of Interstate Waters  
717-772-4785**

**June 2012**

**DISCLAIMER:**

The Draft Planning Targets outlined in this document are intended to supplement existing requirements. Nothing in the Draft Planning Targets shall affect different statutory or regulatory requirements.

The Draft Planning Targets herein are not an adjudication or a regulation. There is no intent on the part of the Department of Environmental Protection (DEP) to give these Draft Planning Targets that weight or deference. The Draft Planning Targets establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from the Draft Planning Targets if circumstances warrant.

Nothing contained in this document shall be construed to establish a legal requirement on the part of the Commonwealth of Pennsylvania to appropriate funds, or to require the Commonwealth or any agency thereof to take actions not authorized by law.

DRAFT

## Contents

Pollution Reduction Actions – Definitions .....	5
Adams County Planning Targets .....	13
Bedford County Planning Targets.....	18
Berks County Planning Targets .....	23
Blair County Planning Targets .....	28
Bradford County Planning Targets.....	33
Cambria County Planning Targets.....	38
Cameron County Planning Targets.....	43
Carbon County Planning Targets.....	48
Centre County Planning Targets.....	53
Chester County Planning Targets.....	58
Clearfield County Planning Targets .....	63
Clinton County Planning Targets .....	68
Columbia County Planning Targets .....	73
Cumberland County Planning Targets.....	78
Dauphin County Planning Targets .....	83
Elk County Planning Targets .....	88
Franklin County Planning Targets.....	93
Fulton County Planning Targets .....	98
Huntingdon County Planning Targets .....	103
Indiana County Planning Targets .....	108
Jefferson County Planning Targets.....	113
Juniata County Planning Targets.....	118
Lackawanna County Planning Targets .....	123
Lancaster County Planning Targets.....	128
Lebanon County Planning Targets .....	133
Luzerne County Planning Targets .....	138
Lycoming County Planning Targets.....	143
McKean County Planning Targets .....	148
Mifflin County Planning Targets.....	153
Montour County Planning Targets .....	158
Northumberland County Planning Targets.....	163

Perry County Planning Targets..... 168  
Potter County Planning Targets..... 173  
Schuylkill County Planning Targets ..... 178  
Snyder County Planning Targets ..... 183  
Somerset County Planning Targets..... 188  
Sullivan County Planning Targets..... 193  
Susquehanna County Planning Targets ..... 198  
Tioga County Planning Targets ..... 203  
Union County Planning Targets ..... 208  
Wayne County Planning Targets ..... 213  
Wyoming County Planning Targets ..... 218  
York County Planning Targets..... 223

DRAFT

## **Pollution Reduction Actions – Definitions**

### ***Agricultural Activities***

#### **1. Animal Waste Management Systems**

Animal waste management systems are practices designed for proper handling, storage, and utilization of wastes generated from confined animal operations and include a means of collecting, scraping or washing wastes and contaminated runoff from confinement areas into appropriate waste storage structures. Lagoons, ponds, or steel or concrete tanks are used for the treatment and/or storage of liquid wastes. Storage sheds or pits are common storage structures for solid wastes. Controlling runoff from roofs, feedlots and “loafing” areas are an integral part of these systems.

#### **2. Barnyard Runoff Controls**

Barnyard Runoff Controls are designed to improve water quality, reduce soil erosion, increase infiltration, and protect structures. Controls may include structures that collect, control, and transport precipitation from roofs and additional structures or diversions to direct runoff away from barnyards, as well as to control runoff generated by barnyards. Vegetated treatment area may be included to improve water quality by reducing loading of nutrients, organics, pathogens, and other contaminants associated with barnyards.

#### **3. Capture Reuse (Irrigation Water)**

This practice involves the collection of runoff water from container nursery operations where runoff of irrigation water and leachate from plant containers grown on plastic or in greenhouses is routed to lined return ditches or piped to lined holding ponds. Ponds would be designed to retaining all excess irrigation water runoff or leachate and capturing the first one-half to one-inch of stormwater runoff. Water would be recirculated for irrigation in nursery and greenhouse operations or irrigated at the proper times of year on other vegetation capable of trapping nutrients at agronomic rates, such as cool season grasses.

#### **4. Carbon Sequestration/Alternative Crops**

Carbon Sequestration refers to the conversion of cropland to hay land (warm season grasses). The hay land is managed as a permanent hay land providing a mechanism for sequestering carbon within the soil.

#### **5. Conservation Plans/SCWQA**

Farm conservation plans are a combination of agronomic, management and engineered practices that protect and improve soil productivity and water quality, and prevent deterioration of natural resources on all or part of a farm. Plans may be prepared by staff working in conservation districts, natural resource conservation field offices or a certified private consultant. In all cases the plan must meet technical standards. Conservation plans are reported as total acres or on a specified landuse.

#### **6. Conservation Tillage**

Conservation tillage involves planting and growing crops with minimal disturbance of the surface soil. Conservation tillage requires two components, (a) a minimum 30% residue coverage at the time of planting, and (b) a non-inversion tillage method. No-till farming is a form of conservation tillage in which the crop is seeded directly into vegetative cover or crop residue with little disturbance of the surface soil. Minimum tillage farming involves some disturbance of the soil, but uses tillage equipment that leaves much of the vegetation cover or crop residue on the surface.

## 7. Continuous No-Till

The Continuous No-Till BMP is a more comprehensive type of conservation tillage practice in which soil disturbance by plows, disk or other tillage equipment is eliminated. In most cases large amounts of crop residue are left on the surface to protect the soil from storm events. To be considered as no-till a minimum of 50% residue must be maintained. Continuous No-Till involves no-till methods on all crops in a multi-year rotation.

## 8. Cover Crops

Cereal cover crops reduce erosion and the leaching of nutrients to groundwater by maintaining a vegetative cover on cropland and holding nutrients within the root zone. This practice involves the planting and growing of cereal crops (non-harvested) with minimal disturbance of the surface soil. The crop is seeded directly into vegetative cover or crop residue with little disturbance of the surface soil. These crops capture or “trap” nitrogen in their tissues as they grow. By timing the cover crop burn or plow-down in spring, the trapped nitrogen can be released and used by the following crop. Cover crops may be considered to be either “Early” or “Late” Season types.

Early: To be eligible for level 1-reduction credits, the cover crop must be planted earlier than 7 days prior to the long-term published average date of the first killing frost in the fall.

Late: To be eligible for level 2-reduction credit, the cover crop must be planted within 7 days after the long-term published average date of the first killing frost in the fall.

Commodity cover crops differ from cereal cover crops in that they may be harvested for grain, hay or silage and they may receive nutrient applications, but only after March 1 of the spring following their establishment. The intent of the practice is to modify normal small grain production practices by eliminating fall and winter fertilization so that crops function similarly to cover crops by scavenging available soil nitrogen for part of their production cycle. This practice can encourage planting of more acreage of cereal grains by providing farmers with the flexibility of planting an inexpensive crop in the fall and delaying the decision to either kill or harvest the crop based on crop prices, silage needs, weather conditions, etc.

## 9. Forest Buffers - Agriculture

Agricultural riparian forest buffers are linear wooded areas along rivers, stream and shorelines. Forest buffers help filter nutrients, sediments and other pollutants from runoff as well as remove nutrients from shallow groundwater. The recommended buffer width for riparian forest buffers (agriculture) is 100 feet, with a 35 feet minimum width required.

## 10. Grass Buffers - Agriculture

Agricultural riparian grass buffers are linear strips of grass or other non-woody vegetation maintained between the edge of fields and streams, rivers or tidal waters that help filter nutrients, sediment and other pollutant from runoff. The recommended buffer width for riparian forests buffers (agriculture) is 100 feet, with a 35 feet minimum width required.

## 11. Horse Pasture Management

Horse pasture management includes maintaining a 50% pasture cover with managed grass species and managing high traffic areas. High traffic area management is utilized to reduce the highest load contributing areas associated with pasture lands, and maintaining a 50% cover will improve the pasture so erosion and nutrient loss is further reduced. High traffic areas are concentration areas within the pasture where the grass is sparse or nonexistent. These often are feeding areas, such as hay deposits around fence lines. These areas are treated as sacrifice areas.

## 12. Lagoon Covers

Permeable and impermeable covers of lagoons to prevent volatilization of ammonia. A cover can be, and is applied, to various species including swine and dairy.

## 13. Land Retirement/Environmental Planting

Agricultural land retirement takes marginal and highly erosive cropland out of production by planting permanent vegetative cover such as shrubs, grasses, and/or trees. Agricultural agencies have a program to assist farmers in land retirement procedures. Land retired and planted to trees is typically reported under "Tree Planting".

## 14. Manure Injection

This practice involves the direct injection of manure slurry into soil. Direct injection is applicable to swine, dairy and beef species. Manure can be successfully injected in both conventional tillage and most no-till systems. This method allows a more precise application of manure to the fields so farmers are less likely to apply more manure than crops can utilize. Direct injection of manure slurry also provides a significant reduction in land application odor and ammonia emissions release when compared to conventional manure surface broadcasting.

## 15. Manure/Litter Transport

Alternative uses of manure/litter and manure/litter transport are practices that reduce or eliminate excess nutrient applications within the Chesapeake Bay by either transporting the manure/litter outside of the state's portion of the Chesapeake Bay watershed, reducing the import of manure/litter into the Bay watershed, or finding an alternative use for the excess manure/litter. Excess manure is defined as manure nutrients produced within an area that exceeds the recommended application rates associated with the crops grown. Examples include fertilization of commercial tree plantations, research and development of new fuel technologies, pelletizing for fertilizer, transport out of the watershed to other areas that need it, and electric generation.

## 16. Mortality Composters

A structure or device to contain and facilitate the controlled aerobic decomposition of manure or other organic material by micro-organisms into a biologically stable organic material that is suitable for use as a soil amendment. Mortality composters involve composting of dead animals (typically poultry, swine and bovine) in a designed, on-farm facility, with subsequent land application of the compost. This prevents the necessity to bury dead animals that could result in nutrient leachate, or rendering of dead animals for processing into animal feeds or incineration.

## 17. Non-Urban Stream Restoration

This practice involves treatments used to stabilize and protect banks of streams or constructed channels to prevent the loss of land, damage to land uses and to reduce offsite or downstream effects of sediment from bank erosion. This may include additional practices to stabilize the bed or bottom of a channel to prevent damaging aggradation of sediment or degradation of the stream bed by grazing animals.

## 18. Nutrient Management

Nutrient management involves implementation of a comprehensive plan that describes the optimum use of nutrients to minimize nutrient loss while maintaining yield. This activity details the type, rate, timing, and placement of nutrients for each crop. Soil, plant tissue, manure and/or sludge tests are used to assure optimal application rates. Plans should be revised every 2 to 3 years.

#### 19. Off-Stream Watering without Fencing

Off stream watering in pasture without fencing requires the use of alternative drinking water troughs or tanks away from streams. This BMP may also include options to provide shade for livestock away from streams. Limited research has been conducted for this practice that documents changes in livestock behavior resulting in significantly less time spent near streambanks and in streams. The net effectiveness of the practice must reflect partial removal of livestock from near stream areas and relocation of animal waste deposition areas and heavy traffic areas surrounding water sources to more upland locations. This activity may include alternative water sources, tree plantings away from the stream, and stream crossings.

#### 20. Pasture Fencing

Pasture fence involves installation of fencing that excludes narrow strips of land along streams from pastures and livestock. The implementation of stream fencing should substantially limit livestock access to streams but can allow for the use of limited hardened crossing areas where necessary to accommodate access to additional pastures or for livestock watering. Where no access to the stream is allowed, alternative off-stream watering may be provided. The fenced areas may be planted with trees or grass.

#### 21. Poultry and Swine Phytase

Phytase can be included in poultry and swine diets by an integrator or other feed supplier. Manure phosphorous reductions occur because less phosphorous needs to be blended into feed rations, resulting in a phosphorous source reduction.

#### 22. Poultry Litter Injection

The subsurface injection of poultry manure has been demonstrated in university and USDA-ARS research studies to significantly reduce nutrient losses for both surface runoff and ammonia emissions. Recent studies by universities and USDA-ARS indicate that dry manure injection is feasible and effective by utilizing current research technology. These systems are also consistent with the USDA-NRCS management requirements for high residue management systems; e.g. Continuous No-Till. This proposed practice is indicative of low disturbance soil injection systems and is not appropriate for tillage incorporation or other post surface application incorporation methods. The current placeholder effectiveness value for this practice has been proposed at 25% TN, 0%TP and 0%TSS, utilizing a conservative estimate in combined nutrient and sediment loss reductions by current university and ARS research as a reference. The proposed practice is applied on a per acre basis, and can be implemented and reported for cropland on both lo-till and hi-till land uses that receive manure, pasture and hay with manure.

#### 23. Poultry Litter Treatment (Alum)

Surface application of alum, an acidifier, to poultry litter to acidify poultry litter and maintain ammonia in the non-volatile ionized form (ammonium).

#### 24. Precision Agriculture

An agricultural management system that promotes variable monitoring of field crop yield to determine areas of the field where actual yield may be more or less due to variable field conditions. Nutrient applications are then adjusted to match areas of consistently low yield by applying less fertilizer and applying more fertilizer in areas that consistently provide a higher yield. The result is more efficient use of fertilizer. The goal is to improve farmers' profits and harvest yields while reducing the negative impacts of farming on the environment that come from over-application of fertilizers.

#### 25. Precision Feeding

Precision feeding involves reduction in overfeeding of dairy and swine livestock through the formulation of improved feed rations to meet specific nutrient needs of individual operations. The practice includes the targeting of minimum nitrogen and phosphorus feed concentrations while maintaining acceptable production levels so as to minimize the quantity and nutrient content of animal manures.

#### 26. Tree Planting - Agriculture

The tree planting BMP includes any tree planting on agricultural lands (particularly row crops), except those used to establish riparian forest buffers, targeting lands that are highly erodible or identified as critical resource areas. Tree planting is also called afforestation because it involves growing trees and converting the land use from agricultural to forest. This BMP results in a landuse conversion from row crop to forest. It is assumed that the density of the plantings is sufficient to produce a forest like condition over time.

#### 27. Upland Precision Grazing

This practice (also known as prescribed grazing) utilizes a range of pasture management and grazing techniques to improve the quality and quantity of the forages grown on pastures and reduce the impact of animal travel lanes, animal concentration areas or other degraded areas. This practice can be applied to pastures intersected by streams or upland pastures outside of the degraded stream corridor (35 feet width from top of bank). The modeled benefits of prescribed grazing practices can be applied to pasture acres in association with or without alternative watering facilities. They can also be applied in conjunction with or without stream access control. Pastures under such systems are defined as having a vegetative cover of 60% or greater.

#### 28. Upland Precision Rotational Grazing

This practice utilizes more intensive forms of pasture management and grazing techniques (in comparison to prescribed grazing) to improve the quality and quantity of the forages grown on pastures and reduce the impact of animal travel lanes, animal concentration areas or other degraded areas of upland pastures. This activity can be applied to pastures intersected by streams or upland pastures outside of the degraded stream corridor (35 feet width from top of bank). The modeled benefits of this practice can be applied to pasture acres in association with or without alternative watering facilities. They can also be applied in conjunction with or without stream access control. This practice requires intensive management of livestock rotation, also known as Managed Intensive Grazing systems (MIG), that have very short rotation schedules. Pastures are defined as having a vegetative cover of 60% or greater.

#### 29. Wetland Restoration

Agricultural wetland restoration activities re-establish the natural hydraulic condition in a field that existed prior to the installation of subsurface or surface drainage. Projects may include restoration, creation and enhancement acreage. Restored wetlands may be any wetland classification including forested, scrub-shrub or emergent marsh.

### ***Urban/Suburban Activities***

#### 30. Dry Detention Ponds/Hydrodynamic Structures

Dry detention ponds are depressions or basins created by excavation or berm construction that temporarily store runoff and release it slowly via surface flow or groundwater infiltration following storms. Hydrodynamic structures are devices designed to improve quality of stormwater using features such as swirl concentrators, grit chambers, oil barriers, baffles, micro-pools, and absorbent

pads that are designed to remove sediments, nutrients, metals, organic chemicals, or oil and grease from urban runoff.

### 31. Dry Extended Detention Ponds

Dry extended detention ponds are storm water design features that provide a gradual release of a specific volume of water in order to increase the settling of pollutants and protect downstream channels from frequent storm events. Dry extended detention ponds are often designed with small pools at the inlet and outlet of the pond. These BMPs can also be used to provide flood control by including additional detention storage above the extended detention level.

### 32. Erosion and Sediment Control

Erosion and sediment control practices protect water resources from sediment pollution and increases in runoff associated with land development activities. By retaining soil on-site, sediment and attached nutrients are prevented from leaving disturbed areas and polluting streams. This activity may include the use of features such as a silt fence, slope drain, and permanent vegetation.

### 33. Filtering Practices

Filtering Practices capture and temporarily store the water quality volume and pass it through a filter of sand, organic matter and vegetation, promoting pollutant treatment and recharge. Examples practices include surface sand filters, swales, porous pavement, and bioretention areas (raingardens)

### 34. Forest Buffers – Urban

Urban riparian forest buffers are linear strips of maintained woody vegetation that buffer streams, rivers or tidal waters from urban and suburban activity. Forest buffers help filter nutrients, sediments and other pollutants from runoff, as well as remove nutrients from groundwater. The recommended width for riparian forest buffers (urban) is 50 feet with a 35 feet minimum.

### 35. Grass Buffers - Urban

Riparian grass buffers planted in urban areas are linear strips of grass or other non-woody vegetation maintained between the edge of fields and streams, rivers or tidal waters that help filter nutrients, sediment and other pollutant from runoff. The recommended buffer width for riparian grass buffers is 100 feet, with a 35 feet minimum width required.

### 36. Impervious Surface Reduction

This includes practices that reduce the total area of impervious cover and practices that capture stormwater and divert it to pervious areas, subsequently encouraging storm water infiltration. Example activities include natural area conservation, disconnection of rooftop runoff, porous pavement and rain barrels.

### 37. Infiltration Practices

Infiltration practices are used to capture and temporarily store the water quality volume before allowing it to infiltrate into the soil, promoting pollutant treatment and groundwater recharge. Examples include infiltration trenches, infiltration basins, and porous pavement.

### 38. Septic System Hook-ups

Septic connections/hookups represent the replacement of traditional septic systems with connection to wastewater treatment plants (WWTPs).

#### 39. Street Sweeping

This practice involves routines sweeping of municipal streets on a repetitive basis using various motorized mechanical devices. Street sweeping ranks among the oldest practices used by communities for a variety of purposes to provide a clean and healthy environment, and more recently to comply with their National Pollutant Discharge Elimination System stormwater permits.

#### 40. Tree Planting - Urban

Urban tree planting involves planting of trees on urban pervious areas at a density that would produce a forest-like condition over time. The intent of the planting is to eventually convert the pervious portion of urban area to forest. If the trees are planted as part of the urban landscape, with no intention to covert the area to forest, then this would not count as urban tree planting.

The "Mixed Open" land category is a combination of low intensity development, recreation areas, battlefields, golf courses, school recreation areas and other large tracts of herbaceous lands that are not directly associated with impervious acres, but are clearly not available as, or associated with, agricultural land. Mixed open tree planting includes any tree plantings on any site except those along rivers and streams, which are considered forested buffers and are treated differently. The definition of tree planting does not include reforestation.

#### 41. Urban Nutrient Management

Urban nutrient management involves the reduction of fertilizer to grass lawns and other urban areas. The implementation of urban nutrient management is based on public education and awareness, targeting suburban residences and businesses, with emphasis on reducing excessive fertilizer use.

#### 42. Urban Sprawl Reduction

This activity involves a change from urban to non-urban landuse in forecasted conditions. This is also known as urban growth reduction.

#### 43. Urban Stream Restoration

Stream restoration in urban areas is used to restore the urban stream ecosystem by restoring the natural hydrology and landscape of a stream. Stream restoration in urban areas is used to help improve habitat and water quality conditions in degraded streams. Typically, streams in need of restoring have watershed conditions that have destabilized the stream channel and accelerated the erosion of stream banks. The objectives for stream restoration in urban areas include, but are not limited to, reducing stream channel erosion, promoting physical channel stability, reducing the transport of pollutants downstream, and working towards a stable habitat with a self-sustaining, diverse aquatic community.

#### 44. Wet Ponds & Wetlands

Wet ponds and wetland practices implemented in urban areas collect and increase the settling of pollutants, and protect downstream channels from frequent storm events. Wet ponds retain a permanent pool of water. Examples include wet ponds, wet extended detention ponds, retention ponds and constructed wetlands.

### ***Other Activities***

#### 45. Abandoned Mine Reclamation

Abandoned mine reclamation stabilizes the soil on lands mined for coal or affected by mining, such as wastebanks, coal processing, or other coal mining processes. Example activities include land

grading, re-vegetation, tree planting, wetland development and the installation of surface water control measures such as diversions, waterways, and retention ponds

#### 46. Dirt and Gravel Road Erosion and Sediment Control

This practice includes implementation of practices to stabilize dirt and gravel roads adjacent to streams. The purpose of this BMP is to significantly reduce the erosion of sediment and associated nutrients from the road and adjacent areas into the stream. Reduction in sediment runoff from dirt and gravel roads is accomplished through a combination of driving surface aggregates (DSA) to provide an erosion resistant surface, berm removal to eliminate channeling of water, additional drainage outlets to remove excess water, raising the road profile to promote drainage, and grade breaks to slow runoff.

#### 47. Forest Harvesting Practices

Forest harvesting practices are a suite of BMPs that minimize the environmental impacts of road building, log removal, site preparation and forest management. These practices help reduce suspended sediments and associated nutrients that can result from forest operations. Example activities include Innovative road design, bridged stream crossings, preservation of stream and wetland buffers, soil stabilization, water bars, logging mats, road surfacing, broad-based dips and avoiding operations when very wet.

DRAFT

## PA Chesapeake Bay Phase II Watershed Implementation Plan Adams County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

	Pounds
2009 Progress Load	3,281,923
2010 Current Load	3,178,986
2017 Interim Planning Target – 60%*	2,530,711
2017 Nitrogen Reductions (2010 – 2017)	751,212
2025 Planning Target – 100%	2,029,903
2025 Total Nitrogen Reductions (2010 – 2025)	1,252,020

### Phosphorus Planning Target

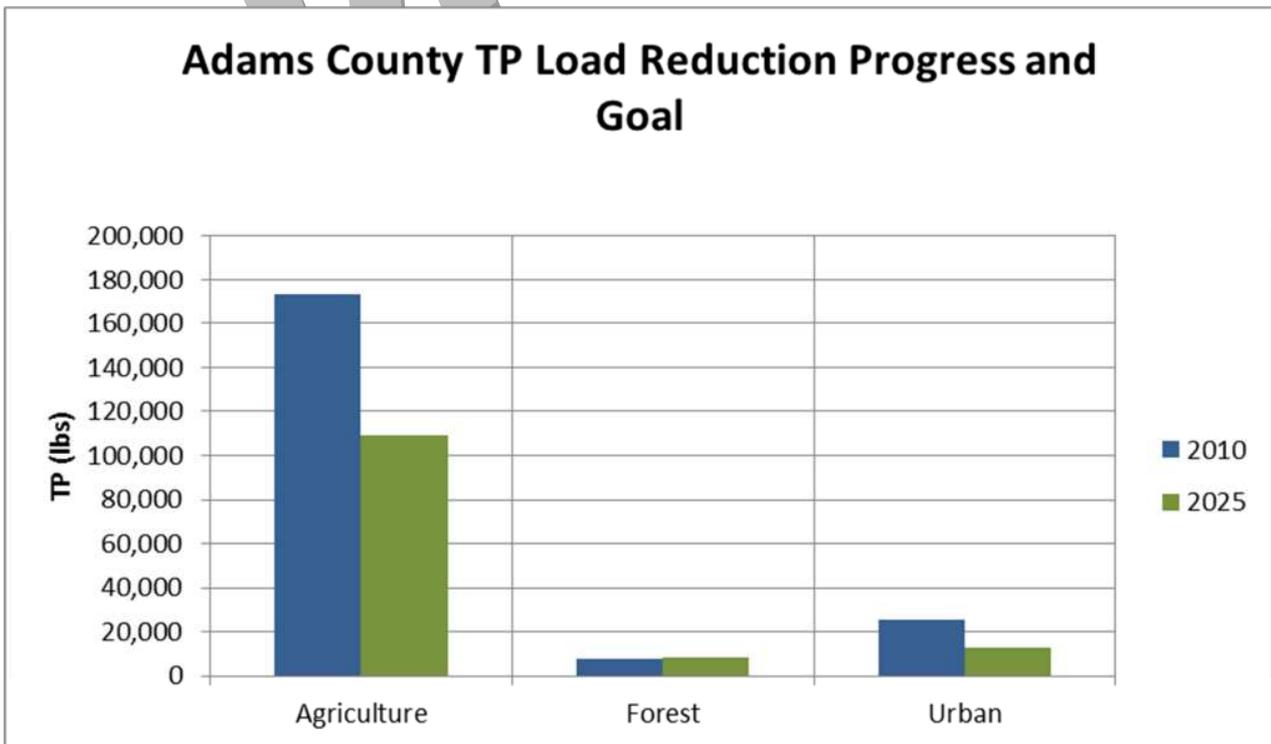
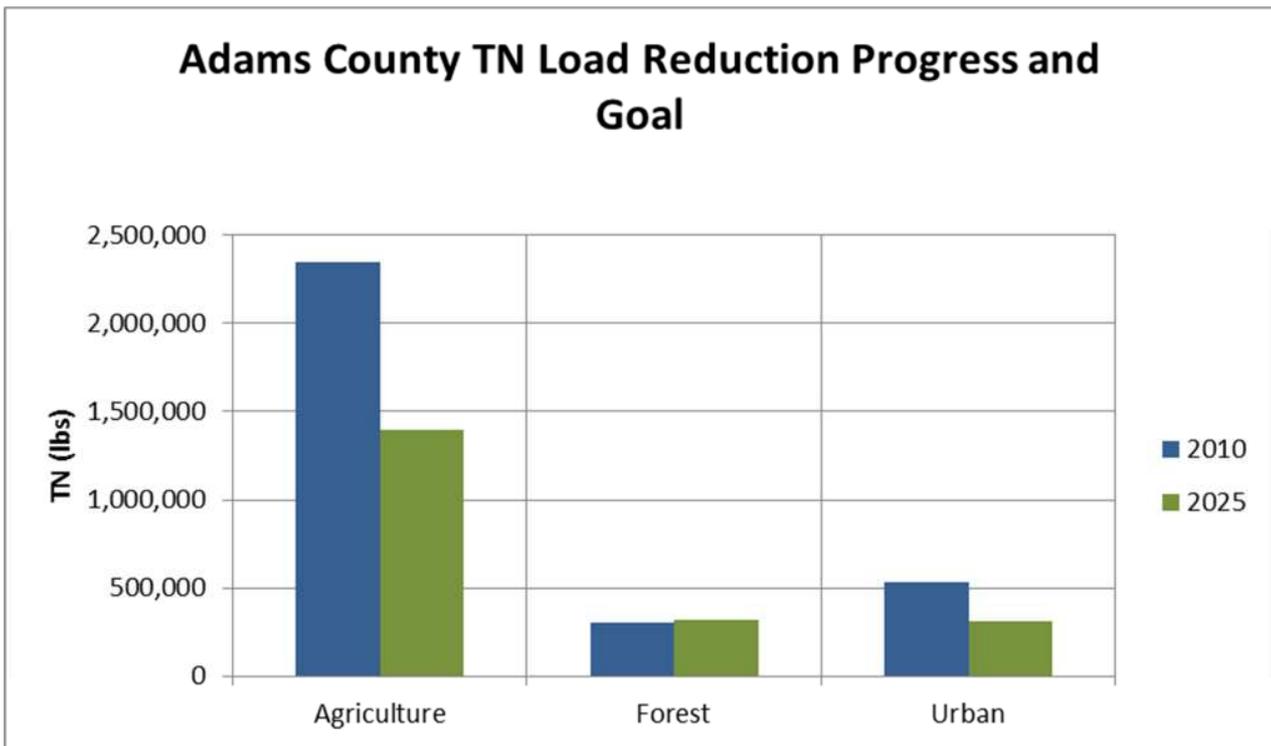
2009 Progress Load	201,610
2010 Current Load	206,530
2017 Interim Planning Target – 60%*	158,568
2017 Phosphorous Reductions (2010 – 2017)	43,042
2025 Planning Target – 100%	129,874
2025 Total Phosphorous Reductions (2010 – 2025)	71,736

### Total Suspended Solids (TSS) Planning Target

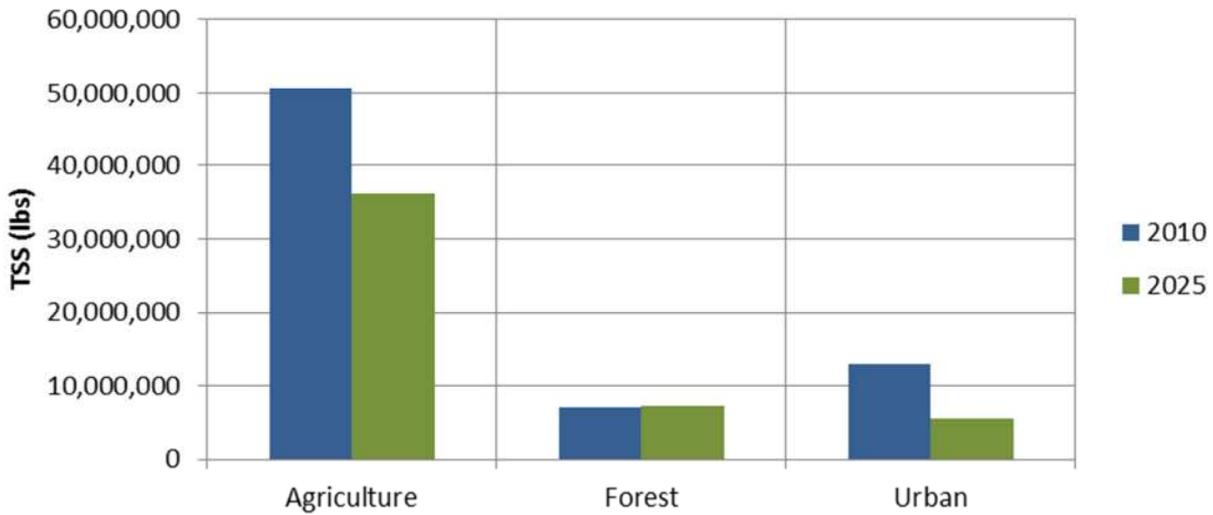
2009 Progress Load	74,834,636
2010 Current Load	70,595,761
2017 Interim Planning Target – 60%*	59,362,350
2017 TSS Reductions (2010 – 2017)	15,472,286
2025 Planning Target – 100%	49,047,492
2025 Total TSS Reductions (2010 – 2025)	25,787,143

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Adams County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	31,993	12,320
Conservation Till Row Crops	40,127	40,127
Hay	39,675	54,613
Alfalfa	7,373	7,230
Pasture	20,033	17,469
Animal Feeding Operations	143	143
Concentrated Animal Feeding Operations	97	97
Nursery	248	248
<b>Total Agriculture:</b>	139,689	132,248
<b>Urban</b>		
Pervious Urban Land	44,099	43,370
Impervious Urban Land	10,359	10,295
Construction	546	546
Extractive	2,043	1,987
Combined Sewer System	0	0
<b>Total Urban:</b>	57,047	56,198
<b>Forest</b>		
	135,996	144,286
<b>Total Acreage:</b>	332,732	332,732

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	108.5	250.0	344.3
2. Barnyard Runoff Controls	Acres	5.1	98.1	160.1
3. Capture Reuse <sup>+</sup>	Acres	0.0	14.9	24.8
4. Carbon Sequestration/Alternative Crops	Acres	307.1	2,788.0	4,442.0
5. Conservation Plans/SCWQA	Acres	56,785.4	97,750.8	125,061.1
6. Conservation Tillage	Acres	40,126.7	40,126.7	40,126.7
7. Continuous No-Till <sup>**</sup>	Acres	1,776.9	1,132.1	702.2
8. Cover Crops	Acres	10,044.0	24,471.9	34,090.6
9. Forest Buffers	Ag Acres	2,200.6	4,656.7	6,294.1
10. Grass Buffers	Ag Acres	48.2	1,336.8	2,196.0
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	3,885.2	9,959.6	14,009.2
14. Manure Injection	Acres	0.0	757.1	1,261.8
15. Manure/Litter Transport	Tons	178,505.7	184,045.5	187,738.7
16. Mortality Composters	Units	0.6	5.2	8.3
17. Non-Urban Stream Restoration	Feet	7,584.9	12,426.4	15,654.1
18. Nutrient Management	Acres	62,736.7	79,653.3	90,931.0
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	633.3	1,815.1	2,602.9
20. Pasture Fencing (Stream access control with fencing)	Acres	91.2	331.3	491.3
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	189.3	315.5
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	5,255.0	8,758.3
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	868.8	1,506.7	1,932.0
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,272.4	9,358.8	14,749.8
29. Wetland Restoration	Acres	71.8	1,446.9	2,363.6

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/Hydrodynamic Structures	Acres	23,164.7	10,070.8	1,341.6
31. Dry Extended Detention Ponds	Acres	3,713.8	2,290.5	1,341.6
32. Erosion and Sediment Control	Acres	546.1	1,486.9	2,114.2
33. Filtering Practices ***	Acres	0	10,947.7	18,246.2
34. Forest Buffers	Urban Acres	0	431.5	719.2
35. Grass Buffers	Urban Acres	0	210.9	351.5
36. Impervious Surface Reduction	Acres	0.0	38.4	64.0
37. Infiltration Practices ***	Acres	2,866.6	14,348.3	22,002.8
38. Septic System Hook-ups	Units	278.3	3,677.2	5,943.1
39. Street Sweeping	Acres	0	770.9	1,284.8
40. Tree Planting	Urban Acres	0	36.3	60.5
41. Urban Nutrient Management	Acres	0	7,806.6	13,011.0
42. Urban Sprawl Reduction	Acres	0	8.0	13.3
43. Urban Stream Restoration	Feet	0.0	1,366.0	2,276.7
44. Wet Ponds & Wetlands	Acres	3,484.5	4,613.7	5,366.6

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	53.2	86.7	109.0
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	54,822.8	147,945.4	210,027.1
47. Forest Harvesting Practices	Acres	142.0	270.6	356.3

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

†BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Bedford County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	895,672
2010 Current Load	873,720
2017 Interim Planning Target – 60%*	757,342
2017 Nitrogen Reductions (2010 – 2017)	138,330
2025 Planning Target – 100%	665,122
2025 Total Nitrogen Reductions (2010 – 2025)	230,550

### Phosphorus Planning Target

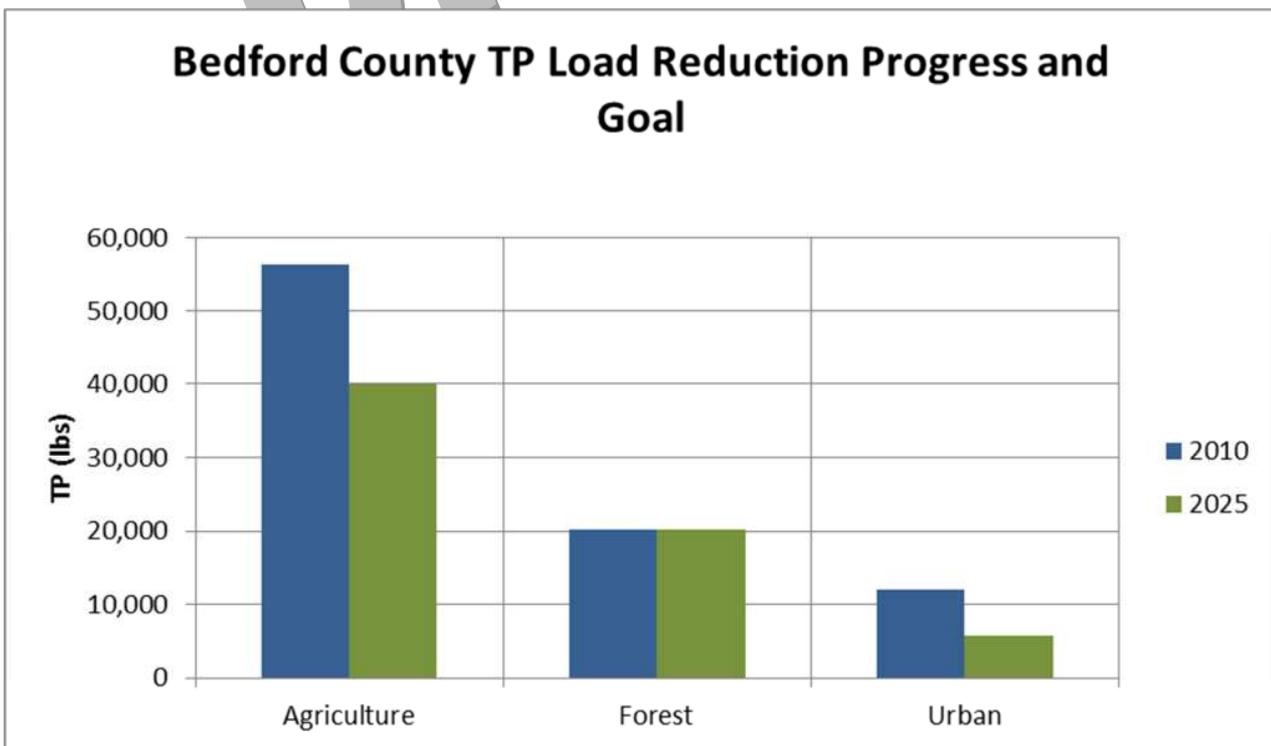
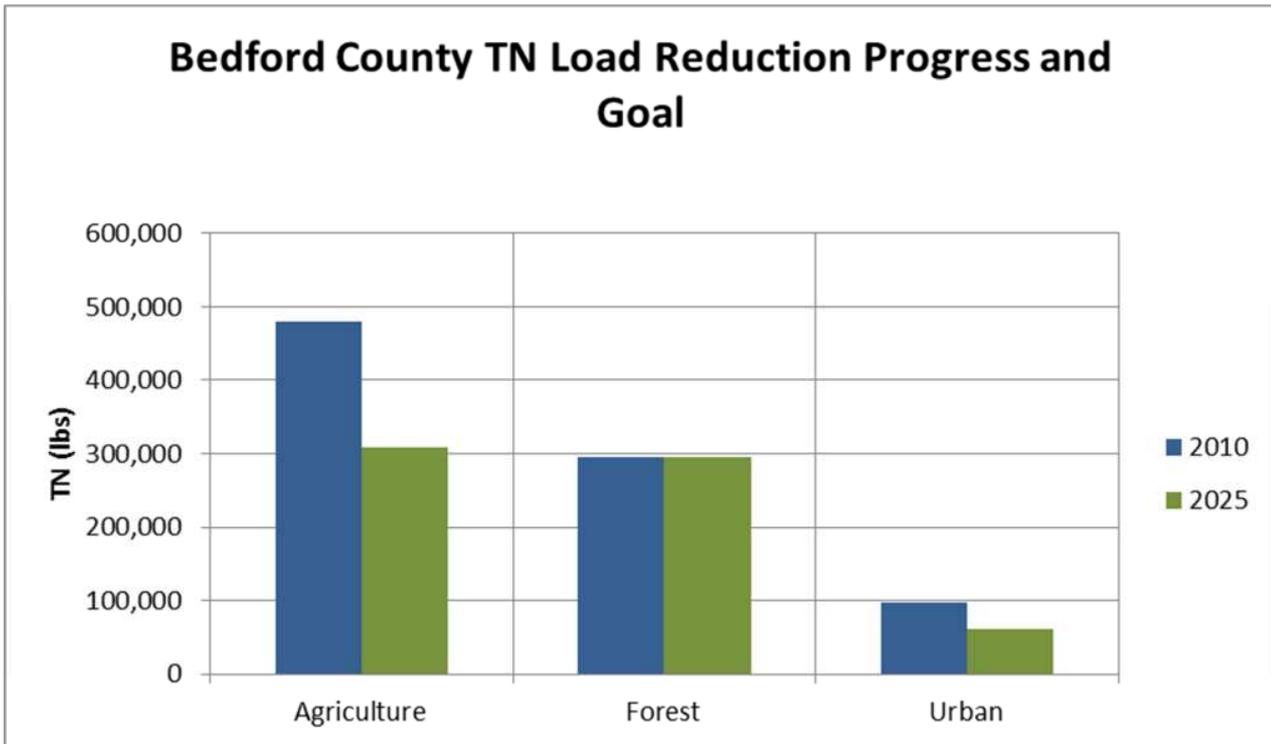
2009 Progress Load	90,831
2010 Current Load	88,510
2017 Interim Planning Target – 60%*	75,837
2017 Phosphorous Reductions (2010 – 2017)	14,993
2025 Planning Target – 100%	65,842
2025 Total Phosphorous Reductions (2010 – 2025)	24,989

### Total Suspended Solids (TSS) Planning Target

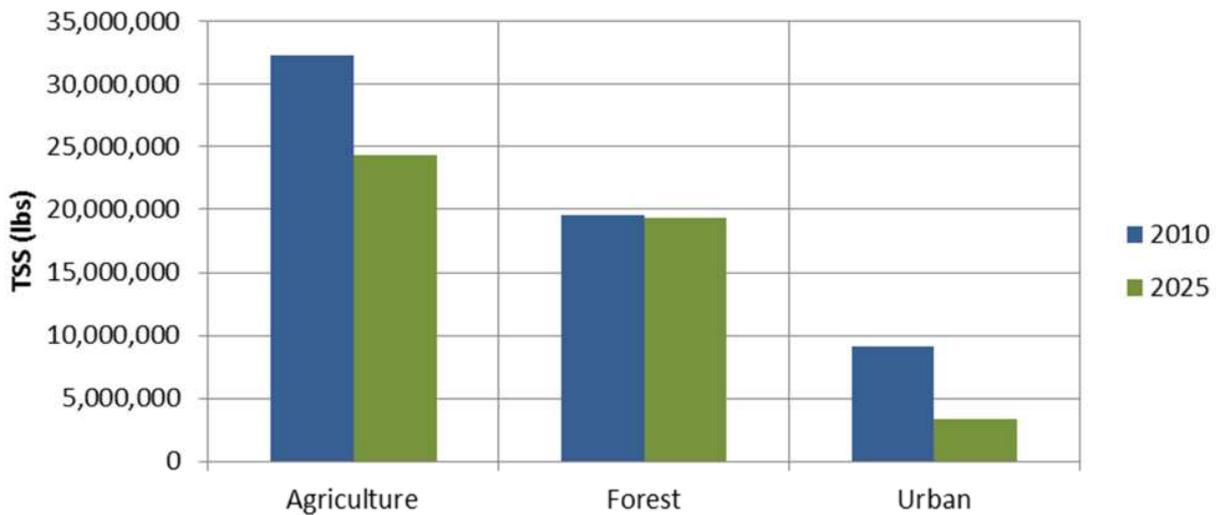
2009 Progress Load	62,825,593
2010 Current Load	61,040,113
2017 Interim Planning Target – 60%*	53,321,071
2017 TSS Reductions (2010 – 2017)	9,504,522
2025 Planning Target – 100%	46,984,723
2025 Total TSS Reductions (2010 – 2025)	15,840,870

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Bedford County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	22,236	2,587
Conservation Till Row Crops	16,997	25,892
Hay	40,756	49,311
Alfalfa	31,156	30,629
Pasture	33,023	29,362
Animal Feeding Operations	332	332
Concentrated Animal Feeding Operations	27	27
Nursery	117	117
<b>Total Agriculture:</b>	144,644	138,257
<b>Urban</b>		
Pervious Urban Land	19,427	20,140
Impervious Urban Land	9,817	9,997
Construction	25	32
Extractive	2,979	2,958
Combined Sewer System	1,976	709
<b>Total Urban:</b>	34,225	33,836
<b>Forest</b>	468,295	475,070
<b>Total Acreage:</b>	647,163	647,163

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	149.3	227.4	279.4
2. Barnyard Runoff Controls	Acres	1.0	143.9	239.1
3. Capture Reuse <sup>+</sup>	Acres	0.0	7.0	11.7
4. Carbon Sequestration/ Alternative Crops	Acres	194.9	1,620.1	2,570.2
5. Conservation Plans/SCWQA	Acres	64,002.9	104,883.9	132,137.9
6. Conservation Tillage	Acres	16,997.3	22,334.3	25,892.4
7. Continuous No-Till <sup>**</sup>	Acres	6,646.9	2,930.6	453.1
8. Cover Crops	Acres	2,207.8	11,990.2	18,511.8
9. Forest Buffers	Ag Acres	2,413.2	4,726.9	6,269.4
10. Grass Buffers	Ag Acres	398.9	1,348.3	1,981.3
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	6,866.9	10,222.6	12,459.8
14. Manure Injection	Acres	0.0	527.6	879.3
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	3.4	5.6
17. Non-Urban Stream Restoration	Feet	5,953.4	9,903.3	12,536.5
18. Nutrient Management	Acres	40,667.6	76,753.1	100,810.1
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	673.4	2,895.0	4,376.1
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	406.3	637.3	791.3
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	131.9	219.8
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	5,159.6	8,599.4
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,852.1	2,264.3	2,539.1
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	4,048.4	16,498.2	24,798.0
29. Wetland Restoration	Acres	489.7	1,596.4	2,334.3

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/Hydrodynamic Structures	Acres	3,435.5	1,836.9	771.2
31. Dry Extended Detention Ponds	Acres	1,028.4	874.1	771.2
32. Erosion and Sediment Control	Acres	31.6	1,587.1	2,624.1
33. Filtering Practices ***	Acres	0.0	6,269.3	10,448.9
34. Forest Buffers	Urban Acres	0.0	200.4	334.0
35. Grass Buffers	Urban Acres	0.0	100.6	167.6
36. Impervious Surface Reduction	Acres	0.0	37.9	63.1
37. Infiltration Practices ***	Acres	1,750.5	8,254.9	12,591.1
38. Septic System Hook-ups	Units	905.4	2,426.2	3,440.1
39. Street Sweeping	Acres	0.0	760.5	1,267.4
40. Tree Planting	Urban Acres	0.0	17.3	28.8
41. Urban Nutrient Management	Acres	0.0	3,724.2	6,207.0
42. Urban Sprawl Reduction	Acres	0.0	3.8	6.3
43. Urban Stream Restoration	Feet	21.3	744.0	1,225.8
44. Wet Ponds & Wetlands	Acres	589.5	2,086.5	3,084.6

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	253.6	266.2	274.7
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	286,300.8	410,023.2	492,504.9
47. Forest Harvesting Practices	Acres	0.0	740.7	1,234.5

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Berks County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	640,016
2010 Current Load	617,291
2017 Interim Planning Target – 60%*	504,801
2017 Nitrogen Reductions (2010 – 2017)	135,215
2025 Planning Target – 100%	414,658
2025 Total Nitrogen Reductions (2010 – 2025)	225,359

### Phosphorus Planning Target

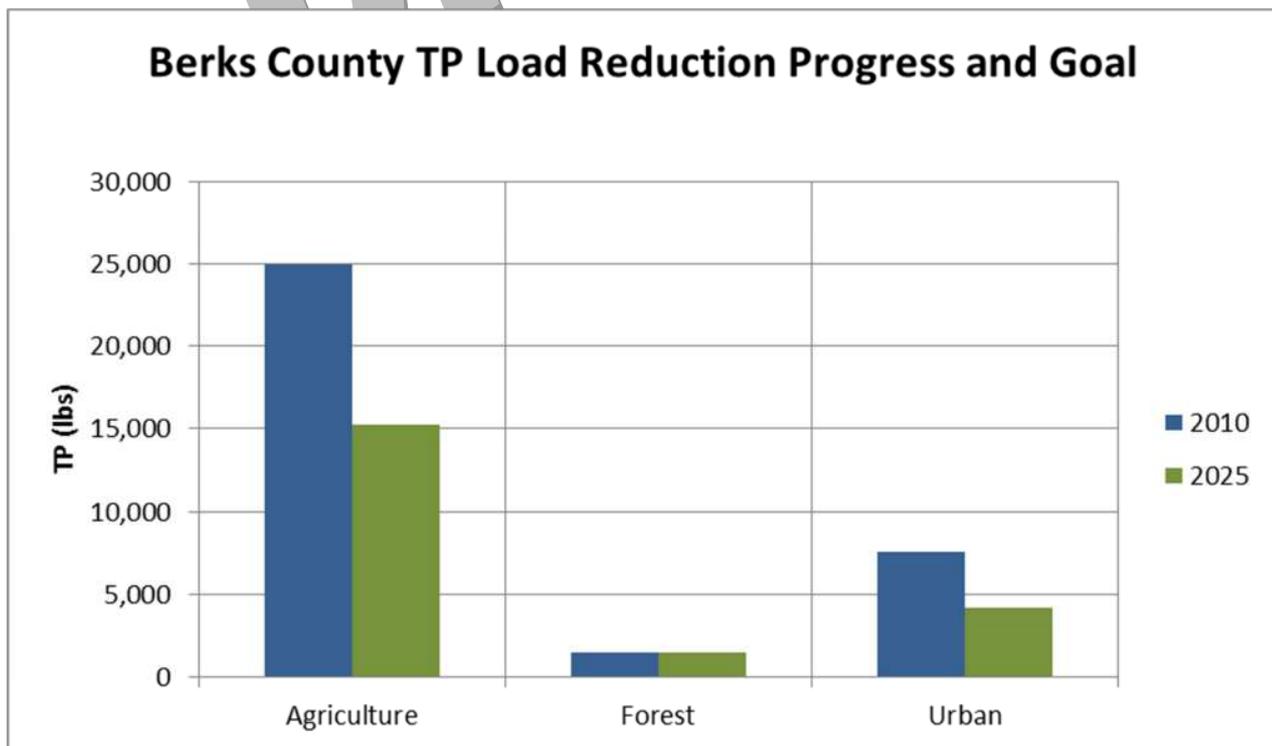
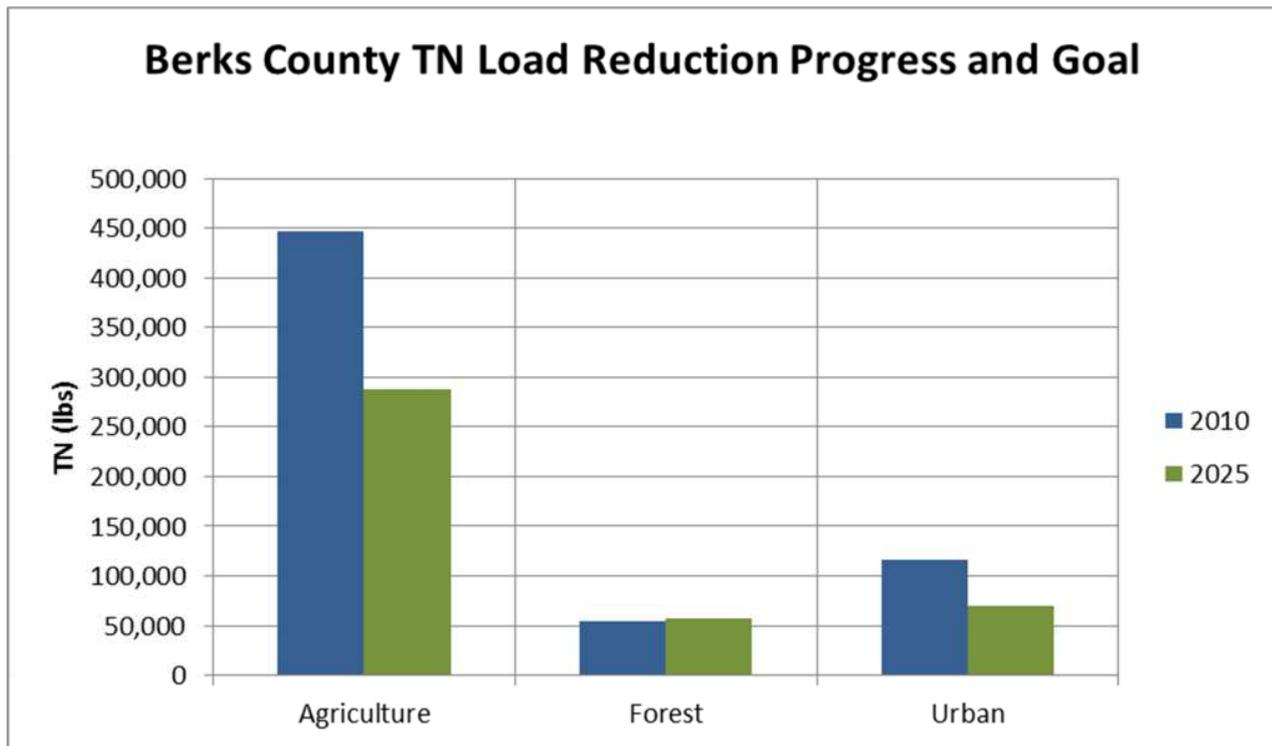
2009 Progress Load	31,799
2010 Current Load	33,996
2017 Interim Planning Target – 60%*	25,272
2017 Phosphorous Reductions (2010 – 2017)	6,526
2025 Planning Target – 100%	20,921
2025 Total Phosphorous Reductions (2010 – 2025)	10,877

### Total Suspended Solids (TSS) Planning Target

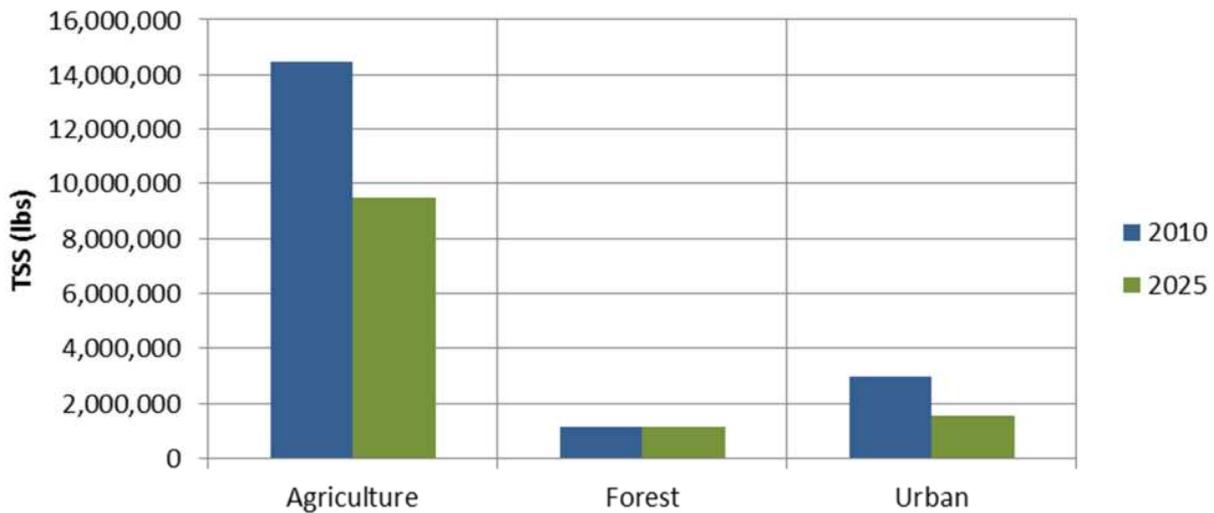
2009 Progress Load	19,311,084
2010 Current Load	18,600,414
2017 Interim Planning Target – 60%*	15,043,433
2017 TSS Reductions (2010 – 2017)	4,267,651
2025 Planning Target – 100%	12,198,333
2025 Total TSS Reductions (2010 – 2025)	7,112,752

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Berks County TSS Load Reduction Progress and Goal



### County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	6,844	745
Conservation Till Row Crops	5,307	8,177
Hay	4,644	6,931
Alfalfa	3,151	3,080
Pasture	2,418	2,138
Animal Feeding Operations	53	53
Concentrated Animal Feeding Operations	3	3
Nursery	150	150
<b>Total Agriculture:</b>	<b>22,570</b>	<b>21,277</b>
<b>Urban</b>		
Pervious Urban Land	6,740	6,626
Impervious Urban Land	1,738	1,730
Construction	20	20
Extractive	575	568
Combined Sewer System	0	0
<b>Total Urban:</b>	<b>9,073</b>	<b>8,944</b>
<b>Forest</b>		
	25,140	26,562
<b>Total Acreage:</b>	<b>56,783</b>	<b>56,783</b>

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	42.2	53.5	61.1
2. Barnyard Runoff Controls	Acres	1.3	22.9	37.2
3. Capture Reuse <sup>+</sup>	Acres	0.0	9.0	15.0
4. Carbon Sequestration/ Alternative Crops	Acres	56.0	475.7	755.5
5. Conservation Plans/SCWQA	Acres	10,039.8	16,018.1	20,003.6
6. Conservation Tillage	Acres	5,306.9	7,029.1	8,177.3
7. Continuous No-Till **	Acres	129.8	137.8	143.1
8. Cover Crops	Acres	1,256.3	3,982.1	5,799.3
9. Forest Buffers	Ag Acres	185.7	628.6	923.9
10. Grass Buffers	Ag Acres	8.3	214.7	352.3
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	854.2	1,776.4	2,391.1
14. Manure Injection	Acres	0.0	154.9	258.1
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.5	1.0	1.3
17. Non-Urban Stream Restoration	Feet	1,007.0	1,731.9	2,215.1
18. Nutrient Management	Acres	16,416.5	15,295.7	14,548.5
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	98.2	230.4	318.5
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	59.3	61.0	62.1
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	38.7	64.5
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	884.6	1,474.3
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	137.2	249.5	324.3
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	211.7	1,167.5	1,804.7
29. Wetland Restoration	Acres	22.1	243.3	390.8

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/Hydrodynamic Structures	Acres	5,815.8	2,451.7	208.9
31. Dry Extended Detention Ponds	Acres	1,093.2	562.6	208.9
32. Erosion and Sediment Control	Acres	6.5	310.3	512.8
33. Filtering Practices ***	Acres	0.0	1,661.9	2,769.9
34. Forest Buffers	Urban Acres	0.0	65.9	109.9
35. Grass Buffers	Urban Acres	0.0	32.2	53.7
36. Impervious Surface Reduction	Acres	2.9	7.6	10.8
37. Infiltration Practices ***	Acres	494.4	2,192.0	3,323.6
38. Septic System Hook-ups	Units	204.7	806.5	1,207.7
39. Street Sweeping	Acres	0.0	129.6	215.9
40. Tree Planting	Urban Acres	0.0	5.5	9.2
41. Urban Nutrient Management	Acres	0.0	1,192.7	1,987.9
42. Urban Sprawl Reduction	Acres	0.0	1.2	2.0
43. Urban Stream Restoration	Feet	0.0	212.7	354.5
44. Wet Ponds & Wetlands	Acres	878.5	878.5	878.5

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	23.2	27.6	30.6
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	12,406.5	24,972.5	33,349.8
47. Forest Harvesting Practices	Acres	0.0	39.8	66.4

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

\*BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Blair County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	1,340,359
2010 Current Load	1,320,924
2017 Interim Planning Target – 60%*	1,085,331
2017 Nitrogen Reductions (2010 – 2017)	255,028
2025 Planning Target – 100%	915,312
2025 Total Nitrogen Reductions (2010 – 2025)	425,047

### Phosphorus Planning Target

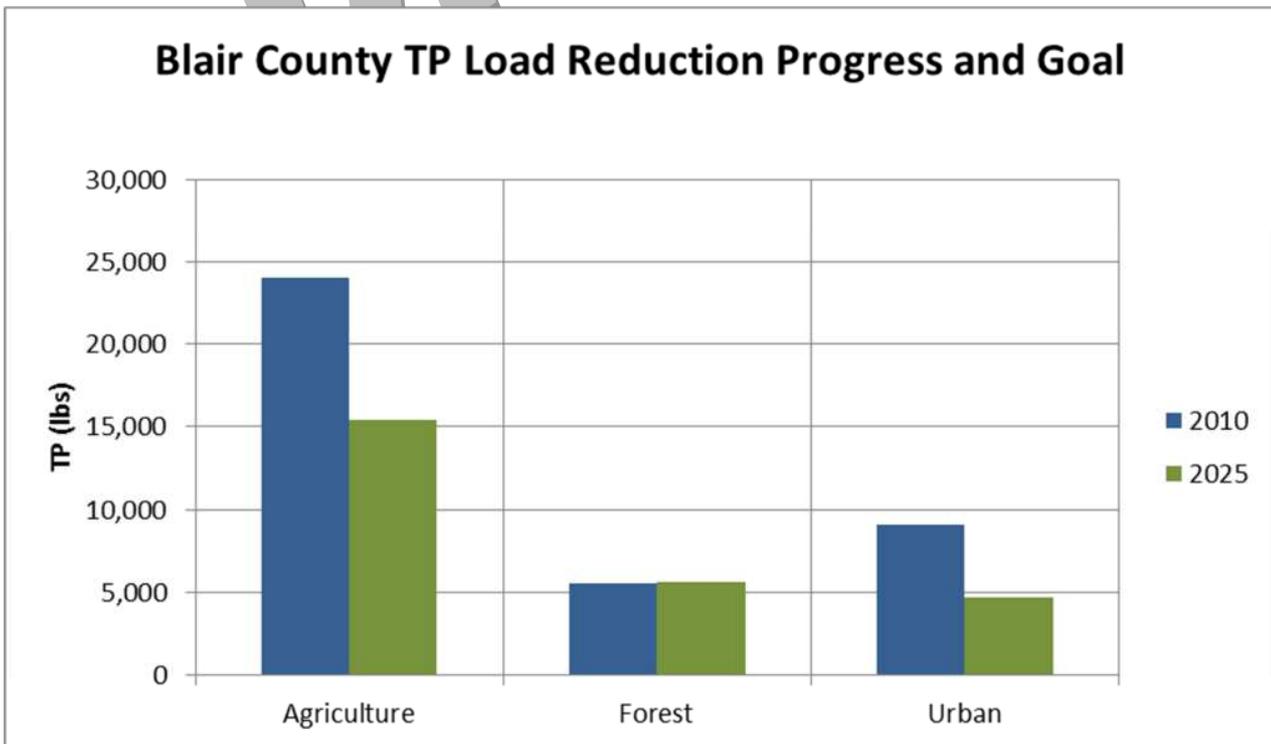
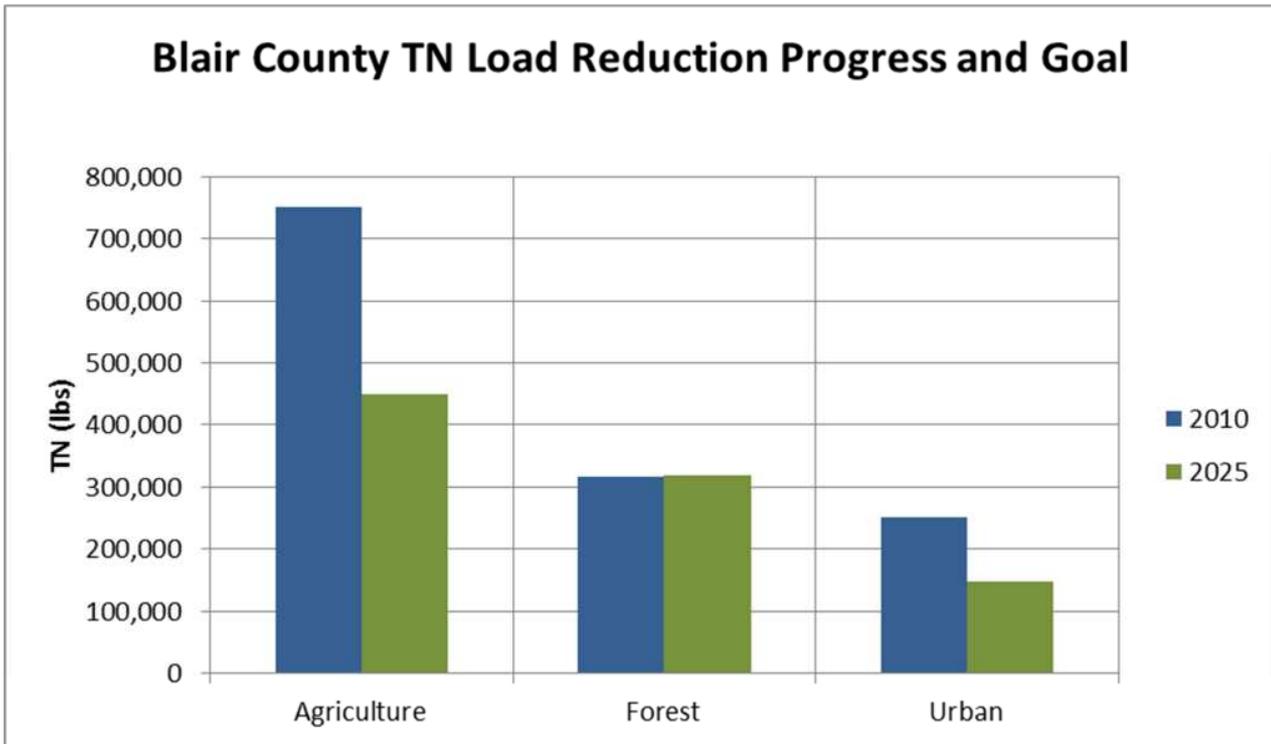
2009 Progress Load	39,067
2010 Current Load	38,636
2017 Interim Planning Target – 60%*	31,074
2017 Phosphorous Reductions (2010 – 2017)	7,993
2025 Planning Target – 100%	25,745
2025 Total Phosphorous Reductions (2010 – 2025)	13,322

### Total Suspended Solids (TSS) Planning Target

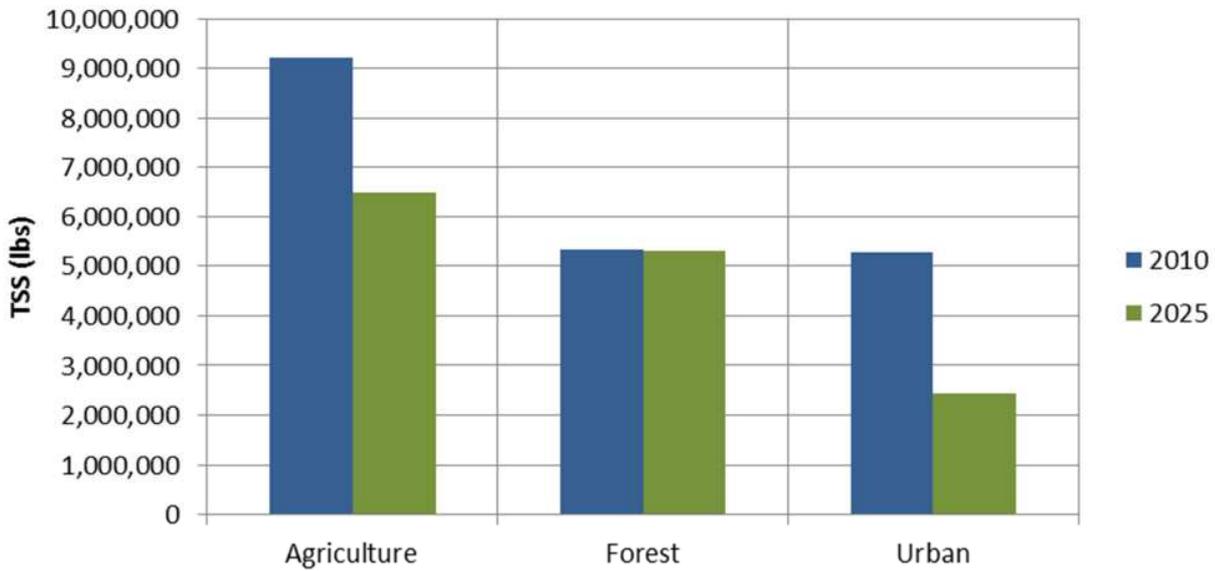
2009 Progress Load	20,176,602
2010 Current Load	19,833,108
2017 Interim Planning Target – 60%*	16,604,313
2017 TSS Reductions (2010 – 2017)	3,572,290
2025 Planning Target – 100%	14,222,786
2025 Total TSS Reductions (2010 – 2025)	5,953,816

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Blair County TSS Load Reduction Progress and Goal



## County Land Use Distribution

	2010 Acres	2025 Acres
<b>Agriculture</b>		
Conventional Till Row Crops	17,306	1,828
Conservation Till Row Crops	13,490	20,801
Hay	15,058	20,998
Alfalfa	16,409	16,071
Pasture	7,847	6,889
Animal Feeding Operations	117	117
Concentrated Animal Feeding Operations	39	39
Nursery	22	22
<b>Total Agriculture:</b>	70,288	66,765
<b>Urban</b>		
Pervious Urban Land	24,172	23,919
Impervious Urban Land	8,754	8,738
Construction	0	0
Extractive	2,006	1,955
Combined Sewer System	10,805	10,635
<b>Total Urban:</b>	45,738	45,247
<b>Forest</b>	220,314	224,328
<b>Total Acreage:</b>	336,341	336,340

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	134.0	200.6	245.0
2. Barnyard Runoff Controls	Acres	0.0	62.3	103.8
3. Capture Reuse <sup>+</sup>	Acres	0.0	1.3	2.2
4. Carbon Sequestration/ Alternative Crops	Acres	586.4	1,561.7	2,212.0
5. Conservation Plans/SCWQA	Acres	28,293.2	49,924.9	64,346.1
6. Conservation Tillage	Acres	13,489.7	17,876.5	20,801.0
7. Continuous No-Till <sup>**</sup>	Acres	1,867.3	965.3	364.0
8. Cover Crops	Acres	1,354.0	9,367.1	14,709.2
9. Forest Buffers	Ag Acres	648.5	1,856.2	2,661.3
10. Grass Buffers	Ag Acres	67.6	625.9	998.0
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	4,452.7	6,863.2	8,470.2
14. Manure Injection	Acres	0.0	404.3	673.8
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.2	3.0	4.9
17. Non-Urban Stream Restoration	Feet	10,771.7	12,689.4	13,967.9
18. Nutrient Management	Acres	33,560.7	41,264.5	46,400.4
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	119.1	663.6	1,026.6
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	64.2	141.1	192.5
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	101.1	168.5
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,816.4	4,694.0
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,235.3	1,495.1	1,668.3
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,190.3	3,966.4	5,817.2
29. Wetland Restoration	Acres	165.7	813.4	1,245.2

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/Hydrodynamic Structures	Acres	7,570.3	3,677.5	1,082.2
31. Dry Extended Detention Ponds	Acres	1,903.1	1,410.6	1,082.2
32. Erosion and Sediment Control	Acres	0.0	1,033.7	1,722.8
33. Filtering Practices ***	Acres	0.0	8,334.4	13,890.7
34. Forest Buffers	Urban Acres	0.0	238.0	396.6
35. Grass Buffers	Urban Acres	0.0	155.6	259.3
36. Impervious Surface Reduction	Acres	0.0	41.6	69.3
37. Infiltration Practices ***	Acres	30.8	9,947.7	16,558.9
38. Septic System Hook-ups	Units	52.5	2,249.8	3,714.7
39. Street Sweeping	Acres	0.0	834.9	1,391.6
40. Tree Planting	Urban Acres	0.0	26.8	44.6
41. Urban Nutrient Management	Acres	0.0	5,784.9	9,641.6
42. Urban Sprawl Reduction	Acres	0.0	5.6	9.3
43. Urban Stream Restoration	Feet	471.8	1,015.7	1,378.4
44. Wet Ponds & Wetlands	Acres	1,170.6	3,065.6	4,328.9

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	155.4	186.3	206.9
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	60,920.6	111,746.4	145,630.3
47. Forest Harvesting Practices	Acres	0.0	349.5	582.5

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

\*BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Bradford County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	2,275,576
2010 Current Load	1,908,031
2017 Interim Planning Target – 60%*	1,880,917
2017 Nitrogen Reductions (2010 – 2017)	394,659
2025 Planning Target – 100%	1,617,811
2025 Total Nitrogen Reductions (2010 – 2025)	657,766

### Phosphorus Planning Target

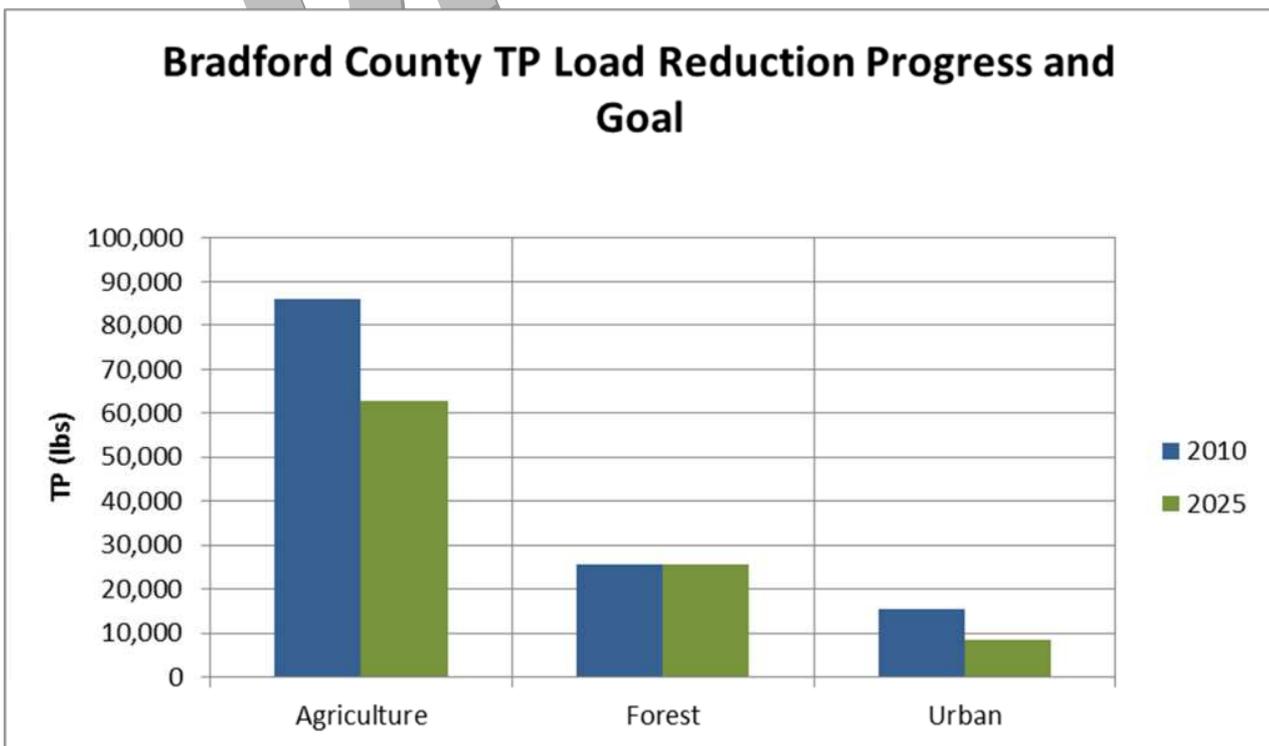
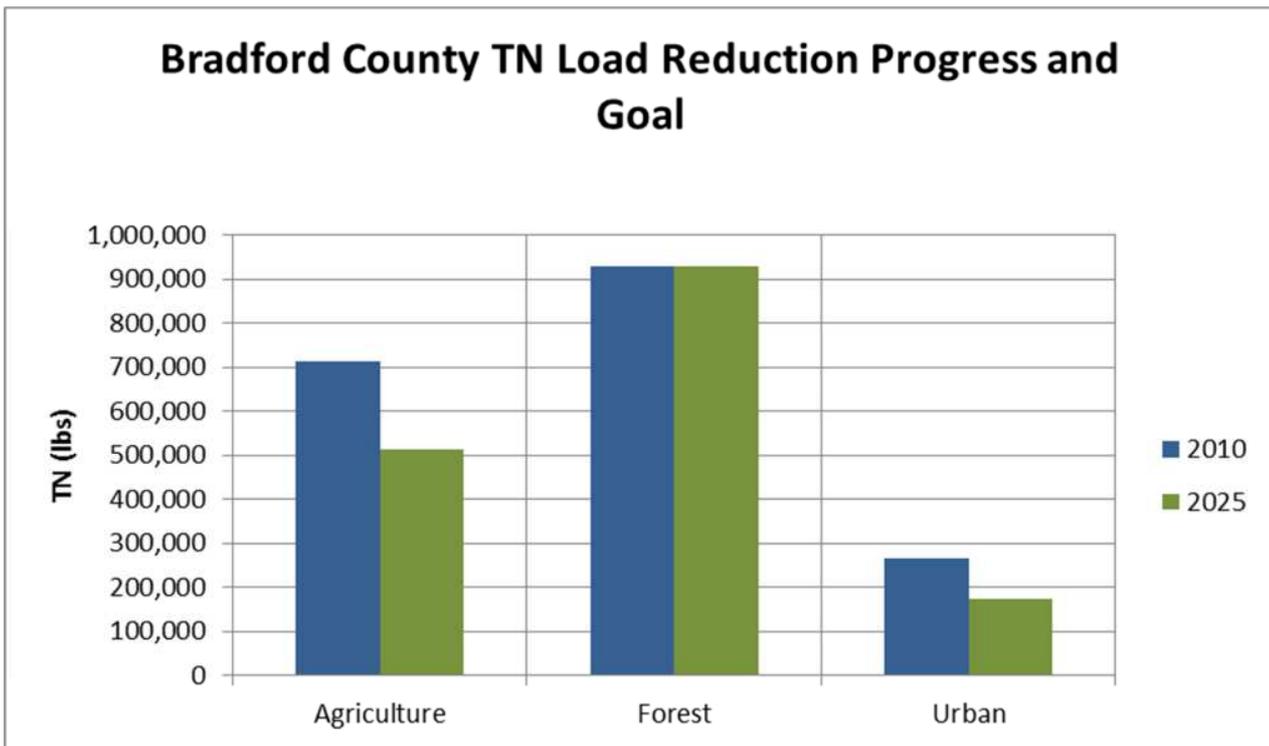
2009 Progress Load	140,796
2010 Current Load	126,864
2017 Interim Planning Target – 60%*	114,315
2017 Phosphorous Reductions (2010 – 2017)	26,481
2025 Planning Target – 100%	96,661
2025 Total Phosphorous Reductions (2010 – 2025)	44,135

### Total Suspended Solids (TSS) Planning Target

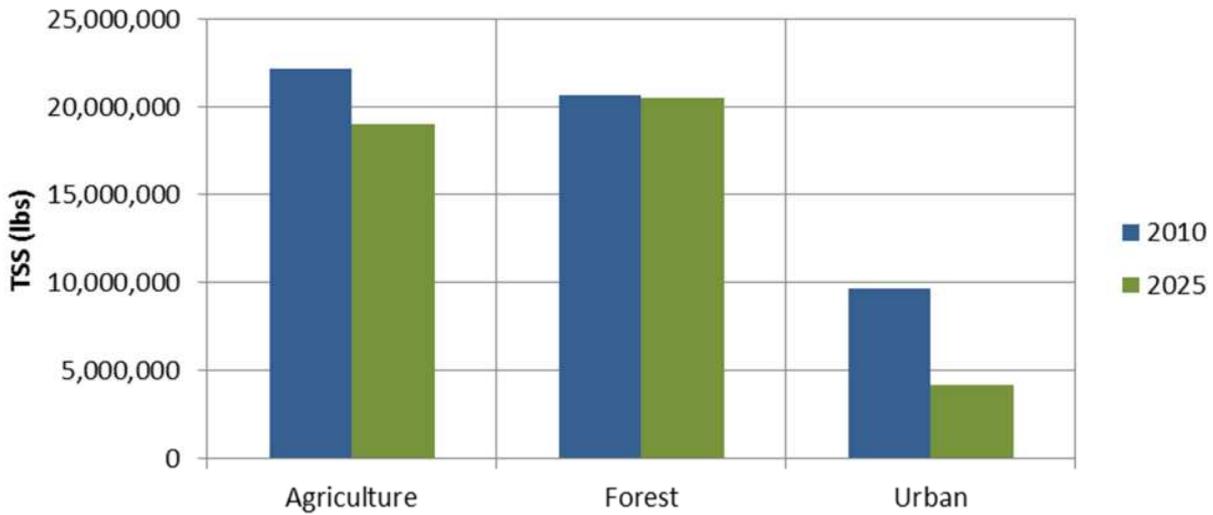
2009 Progress Load	59,370,844
2010 Current Load	52,560,669
2017 Interim Planning Target – 60%*	50,005,895
2017 TSS Reductions (2010 – 2017)	9,364,948
2025 Planning Target – 100%	43,762,596
2025 Total TSS Reductions (2010 – 2025)	15,608,247

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Bradford County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	1,894	222
Conservation Till Row Crops	1,389	1,804
Hay	105,262	103,595
Alfalfa	20,572	20,195
Pasture	36,858	33,095
Animal Feeding Operations	346	346
Concentrated Animal Feeding Operations	46	46
Nursery	50	50
<b>Total Agriculture:</b>	166,417	159,353
<b>Urban</b>		
Pervious Urban Land	23,710	24,397
Impervious Urban Land	10,423	10,445
Construction	18	18
Extractive	1,213	1,231
Combined Sewer System	1,174	0
<b>Total Urban:</b>	36,538	36,092
<b>Forest</b>		
	533,218	540,727
<b>Total Acreage:</b>	736,172	736,172

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	164.6	277.8	353.3
2. Barnyard Runoff Controls	Acres	3.0	157.9	261.1
3. Capture Reuse <sup>+</sup>	Acres	0.0	3.0	5.0
4. Carbon Sequestration/ Alternative Crops	Acres	3,608.2	3,895.7	4,087.3
5. Conservation Plans/SCWQA	Acres	36,565.7	105,266.4	151,066.8
6. Conservation Tillage	Acres	1,389.3	1,638.1	1,803.9
7. Continuous No-Till <sup>**</sup>	Acres	347.7	158.0	31.6
8. Cover Crops	Acres	680.0	1,062.0	1,316.6
9. Forest Buffers	Ag Acres	8,810.9	10,845.1	12,201.3
10. Grass Buffers	Ag Acres	355.1	1,073.2	1,551.9
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	27,190.5	27,190.5	27,190.5
14. Manure Injection	Acres	0.0	286.8	478.0
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	4.2	7.1
17. Non-Urban Stream Restoration	Feet	18,028.8	22,769.6	25,930.2
18. Nutrient Management	Acres	53,899.1	79,249.6	96,149.9
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	1,035.4	3,392.7	4,964.3
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	1,209.1	1,209.1	1,209.1
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	71.7	119.5
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	4,567.7	7,612.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	2,624.1	3,401.9	3,920.4
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	3,324.5	18,208.3	28,130.9
29. Wetland Restoration	Acres	259.7	1,687.1	2,638.7

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	11,851.2	5,263.1	871.1
31. Dry Extended Detention Ponds	Acres	2,998.4	1,722.0	871.1
32. Erosion and Sediment Control	Acres	18.3	706.0	1,164.4
33. Filtering Practices ***	Acres	0.0	7,099.5	11,832.5
34. Forest Buffers	Urban Acres	0.0	242.7	404.6
35. Grass Buffers	Urban Acres	0.0	118.6	197.7
36. Impervious Surface Reduction	Acres	0.0	38.9	64.9
37. Infiltration Practices ***	Acres	6,522.0	11,168.1	14,265.5
38. Septic System Hook-ups	Units	778.2	2,511.2	3,666.5
39. Street Sweeping	Acres	0.0	782.1	1,303.5
40. Tree Planting	Urban Acres	0.0	20.4	34.0
41. Urban Nutrient Management	Acres	0.0	4,391.5	7,319.2
42. Urban Sprawl Reduction	Acres	0.0	4.5	7.5
43. Urban Stream Restoration	Feet	0.0	857.9	1,429.9
44. Wet Ponds & Wetlands	Acres	1,803.8	2,812.1	3,484.2

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	686.5	686.5	686.5
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	166,017.1	295,628.9	382,036.8
47. Forest Harvesting Practices	Acres	60.0	858.6	1,391.0

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Cambria County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	261,157
2010 Current Load	249,773
2017 Interim Planning Target – 60%*	225,196
2017 Nitrogen Reductions (2010 – 2017)	35,961
2025 Planning Target – 100%	201,222
2025 Total Nitrogen Reductions (2010 – 2025)	59,935

### Phosphorus Planning Target

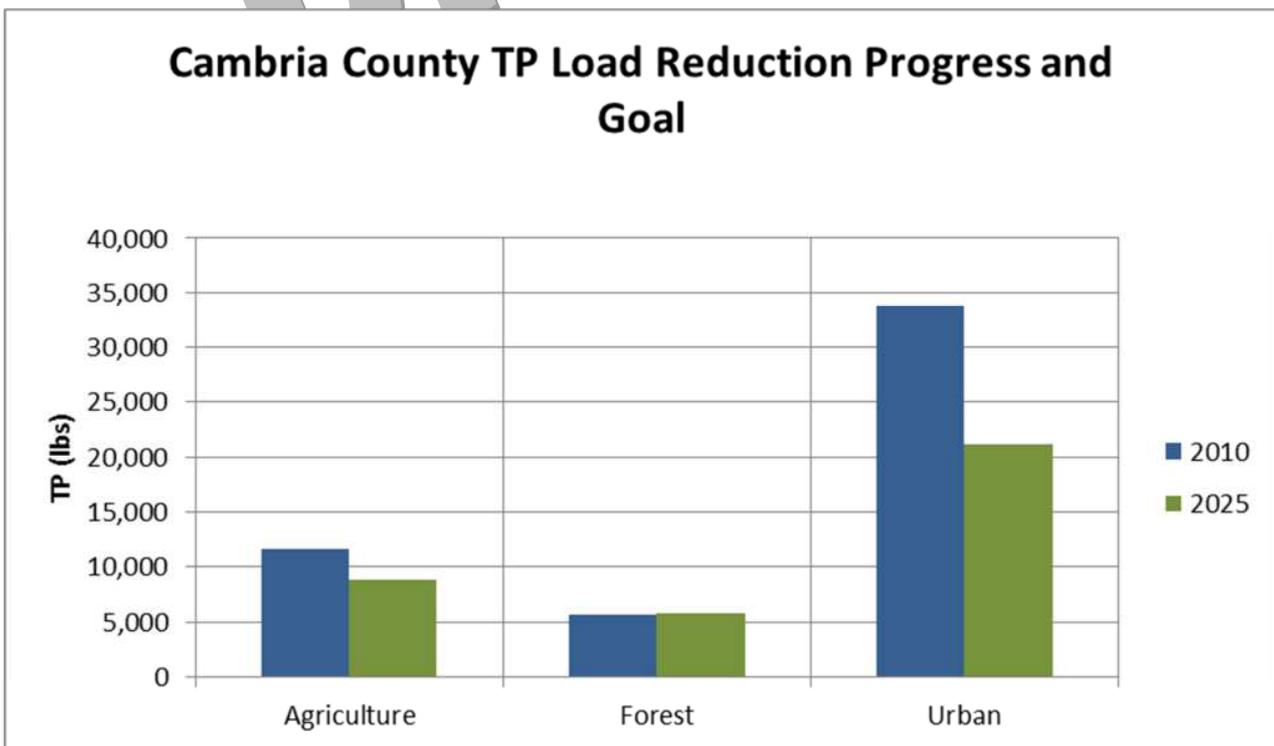
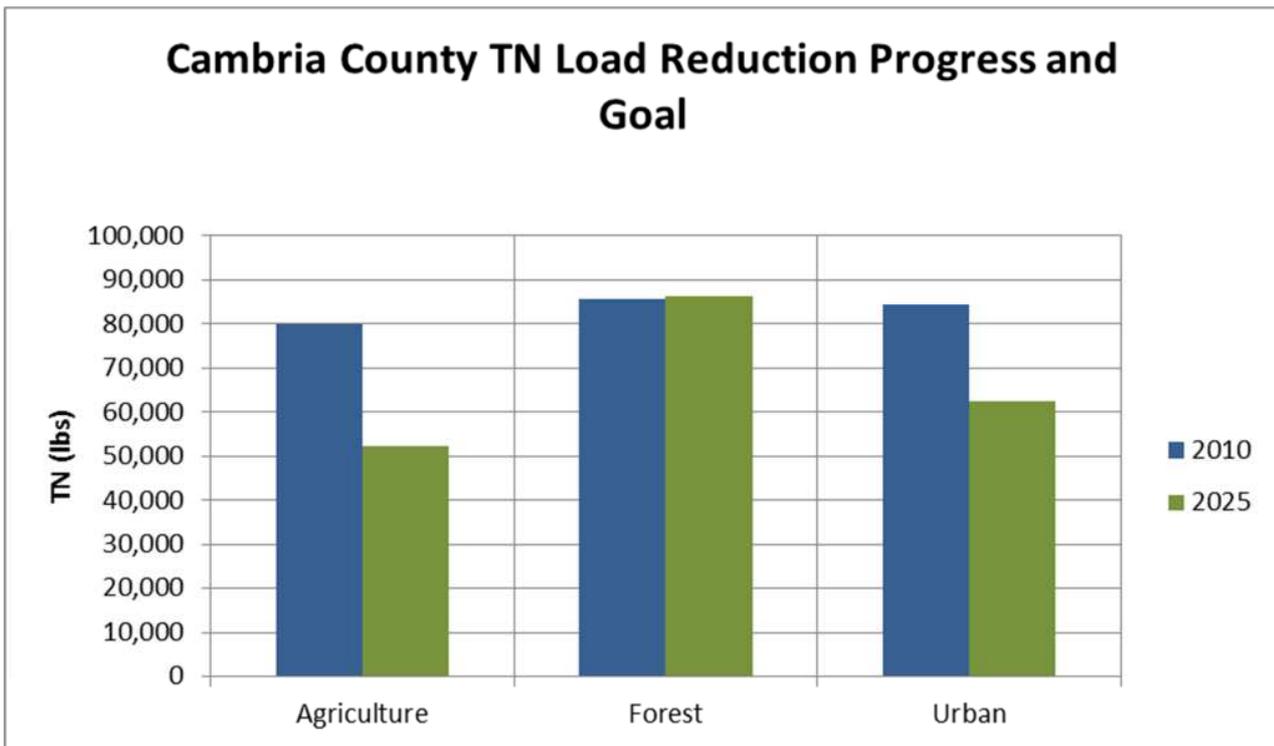
2009 Progress Load	52,231
2010 Current Load	51,166
2017 Interim Planning Target – 60%*	42,333
2017 Phosphorous Reductions (2010 – 2017)	9,898
2025 Planning Target – 100%	35,734
2025 Total Phosphorous Reductions (2010 – 2025)	16,497

### Total Suspended Solids (TSS) Planning Target

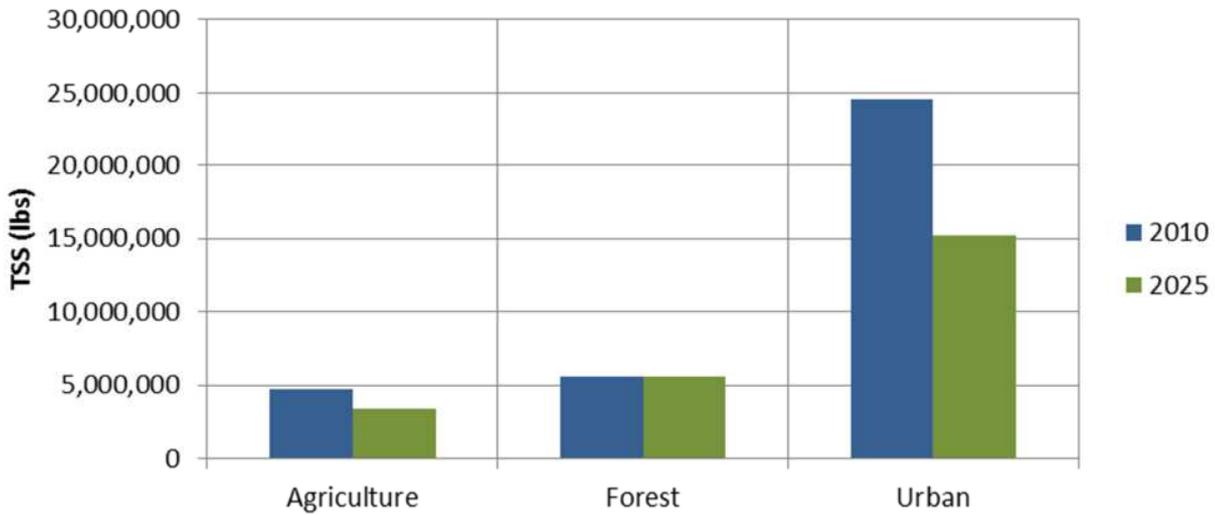
2009 Progress Load	35,384,257
2010 Current Load	34,828,437
2017 Interim Planning Target – 60%*	28,641,526
2017 TSS Reductions (2010 – 2017)	6,742,731
2025 Planning Target – 100%	24,146,372
2025 Total TSS Reductions (2010 – 2025)	11,237,885

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Cambria County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	5,541	1,195
Conservation Till Row Crops	3,736	6,510
Hay	10,240	10,708
Alfalfa	5,250	5,128
Pasture	4,046	3,553
Animal Feeding Operations	72	72
Concentrated Animal Feeding Operations	0	0
Nursery	37	37
<b>Total Agriculture:</b>	28,921	27,203
<b>Urban</b>		
Pervious Urban Land	8,458	8,325
Impervious Urban Land	3,243	3,223
Construction	0	0
Extractive	19,382	18,873
Combined Sewer System	239	239
<b>Total Urban:</b>	31,321	30,660
<b>Forest</b>		
	125,506	127,885
<b>Total Acreage:</b>	185,748	185,748

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	8.6	22.6	31.9
2. Barnyard Runoff Controls	Acres	1.0	29.1	47.8
3. Capture Reuse <sup>+</sup>	Acres	0.0	2.2	3.7
4. Carbon Sequestration/ Alternative Crops	Acres	249.2	587.3	812.7
5. Conservation Plans/SCWQA	Acres	10,437.6	19,605.1	25,716.7
6. Conservation Tillage	Acres	3,735.7	5,400.6	6,510.5
7. Continuous No-Till <sup>**</sup>	Acres	591.9	305.1	113.9
8. Cover Crops	Acres	1,343.1	3,542.2	5,008.2
9. Forest Buffers	Ag Acres	49.5	637.1	1,028.9
10. Grass Buffers	Ag Acres	10.5	215.2	351.6
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	2,566.0	2,634.7	2,680.5
14. Manure Injection	Acres	0.0	125.9	209.8
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.4	0.6
17. Non-Urban Stream Restoration	Feet	979.5	2,517.2	3,542.3
18. Nutrient Management	Acres	4,560.8	12,635.4	18,018.4
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	407.0	480.4	529.3
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	69.8	88.8	101.4
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	31.5	52.4
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	1,035.3	1,725.4
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	683.5	862.2	981.4
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	429.6	1,971.5	2,999.4
29. Wetland Restoration	Acres	46.9	311.9	488.6

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	4,120.9	1,825.2	294.7
31. Dry Extended Detention Ponds	Acres	1,414.6	742.6	294.7
32. Erosion and Sediment Control	Acres	0.0	9,964.1	16,606.8
33. Filtering Practices ***	Acres	0.0	2,404.2	4,006.9
34. Forest Buffers	Urban Acres	0.0	82.9	138.1
35. Grass Buffers	Urban Acres	0.0	41.4	69.1
36. Impervious Surface Reduction	Acres	0.0	12.2	20.3
37. Infiltration Practices ***	Acres	3,043.7	4,116.7	4,832.1
38. Septic System Hook-ups	Units	1,808.0	1,697.0	1,622.9
39. Street Sweeping	Acres	0.0	244.3	407.2
40. Tree Planting	Urban Acres	0.0	7.1	11.9
41. Urban Nutrient Management	Acres	0.0	1,534.4	2,557.4
42. Urban Sprawl Reduction	Acres	0.0	1.6	2.6
43. Urban Stream Restoration	Feet	0.0	294.0	490.0
44. Wet Ponds & Wetlands	Acres	629.5	959.0	1,178.7

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	557.6	862.7	1,066.1
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	54,552.7	92,814.9	118,323.0
47. Forest Harvesting Practices	Acres	102.7	240.6	332.4

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Cameron County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	590,477
2010 Current Load	599,646
2017 Interim Planning Target – 60%*	572,186
2017 Nitrogen Reductions (2010 – 2017)	18,291
2025 Planning Target – 100%	559,993
2025 Total Nitrogen Reductions (2010 – 2025)	30,485

### Phosphorus Planning Target

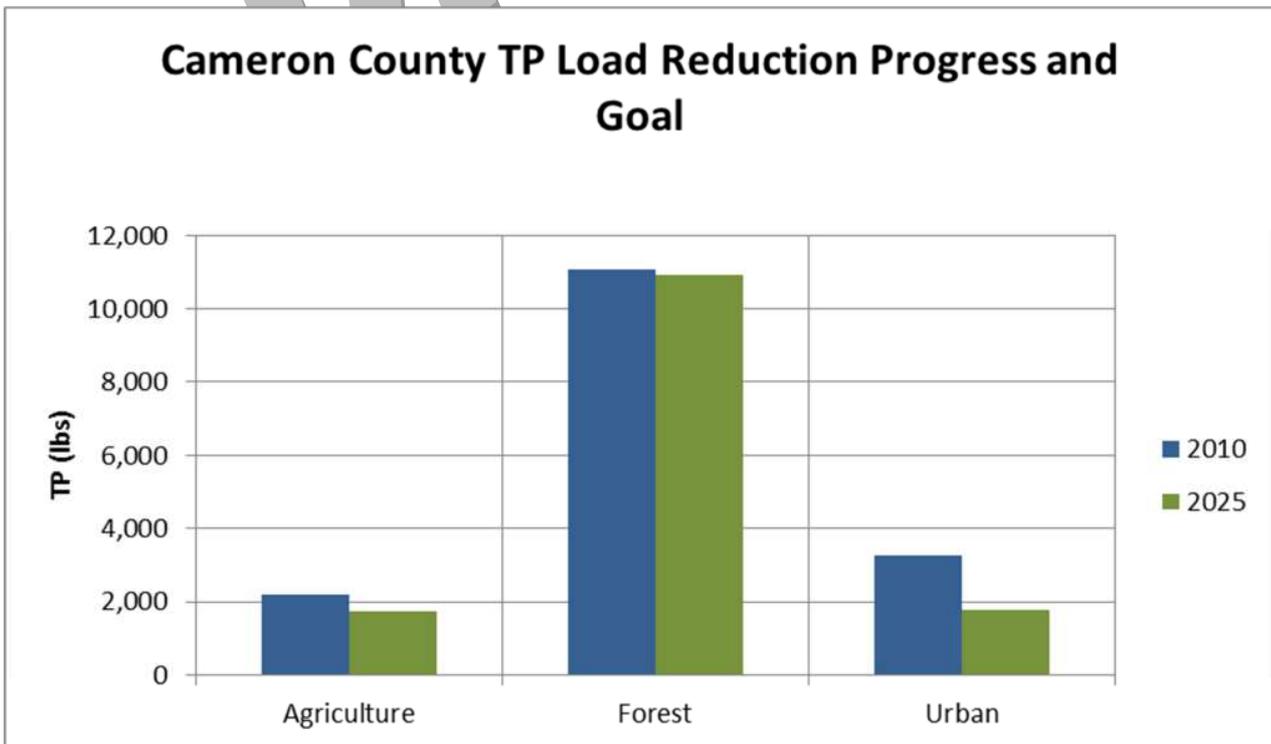
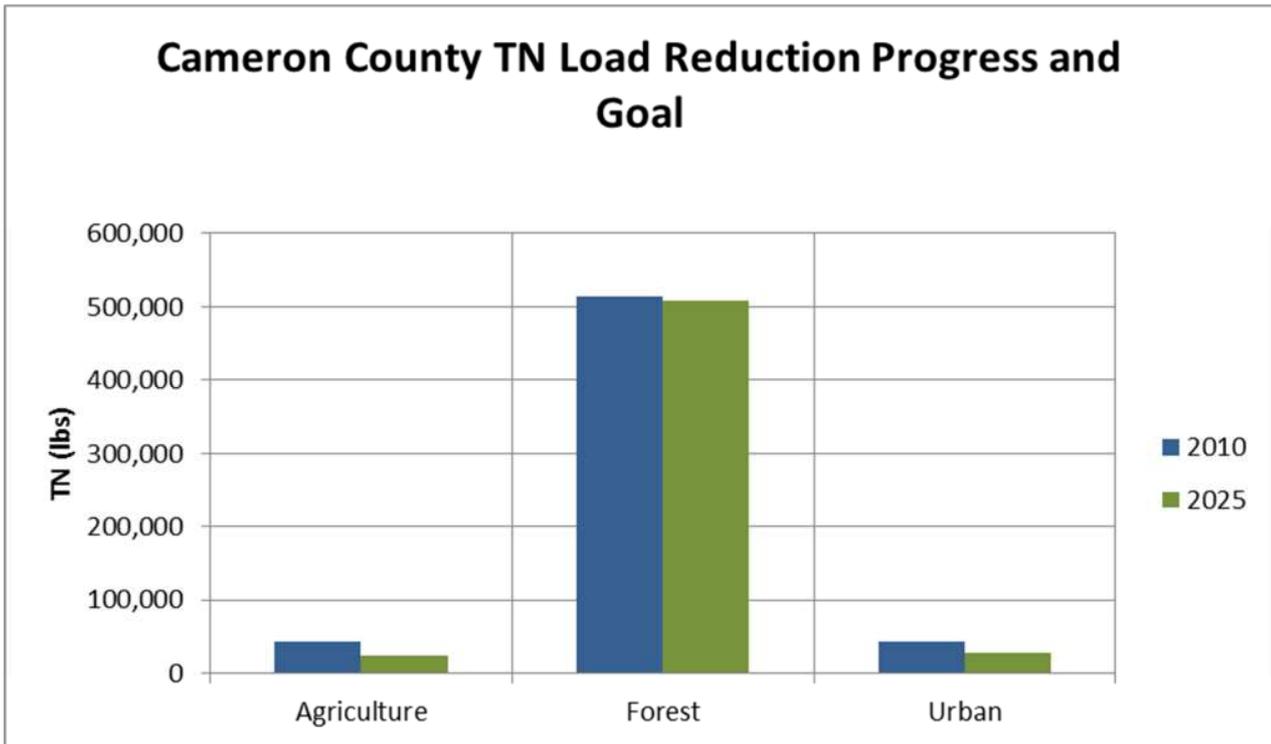
2009 Progress Load	16,445
2010 Current Load	16,545
2017 Interim Planning Target – 60%*	15,251
2017 Phosphorous Reductions (2010 – 2017)	1,195
2025 Planning Target – 100%	14,454
2025 Total Phosphorous Reductions (2010 – 2025)	1,992

### Total Suspended Solids (TSS) Planning Target

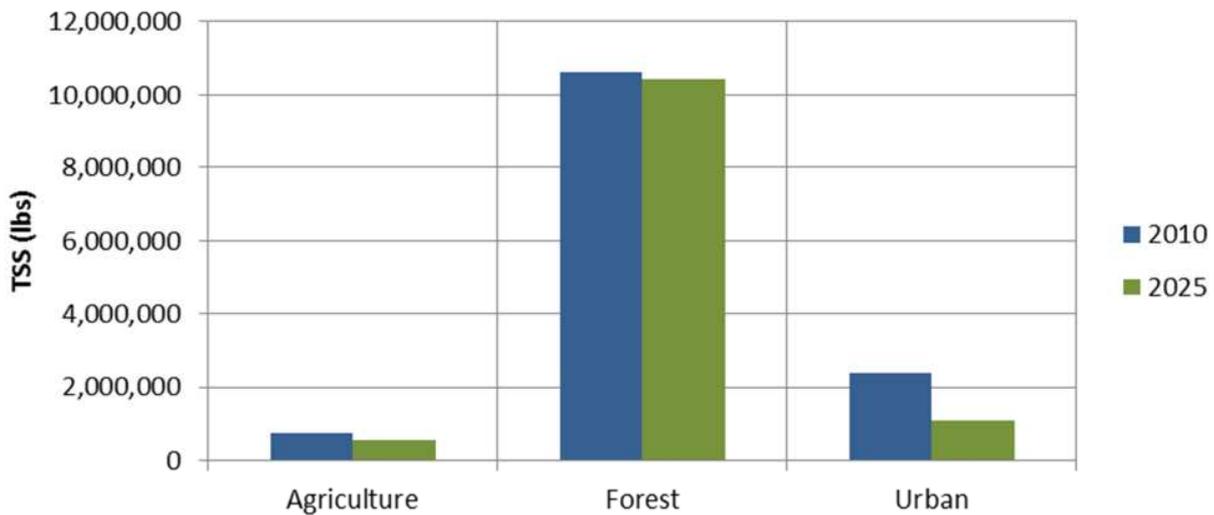
2009 Progress Load	13,701,027
2010 Current Load	13,781,249
2017 Interim Planning Target – 60%*	12,741,983
2017 TSS Reductions (2010 – 2017)	959,043
2025 Planning Target – 100%	12,102,621
2025 Total TSS Reductions (2010 – 2025)	1,598,406

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Cameron County TSS Load Reduction Progress and Goal



### County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	973	599
Conservation Till Row Crops	81	119
Hay	1,264	1,547
Alfalfa	265	260
Pasture	787	718
Animal Feeding Operations	12	12
Concentrated Animal Feeding Operations	0	0
Nursery	18	18
<b>Total Agriculture:</b>	3,401	3,273
<b>Urban</b>		
Pervious Urban Land	1,335	1,321
Impervious Urban Land	1,743	1,732
Construction	0	0
Extractive	688	668
Combined Sewer System	242	242
<b>Total Urban:</b>	4,008	3,964
<b>Forest</b>		
	246,315	246,486
<b>Total Acreage:</b>	253,723	253,723

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	2.1	2.0	1.9
2. Barnyard Runoff Controls	Acres	0.0	4.8	8.1
3. Capture Reuse <sup>+</sup>	Acres	0.0	1.1	1.8
4. Carbon Sequestration/ Alternative Crops	Acres	351.3	397.8	428.8
5. Conservation Plans/SCWQA	Acres	3,359.3	3,286.2	3,237.5
6. Conservation Tillage	Acres	81.1	103.9	119.0
7. Continuous No-Till <sup>**</sup>	Acres	0.0	1.3	2.1
8. Cover Crops	Acres	0.0	280.1	466.8
9. Forest Buffers	Ag Acres	381.6	417.0	440.5
10. Grass Buffers	Ag Acres	54.0	76.0	90.6
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	1,521.1	1,642.6	1,723.6
14. Manure Injection	Acres	0.0	3.0	5.0
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.1	0.1	0.0
17. Non-Urban Stream Restoration	Feet	1,541.2	1,665.2	1,747.9
18. Nutrient Management	Acres	2,215.1	2,239.5	2,255.8
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	45.6	82.5	107.0
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	14.6	18.3	20.7
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	0.8	1.3
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	111.4	185.7
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	939.1	952.1	960.8
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	473.6	553.3	606.4
29. Wetland Restoration	Acres	55.5	84.1	103.1

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	2,014.6	855.3	82.4
31. Dry Extended Detention Ponds	Acres	0.0	49.4	82.4
32. Erosion and Sediment Control	Acres	0.2	353.1	588.3
33. Filtering Practices ***	Acres	0.0	313.0	521.6
34. Forest Buffers	Urban Acres	0.0	13.1	21.9
35. Grass Buffers	Urban Acres	0.0	7.3	12.1
36. Impervious Surface Reduction	Acres	0.0	6.7	11.1
37. Infiltration Practices ***	Acres	0.0	751.2	1,251.9
38. Septic System Hook-ups	Units	45.0	216.3	330.6
39. Street Sweeping	Acres	0.0	134.3	223.9
40. Tree Planting	Urban Acres	0.0	1.3	2.1
41. Urban Nutrient Management	Acres	0.0	270.3	450.4
42. Urban Sprawl Reduction	Acres	0.0	0.3	0.4
43. Urban Stream Restoration	Feet	0.0	77.7	129.5
44. Wet Ponds & Wetlands	Acres	1,305.1	1,305.1	1,305.1

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	144.5	156.2	163.9
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	81,746.6	121,966.8	148,780.2
47. Forest Harvesting Practices	Acres	0.0	391.4	652.3

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Carbon County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	3,459
2010 Current Load	3,456
2017 Interim Planning Target – 60%*	2,984
2017 Nitrogen Reductions (2010 – 2017)	475
2025 Planning Target – 100%	2,667
2025 Total Nitrogen Reductions (2010 – 2025)	792

### Phosphorus Planning Target

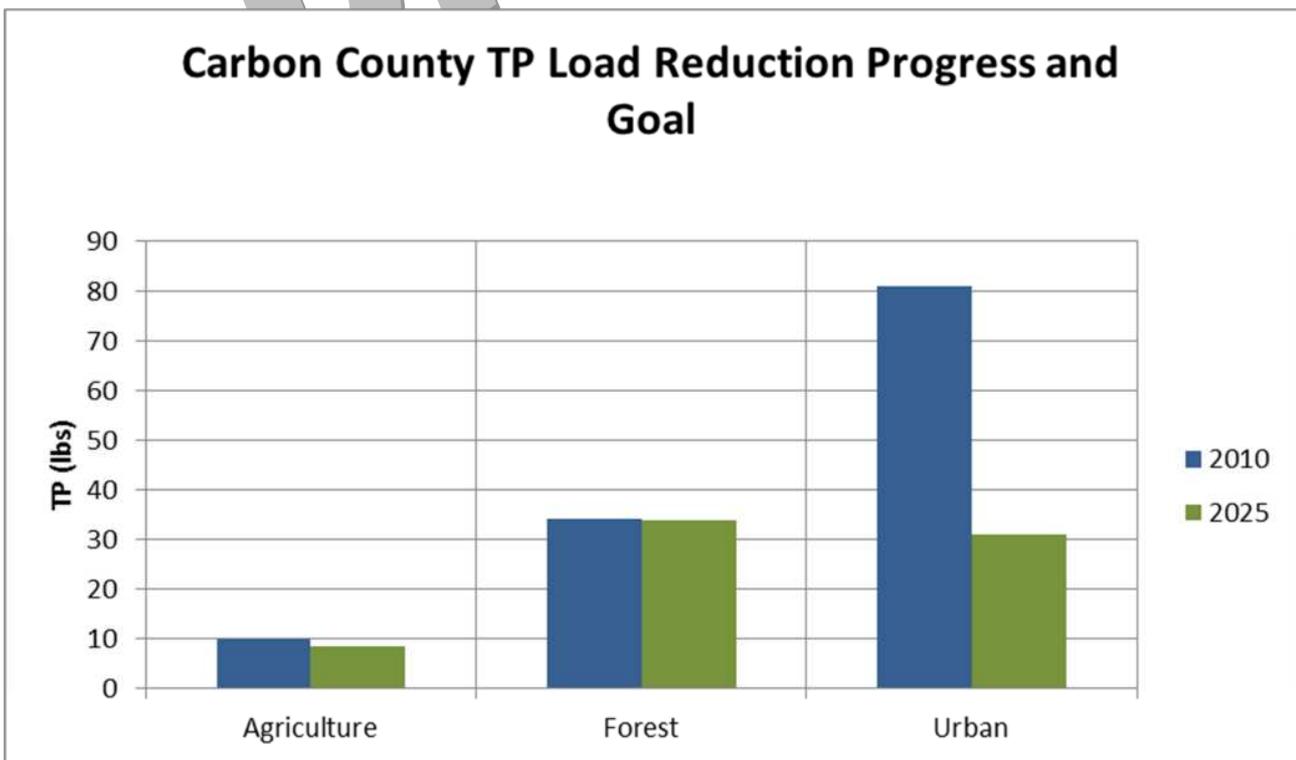
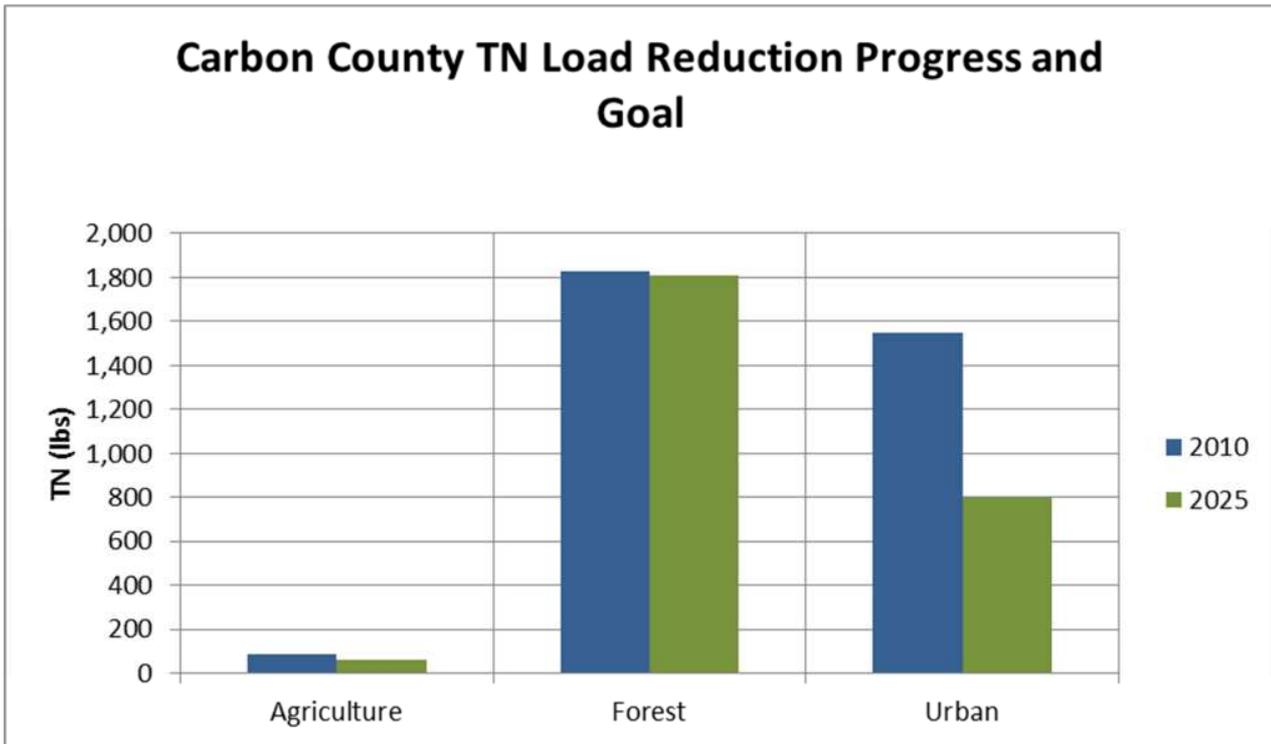
2009 Progress Load	125
2010 Current Load	125
2017 Interim Planning Target – 60%*	94
2017 Phosphorous Reductions (2010 – 2017)	31
2025 Planning Target – 100%	73
2025 Total Phosphorous Reductions (2010 – 2025)	52

### Total Suspended Solids (TSS) Planning Target

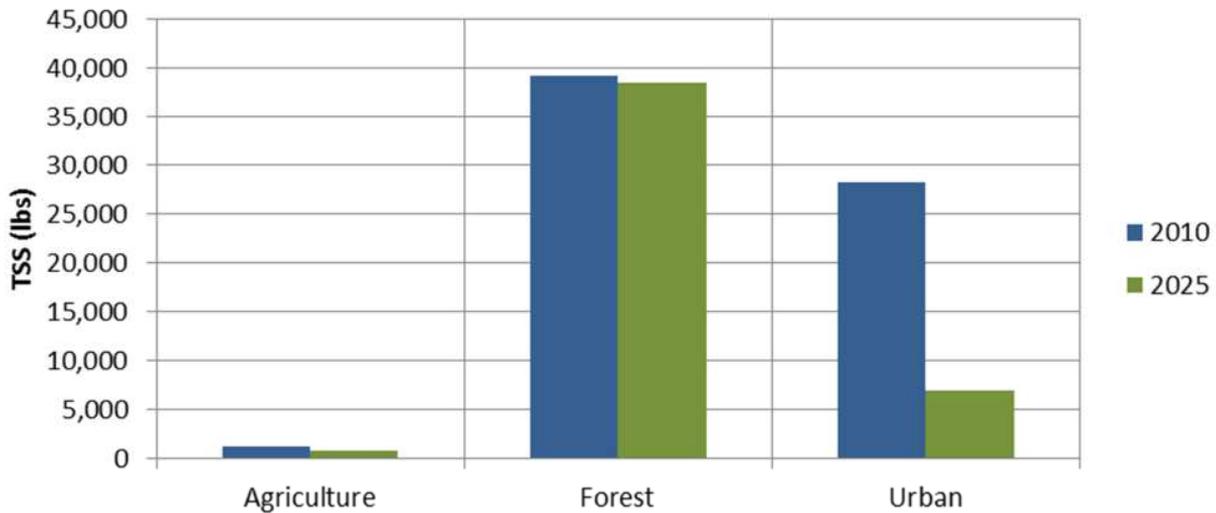
2009 Progress Load	68,827
2010 Current Load	68,802
2017 Interim Planning Target – 60%*	55,355
2017 TSS Reductions (2010 – 2017)	13,472
2025 Planning Target – 100%	46,374
2025 Total TSS Reductions (2010 – 2025)	22,453

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Carbon County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	1.1	0.4
Conservation Till Row Crops	0.0	0.4
Hay	1.5	1.6
Alfalfa	0.2	0.2
Pasture	0.2	0.2
Animal Feeding Operations	0.0	0.0
Concentrated Animal Feeding Operations	0.0	0.0
Nursery	0.2	0.2
<b>Total Agriculture:</b>	3.2	3.0
<b>Urban</b>		
Pervious Urban Land	54	53
Impervious Urban Land	25	25
Construction	0	0
Extractive	0	0
Combined Sewer System	0	0
<b>Total Urban:</b>	79	78
<b>Forest</b>		
	653	654
<b>Total Acreage:</b>	735	735

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	0.0	0.0	0.0
2. Barnyard Runoff Controls	Acres	0.0	0.0	0.0
3. Capture Reuse <sup>+</sup>	Acres	0.0	0.0	0.0
4. Carbon Sequestration/ Alternative Crops	Acres	0.0	0.0	0.1
5. Conservation Plans/SCWQA	Acres	0.0	1.6	2.7
6. Conservation Tillage	Acres	0.0	0.3	0.4
7. Continuous No-Till <sup>**</sup>	Acres	0.0	0.0	0.0
8. Cover Crops	Acres	0.0	0.3	0.6
9. Forest Buffers	Ag Acres	0.0	0.1	0.1
10. Grass Buffers	Ag Acres	0.0	0.0	0.0
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	0.0	0.1	0.1
14. Manure Injection	Acres	0.0	0.0	0.0
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.0	0.0
17. Non-Urban Stream Restoration	Feet	0.0	0.5	0.8
18. Nutrient Management	Acres	0.0	1.2	1.9
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	0.0	0.0	0.0
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	0.0	0.0	0.0
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	0.0	0.0
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	0.1	0.2
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	0.0	0.0	0.0
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	0.0	0.1	0.2
29. Wetland Restoration	Acres	0.0	0.0	0.1

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	0.0	1.2	2.0
31. Dry Extended Detention Ponds	Acres	0.0	1.2	2.0
32. Erosion and Sediment Control	Acres	0.0	0.0	0.0
33. Filtering Practices ***	Acres	0.0	16.0	26.6
34. Forest Buffers	Urban Acres	0.0	0.5	0.9
35. Grass Buffers	Urban Acres	0.0	0.3	0.4
36. Impervious Surface Reduction	Acres	0.0	0.1	0.2
37. Infiltration Practices ***	Acres	0.0	19.3	32.1
38. Septic System Hook-ups	Units	0.0	5.8	9.6
39. Street Sweeping	Acres	0.0	1.9	3.1
40. Tree Planting	Urban Acres	0.0	0.0	0.1
41. Urban Nutrient Management	Acres	0.0	9.6	16.0
42. Urban Sprawl Reduction	Acres	0.0	0.0	0.0
43. Urban Stream Restoration	Feet	0.0	2.0	3.3
44. Wet Ponds & Wetlands	Acres	0.0	4.7	7.8

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	0.0	0.0	0.0
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	0.0	295.4	492.4
47. Forest Harvesting Practices	Acres	0.0	1.0	1.7

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Centre County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	2,924,364
2010 Current Load	2,785,446
2017 Interim Planning Target – 60%*	2,511,332
2017 Nitrogen Reductions (2010 – 2017)	413,032
2025 Planning Target – 100%	2,235,977
2025 Total Nitrogen Reductions (2010 – 2025)	688,386

### Phosphorus Planning Target

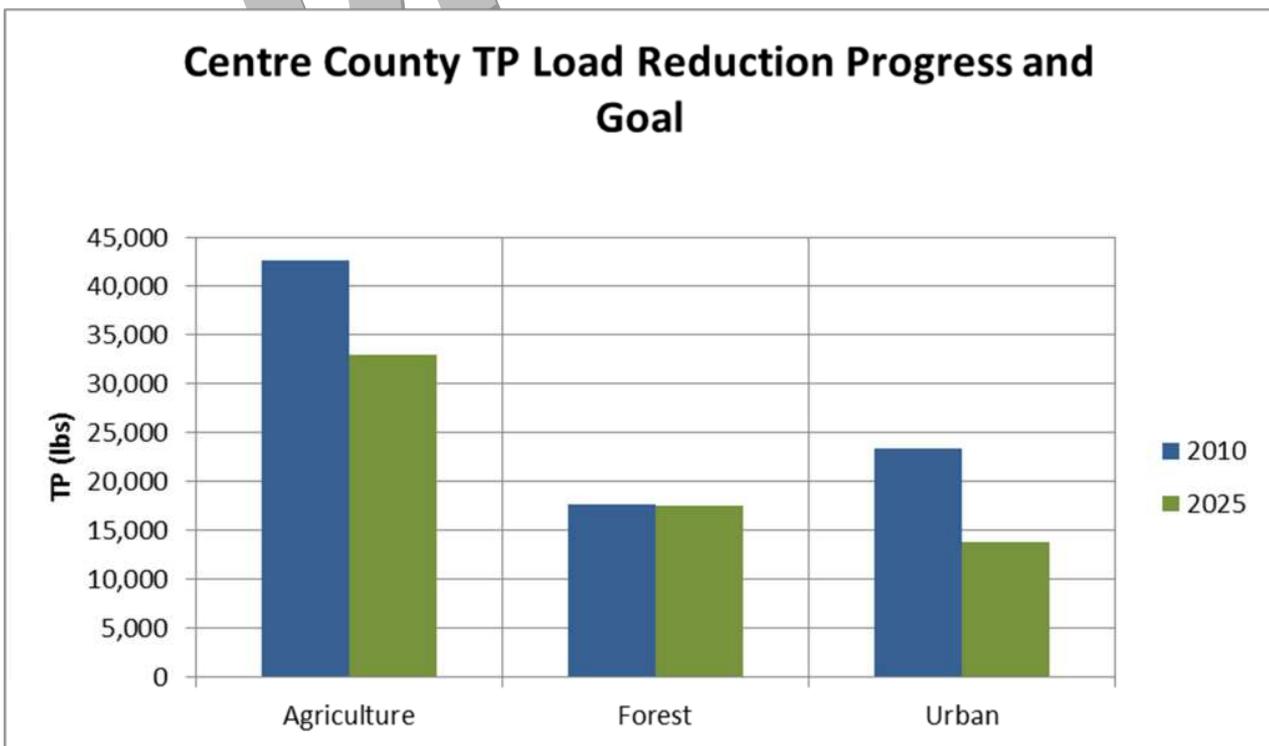
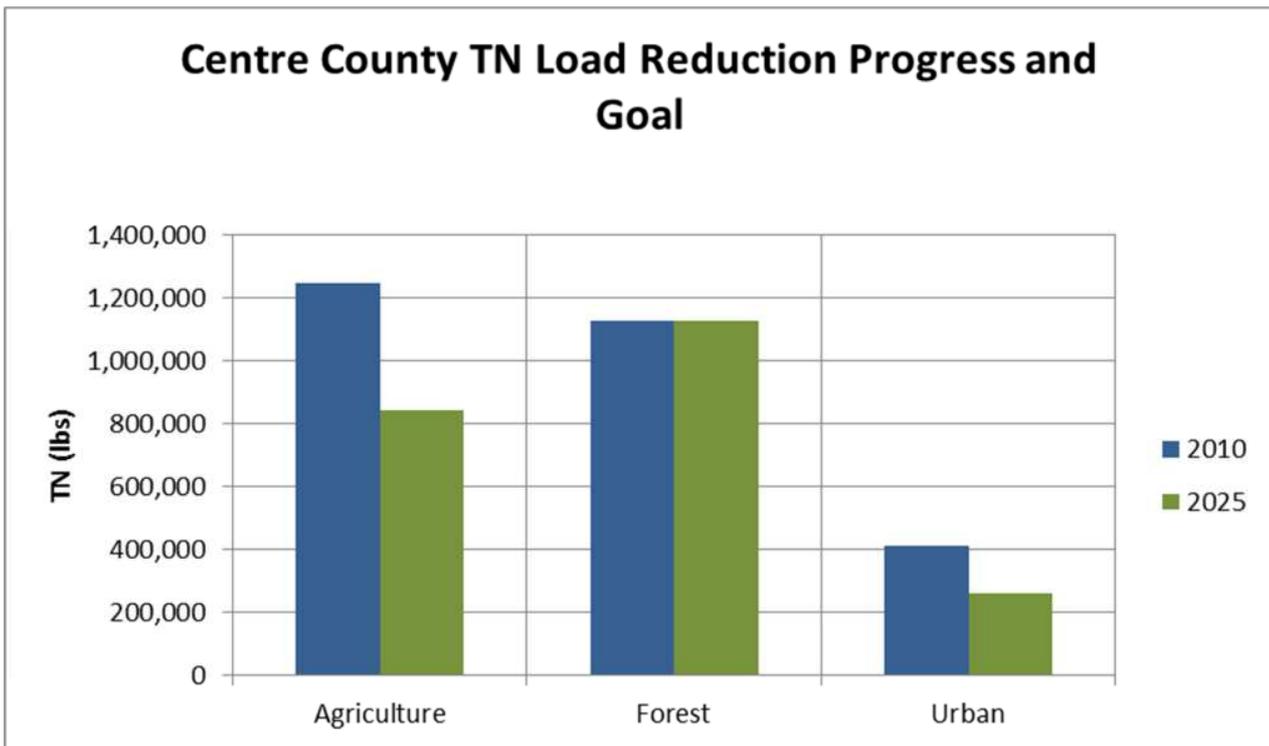
2009 Progress Load	87,245
2010 Current Load	83,842
2017 Interim Planning Target – 60%*	73,521
2017 Phosphorous Reductions (2010 – 2017)	13,724
2025 Planning Target – 100%	64,372
2025 Total Phosphorous Reductions (2010 – 2025)	22,873

### Total Suspended Solids (TSS) Planning Target

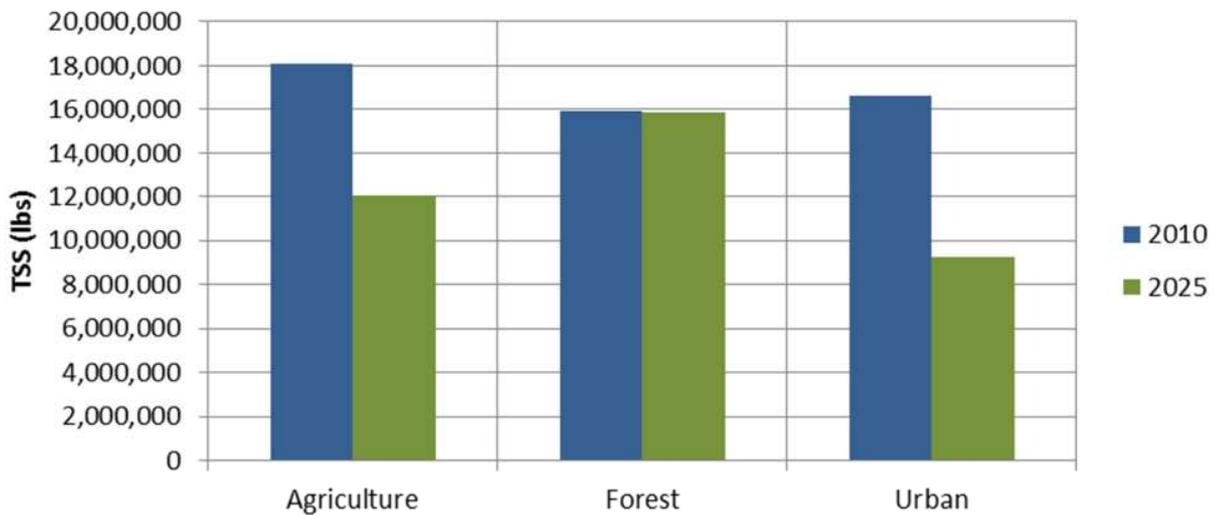
2009 Progress Load	53,279,883
2010 Current Load	50,677,685
2017 Interim Planning Target – 60%*	43,580,585
2017 TSS Reductions (2010 – 2017)	9,699,298
2025 Planning Target – 100%	37,114,386
2025 Total TSS Reductions (2010 – 2025)	16,165,497

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Centre County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	20,467	3,324
Conservation Till Row Crops	14,670	23,539
Hay	27,730	34,150
Alfalfa	18,943	18,584
Pasture	19,780	17,470
Animal Feeding Operations	323	323
Concentrated Animal Feeding Operations	0	0
Nursery	469	469
<b>Total Agriculture:</b>	102,383	97,860
<b>Urban</b>		
Pervious Urban Land	31,292	30,804
Impervious Urban Land	12,206	12,131
Construction	383	383
Extractive	6,906	6,906
Combined Sewer System	0	0
<b>Total Urban:</b>	50,787	50,224
<b>Forest</b>		
	554,980	560,066
<b>Total Acreage:</b>	708,149	708,149

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	121.1	152.6	173.6
2. Barnyard Runoff Controls	Acres	7.5	132.1	215.2
3. Capture Reuse <sup>+</sup>	Acres	0.0	28.1	46.9
4. Carbon Sequestration/ Alternative Crops	Acres	1,066.1	2,158.8	2,887.3
5. Conservation Plans/SCWQA	Acres	44,098.7	73,709.1	93,449.4
6. Conservation Tillage	Acres	14,670.3	19,991.8	23,539.4
7. Continuous No-Till <sup>**</sup>	Acres	2,206.0	1,129.6	411.9
8. Cover Crops	Acres	4,923.0	12,445.9	17,461.2
9. Forest Buffers	Ag Acres	1,307.4	3,110.6	4,312.8
10. Grass Buffers	Ag Acres	1,282.5	1,528.1	1,691.9
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	7,626.7	10,272.7	12,036.8
14. Manure Injection	Acres	0.0	477.7	796.1
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.7	2.4	3.5
17. Non-Urban Stream Restoration	Feet	11,945.5	15,780.3	18,336.8
18. Nutrient Management	Acres	40,109.7	56,905.4	68,102.6
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	232.6	1,655.1	2,603.5
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	137.3	342.1	478.6
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	119.4	199.0
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	3,643.3	6,072.2
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	2,609.8	2,606.7	2,604.6
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	2,473.4	9,841.1	14,752.9
29. Wetland Restoration	Acres	147.8	1,063.6	1,674.2

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	17,235.3	7,538.1	1,073.4
31. Dry Extended Detention Ponds	Acres	2,825.6	1,774.3	1,073.4
32. Erosion and Sediment Control	Acres	382.7	4,065.1	6,520.0
33. Filtering Practices ***	Acres	0.0	8,341.0	13,901.7
34. Forest Buffers	Urban Acres	0.0	306.6	511.0
35. Grass Buffers	Urban Acres	0.0	149.8	249.6
36. Impervious Surface Reduction	Acres	0.0	45.2	75.4
37. Infiltration Practices ***	Acres	1,968.6	10,748.9	16,602.5
38. Septic System Hook-ups	Units	2,167.1	4,459.9	5,988.4
39. Street Sweeping	Acres	0.0	908.3	1,513.9
40. Tree Planting	Urban Acres	0.0	25.8	42.9
41. Urban Nutrient Management	Acres	0.0	5,544.7	9,241.2
42. Urban Sprawl Reduction	Acres	0.0	5.7	9.4
43. Urban Stream Restoration	Feet	68.3	1,120.2	1,821.4
44. Wet Ponds & Wetlands	Acres	3,460.4	3,960.2	4,293.5

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	654.5	654.5	654.5
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	191,761.9	309,481.2	387,960.7
47. Forest Harvesting Practices	Acres	594.0	1,116.3	1,464.5

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Chester County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	981,966
2010 Current Load	967,638
2017 Interim Planning Target – 60%*	760,251
2017 Nitrogen Reductions (2010 – 2017)	221,715
2025 Planning Target – 100%	612,441
2025 Total Nitrogen Reductions (2010 – 2025)	369,525

### Phosphorus Planning Target

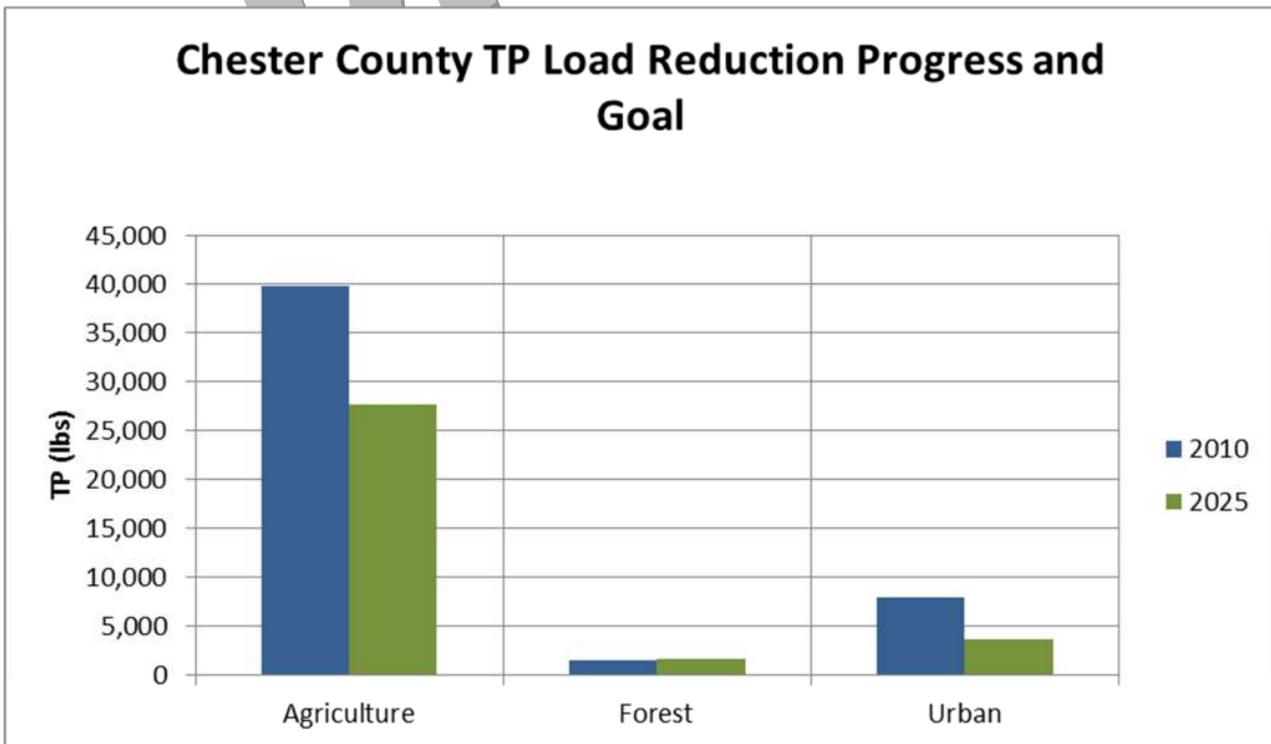
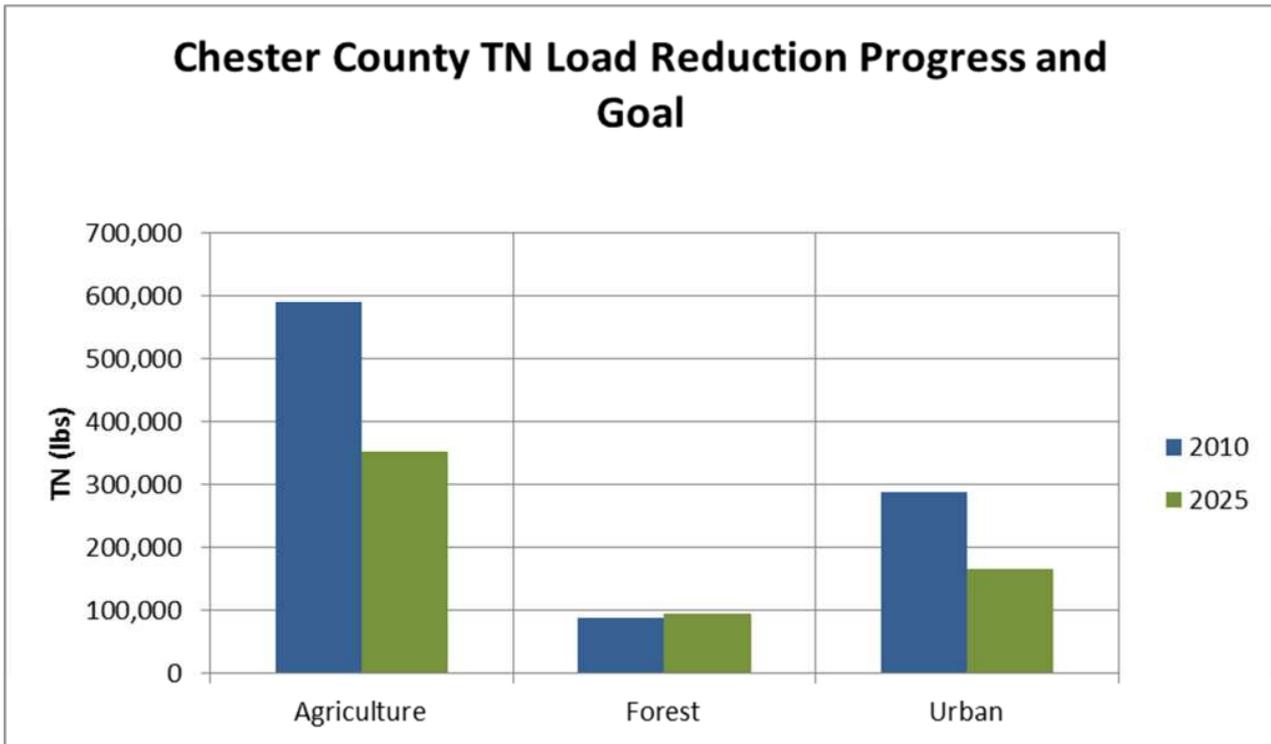
2009 Progress Load	51,495
2010 Current Load	49,395
2017 Interim Planning Target – 60%*	40,375
2017 Phosphorous Reductions (2010 – 2017)	11,120
2025 Planning Target – 100%	32,962
2025 Total Phosphorous Reductions (2010 – 2025)	18,534

### Total Suspended Solids (TSS) Planning Target

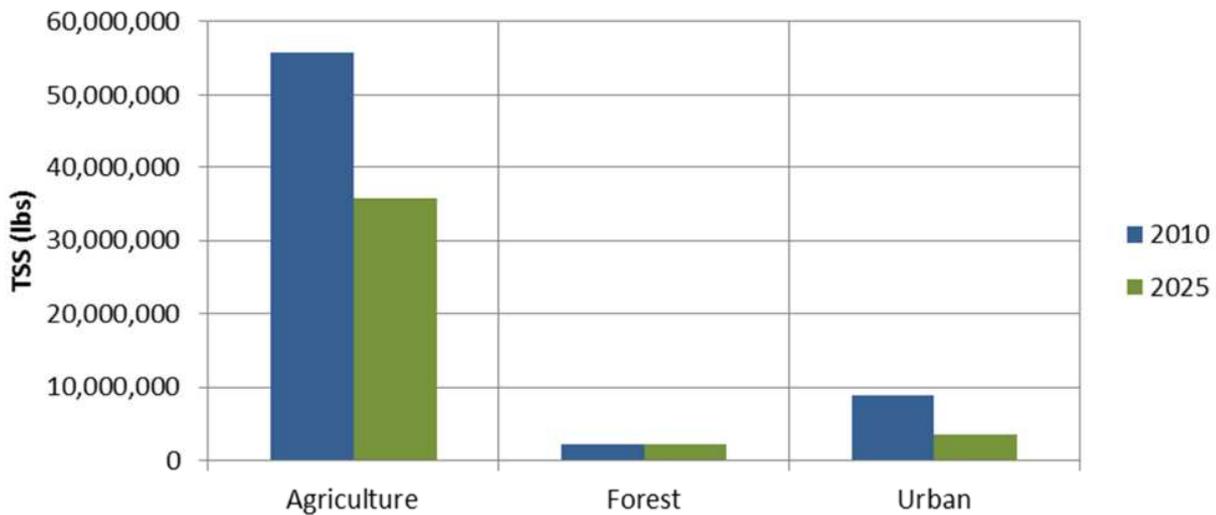
2009 Progress Load	68,692,345
2010 Current Load	66,887,201
2017 Interim Planning Target – 60%*	52,302,042
2017 TSS Reductions (2010 – 2017)	16,390,303
2025 Planning Target – 100%	41,375,173
2025 Total TSS Reductions (2010 – 2025)	27,317,171

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Chester County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	10,418	1,349
Conservation Till Row Crops	7,769	11,684
Hay	9,069	13,290
Alfalfa	5,490	5,387
Pasture	7,952	6,908
Animal Feeding Operations	86	86
Concentrated Animal Feeding Operations	13	13
Nursery	214	214
<b>Total Agriculture:</b>	41,011	38,931
<b>Urban</b>		
Pervious Urban Land	16,865	16,580
Impervious Urban Land	2,992	2,974
Construction	64	64
Extractive	52	51
Combined Sewer System	0	0
<b>Total Urban:</b>	19,973	19,670
<b>Forest</b>		
	30,085	32,469
<b>Total Acreage:</b>	91,069	91,069

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	75.2	96.4	110.6
2. Barnyard Runoff Controls	Acres	3.7	41.1	66.0
3. Capture Reuse <sup>+</sup>	Acres	0.0	12.8	21.4
4. Carbon Sequestration/ Alternative Crops	Acres	27.5	650.0	1,065.0
5. Conservation Plans/SCWQA	Acres	9,038.8	25,600.6	36,641.8
6. Conservation Tillage	Acres	7,769.4	10,118.2	11,684.1
7. Continuous No-Till **	Acres	561.0	347.1	204.5
8. Cover Crops	Acres	3,106.1	6,325.5	8,471.8
9. Forest Buffers	Ag Acres	555.2	1,316.6	1,824.2
10. Grass Buffers	Ag Acres	37.3	383.8	614.9
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	539.2	2,228.7	3,355.1
14. Manure Injection	Acres	0.0	221.7	369.5
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.3	1.5	2.2
17. Non-Urban Stream Restoration	Feet	936.6	2,397.0	3,370.7
18. Nutrient Management	Acres	18,100.2	24,282.8	28,404.5
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	1,270.1	1,270.1	1,270.1
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	51.6	141.3	201.1
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	55.4	92.4
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	1,545.0	2,575.0
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	260.4	394.2	483.3
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	730.8	3,646.3	5,590.0
29. Wetland Restoration	Acres	68.9	423.9	660.6

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	3,514.2	1,699.0	488.9
31. Dry Extended Detention Ponds	Acres	105.8	335.6	488.9
32. Erosion and Sediment Control	Acres	20.4	60.8	87.7
33. Filtering Practices ***	Acres	0.0	3,879.0	6,465.0
34. Forest Buffers	Urban Acres	0.0	165.0	274.9
35. Grass Buffers	Urban Acres	0.0	80.6	134.4
36. Impervious Surface Reduction	Acres	0.2	11.2	18.5
37. Infiltration Practices ***	Acres	74.1	4,681.8	7,753.6
38. Septic System Hook-ups	Units	3,278.0	2,976.8	2,776.0
39. Street Sweeping	Acres	0.0	222.7	371.2
40. Tree Planting	Urban Acres	0.0	13.9	23.1
41. Urban Nutrient Management	Acres	0.0	2,984.5	4,974.1
42. Urban Sprawl Reduction	Acres	0.0	3.0	5.1
43. Urban Stream Restoration	Feet	0.0	497.7	829.6
44. Wet Ponds & Wetlands	Acres	1,342.9	1,710.4	1,955.5

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	1.2	1.6	1.9
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	16,153.4	33,439.7	44,963.9
47. Forest Harvesting Practices	Acres	0.0	47.2	78.6

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Clearfield County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	1,290,238
2010 Current Load	1,281,012
2017 Interim Planning Target – 60%*	1,206,834
2017 Nitrogen Reductions (2010 – 2017)	83,404
2025 Planning Target – 100%	1,151,231
2025 Total Nitrogen Reductions (2010 – 2025)	139,007

### Phosphorus Planning Target

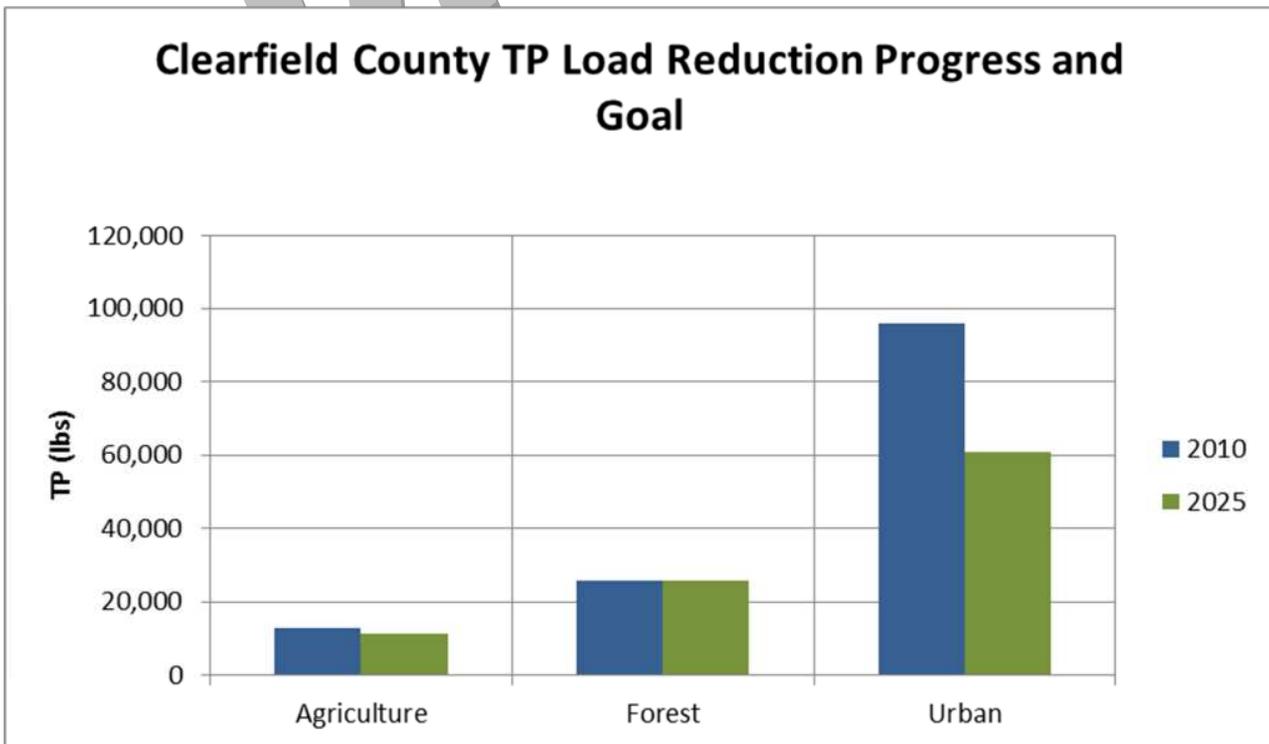
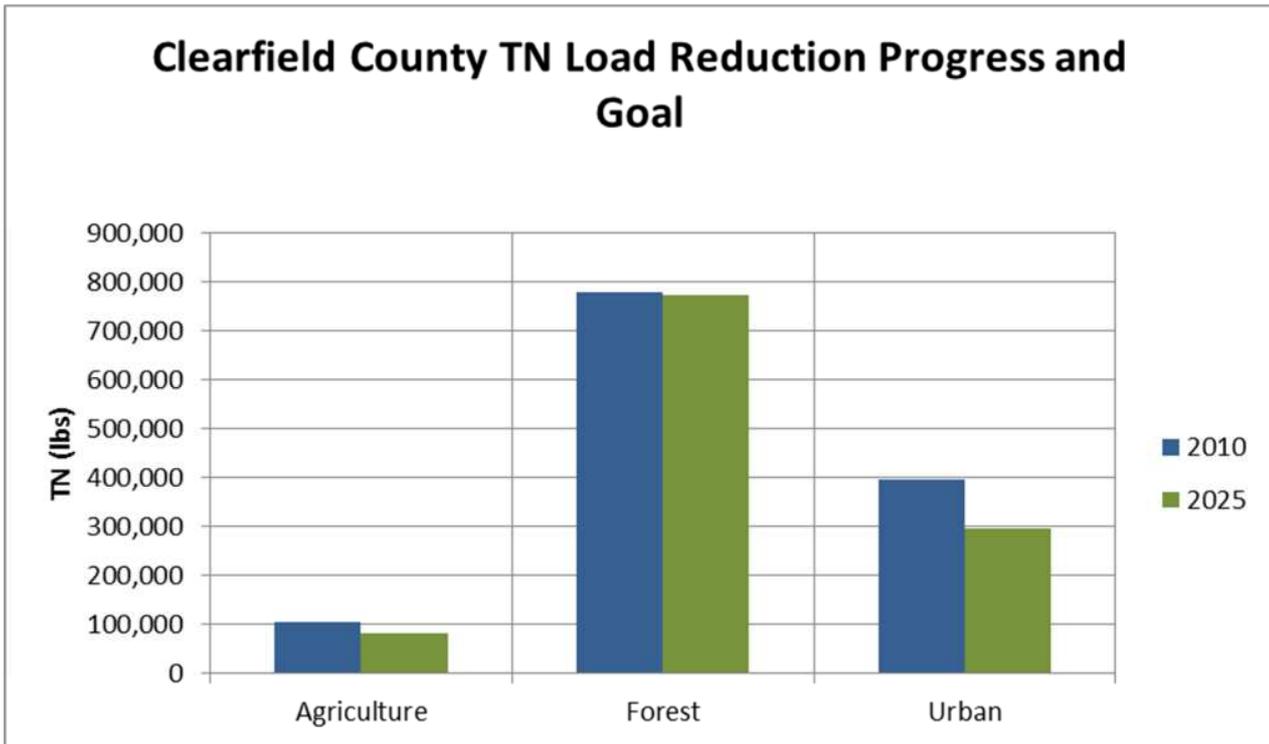
2009 Progress Load	136,566
2010 Current Load	134,920
2017 Interim Planning Target – 60%*	113,282
2017 Phosphorous Reductions (2010 – 2017)	23,283
2025 Planning Target – 100%	97,760
2025 Total Phosphorous Reductions (2010 – 2025)	38,806

### Total Suspended Solids (TSS) Planning Target

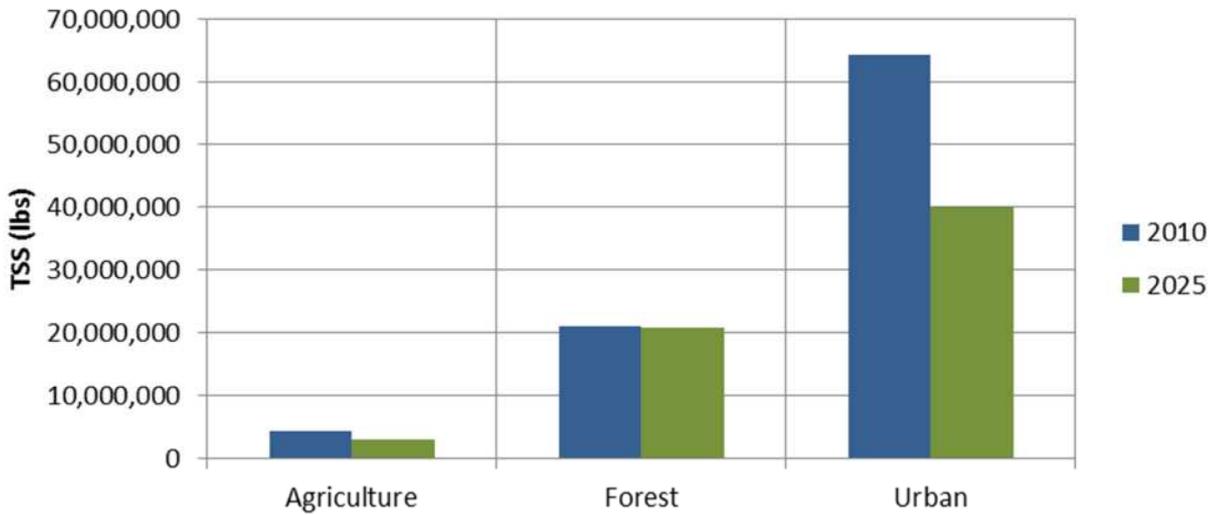
2009 Progress Load	91,311,850
2010 Current Load	89,666,770
2017 Interim Planning Target – 60%*	74,871,978
2017 TSS Reductions (2010 – 2017)	16,439,872
2025 Planning Target – 100%	63,912,063
2025 Total TSS Reductions (2010 – 2025)	27,399,787

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Clearfield County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	2,073	565
Conservation Till Row Crops	1,292	2,364
Hay	15,053	14,751
Alfalfa	6,982	6,845
Pasture	5,889	5,249
Animal Feeding Operations	82	82
Concentrated Animal Feeding Operations	0	0
Nursery	92	92
<b>Total Agriculture:</b>	31,462	29,947
<b>Urban</b>		
Pervious Urban Land	17,444	17,189
Impervious Urban Land	9,638	9,579
Construction	0	0
Extractive	47,732	46,491
Combined Sewer System	3,661	3,661
<b>Total Urban:</b>	78,476	76,919
<b>Forest</b>		
	555,766	558,837
<b>Total Acreage:</b>	665,703	665,704

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	32.5	31.2	30.3
2. Barnyard Runoff Controls	Acres	0.0	32.7	54.5
3. Capture Reuse <sup>+</sup>	Acres	0.0	5.5	9.2
4. Carbon Sequestration/ Alternative Crops	Acres	889.0	954.7	998.5
5. Conservation Plans/SCWQA	Acres	11,821.8	21,767.6	28,398.1
6. Conservation Tillage	Acres	1,291.8	1,935.3	2,364.3
7. Continuous No-Till <sup>**</sup>	Acres	59.9	48.8	41.4
8. Cover Crops	Acres	15.6	1,148.5	1,903.8
9. Forest Buffers	Ag Acres	325.5	828.2	1,163.3
10. Grass Buffers	Ag Acres	52.9	189.7	281.0
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	4,260.4	4,260.4	4,260.4
14. Manure Injection	Acres	0.0	57.8	96.3
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.4	0.6
17. Non-Urban Stream Restoration	Feet	5,426.1	6,916.9	7,910.8
18. Nutrient Management	Acres	17,557.4	19,043.3	20,033.9
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	412.2	634.1	782.1
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	129.7	139.6	146.2
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	14.4	24.1
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	1,064.5	1,774.2
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	2,425.2	2,600.7	2,717.7
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,403.1	3,220.3	4,431.8
29. Wetland Restoration	Acres	137.6	368.7	522.9

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	14,490.0	6,251.6	759.4
31. Dry Extended Detention Ponds	Acres	4,186.1	2,130.1	759.4
32. Erosion and Sediment Control	Acres	0.0	24,572.0	40,953.4
33. Filtering Practices ***	Acres	0.0	6,196.7	10,327.8
34. Forest Buffers	Urban Acres	0.0	171.0	285.0
35. Grass Buffers	Urban Acres	0.0	99.1	165.2
36. Impervious Surface Reduction	Acres	0.0	37.0	61.7
37. Infiltration Practices ***	Acres	9,007.3	11,075.4	12,454.1
38. Septic System Hook-ups	Units	851.9	2,566.0	3,708.8
39. Street Sweeping	Acres	0.0	744.1	1,240.2
40. Tree Planting	Urban Acres	0.0	17.0	28.4
41. Urban Nutrient Management	Acres	0.0	3,678.9	6,131.4
42. Urban Sprawl Reduction	Acres	0.0	3.7	6.1
43. Urban Stream Restoration	Feet	0.0	681.4	1,135.6
44. Wet Ponds & Wetlands	Acres	2,467.0	2,809.3	3,037.6

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	1,698.5	2,444.1	2,941.1
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	200,990.6	333,524.2	421,880.0
47. Forest Harvesting Practices	Acres	0.0	883.4	1,472.3

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Clinton County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	2,094,636
2010 Current Load	2,067,840
2017 Interim Planning Target – 60%*	1,883,050
2017 Nitrogen Reductions (2010 – 2017)	211,585
2025 Planning Target – 100%	1,741,993
2025 Total Nitrogen Reductions (2010 – 2025)	352,642

### Phosphorus Planning Target

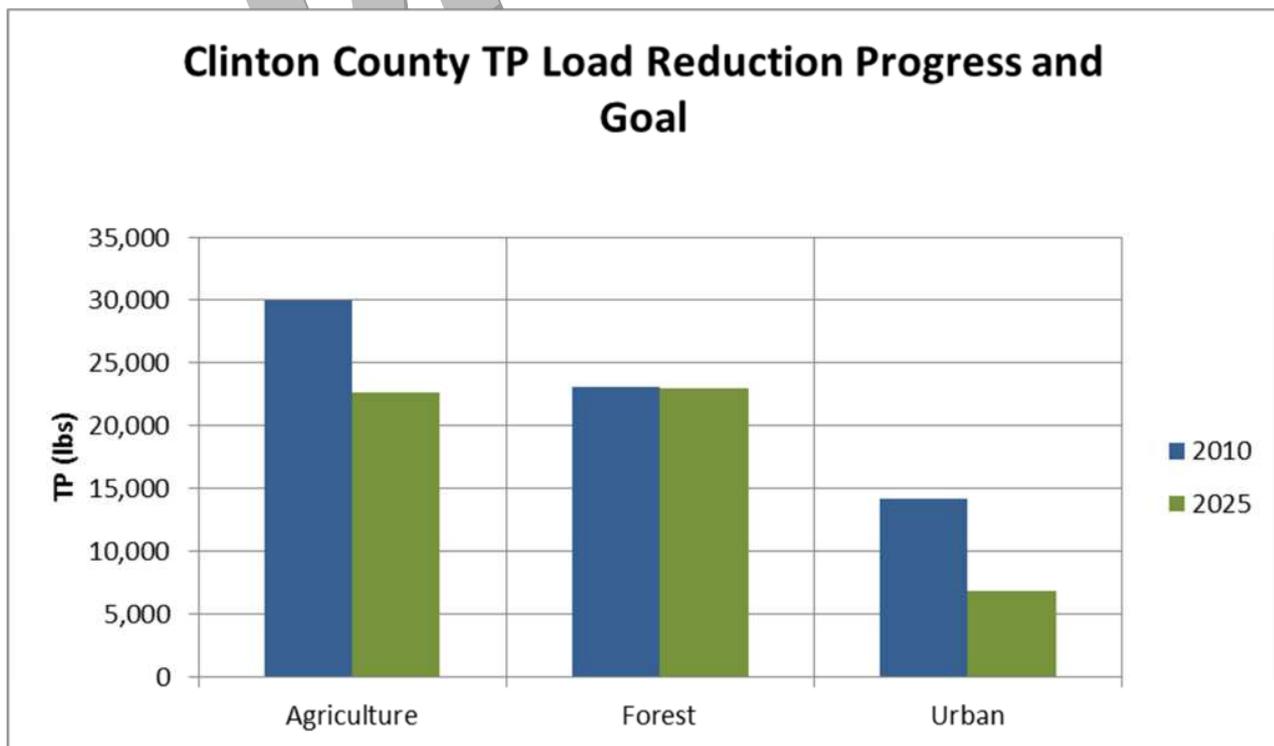
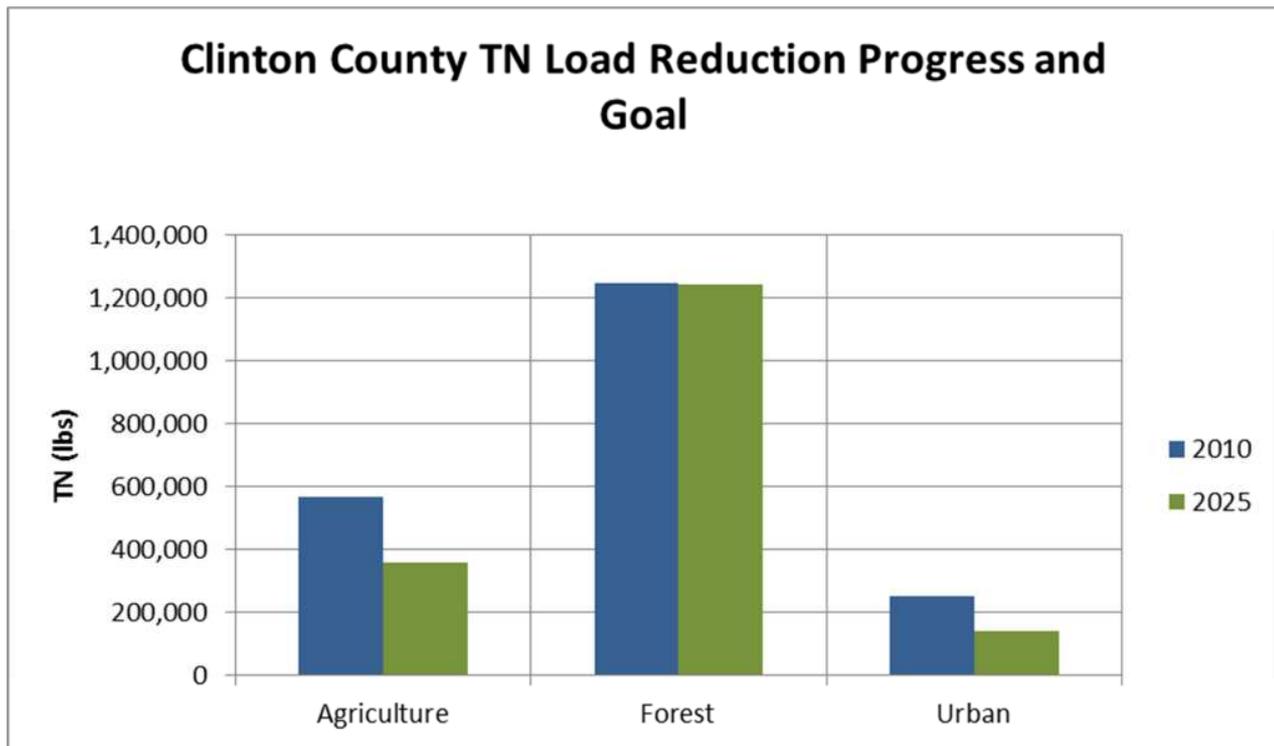
2009 Progress Load	69,173
2010 Current Load	67,334
2017 Interim Planning Target – 60%*	59,187
2017 Phosphorous Reductions (2010 – 2017)	9,986
2025 Planning Target – 100%	52,529
2025 Total Phosphorous Reductions (2010 – 2025)	16,644

### Total Suspended Solids (TSS) Planning Target

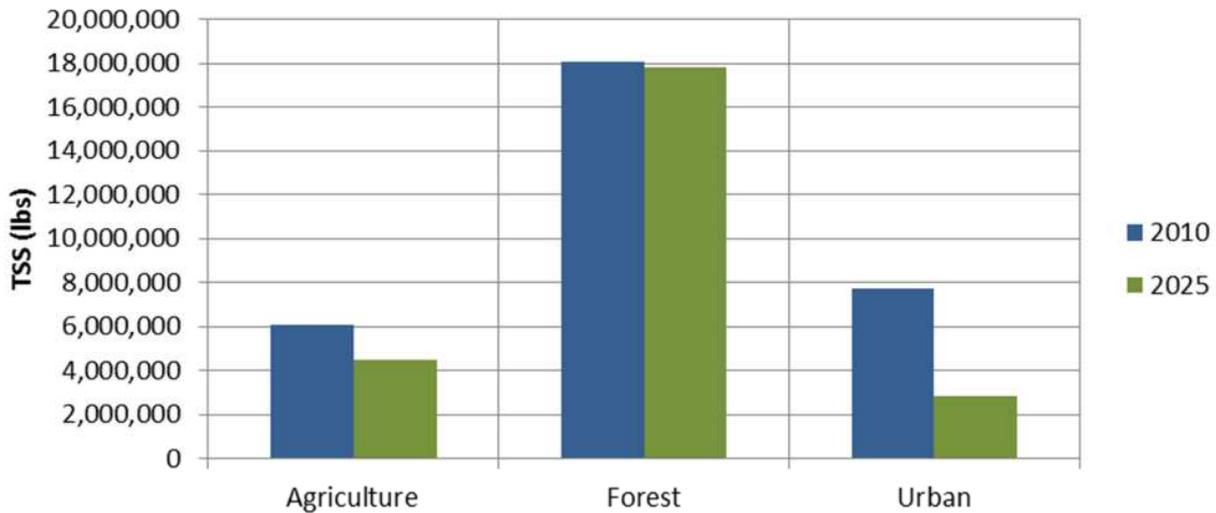
2009 Progress Load	33,448,623
2010 Current Load	31,851,263
2017 Interim Planning Target – 60%*	28,465,828
2017 TSS Reductions (2010 – 2017)	4,982,796
2025 Planning Target – 100%	25,143,964
2025 Total TSS Reductions (2010 – 2025)	8,304,660

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Clinton County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	7,468	1,082
Conservation Till Row Crops	5,455	8,415
Hay	9,858	12,748
Alfalfa	8,365	8,215
Pasture	9,335	8,285
Animal Feeding Operations	114	114
Concentrated Animal Feeding Operations	20	20
Nursery	130	130
<b>Total Agriculture:</b>	40,745	39,009
<b>Urban</b>		
Pervious Urban Land	11,154	10,997
Impervious Urban Land	7,239	7,194
Construction	2	2
Extractive	2,198	2,178
Combined Sewer System	0	0
<b>Total Urban:</b>	20,592	20,370
<b>Forest</b>		
	508,928	510,886
<b>Total Acreage:</b>	570,266	570,266

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	46.1	78.9	100.8
2. Barnyard Runoff Controls	Acres	1.0	53.9	89.2
3. Capture Reuse <sup>+</sup>	Acres	0.0	7.8	13.0
4. Carbon Sequestration/ Alternative Crops	Acres	740.1	1,145.1	1,415.2
5. Conservation Plans/SCWQA	Acres	23,741.5	31,835.9	37,232.1
6. Conservation Tillage	Acres	5,455.4	7,231.0	8,414.8
7. Continuous No-Till <sup>**</sup>	Acres	1,338.6	623.8	147.3
8. Cover Crops	Acres	834.0	4,037.4	6,173.1
9. Forest Buffers	Ag Acres	904.2	1,620.4	2,097.8
10. Grass Buffers	Ag Acres	125.0	415.5	609.2
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	4,097.8	5,150.8	5,852.8
14. Manure Injection	Acres	0.0	177.3	295.6
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.2	1.3	2.1
17. Non-Urban Stream Restoration	Feet	7,285.0	8,493.6	9,299.3
18. Nutrient Management	Acres	16,328.4	22,381.7	26,417.3
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	103.1	782.1	1,234.7
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	55.3	157.9	226.3
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	44.3	73.9
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	1,312.8	2,187.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,992.0	1,992.8	1,993.3
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,523.3	4,807.3	6,996.7
29. Wetland Restoration	Acres	110.4	435.5	652.2

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	11,202.1	4,753.7	454.8
31. Dry Extended Detention Ponds	Acres	0.0	272.9	454.8
32. Erosion and Sediment Control	Acres	1.6	1,150.9	1,917.1
33. Filtering Practices ***	Acres	0.0	3,711.0	6,185.0
34. Forest Buffers	Urban Acres	0.0	109.4	182.4
35. Grass Buffers	Urban Acres	0.0	53.5	89.1
36. Impervious Surface Reduction	Acres	0.0	26.8	44.7
37. Infiltration Practices ***	Acres	0.0	4,475.1	7,458.4
38. Septic System Hook-ups	Units	343.9	927.8	1,317.0
39. Street Sweeping	Acres	0.0	538.7	897.8
40. Tree Planting	Urban Acres	0.0	9.2	15.3
41. Urban Nutrient Management	Acres	0.0	1,979.6	3,299.3
42. Urban Sprawl Reduction	Acres	0.0	2.0	3.4
43. Urban Stream Restoration	Feet	0.0	463.0	771.7
44. Wet Ponds & Wetlands	Acres	2,949.3	2,949.3	2,949.3

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	275.5	288.0	296.3
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	189,243.0	296,919.4	368,703.7
47. Forest Harvesting Practices	Acres	251.0	907.9	1,345.8

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Columbia County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	2,822,422
2010 Current Load	2,414,910
2017 Interim Planning Target – 60%*	2,248,291
2017 Nitrogen Reductions (2010 – 2017)	574,131
2025 Planning Target – 100%	1,865,537
2025 Total Nitrogen Reductions (2010 – 2025)	956,885

### Phosphorus Planning Target

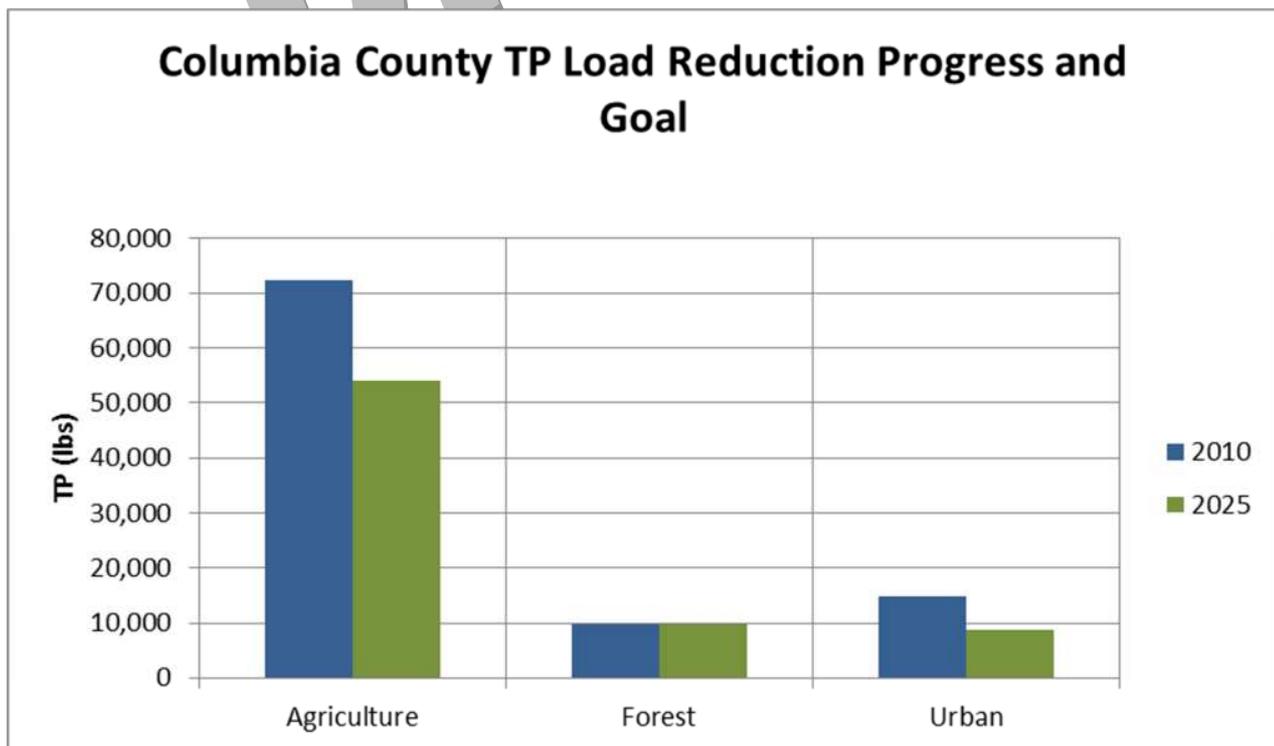
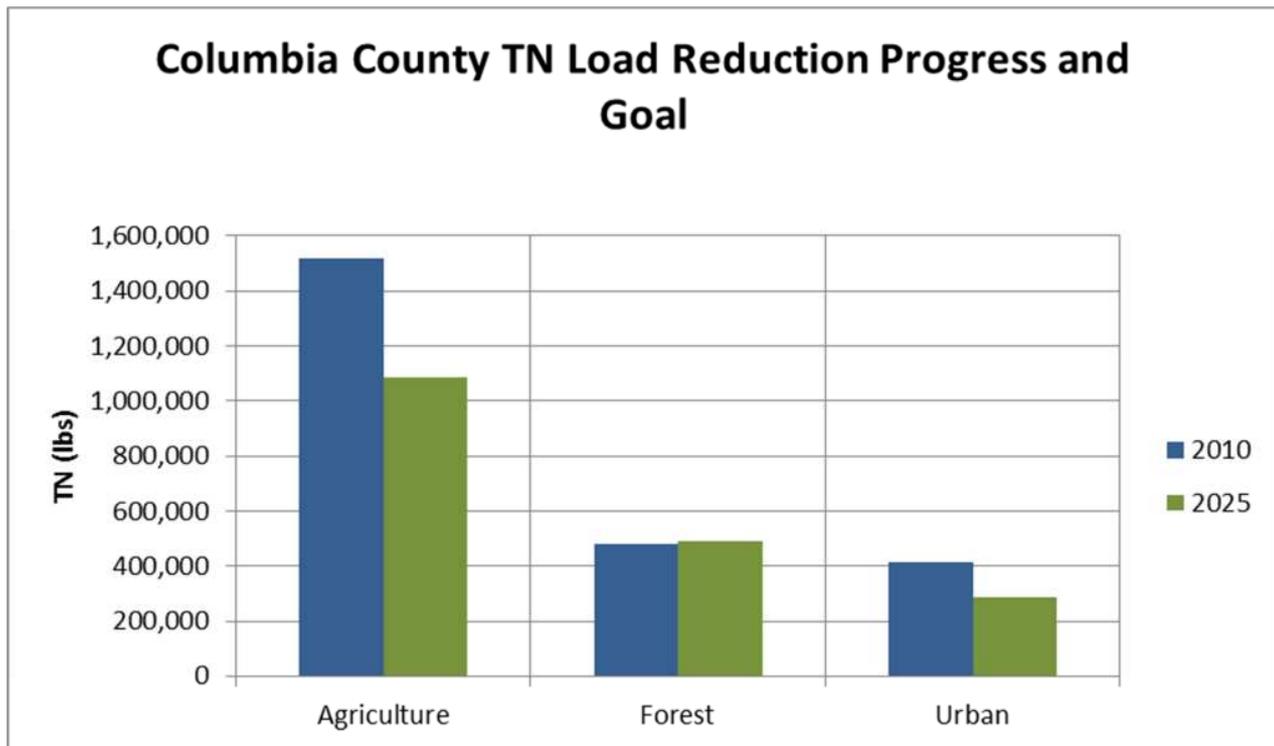
2009 Progress Load	104,493
2010 Current Load	96,806
2017 Interim Planning Target – 60%*	85,351
2017 Phosphorous Reductions (2010 – 2017)	19,142
2025 Planning Target – 100%	72,590
2025 Total Phosphorous Reductions (2010 – 2025)	31,903

### Total Suspended Solids (TSS) Planning Target

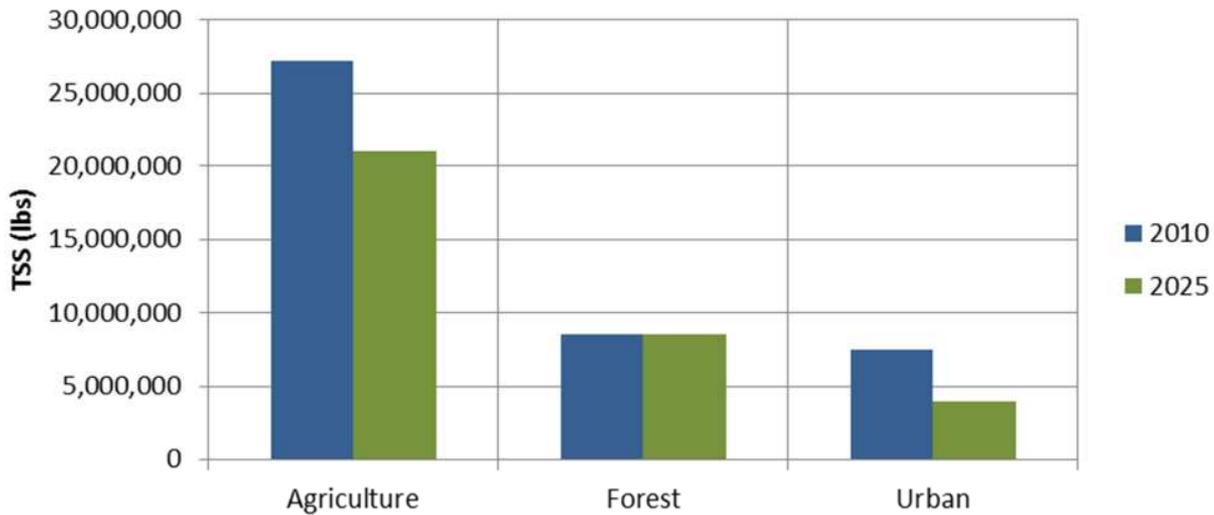
2009 Progress Load	48,930,831
2010 Current Load	43,231,933
2017 Interim Planning Target – 60%*	39,690,410
2017 TSS Reductions (2010 – 2017)	9,240,421
2025 Planning Target – 100%	33,530,129
2025 Total TSS Reductions (2010 – 2025)	15,400,702

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Columbia County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	24,319	7,462
Conservation Till Row Crops	14,213	25,572
Hay	35,524	37,810
Alfalfa	5,987	5,874
Pasture	10,925	9,713
Animal Feeding Operations	98	98
Concentrated Animal Feeding Operations	15	15
Nursery	325	325
<b>Total Agriculture:</b>	91,406	86,869
<b>Urban</b>		
Pervious Urban Land	21,848	21,500
Impervious Urban Land	7,343	7,298
Construction	264	264
Extractive	1,291	1,291
Combined Sewer System	1,391	1,391
<b>Total Urban:</b>	32,137	31,744
<b>Forest</b>		
	186,841	191,771
<b>Total Acreage:</b>	310,384	310,384

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	41.7	63.9	78.8
2. Barnyard Runoff Controls	Acres	0.0	45.3	75.4
3. Capture Reuse <sup>+</sup>	Acres	0.0	19.5	32.5
4. Carbon Sequestration/ Alternative Crops	Acres	702.1	2,354.7	3,456.4
5. Conservation Plans/SCWQA	Acres	56,781.2	71,945.2	82,054.5
6. Conservation Tillage	Acres	14,212.6	21,028.4	25,572.2
7. Continuous No-Till <sup>**</sup>	Acres	1,689.9	944.5	447.5
8. Cover Crops	Acres	5,821.0	15,211.9	21,472.4
9. Forest Buffers	Ag Acres	3,390.2	4,466.5	5,184.0
10. Grass Buffers	Ag Acres	66.4	866.8	1,400.5
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	15,514.8	15,514.8	15,514.8
14. Manure Injection	Acres	0.0	509.1	848.5
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.3	1.1	1.6
17. Non-Urban Stream Restoration	Feet	6,663.5	12,761.4	16,826.7
18. Nutrient Management	Acres	16,112.3	36,528.6	50,139.4
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	74.7	898.9	1,448.3
20. Pasture Fencing (Stream Access Control)	Acres	34.2	159.9	243.7
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	127.3	212.1
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,891.8	4,819.6
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,024.6	1,767.2	2,262.3
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	570.1	5,152.2	8,206.9
29. Wetland Restoration	Acres	114.2	1,019.0	1,622.1

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	11,602.4	5,093.6	754.3
31. Dry Extended Detention Ponds	Acres	3,877.9	2,003.8	754.4
32. Erosion and Sediment Control	Acres	279.2	998.6	1,478.2
33. Filtering Practices ***	Acres	0.0	6,155.5	10,259.2
34. Forest Buffers	Urban Acres	0.0	213.9	356.5
35. Grass Buffers	Urban Acres	0.0	109.1	181.8
36. Impervious Surface Reduction	Acres	0.0	28.8	48.0
37. Infiltration Practices ***	Acres	8,603.1	10,864.1	12,371.4
38. Septic System Hook-ups	Units	353.0	2,130.2	3,315.0
39. Street Sweeping	Acres	0.0	578.3	963.9
40. Tree Planting	Urban Acres	0.0	18.8	31.3
41. Urban Nutrient Management	Acres	0.0	4,041.1	6,735.2
42. Urban Sprawl Reduction	Acres	0.0	4.1	6.8
43. Urban Stream Restoration	Feet	0.0	733.0	1,221.7
44. Wet Ponds & Wetlands	Acres	1,728.9	2,502.0	3,017.4

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	771.4	771.4	771.4
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	55,484.6	126,187.2	173,322.3
47. Forest Harvesting Practices	Acres	0.0	293.2	488.6

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Cumberland County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	5,805,732
2010 Current Load	5,577,259
2017 Interim Planning Target – 60%*	4,510,542
2017 Nitrogen Reductions (2010 – 2017)	1,295,190
2025 Planning Target – 100%	3,647,082
2025 Total Nitrogen Reductions (2010 – 2025)	2,158,650

### Phosphorus Planning Target

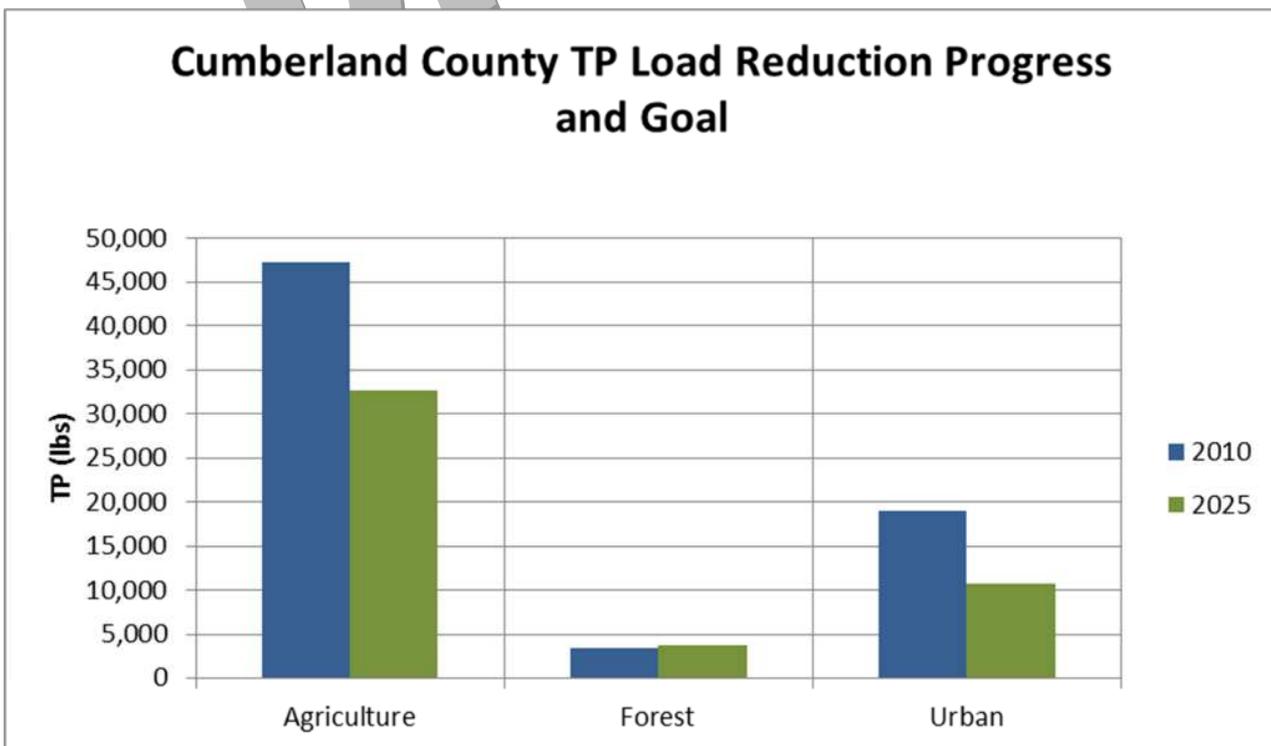
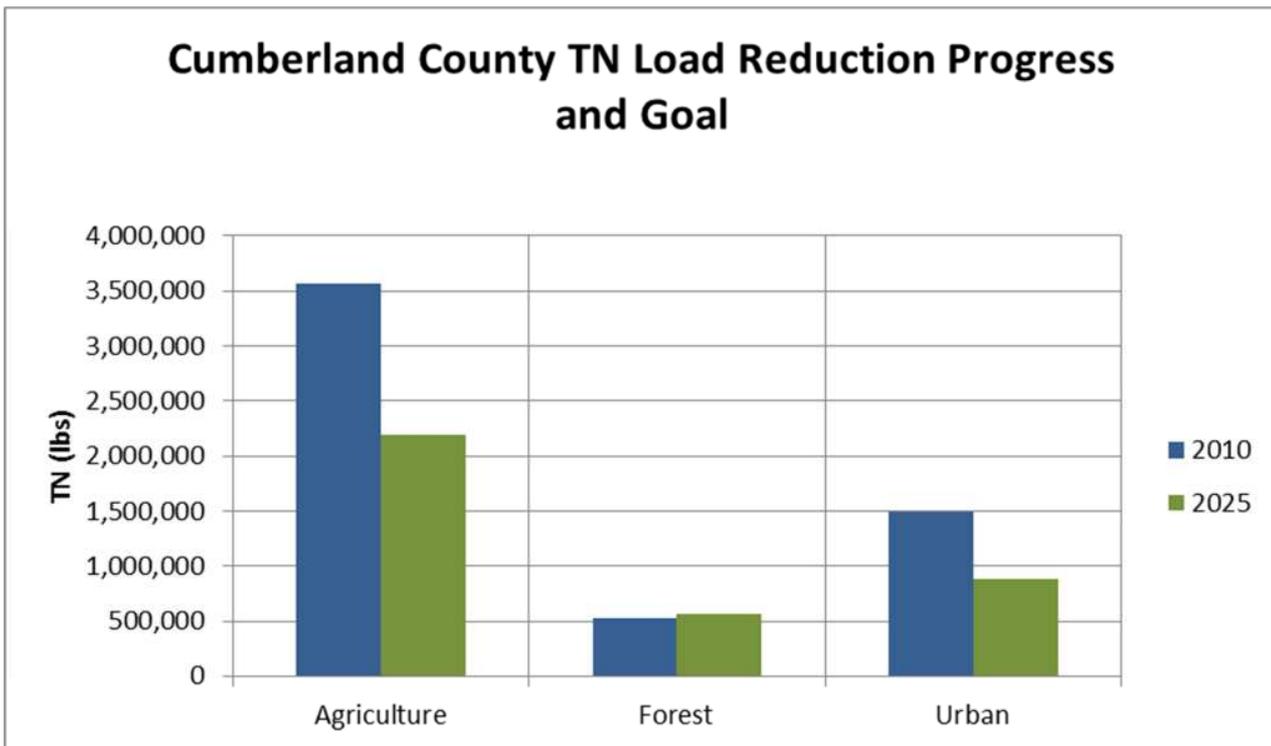
2009 Progress Load	69,982
2010 Current Load	69,811
2017 Interim Planning Target – 60%*	56,268
2017 Phosphorous Reductions (2010 – 2017)	13,714
2025 Planning Target – 100%	47,126
2025 Total Phosphorous Reductions (2010 – 2025)	22,857

### Total Suspended Solids (TSS) Planning Target

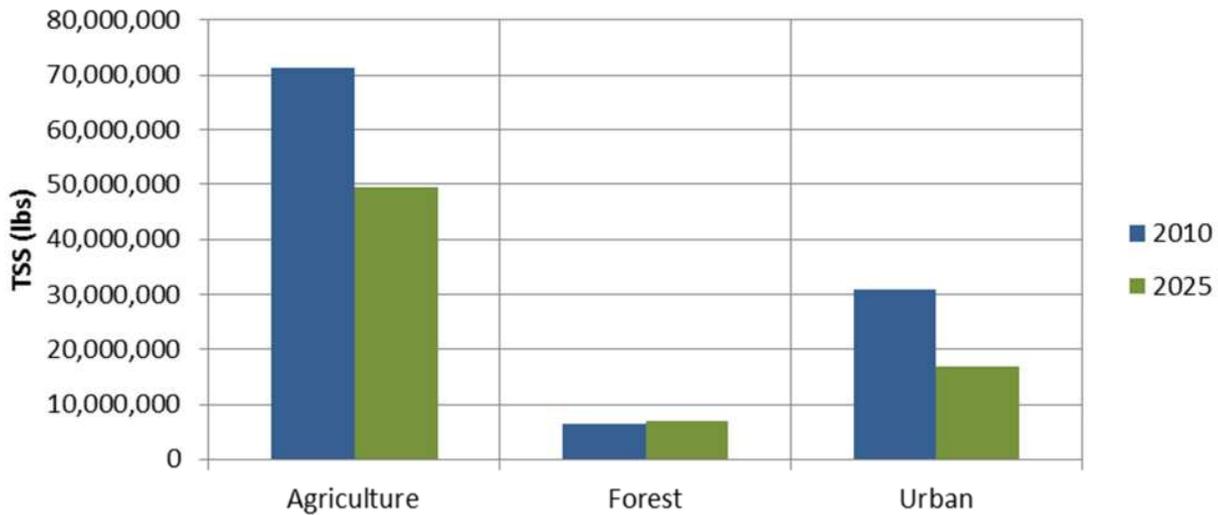
2009 Progress Load	115,578,639
2010 Current Load	108,793,628
2017 Interim Planning Target – 60%*	90,332,200
2017 TSS Reductions (2010 – 2017)	25,246,439
2025 Planning Target – 100%	73,501,241
2025 Total TSS Reductions (2010 – 2025)	42,077,398

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Cumberland County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	34,511	3,656
Conservation Till Row Crops	31,174	45,363
Hay	35,715	47,431
Alfalfa	18,675	18,297
Pasture	18,294	16,010
Animal Feeding Operations	327	327
Concentrated Animal Feeding Operations	17	17
Nursery	115	115
<b>Total Agriculture:</b>	138,827	131,215
<b>Urban</b>		
Pervious Urban Land	56,662	55,772
Impervious Urban Land	21,034	20,904
Construction	1,635	1,635
Extractive	2,087	2,087
Combined Sewer System	0	0
<b>Total Urban:</b>	81,417	80,398
<b>Forest</b>		
	129,395	138,026
<b>Total Acreage:</b>	349,639	349,639

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	146.4	257.5	331.5
2. Barnyard Runoff Controls	Acres	1.0	137.7	228.8
3. Capture Reuse <sup>+</sup>	Acres	0.0	6.9	11.5
4. Carbon Sequestration/ Alternative Crops	Acres	633.9	2,832.9	4,298.9
5. Conservation Plans/SCWQA	Acres	52,347.8	95,411.3	124,120.3
6. Conservation Tillage	Acres	31,173.8	39,687.5	45,363.3
7. Continuous No-Till **	Acres	1,742.2	1,173.2	793.9
8. Cover Crops	Acres	7,785.0	22,231.4	31,862.4
9. Forest Buffers	Ag Acres	1,178.3	3,734.0	5,437.9
10. Grass Buffers	Ag Acres	106.4	1,315.8	2,122.0
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	7,859.7	12,467.8	15,539.8
14. Manure Injection	Acres	0.0	877.1	1,461.9
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	3.2	5.3	6.7
17. Non-Urban Stream Restoration	Feet	30,543.1	36,513.6	40,493.8
18. Nutrient Management	Acres	60,707.8	77,395.7	88,520.9
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	259.3	1,535.2	2,385.9
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	87.1	297.7	438.2
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	219.3	365.5
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	5,181.9	8,636.5
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	961.2	1,622.4	2,063.2
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,041.1	8,528.4	13,519.9
29. Wetland Restoration	Acres	125.3	1,482.6	2,387.5

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	20,464.6	9,336.0	1,916.9
31. Dry Extended Detention Ponds	Acres	3,739.9	2,646.1	1,916.9
32. Erosion and Sediment Control	Acres	951.0	2,146.1	2,942.8
33. Filtering Practices ***	Acres	0.0	14,472.4	24,120.6
34. Forest Buffers	Urban Acres	0.0	555.1	925.1
35. Grass Buffers	Urban Acres	0.0	271.2	452.0
36. Impervious Surface Reduction	Acres	0.0	77.9	129.9
37. Infiltration Practices ***	Acres	0.0	17,181.1	28,635.1
38. Septic System Hook-ups	Units	148.4	3,155.5	5,160.3
39. Street Sweeping	Acres	0.0	1,565.2	2,608.7
40. Tree Planting	Urban Acres	0.0	46.6	77.7
41. Urban Nutrient Management	Acres	0.0	10,039.0	16,731.7
42. Urban Sprawl Reduction	Acres	0.0	10.1	16.9
43. Urban Stream Restoration	Feet	0.0	1,951.7	3,252.8
44. Wet Ponds & Wetlands	Acres	3,061.4	5,825.1	7,667.6

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	194.3	194.3	194.3
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	51,349.8	129,185.9	181,076.6
47. Forest Harvesting Practices	Acres	605.0	445.9	339.8

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Dauphin County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	4,591,806
2010 Current Load	4,429,504
2017 Interim Planning Target – 60%*	3,712,586
2017 Nitrogen Reductions (2010 – 2017)	879,221
2025 Planning Target – 100%	3,126,438
2025 Total Nitrogen Reductions (2010 – 2025)	1,465,368

### Phosphorus Planning Target

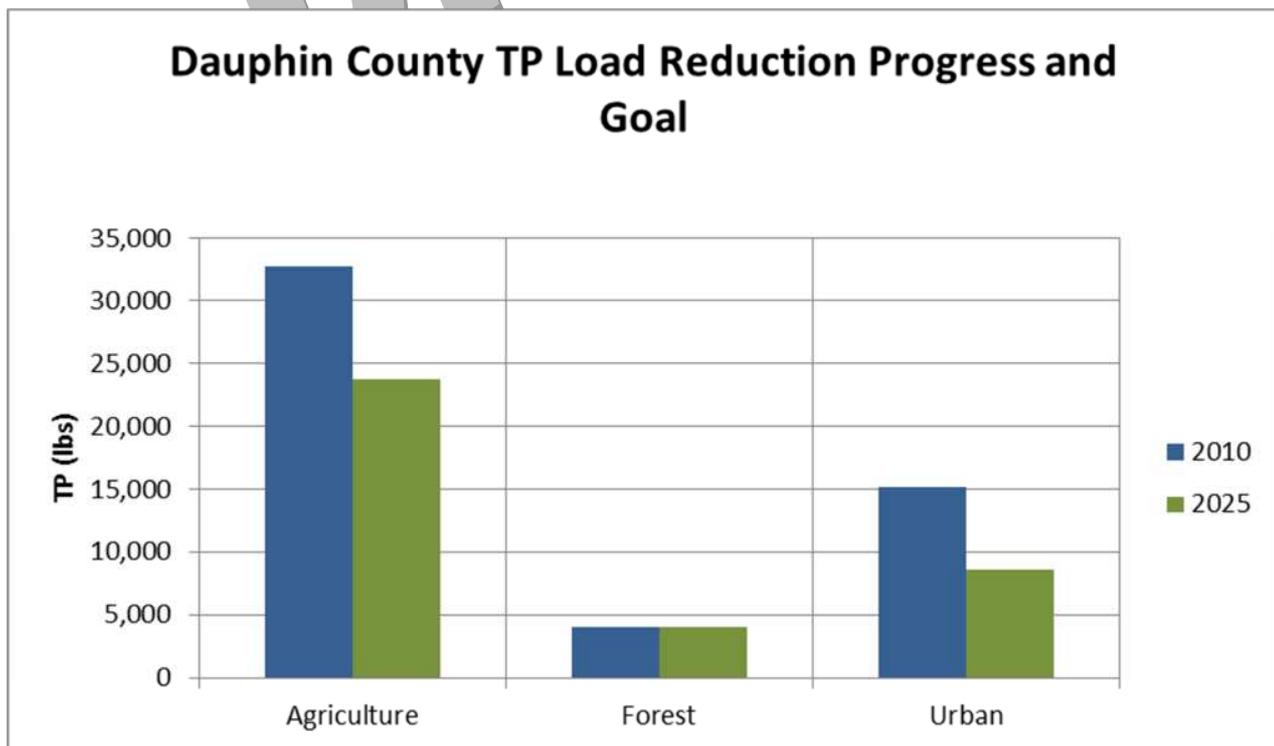
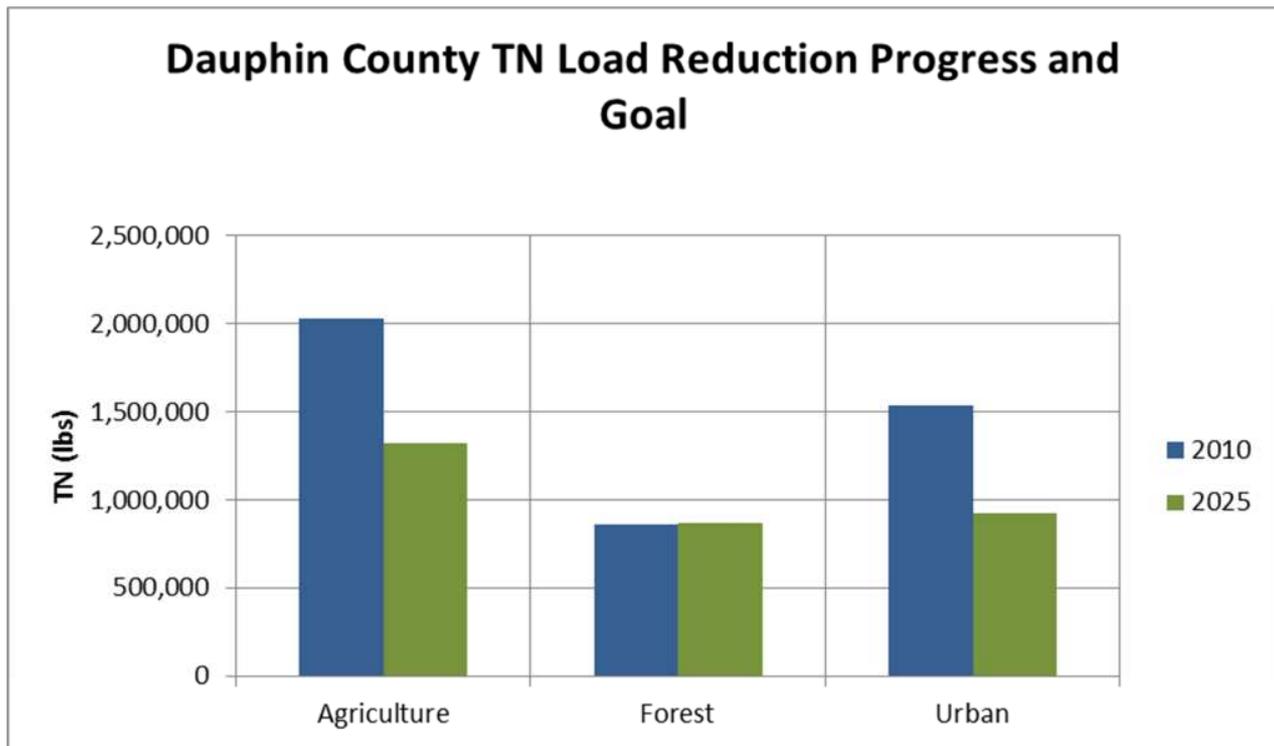
2009 Progress Load	52,143
2010 Current Load	51,932
2017 Interim Planning Target – 60%*	42,701
2017 Phosphorous Reductions (2010 – 2017)	9,443
2025 Planning Target – 100%	36,406
2025 Total Phosphorous Reductions (2010 – 2025)	15,738

### Total Suspended Solids (TSS) Planning Target

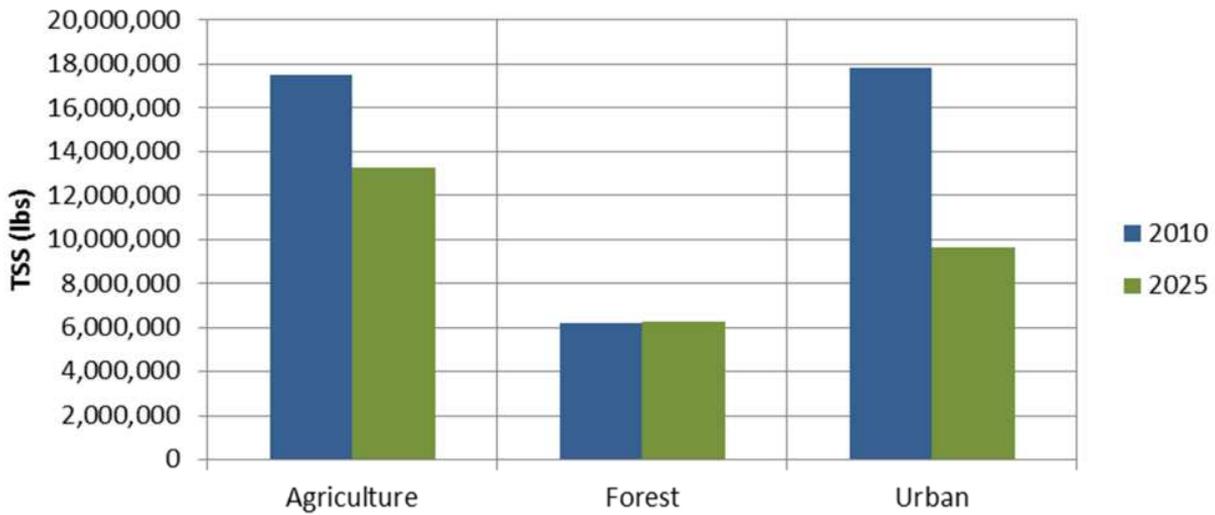
2009 Progress Load	44,523,014
2010 Current Load	41,577,895
2017 Interim Planning Target – 60%*	35,286,082
2017 TSS Reductions (2010 – 2017)	9,236,932
2025 Planning Target – 100%	29,128,128
2025 Total TSS Reductions (2010 – 2025)	15,394,886

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Dauphin County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	11,093	1,605
Conservation Till Row Crops	19,363	22,114
Hay	23,507	28,010
Alfalfa	6,538	6,403
Pasture	11,020	9,761
Animal Feeding Operations	140	140
Concentrated Animal Feeding Operations	31	31
Nursery	67	67
<b>Total Agriculture:</b>	71,760	68,130
<b>Urban</b>		
Pervious Urban Land	48,358	47,602
Impervious Urban Land	18,690	18,574
Construction	518	518
Extractive	783	783
Combined Sewer System	16,826	16,836
<b>Total Urban:</b>	85,175	84,313
<b>Forest</b>		
	178,297	182,789
<b>Total Acreage:</b>	335,232	335,232

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	147.6	168.5	182.5
2. Barnyard Runoff Controls	Acres	0.0	68.2	113.7
3. Capture Reuse <sup>+</sup>	Acres	0.0	4.0	6.7
4. Carbon Sequestration/ Alternative Crops	Acres	632.9	1,608.2	2,258.3
5. Conservation Plans/SCWQA	Acres	36,806.2	54,098.6	65,626.9
6. Conservation Tillage	Acres	19,363.2	21,013.9	22,114.3
7. Continuous No-Till <sup>**</sup>	Acres	0.0	232.2	387.0
8. Cover Crops	Acres	4,379.0	11,002.0	15,417.4
9. Forest Buffers	Ag Acres	856.1	2,119.7	2,962.1
10. Grass Buffers	Ag Acres	107.3	720.1	1,128.6
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	7,108.8	8,658.4	9,691.5
14. Manure Injection	Acres	0.0	442.0	736.7
15. Manure/Litter Transport	Tons	140.6	140.6	140.6
16. Mortality Composters	Units	2.2	3.3	4.0
17. Non-Urban Stream Restoration	Feet	7,987.2	10,593.4	12,330.9
18. Nutrient Management	Acres	50,705.0	48,019.2	46,228.7
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	219.3	960.8	1,455.2
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	51.9	171.1	250.6
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	110.5	184.2
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,612.7	4,354.4
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	920.9	1,155.5	1,311.9
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,030.8	5,359.9	8,246.0
29. Wetland Restoration	Acres	88.9	772.7	1,228.6

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	21,187.4	9,718.4	2,072.3
31. Dry Extended Detention Ponds	Acres	3,765.9	2,749.7	2,072.3
32. Erosion and Sediment Control	Acres	535.3	923.1	1,181.6
33. Filtering Practices ***	Acres	0.0	15,459.1	25,765.2
34. Forest Buffers	Urban Acres	0.0	473.7	789.6
35. Grass Buffers	Urban Acres	0.0	283.0	471.7
36. Impervious Surface Reduction	Acres	0.0	91.3	152.2
37. Infiltration Practices ***	Acres	0.0	14,193.7	23,656.1
38. Septic System Hook-ups	Units	2,029.6	3,658.1	4,743.7
39. Street Sweeping	Acres	0.0	1,833.8	3,056.4
40. Tree Planting	Urban Acres	0.0	48.7	81.1
41. Urban Nutrient Management	Acres	0.0	10,512.2	17,520.3
42. Urban Sprawl Reduction	Acres	0.0	9.4	15.7
43. Urban Stream Restoration	Feet	0.0	1,684.5	2,807.4
44. Wet Ponds & Wetlands	Acres	3,169.8	6,241.4	8,289.2

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	193.2	193.2	193.2
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	48,077.6	93,870.0	124,398.3
47. Forest Harvesting Practices	Acres	0.0	282.0	470.0

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Elk County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	415,234
2010 Current Load	415,436
2017 Interim Planning Target – 60%*	398,255
2017 Nitrogen Reductions (2010 – 2017)	16,979
2025 Planning Target – 100%	386,936
2025 Total Nitrogen Reductions (2010 – 2025)	28,298

### Phosphorus Planning Target

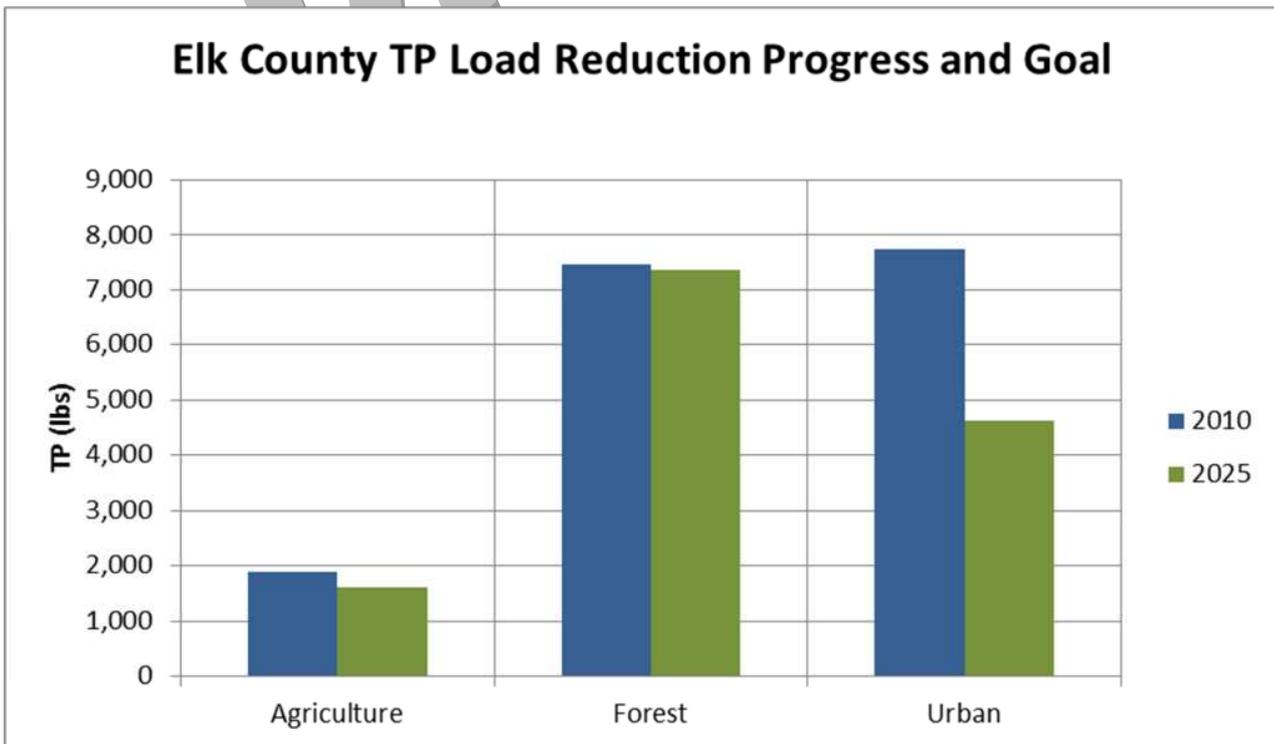
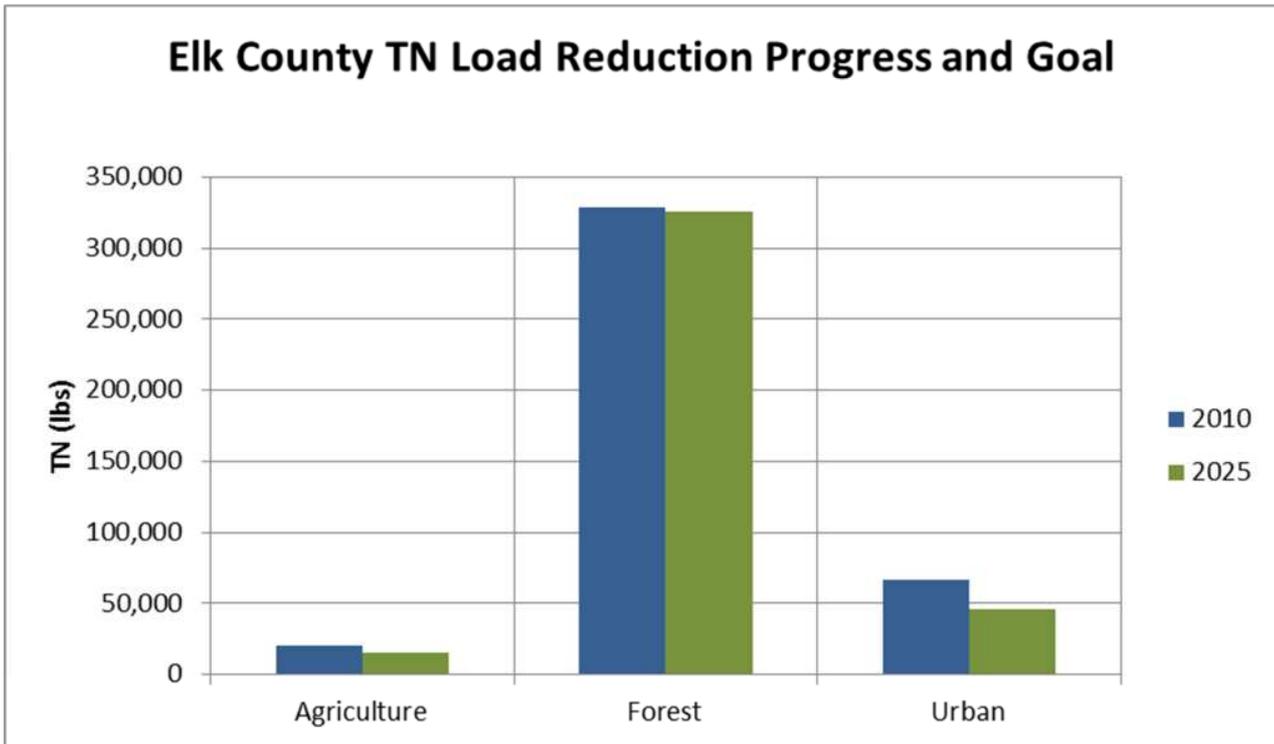
2009 Progress Load	17,054
2010 Current Load	17,070
2017 Interim Planning Target – 60%*	14,976
2017 Phosphorous Reductions (2010 – 2017)	2,078
2025 Planning Target – 100%	13,591
2025 Total Phosphorous Reductions (2010 – 2025)	3,463

### Total Suspended Solids (TSS) Planning Target

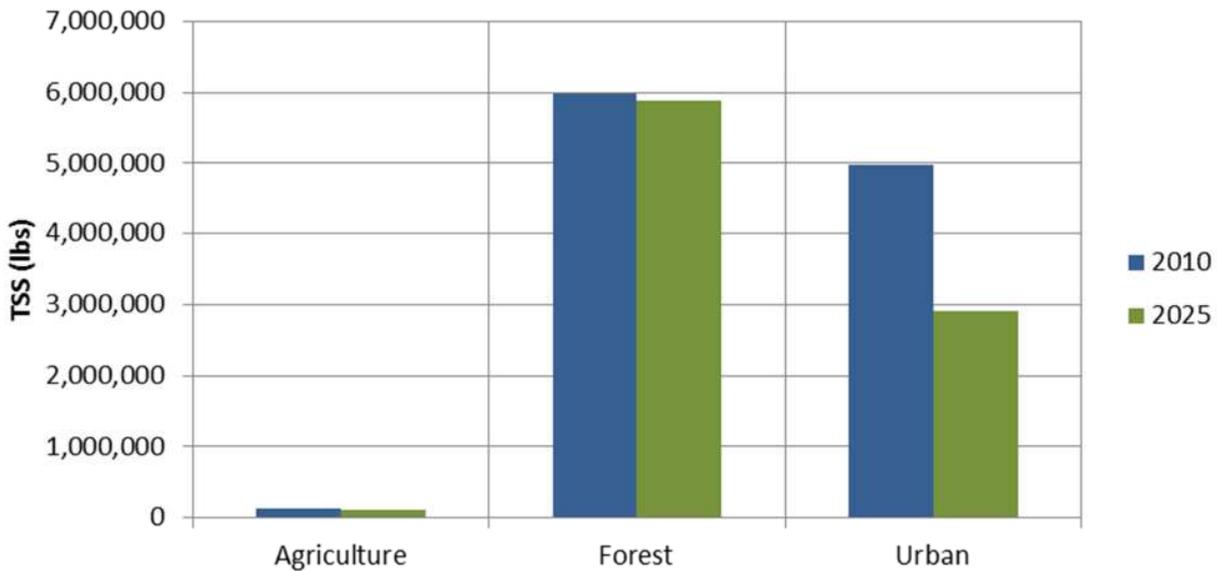
2009 Progress Load	11,101,960
2010 Current Load	11,092,429
2017 Interim Planning Target – 60%*	9,778,099
2017 TSS Reductions (2010 – 2017)	1,323,861
2025 Planning Target – 100%	8,895,526
2025 Total TSS Reductions (2010 – 2025)	2,206,434

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Elk County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	164	33
Conservation Till Row Crops	101	135
Hay	2,218	2,264
Alfalfa	693	679
Pasture	983	877
Animal Feeding Operations	19	19
Concentrated Animal Feeding Operations	0	0
Nursery	15	15
<b>Total Agriculture:</b>	4,192	4,023
<b>Urban</b>		
Pervious Urban Land	1,243	1,228
Impervious Urban Land	1,318	1,310
Construction	0	0
Extractive	3,343	3,249
Combined Sewer System	0	0
<b>Total Urban:</b>	5,904	5,787
<b>Forest</b>		
	163,239	163,525
<b>Total Acreage:</b>	173,335	173,335

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	4.3	4.1	3.9
2. Barnyard Runoff Controls	Acres	0.0	7.6	12.7
3. Capture Reuse <sup>+</sup>	Acres	0.0	0.9	1.5
4. Carbon Sequestration/ Alternative Crops	Acres	239.7	256.4	267.5
5. Conservation Plans/SCWQA	Acres	3,213.6	3,586.7	3,835.4
6. Conservation Tillage	Acres	100.6	121.3	135.2
7. Continuous No-Till <sup>**</sup>	Acres	0.0	1.4	2.4
8. Cover Crops	Acres	11.9	70.5	109.6
9. Forest Buffers	Ag Acres	263.1	310.8	342.6
10. Grass Buffers	Ag Acres	35.9	51.0	61.0
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	1,047.5	1,080.5	1,102.4
14. Manure Injection	Acres	0.0	5.3	8.8
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.1	0.1	0.1
17. Non-Urban Stream Restoration	Feet	923.4	1,007.4	1,063.4
18. Nutrient Management	Acres	2,296.3	2,516.0	2,662.5
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	31.1	90.8	130.6
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	9.9	19.1	25.2
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	1.3	2.2
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	129.6	215.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	640.8	664.4	680.1
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	322.9	573.1	740.0
29. Wetland Restoration	Acres	37.9	68.1	88.3

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	1,670.7	706.4	63.4
31. Dry Extended Detention Ponds	Acres	0.0	38.1	63.4
32. Erosion and Sediment Control	Acres	0.0	1,715.2	2,858.7
33. Filtering Practices ***	Acres	0.0	288.4	480.7
34. Forest Buffers	Urban Acres	0.0	12.3	20.5
35. Grass Buffers	Urban Acres	0.0	6.0	10.0
36. Impervious Surface Reduction	Acres	0.0	4.9	8.1
37. Infiltration Practices ***	Acres	0.0	624.3	1,040.5
38. Septic System Hook-ups	Units	47.5	318.0	498.3
39. Street Sweeping	Acres	0.0	98.1	163.4
40. Tree Planting	Urban Acres	0.0	1.0	1.7
41. Urban Nutrient Management	Acres	0.0	221.1	368.5
42. Urban Sprawl Reduction	Acres	0.0	0.2	0.4
43. Urban Stream Restoration	Feet	0.0	64.8	108.0
44. Wet Ponds & Wetlands	Acres	889.8	889.8	889.8

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	105.9	162.6	200.4
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	55,732.4	83,617.3	102,207.2
47. Forest Harvesting Practices	Acres	0.0	259.4	432.3

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Franklin County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	4,790,190
2010 Current Load	4,531,562
2017 Interim Planning Target – 60%*	3,666,713
2017 Nitrogen Reductions (2010 – 2017)	1,123,476
2025 Planning Target – 100%	2,917,729
2025 Total Nitrogen Reductions (2010 – 2025)	1,872,461

### Phosphorus Planning Target

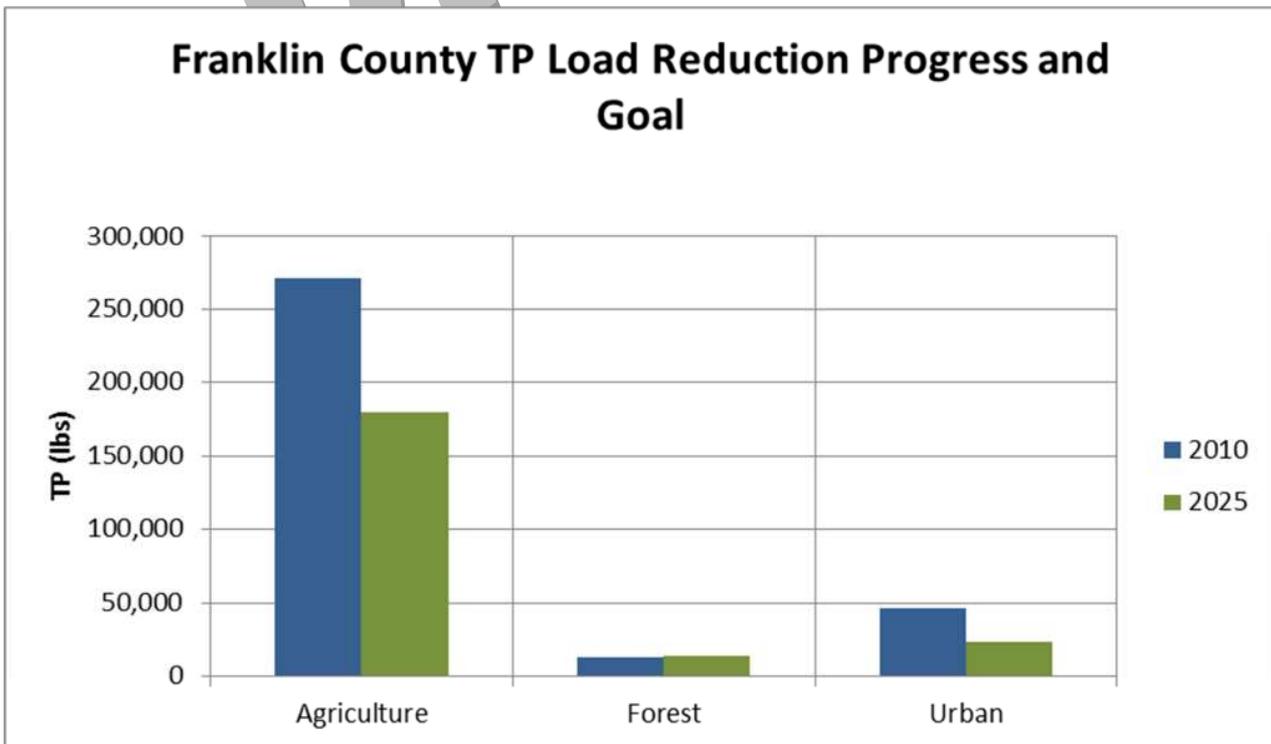
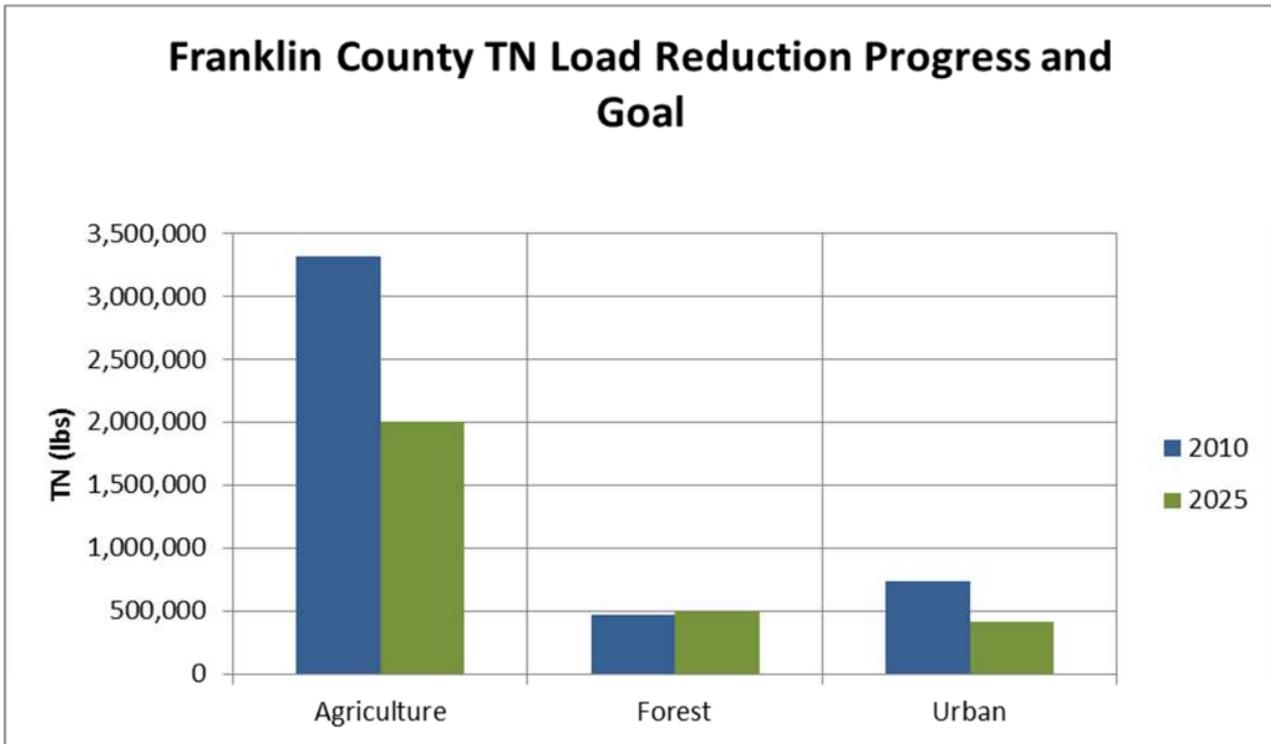
2009 Progress Load	330,276
2010 Current Load	330,547
2017 Interim Planning Target – 60%*	262,167
2017 Phosphorous Reductions (2010 – 2017)	68,110
2025 Planning Target – 100%	216,760
2025 Total Phosphorous Reductions (2010 – 2025)	113,516

### Total Suspended Solids (TSS) Planning Target

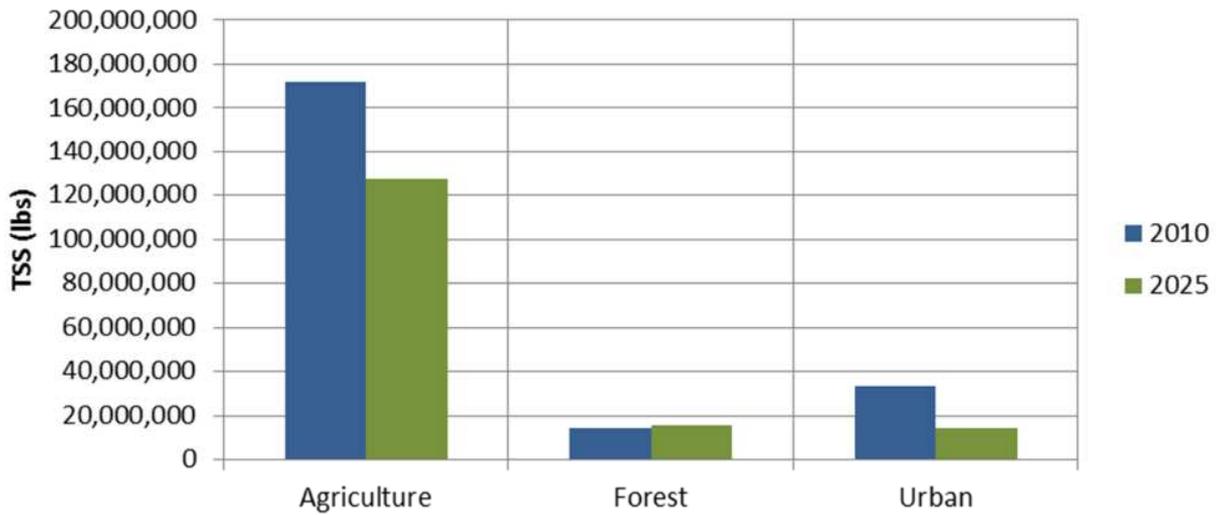
2009 Progress Load	250,288,686
2010 Current Load	220,476,373
2017 Interim Planning Target – 60%*	194,645,578
2017 TSS Reductions (2010 – 2017)	55,643,109
2025 Planning Target – 100%	157,550,172
2025 Total TSS Reductions (2010 – 2025)	92,738,515

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Franklin County TSS Load Reduction Progress and Goal



### County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	24,187	2,414
Conservation Till Row Crops	75,408	70,608
Hay	49,877	69,539
Alfalfa	35,247	34,501
Pasture	31,172	27,427
Animal Feeding Operations	405	405
Concentrated Animal Feeding Operations	81	81
Nursery	68	68
<b>Total Agriculture:</b>	216,444	205,043
<b>Urban</b>		
Pervious Urban Land	57,374	56,438
Impervious Urban Land	15,356	15,261
Construction	916	916
Extractive	1,957	1,942
Combined Sewer System	0	0
<b>Total Urban:</b>	75,603	74,556
<b>Forest</b>		
	200,847	213,296
<b>Total Acreage:</b>	492,895	492,895

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	407.0	647.6	808.0
2. Barnyard Runoff Controls	Acres	206.2	276.7	323.6
3. Capture Reuse <sup>+</sup>	Acres	0.0	4.1	6.8
4. Carbon Sequestration/ Alternative Crops	Acres	575.4	4,024.3	6,323.5
5. Conservation Plans/SCWQA	Acres	54,611.4	138,301.4	194,094.7
6. Conservation Tillage	Acres	75,407.7	72,527.8	70,607.8
7. Continuous No-Till <sup>**</sup>	Acres	1,150.3	1,150.3	1,150.3
8. Cover Crops	Acres	12,157.0	33,341.4	47,464.3
9. Forest Buffers	Ag Acres	2,247.7	6,147.3	8,747.1
10. Grass Buffers	Ag Acres	577.7	2,119.8	3,148.0
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	8,341.1	16,313.2	21,628.0
14. Manure Injection	Acres	0.0	1,291.1	2,151.9
15. Manure/Litter Transport	Tons	1,400.0	1,400.0	1,400.0
16. Mortality Composters	Units	0.3	10.2	16.8
17. Non-Urban Stream Restoration	Feet	9,247.5	17,614.4	23,192.3
18. Nutrient Management	Acres	68,789.7	116,262.3	147,910.6
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	1,169.4	2,920.1	4,087.3
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	352.2	591.9	751.7
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	322.8	538.0
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture	Acres	0.0	8,613.5	14,355.8
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	993.3	1,834.7	2,395.6
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	3,278.7	15,208.1	23,161.1
29. Wetland Restoration	Acres	158.5	2,265.5	3,670.2

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	23,538.0	10,490.7	1,792.5
31. Dry Extended Detention Ponds	Acres	5,407.1	3,238.3	1,792.5
32. Erosion and Sediment Control	Acres	916.1	1,759.9	2,322.5
33. Filtering Practices ***	Acres	0.0	14,481.2	24,135.3
34. Forest Buffers	Urban Acres	0.0	561.6	935.9
35. Grass Buffers	Urban Acres	0.0	274.4	457.4
36. Impervious Surface Reduction	Acres	0.0	56.9	94.8
37. Infiltration Practices ***	Acres	0.0	17,428.9	29,048.2
38. Septic System Hook-ups	Units	160.9	5,116.9	8,420.9
39. Street Sweeping	Acres	0.0	1,142.7	1,904.5
40. Tree Planting	Urban Acres	0.0	47.2	78.7
41. Urban Nutrient Management	Acres	0.0	10,158.8	16,931.3
42. Urban Sprawl Reduction	Acres	0.0	10.4	17.3
43. Urban Stream Restoration	Feet	24.2	1,834.7	3,041.7
44. Wet Ponds & Wetlands	Acres	3,558.8	5,725.4	7,169.9

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	70.6	79.8	86.0
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	36,720.0	163,362.6	247,790.9
47. Forest Harvesting Practices	Acres	154.0	378.7	528.6

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Fulton County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	821,038
2010 Current Load	768,023
2017 Interim Planning Target – 60%*	716,637
2017 Nitrogen Reductions (2010 – 2017)	104,401
2025 Planning Target – 100%	647,037
2025 Total Nitrogen Reductions (2010 – 2025)	174,001

### Phosphorus Planning Target

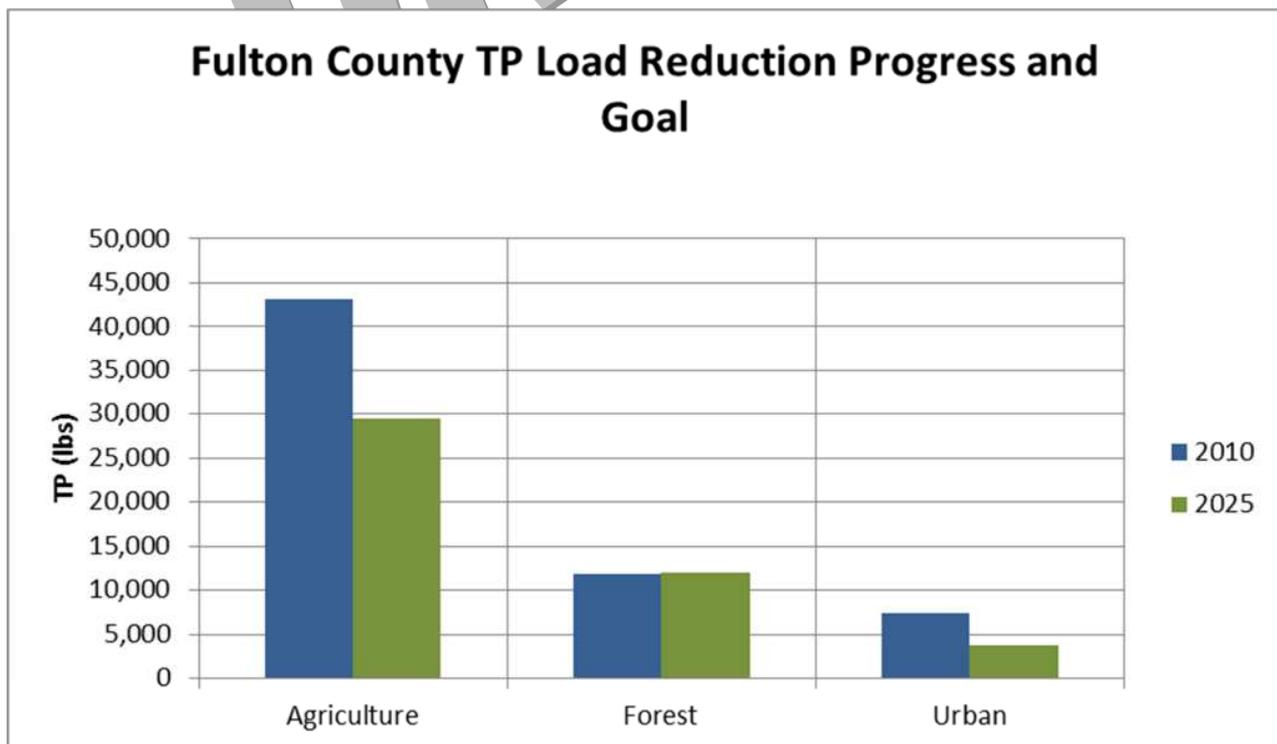
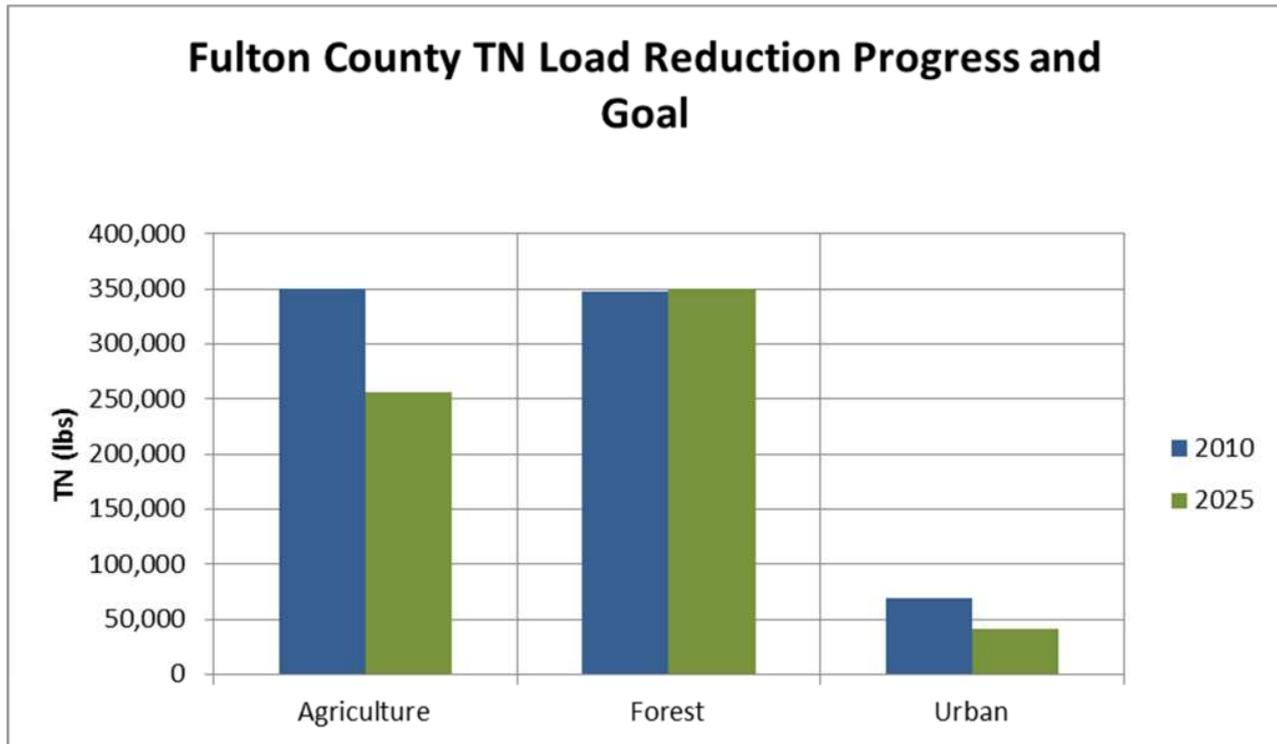
2009 Progress Load	62,837
2010 Current Load	62,526
2017 Interim Planning Target – 60%*	52,301
2017 Phosphorous Reductions (2010 – 2017)	10,536
2025 Planning Target – 100%	45,277
2025 Total Phosphorous Reductions (2010 – 2025)	17,560

### Total Suspended Solids (TSS) Planning Target

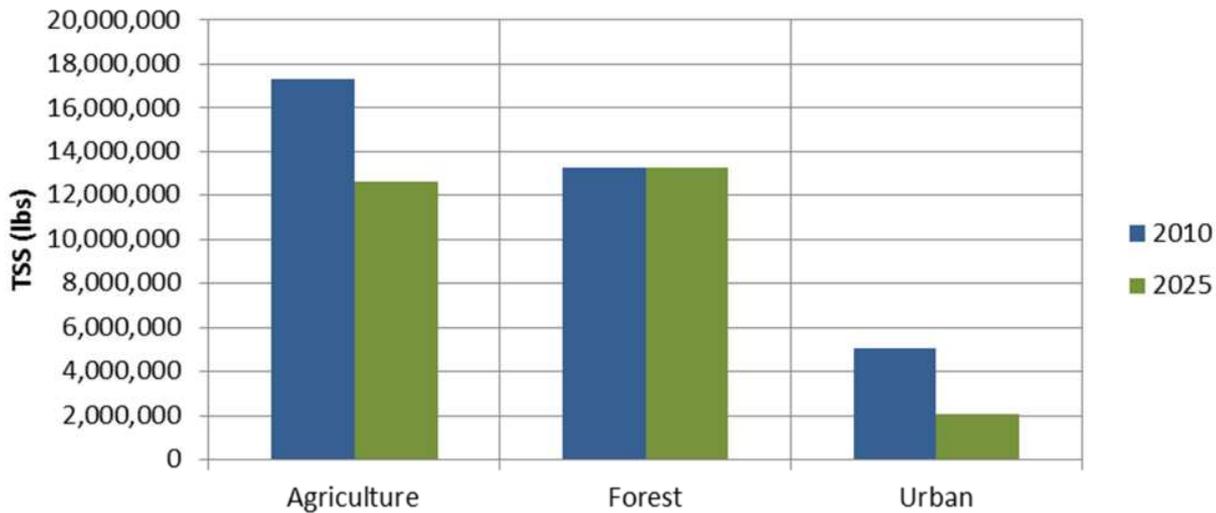
2009 Progress Load	37,043,036
2010 Current Load	35,609,704
2017 Interim Planning Target – 60%*	31,564,767
2017 TSS Reductions (2010 – 2017)	5,478,270
2025 Planning Target – 100%	27,912,587
2025 Total TSS Reductions (2010 – 2025)	9,130,450

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Fulton County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	5,118	631
Conservation Till Row Crops	3,988	7,159
Hay	33,864	33,956
Alfalfa	7,109	6,981
Pasture	13,506	11,852
Animal Feeding Operations	126	126
Concentrated Animal Feeding Operations	21	21
Nursery	0	0
<b>Total Agriculture:</b>	63,731	60,725
<b>Urban</b>		
Pervious Urban Land	4,657	4,597
Impervious Urban Land	3,952	3,928
Construction	54	54
Extractive	1,190	1,156
Combined Sewer System	0	0
<b>Total Urban:</b>	9,852	9,734
<b>Forest</b>		
	206,189	209,313
<b>Total Acreage:</b>	279,772	279,772

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	57.6	107.4	140.6
2. Barnyard Runoff Controls	Acres	0.0	58.6	97.6
3. Capture Reuse <sup>+</sup>	Acres	0.0	0.0	0.0
4. Carbon Sequestration/ Alternative Crops	Acres	692.4	1,098.9	1,369.9
5. Conservation Plans/SCWQA	Acres	16,865.2	41,463.8	57,863.0
6. Conservation Tillage	Acres	3,987.5	5,890.2	7,158.6
7. Continuous No-Till <sup>**</sup>	Acres	547.1	294.0	125.3
8. Cover Crops	Acres	1,610.0	3,682.0	5,063.3
9. Forest Buffers	Ag Acres	1,842.2	2,711.7	3,291.3
10. Grass Buffers	Ag Acres	101.8	442.5	669.7
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	5,071.7	5,071.7	5,071.7
14. Manure Injection	Acres	0.0	146.8	244.7
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	1.7	2.8
17. Non-Urban Stream Restoration	Feet	954.5	3,803.2	5,702.4
18. Nutrient Management	Acres	30,247.1	36,855.5	41,261.0
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	187.8	1,134.6	1,765.8
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	121.0	249.6	335.3
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	36.7	61.2
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,123.1	3,538.5
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,030.4	1,437.9	1,709.7
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,470.7	6,592.1	10,006.3
29. Wetland Restoration	Acres	150.3	677.0	1,028.2

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	2,839.7	1,263.7	213.1
31. Dry Extended Detention Ponds	Acres	451.0	308.3	213.1
32. Erosion and Sediment Control	Acres	43.9	649.5	1,053.2
33. Filtering Practices ***	Acres	0.0	1,716.2	2,860.4
34. Forest Buffers	Urban Acres	0.0	45.7	76.2
35. Grass Buffers	Urban Acres	0.0	22.4	37.3
36. Impervious Surface Reduction	Acres	0.0	14.6	24.4
37. Infiltration Practices ***	Acres	90.0	2,100.3	3,440.5
38. Septic System Hook-ups	Units	4.9	665.3	1,105.6
39. Street Sweeping	Acres	0.0	294.1	490.1
40. Tree Planting	Urban Acres	0.0	3.8	6.4
41. Urban Nutrient Management	Acres	0.0	827.5	1,379.2
42. Urban Sprawl Reduction	Acres	0.0	0.8	1.4
43. Urban Stream Restoration	Feet	101.0	257.4	361.6
44. Wet Ponds & Wetlands	Acres	779.5	823.3	852.5

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	61.8	82.0	95.4
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	55,302.2	105,322.5	138,669.4
47. Forest Harvesting Practices	Acres	218.0	413.0	543.0

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

**PA Chesapeake Bay Phase II Watershed Implementation Plan  
Huntingdon County Planning Targets**

**What are Planning Targets?**

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

**Nitrogen Planning Target**

**Pounds**

2009 Progress Load	2,421,301
2010 Current Load	2,296,845
2017 Interim Planning Target – 60%*	2,113,236
2017 Nitrogen Reductions (2010 – 2017)	308,065
2025 Planning Target – 100%	1,907,859
2025 Total Nitrogen Reductions (2010 – 2025)	513,442

**Phosphorus Planning Target**

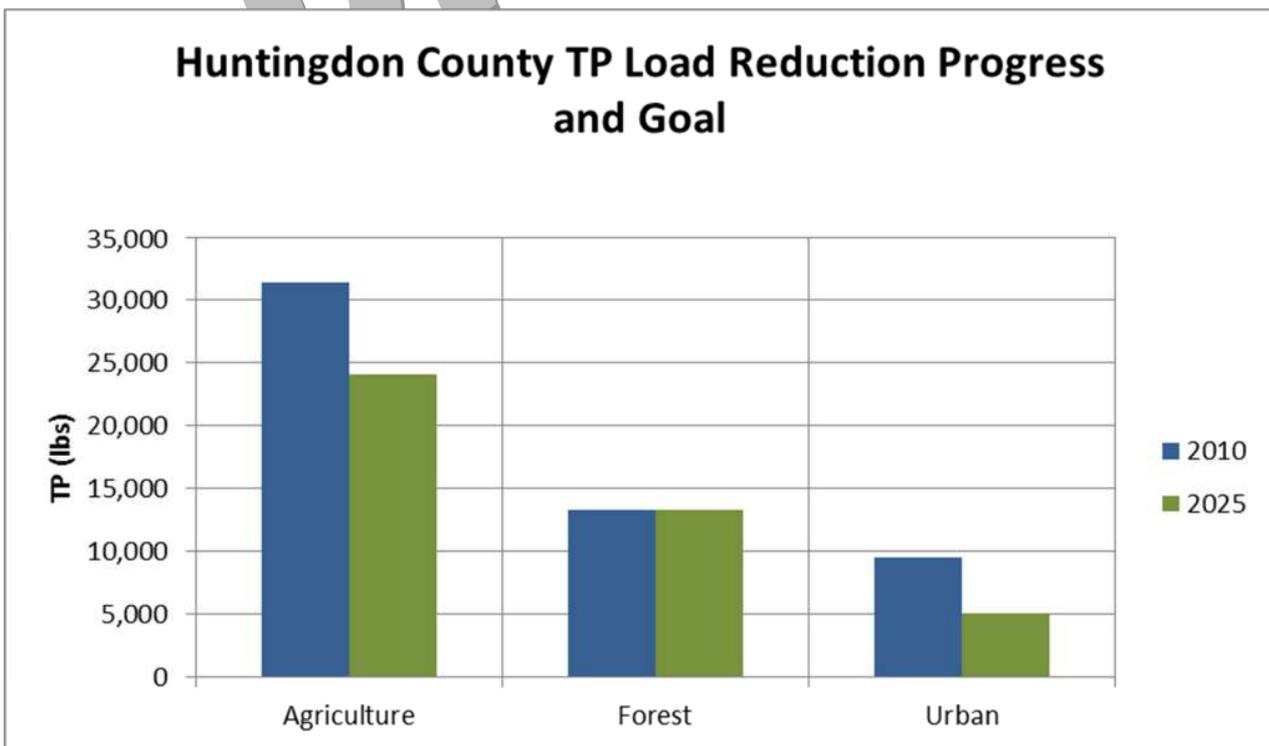
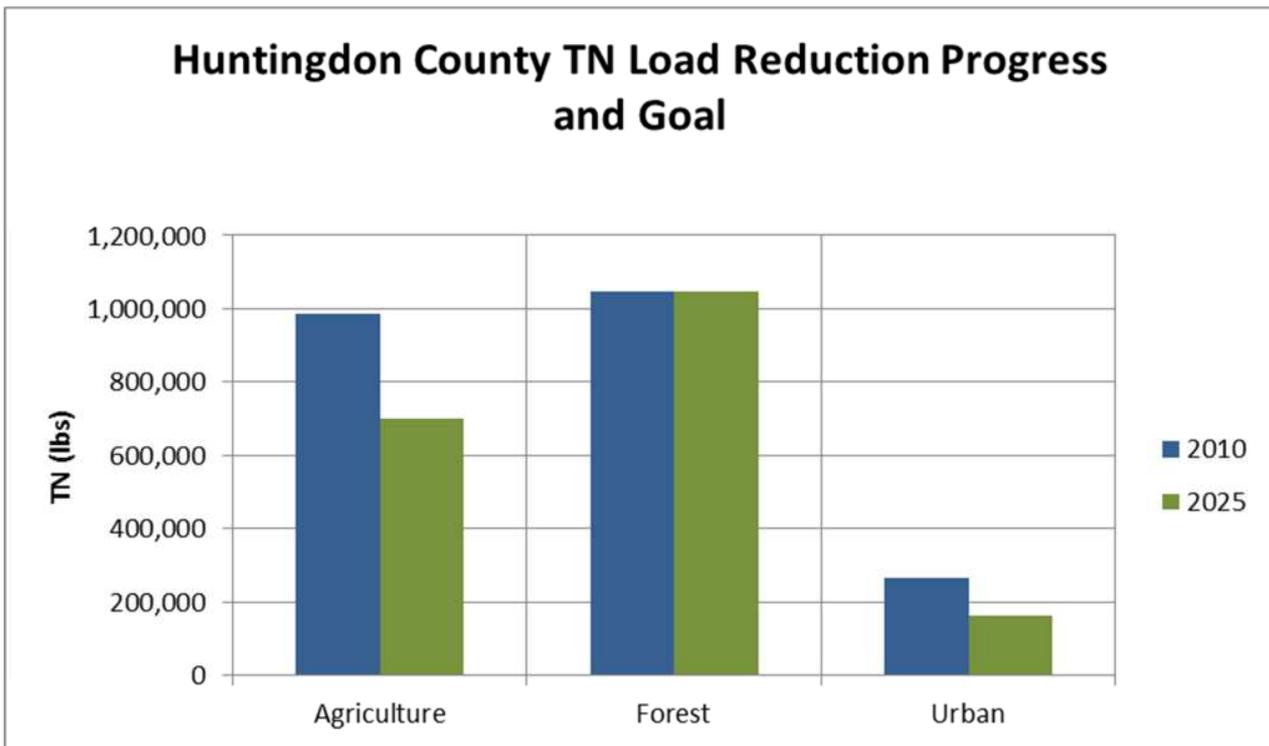
2009 Progress Load	56,300
2010 Current Load	54,220
2017 Interim Planning Target – 60%*	47,964
2017 Phosphorous Reductions (2010 – 2017)	8,336
2025 Planning Target – 100%	42,407
2025 Total Phosphorous Reductions (2010 – 2025)	13,893

**Total Suspended Solids (TSS) Planning Target**

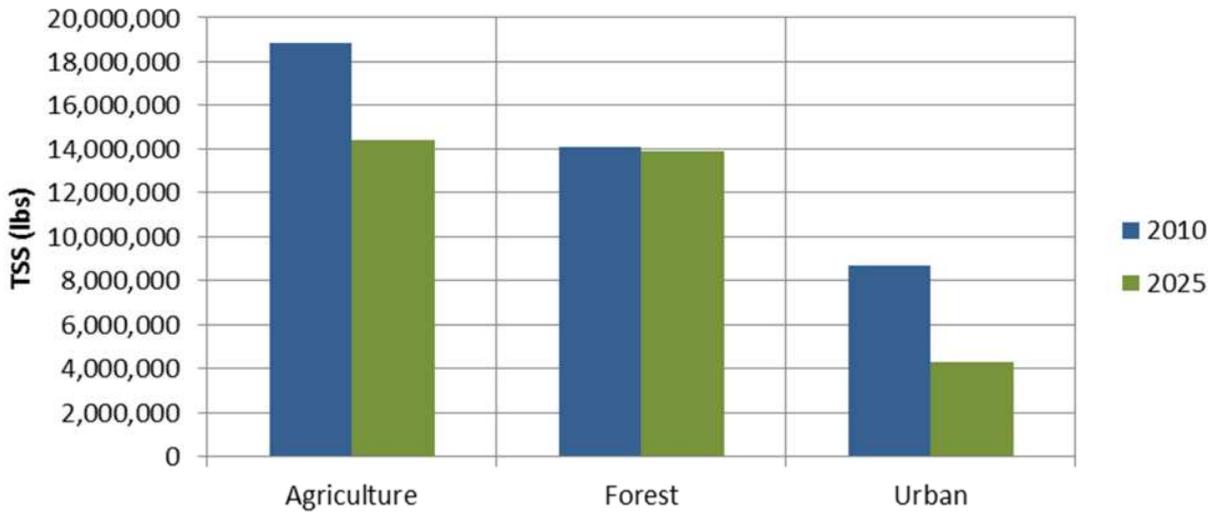
2009 Progress Load	43,150,747
2010 Current Load	41,583,341
2017 Interim Planning Target – 60%*	36,829,206
2017 TSS Reductions (2010 – 2017)	6,321,540
2025 Planning Target – 100%	32,614,846
2025 Total TSS Reductions (2010 – 2025)	10,535,901

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Huntingdon County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	11,582	1,554
Conservation Till Row Crops	8,884	15,896
Hay	30,897	32,041
Alfalfa	14,735	14,468
Pasture	20,318	17,823
Animal Feeding Operations	205	205
Concentrated Animal Feeding Operations	27	27
Nursery	49	49
<b>Total Agriculture:</b>	86,698	82,062
<b>Urban</b>		
Pervious Urban Land	11,377	11,217
Impervious Urban Land	7,324	7,279
Construction	30	30
Extractive	4,292	4,171
Combined Sewer System	1,473	1,473
<b>Total Urban:</b>	24,497	24,170
<b>Forest</b>		
	447,343	452,306
<b>Total Acreage:</b>	558,538	558,538

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	218.3	206.8	199.1
2. Barnyard Runoff Controls	Acres	1.0	93.3	154.8
3. Capture Reuse <sup>+</sup>	Acres	0.0	2.9	4.9
4. Carbon Sequestration/ Alternative Crops	Acres	833.7	1,516.5	1,971.8
5. Conservation Plans/SCWQA	Acres	29,920.8	59,037.5	78,448.7
6. Conservation Tillage	Acres	8,884.3	13,091.3	15,896.0
7. Continuous No-Till <sup>**</sup>	Acres	0.0	166.9	278.2
8. Cover Crops	Acres	2,880.0	7,957.4	11,342.3
9. Forest Buffers	Ag Acres	1,345.4	3,038.2	4,166.8
10. Grass Buffers	Ag Acres	201.9	822.0	1,235.4
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	9,055.0	9,117.1	9,158.5
14. Manure Injection	Acres	0.0	313.8	522.9
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.3	2.5	4.0
17. Non-Urban Stream Restoration	Feet	6,140.0	9,202.4	11,244.0
18. Nutrient Management	Acres	50,310.7	54,057.1	56,554.7
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	510.2	1,797.2	2,655.2
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	207.8	390.5	512.4
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	78.4	130.7
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,805.1	4,675.1
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	2,412.8	2,818.5	3,089.0
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	2,235.9	9,922.1	15,046.2
29. Wetland Restoration	Acres	220.1	903.5	1,359.1

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	11,009.6	4,703.4	499.2
31. Dry Extended Detention Ponds	Acres	2,837.7	1,434.6	499.2
32. Erosion and Sediment Control	Acres	30.5	2,226.4	3,690.3
33. Filtering Practices ***	Acres	0.0	4,073.5	6,789.1
34. Forest Buffers	Urban Acres	0.0	111.6	186.0
35. Grass Buffers	Urban Acres	0.0	60.4	100.6
36. Impervious Surface Reduction	Acres	0.0	28.1	46.8
37. Infiltration Practices ***	Acres	443.1	5,089.3	8,186.8
38. Septic System Hook-ups	Units	384.5	1,924.7	2,951.5
39. Street Sweeping	Acres	0.0	564.0	940.1
40. Tree Planting	Urban Acres	0.0	10.4	17.3
41. Urban Nutrient Management	Acres	0.0	2,238.5	3,730.8
42. Urban Sprawl Reduction	Acres	0.0	2.3	3.8
43. Urban Stream Restoration	Feet	651.4	731.4	784.6
44. Wet Ponds & Wetlands	Acres	1,713.9	1,883.7	1,996.9

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	273.1	345.8	394.3
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	122,764.3	226,584.0	295,797.0
47. Forest Harvesting Practices	Acres	0.0	709.7	1,182.8

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Indiana County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	49,352
2010 Current Load	47,983
2017 Interim Planning Target – 60%*	41,240
2017 Nitrogen Reductions (2010 – 2017)	8,111
2025 Planning Target – 100%	35,833
2025 Total Nitrogen Reductions (2010 – 2025)	13,519

### Phosphorus Planning Target

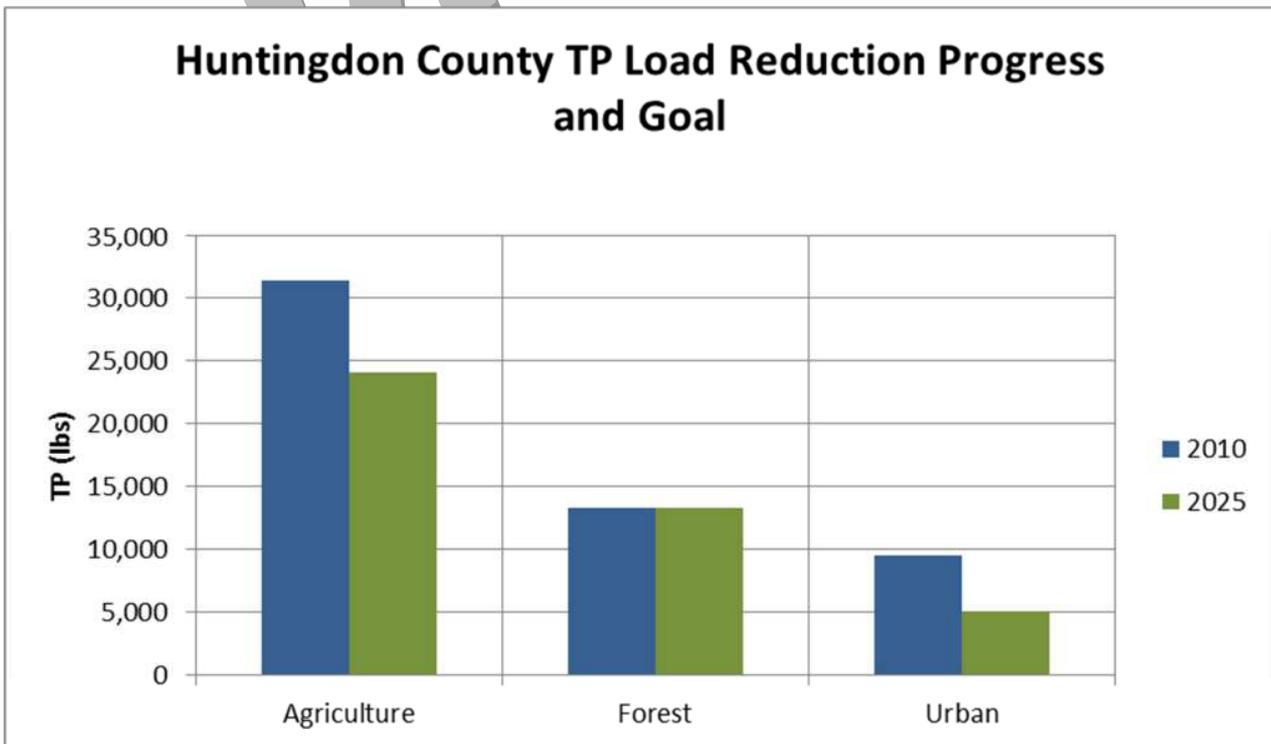
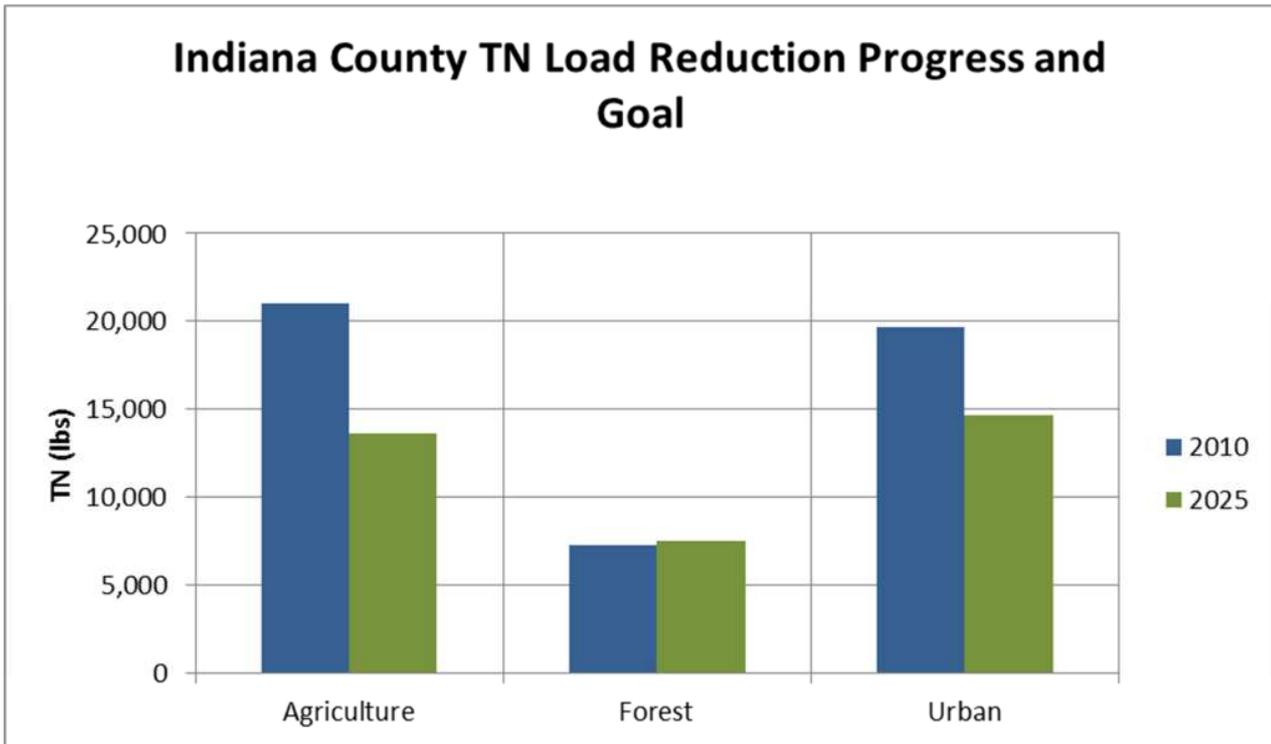
2009 Progress Load	17,474
2010 Current Load	17,270
2017 Interim Planning Target – 60%*	14,342
2017 Phosphorous Reductions (2010 – 2017)	3,132
2025 Planning Target – 100%	12,254
2025 Total Phosphorous Reductions (2010 – 2025)	5,219

### Total Suspended Solids (TSS) Planning Target

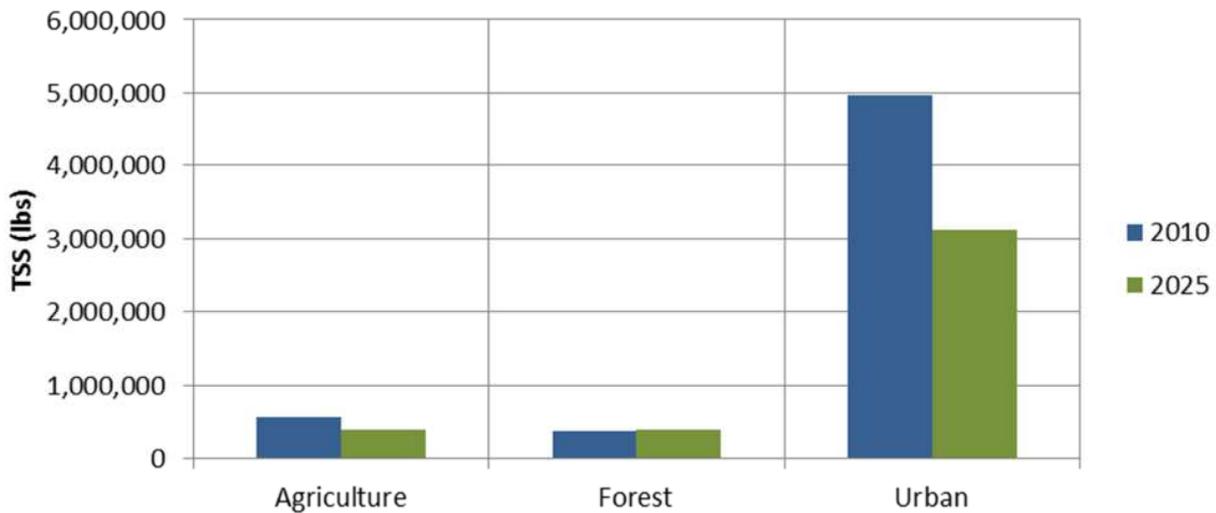
2009 Progress Load	5,963,536
2010 Current Load	5,905,687
2017 Interim Planning Target – 60%*	4,727,678
2017 TSS Reductions (2010 – 2017)	1,235,858
2025 Planning Target – 100%	3,903,773
2025 Total TSS Reductions (2010 – 2025)	2,059,763

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Indiana County TSS Load Reduction Progress and Goal



## County Land Use Distribution

	2010 Acres	2025 Acres
<b>Agriculture</b>		
Conventional Till Row Crops	1,576	311
Conservation Till Row Crops	1,060	1,681
Hay	2,768	3,103
Alfalfa	1,331	1,304
Pasture	2,055	1,815
Animal Feeding Operations	20	20
Concentrated Animal Feeding Operations	0	0
Nursery	127	127
<b>Total Agriculture:</b>	8,937	8,362
<b>Urban</b>		
Pervious Urban Land	972	958
Impervious Urban Land	589	585
Construction	0	0
Extractive	9,154	8,904
Combined Sewer System	0	0
<b>Total Urban:</b>	10,715	10,447
<b>Forest</b>	20,592	21,434
<b>Total Acreage:</b>	40,244	40,244

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	2.0	6.8	10.0
2. Barnyard Runoff Controls	Acres	0.1	8.2	13.6
3. Capture Reuse <sup>+</sup>	Acres	0.0	7.6	12.7
4. Carbon Sequestration/ Alternative Crops	Acres	53.9	142.6	201.8
5. Conservation Plans/SCWQA	Acres	2,218.9	5,569.7	7,803.6
6. Conservation Tillage	Acres	1,060.0	1,432.3	1,680.5
7. Continuous No-Till <sup>**</sup>	Acres	127.8	68.8	29.4
8. Cover Crops	Acres	13.4	782.1	1,294.6
9. Forest Buffers	Ag Acres	37.7	240.8	376.3
10. Grass Buffers	Ag Acres	3.3	68.7	112.2
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	379.7	545.4	655.8
14. Manure Injection	Acres	0.0	32.4	54.0
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.1	0.2
17. Non-Urban Stream Restoration	Feet	138.2	675.8	1,034.2
18. Nutrient Management	Acres	994.8	3,594.1	5,327.0
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	78.8	194.9	272.3
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	65.7	65.7	65.7
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	8.1	13.5
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	254.3	423.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	144.3	211.9	256.9
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	200.1	1,005.7	1,542.8
29. Wetland Restoration	Acres	8.6	83.0	132.6

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	891.0	379.6	38.6
31. Dry Extended Detention Ponds	Acres	305.9	145.5	38.6
32. Erosion and Sediment Control	Acres	0.0	4,700.7	7,834.6
33. Filtering Practices ***	Acres	0.0	314.9	524.8
34. Forest Buffers	Urban Acres	0.0	9.5	15.9
35. Grass Buffers	Urban Acres	0.0	4.7	7.8
36. Impervious Surface Reduction	Acres	0.0	2.2	3.6
37. Infiltration Practices ***	Acres	228.0	486.1	658.1
38. Septic System Hook-ups	Units	57.8	170.7	245.9
39. Street Sweeping	Acres	0.0	43.8	73.1
40. Tree Planting	Urban Acres	0.0	0.8	1.3
41. Urban Nutrient Management	Acres	0.0	172.5	287.4
42. Urban Sprawl Reduction	Acres	0.0	0.2	0.3
43. Urban Stream Restoration	Feet	0.0	39.3	65.5
44. Wet Ponds & Wetlands	Acres	136.1	147.1	154.3

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	120.0	269.9	369.9
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	11,790.9	18,549.4	23,055.1
47. Forest Harvesting Practices	Acres	7.1	35.5	54.5

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Jefferson County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	985
2010 Current Load	989
2017 Interim Planning Target – 60%*	843
2017 Nitrogen Reductions (2010 – 2017)	142
2025 Planning Target – 100%	749
2025 Total Nitrogen Reductions (2010 – 2025)	236

### Phosphorus Planning Target

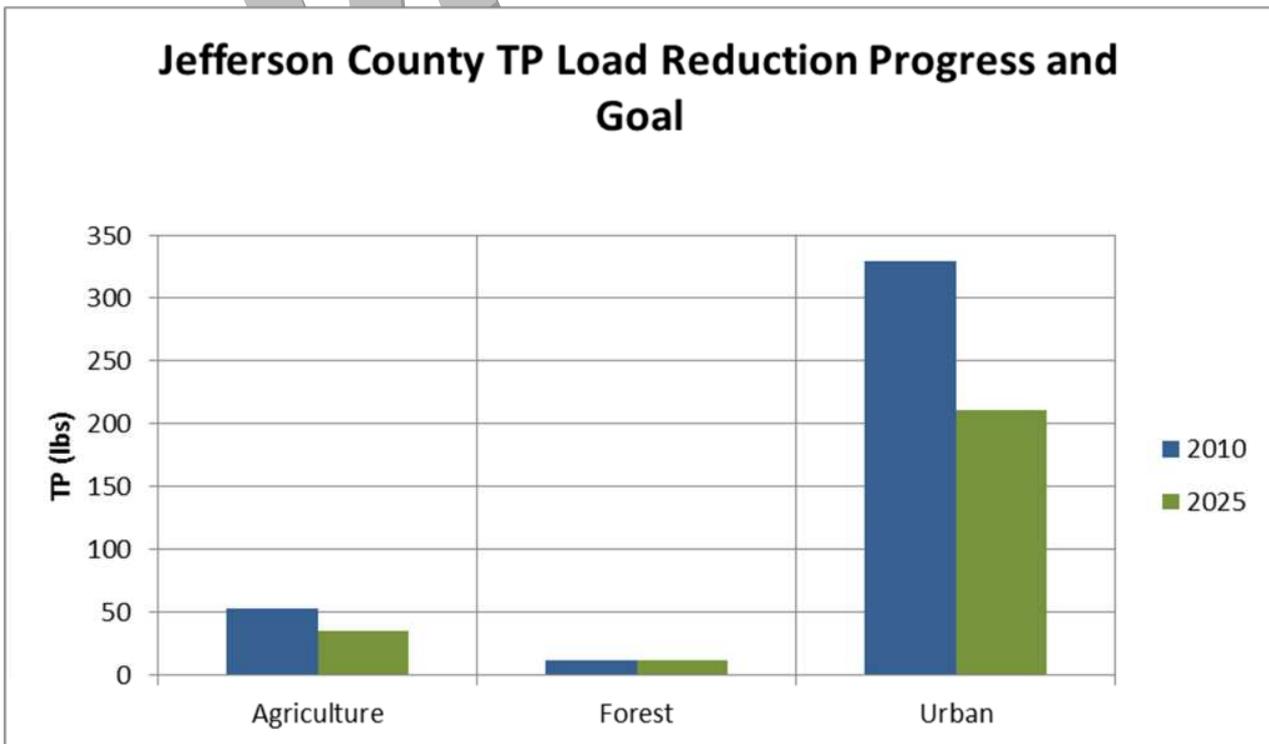
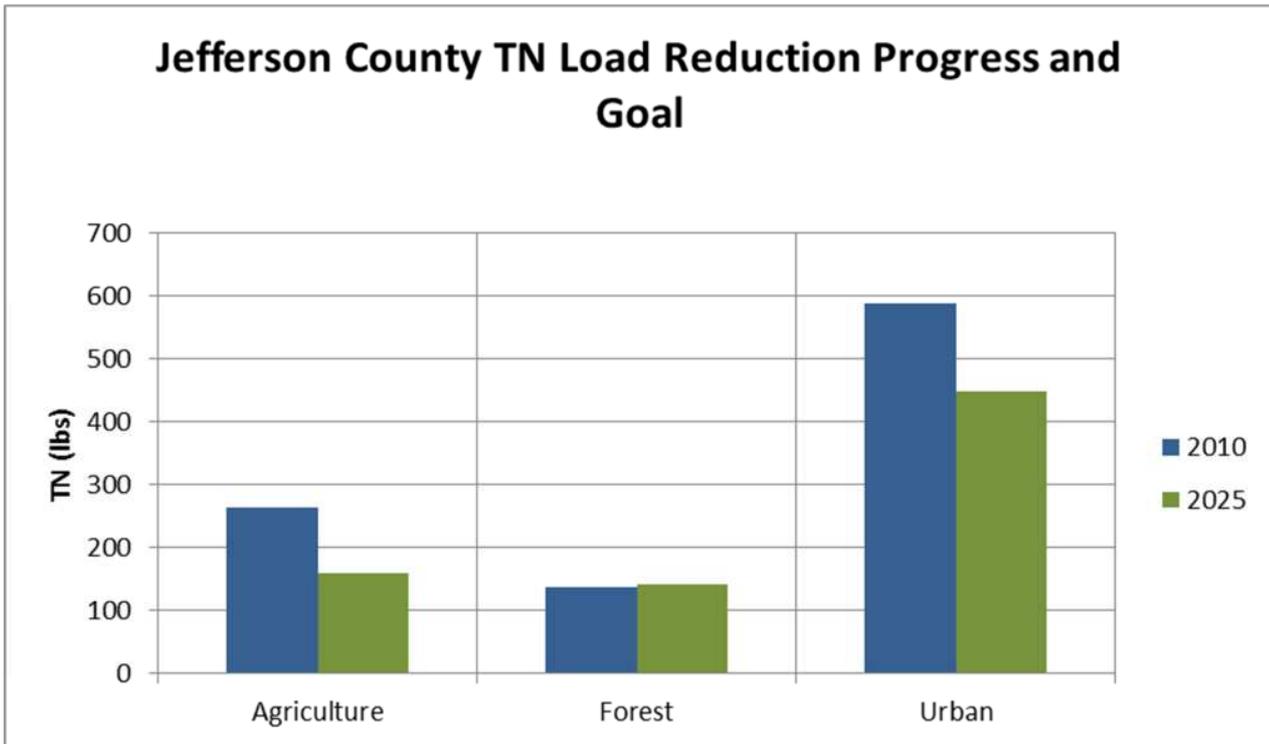
2009 Progress Load	393
2010 Current Load	394
2017 Interim Planning Target – 60%*	312
2017 Phosphorous Reductions (2010 – 2017)	81
2025 Planning Target – 100%	258
2025 Total Phosphorous Reductions (2010 – 2025)	136

### Total Suspended Solids (TSS) Planning Target

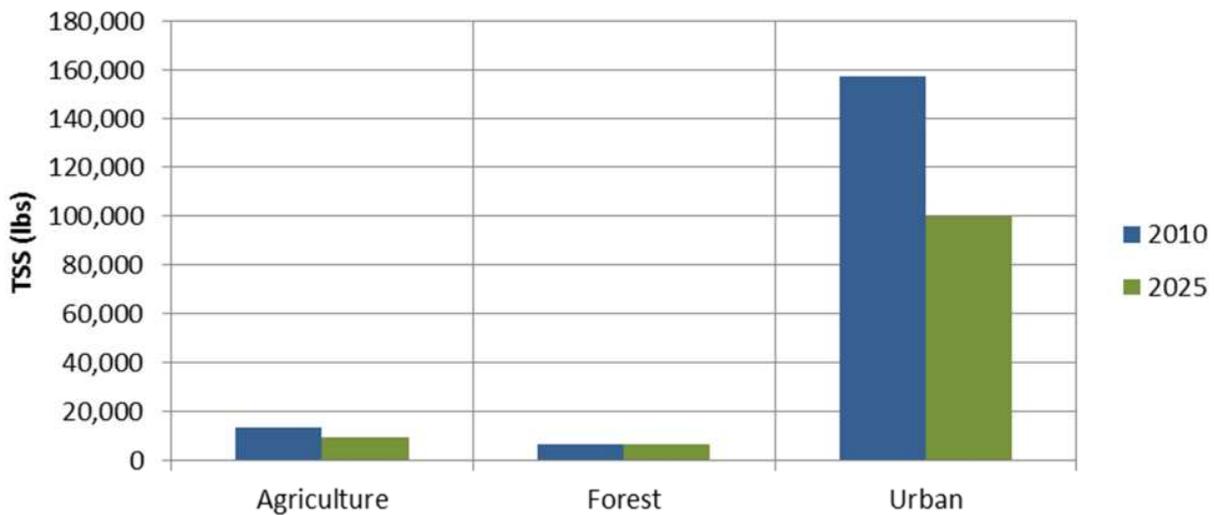
2009 Progress Load	177,221
2010 Current Load	177,478
2017 Interim Planning Target – 60%*	140,326
2017 TSS Reductions (2010 – 2017)	36,895
2025 Planning Target – 100%	115,730
2025 Total TSS Reductions (2010 – 2025)	61,491

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Jefferson County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	18	2
Conservation Till Row Crops	13	20
Hay	74	79
Alfalfa	34	33
Pasture	38	33
Animal Feeding Operations	0	0
Concentrated Animal Feeding Operations	0	0
Nursery	0	0
<b>Total Agriculture:</b>	178	168
<b>Urban</b>		
Pervious Urban Land	20	20
Impervious Urban Land	21	21
Construction	0	0
Extractive	279	271
Combined Sewer System	0	0
<b>Total Urban:</b>	321	313
<b>Forest</b>	368	387
<b>Total Acreage:</b>	868	868

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	0.0	0.1	0.2
2. Barnyard Runoff Controls	Acres	0.0	0.2	0.3
3. Capture Reuse <sup>+</sup>	Acres	0.0	0.0	0.0
4. Carbon Sequestration/ Alternative Crops	Acres	1.2	2.1	2.7
5. Conservation Plans/SCWQA	Acres	36.6	110.5	159.9
6. Conservation Tillage	Acres	13.4	17.2	19.7
7. Continuous No-Till <sup>**</sup>	Acres	2.7	1.3	0.3
8. Cover Crops	Acres	0.0	8.6	14.3
9. Forest Buffers	Ag Acres	0.2	3.8	6.2
10. Grass Buffers	Ag Acres	0.0	1.0	1.6
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	4.0	7.2	9.3
14. Manure Injection	Acres	0.0	0.4	0.6
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.0	0.0
17. Non-Urban Stream Restoration	Feet	3.0	11.3	16.9
18. Nutrient Management	Acres	21.1	78.7	117.0
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	0.2	3.0	4.9
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	0.0	0.6	0.9
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	0.1	0.2
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	6.1	10.1
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	3.1	4.2	4.9
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1.9	17.4	27.8
29. Wetland Restoration	Acres	0.2	1.7	2.8

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	19.1	8.3	1.0
31. Dry Extended Detention Ponds	Acres	6.6	3.2	1.0
32. Erosion and Sediment Control	Acres	0.0	143.3	238.8
33. Filtering Practices ***	Acres	0.0	8.5	14.1
34. Forest Buffers	Urban Acres	0.0	0.2	0.3
35. Grass Buffers	Urban Acres	0.0	0.1	0.2
36. Impervious Surface Reduction	Acres	0.0	0.1	0.1
37. Infiltration Practices ***	Acres	13.2	15.5	17.0
38. Septic System Hook-ups	Units	66.0	30.3	6.4
39. Street Sweeping	Acres	0.0	1.6	2.7
40. Tree Planting	Urban Acres	0.0	0.0	0.0
41. Urban Nutrient Management	Acres	0.0	3.6	6.0
42. Urban Sprawl Reduction	Acres	0.0	0.0	0.0
43. Urban Stream Restoration	Feet	0.0	1.1	1.8
44. Wet Ponds & Wetlands	Acres	2.9	3.7	4.1

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	2.6	7.2	10.3
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	261.5	458.6	590.0
47. Forest Harvesting Practices	Acres	0.0	0.6	1.0

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Juniata County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	2,893,859
2010 Current Load	2,623,409
2017 Interim Planning Target – 60%*	2,321,348
2017 Nitrogen Reductions (2010 – 2017)	572,511
2025 Planning Target – 100%	1,939,674
2025 Total Nitrogen Reductions (2010 – 2025)	954,185

### Phosphorus Planning Target

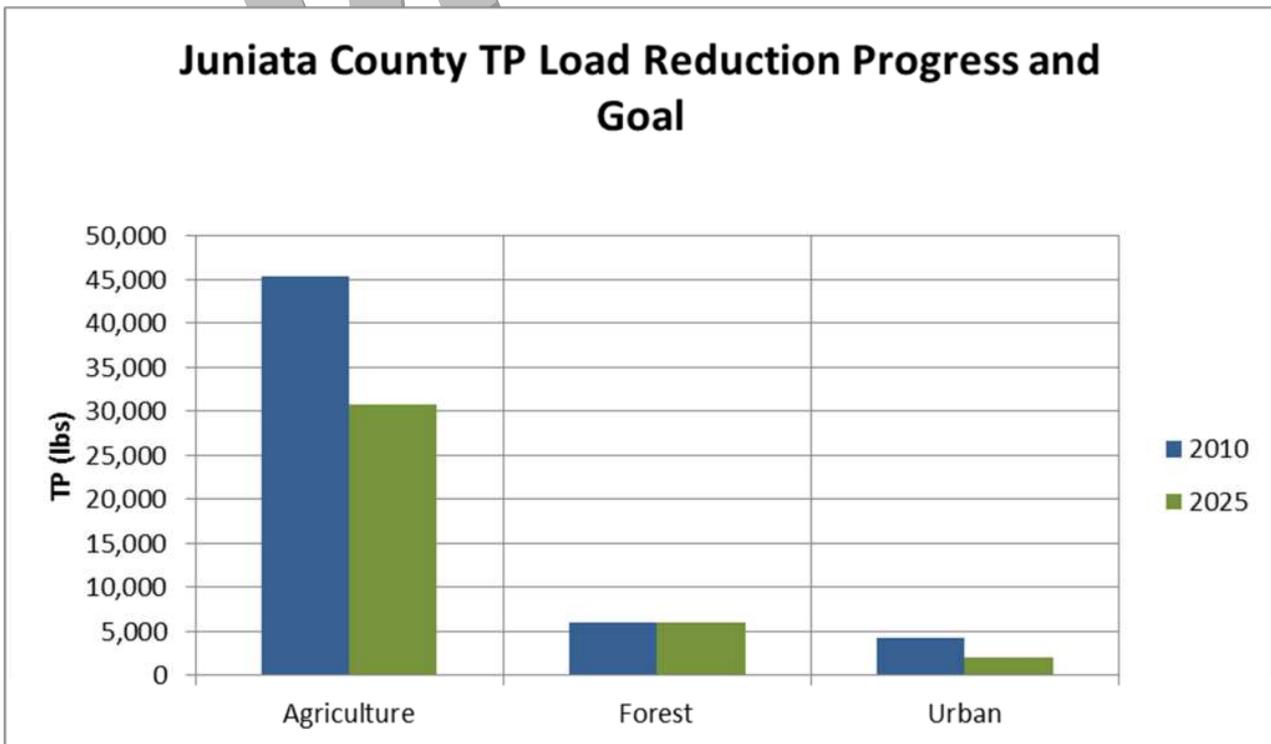
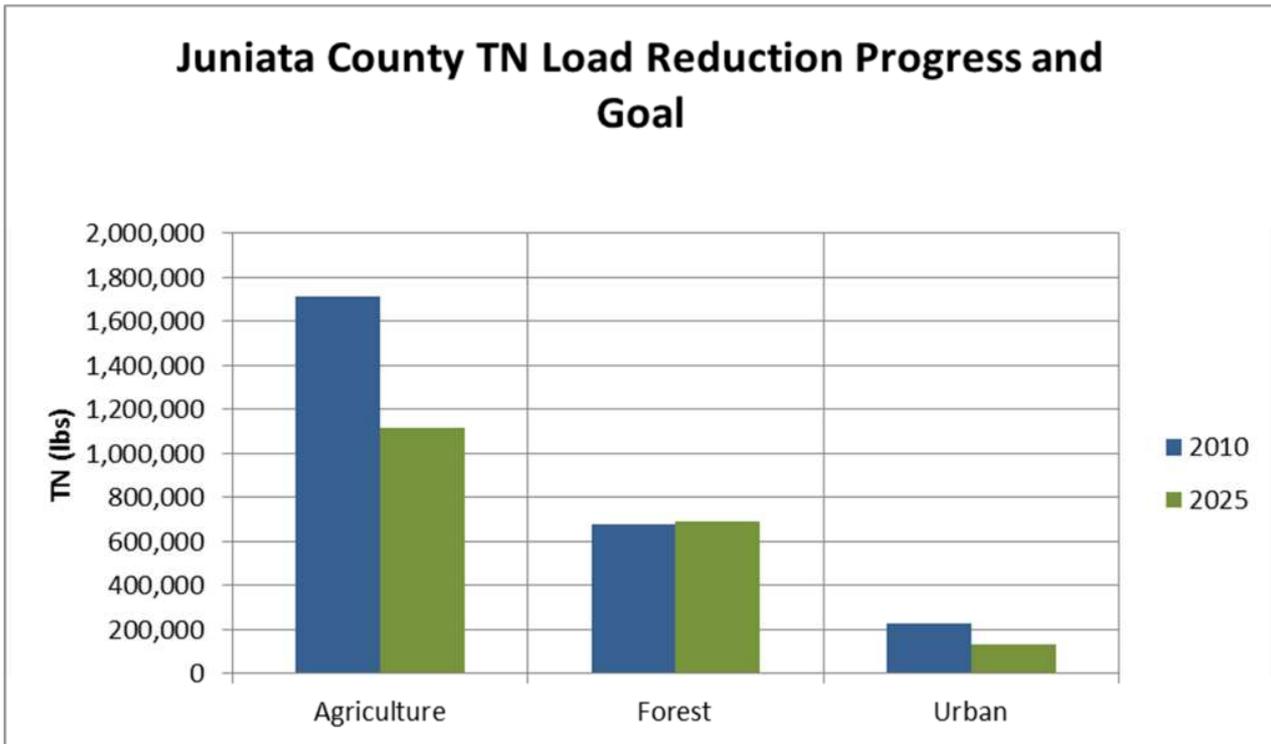
2009 Progress Load	58,611
2010 Current Load	55,568
2017 Interim Planning Target – 60%*	46,708
2017 Phosphorous Reductions (2010 – 2017)	11,903
2025 Planning Target – 100%	38,773
2025 Total Phosphorous Reductions (2010 – 2025)	19,838

### Total Suspended Solids (TSS) Planning Target

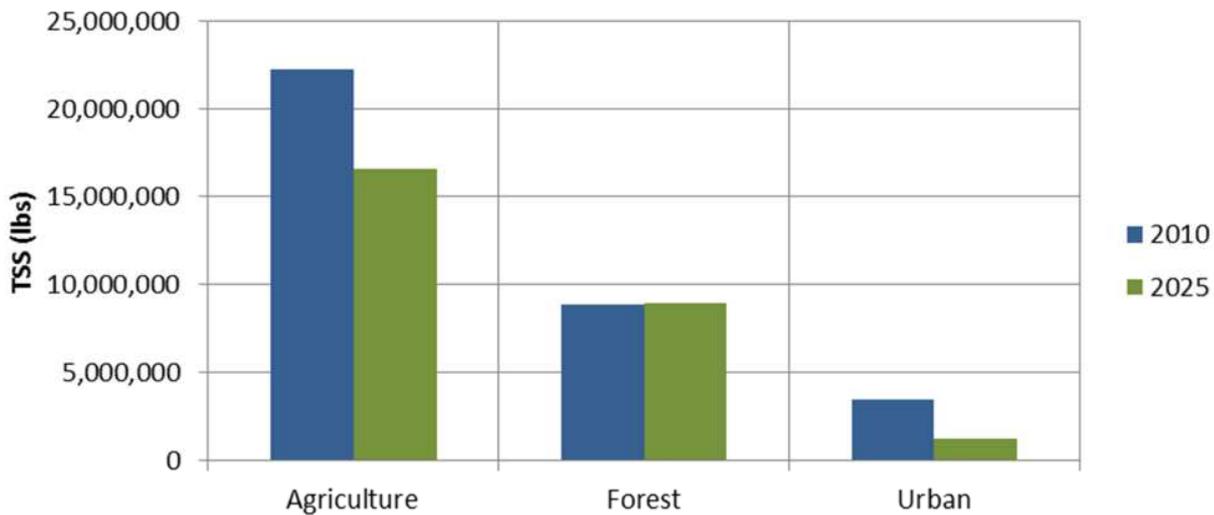
2009 Progress Load	38,955,792
2010 Current Load	34,643,277
2017 Interim Planning Target – 60%*	31,636,613
2017 TSS Reductions (2010 – 2017)	7,319,180
2025 Planning Target – 100%	26,757,160
2025 Total TSS Reductions (2010 – 2025)	12,198,633

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Juniata County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	13,214	1,406
Conservation Till Row Crops	10,477	18,126
Hay	20,812	22,775
Alfalfa	12,044	11,812
Pasture	12,037	10,804
Animal Feeding Operations	174	174
Concentrated Animal Feeding Operations	30	30
Nursery	123	123
<b>Total Agriculture:</b>	68,911	65,249
<b>Urban</b>		
Pervious Urban Land	8,928	8,791
Impervious Urban Land	3,770	3,747
Construction	31	31
Extractive	229	229
Combined Sewer System	0	0
<b>Total Urban:</b>	12,959	12,798
<b>Forest</b>		
	167,734	171,557
<b>Total Acreage:</b>	249,604	249,604

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	103.5	159.7	197.2
2. Barnyard Runoff Controls	Acres	3.2	82.6	135.6
3. Capture Reuse <sup>+</sup>	Acres	0.0	7.4	12.3
4. Carbon Sequestration/ Alternative Crops	Acres	450.8	1,349.7	1,949.0
5. Conservation Plans/SCWQA	Acres	26,075.8	47,436.2	61,676.4
6. Conservation Tillage	Acres	10,476.9	15,066.6	18,126.3
7. Continuous No-Till <sup>**</sup>	Acres	1,379.2	742.0	317.2
8. Cover Crops	Acres	402.0	7,778.4	12,696.0
9. Forest Buffers	Ag Acres	767.1	2,008.8	2,836.6
10. Grass Buffers	Ag Acres	59.7	611.0	978.6
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	7,757.7	8,054.7	8,252.7
14. Manure Injection	Acres	0.0	368.9	614.8
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.2	2.5	4.0
17. Non-Urban Stream Restoration	Feet	1,363.0	4,039.9	5,824.4
18. Nutrient Management	Acres	25,891.0	37,138.8	44,637.3
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	2,345.5	2,345.5	2,345.5
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	350.0	350.0	350.0
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	92.2	153.7
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,426.4	4,043.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	961.2	1,269.0	1,474.2
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,026.4	5,485.7	8,458.5
29. Wetland Restoration	Acres	66.8	714.9	1,147.0

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	6,062.0	2,612.8	313.4
31. Dry Extended Detention Ponds	Acres	1,543.2	805.3	313.4
32. Erosion and Sediment Control	Acres	30.9	147.0	224.4
33. Filtering Practices ***	Acres	0.0	2,557.7	4,262.9
34. Forest Buffers	Urban Acres	0.0	87.5	145.8
35. Grass Buffers	Urban Acres	0.0	42.7	71.2
36. Impervious Surface Reduction	Acres	0.0	14.0	23.3
37. Infiltration Practices ***	Acres	0.0	3,084.3	5,140.5
38. Septic System Hook-ups	Units	153.6	1,076.4	1,691.5
39. Street Sweeping	Acres	0.0	280.6	467.6
40. Tree Planting	Urban Acres	0.0	7.4	12.3
41. Urban Nutrient Management	Acres	0.0	1,582.4	2,637.3
42. Urban Sprawl Reduction	Acres	0.0	1.6	2.7
43. Urban Stream Restoration	Feet	330.3	451.2	531.9
44. Wet Ponds & Wetlands	Acres	932.6	1,125.3	1,253.8

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	120.1	120.1	120.1
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	47,259.8	91,247.9	120,573.3
47. Forest Harvesting Practices	Acres	267.0	372.4	442.7

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Lackawanna County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	833,578
2010 Current Load	808,706
2017 Interim Planning Target – 60%*	730,226
2017 Nitrogen Reductions (2010 – 2017)	103,352
2025 Planning Target – 100%	661,324
2025 Total Nitrogen Reductions (2010 – 2025)	172,254

### Phosphorus Planning Target

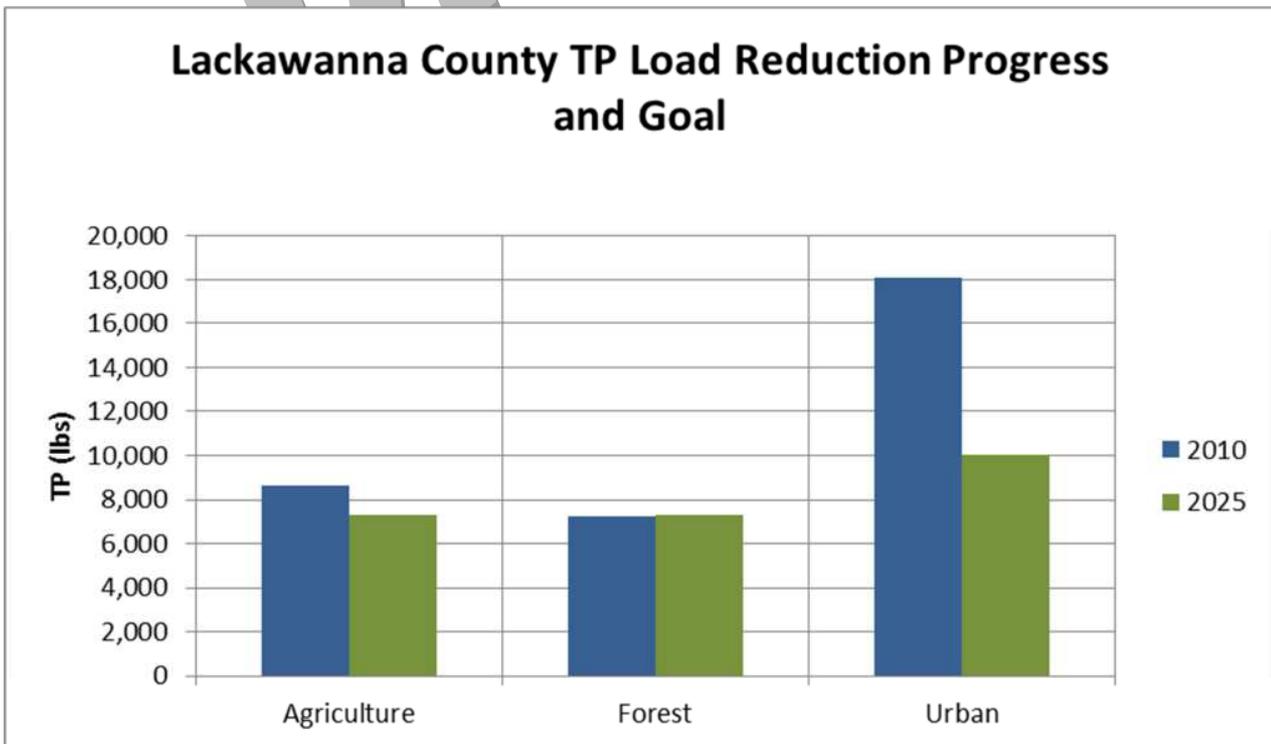
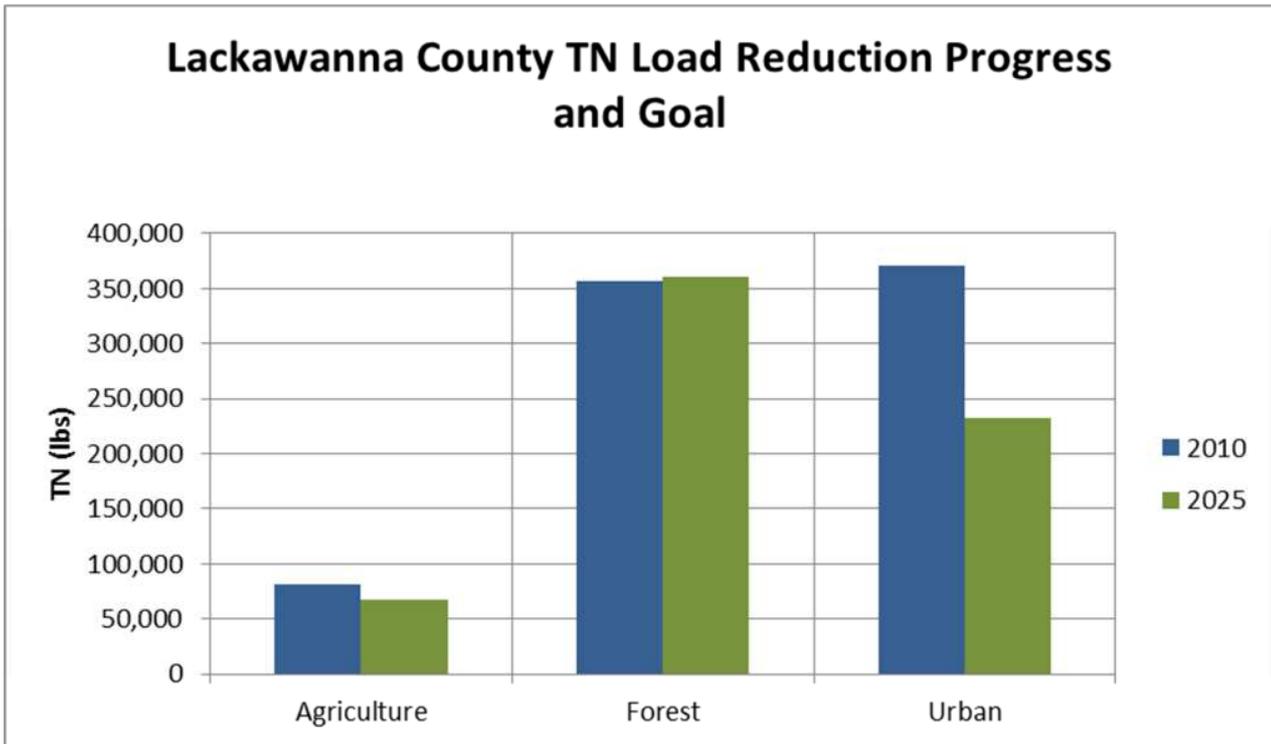
2009 Progress Load	36,408
2010 Current Load	33,937
2017 Interim Planning Target – 60%*	29,371
2017 Phosphorous Reductions (2010 – 2017)	7,037
2025 Planning Target – 100%	24,680
2025 Total Phosphorous Reductions (2010 – 2025)	11,729

### Total Suspended Solids (TSS) Planning Target

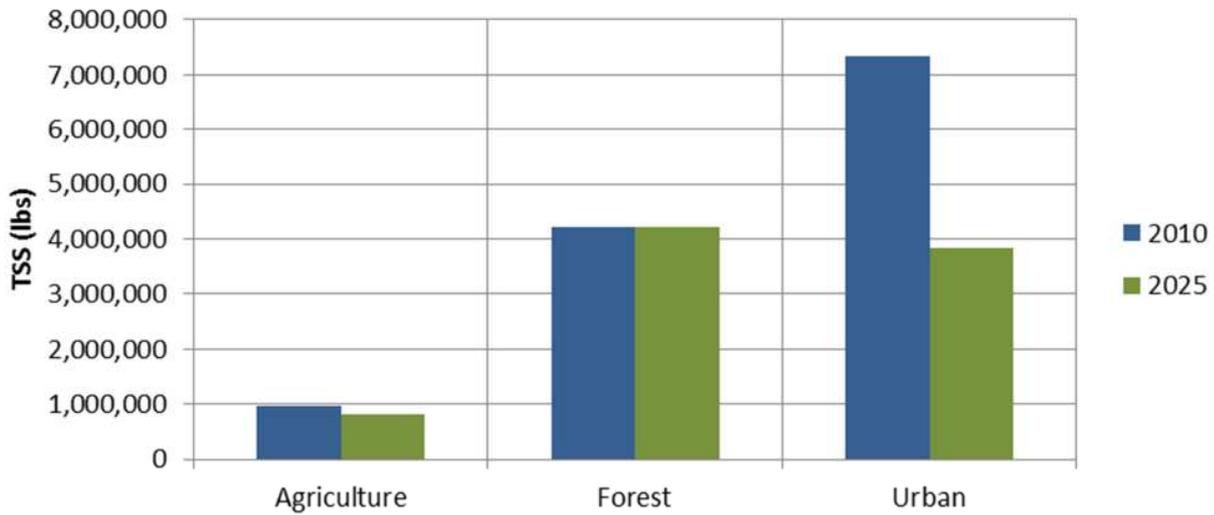
2009 Progress Load	13,750,420
2010 Current Load	12,540,846
2017 Interim Planning Target – 60%*	10,813,488
2017 TSS Reductions (2010 – 2017)	2,936,932
2025 Planning Target – 100%	8,855,533
2025 Total TSS Reductions (2010 – 2025)	4,894,886

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Lackawanna County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	933	565
Conservation Till Row Crops	287	572
Hay	13,733	13,296
Alfalfa	1,549	1,521
Pasture	4,746	4,256
Animal Feeding Operations	55	55
Concentrated Animal Feeding Operations	0	0
Nursery	46	46
<b>Total Agriculture:</b>	21,349	20,311
<b>Urban</b>		
Pervious Urban Land	23,340	22,972
Impervious Urban Land	9,087	9,031
Construction	76	76
Extractive	1,474	1,432
Combined Sewer System	25,692	25,725
<b>Total Urban:</b>	59,669	59,236
<b>Forest</b>	166,729	168,201
<b>Total Acreage:</b>	247,748	247,748

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	32.9	30.9	29.6
2. Barnyard Runoff Controls	Acres	0.0	21.9	36.5
3. Carbon Sequestration/ Alternative Crops	Acres	936.1	2.8	4.6
4. Capture Reuse <sup>+</sup>	Acres	0.0	960.0	975.9
5. Conservation Plans/SCWQA	Acres	9,947.2	15,532.5	19,256.0
6. Conservation Tillage	Acres	286.8	457.9	572.0
7. Continuous No-Till <sup>**</sup>	Acres	0.0	6.0	10.0
8. Cover Crops	Acres	36.5	457.9	738.9
9. Forest Buffers	Ag Acres	1,369.4	1,654.5	1,844.6
10. Grass Buffers	Ag Acres	117.3	186.5	232.6
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	3,638.4	3,638.4	3,638.4
14. Manure Injection	Acres	0.0	15.8	26.4
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.4	0.6
17. Non-Urban Stream Restoration	Feet	8,646.8	8,820.8	8,936.8
18. Nutrient Management	Acres	8,462.7	10,014.5	11,049.0
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	63.8	408.6	638.5
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	164.8	164.8	164.8
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	4.0	6.6
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	494.5	824.2
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	939.9	1,104.0	1,213.4
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,020.1	2,578.8	3,618.0
29. Wetland Restoration	Acres	92.0	266.7	383.2

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	4,824.0	2,790.7	1,435.2
31. Dry Extended Detention Ponds	Acres	1,637.1	1,516.0	1,435.2
32. Erosion and Sediment Control	Acres	76.2	981.8	1,585.5
33. Filtering Practices ***	Acres	0.0	11,127.4	18,545.7
34. Forest Buffers	Urban Acres	0.0	228.9	381.6
35. Grass Buffers	Urban Acres	0.0	203.6	339.4
36. Impervious Surface Reduction	Acres	0.0	56.8	94.6
37. Infiltration Practices ***	Acres	3,581.3	14,715.7	22,138.6
38. Septic System Hook-ups	Units	2,662.4	3,705.1	4,400.3
39. Street Sweeping	Acres	0.0	1,140.0	1,900.1
40. Tree Planting	Urban Acres	0.0	35.0	58.4
41. Urban Nutrient Management	Acres	0.0	7,592.7	12,654.6
42. Urban Sprawl Reduction	Acres	0.0	6.7	11.2
43. Urban Stream Restoration	Feet	0.0	815.7	1,359.5
44. Wet Ponds & Wetlands	Acres	729.0	3,736.0	5,740.7

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	537.9	568.4	588.6
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	52,790.8	91,995.1	118,131.4
47. Forest Harvesting Practices	Acres	514.7	469.3	439.0

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Lancaster County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	16,302,079
2010 Current Load	16,147,779
2017 Interim Planning Target – 60%*	12,906,938
2017 Nitrogen Reductions (2010 – 2017)	3,395,141
2025 Planning Target – 100%	10,643,511
2025 Total Nitrogen Reductions (2010 – 2025)	5,658,568

### Phosphorus Planning Target

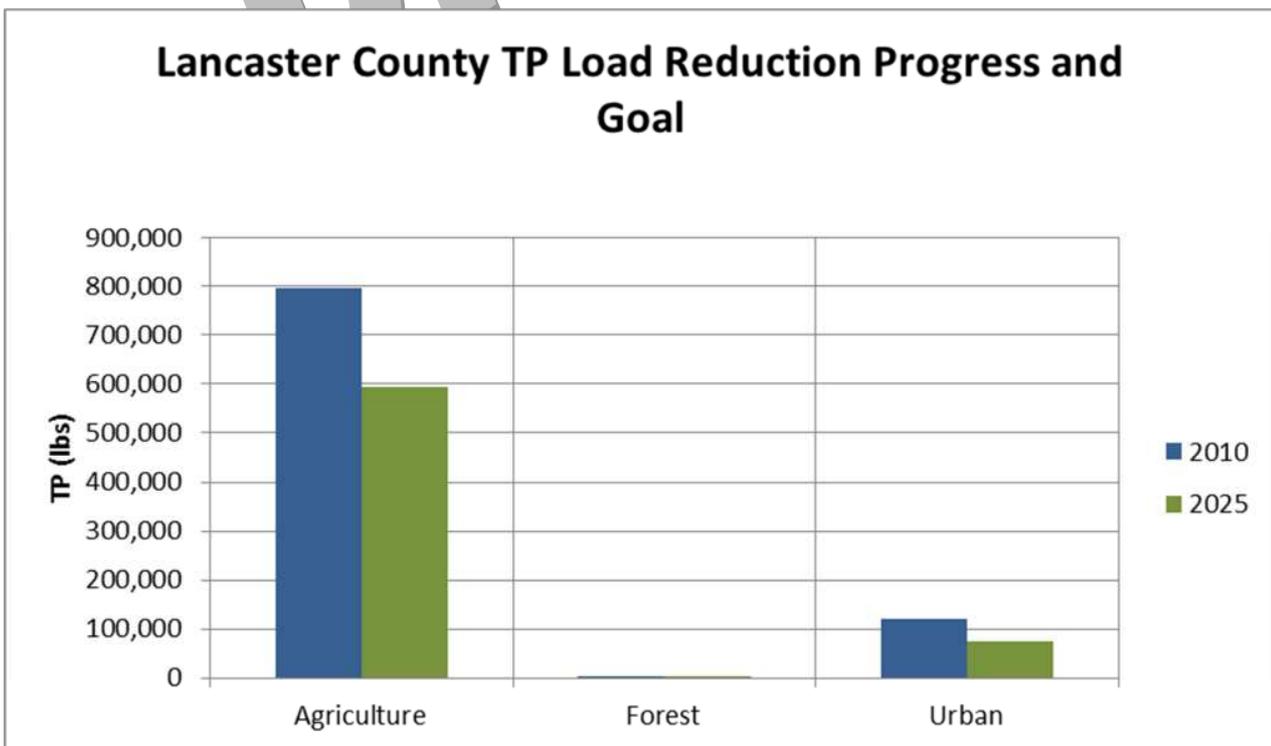
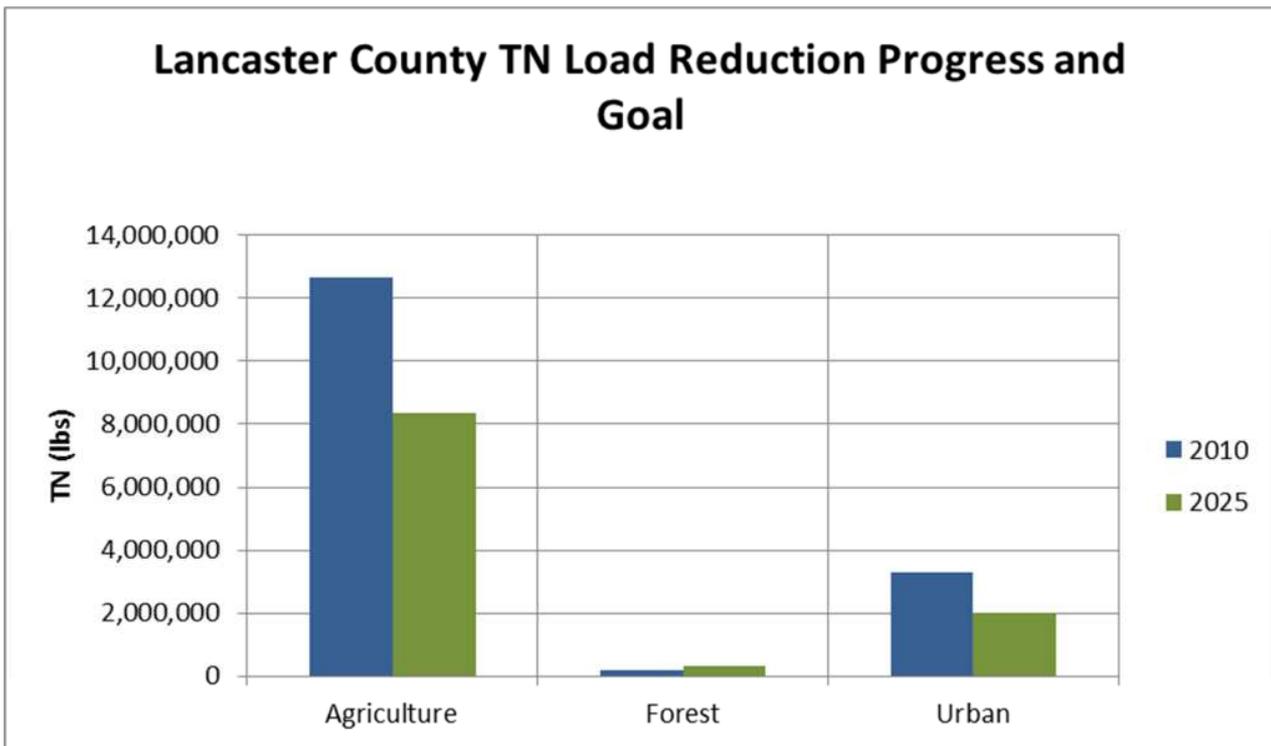
2009 Progress Load	929,175
2010 Current Load	921,535
2017 Interim Planning Target – 60%*	776,151
2017 Phosphorous Reductions (2010 – 2017)	153,024
2025 Planning Target – 100%	674,136
2025 Total Phosphorous Reductions (2010 – 2025)	255,040

### Total Suspended Solids (TSS) Planning Target

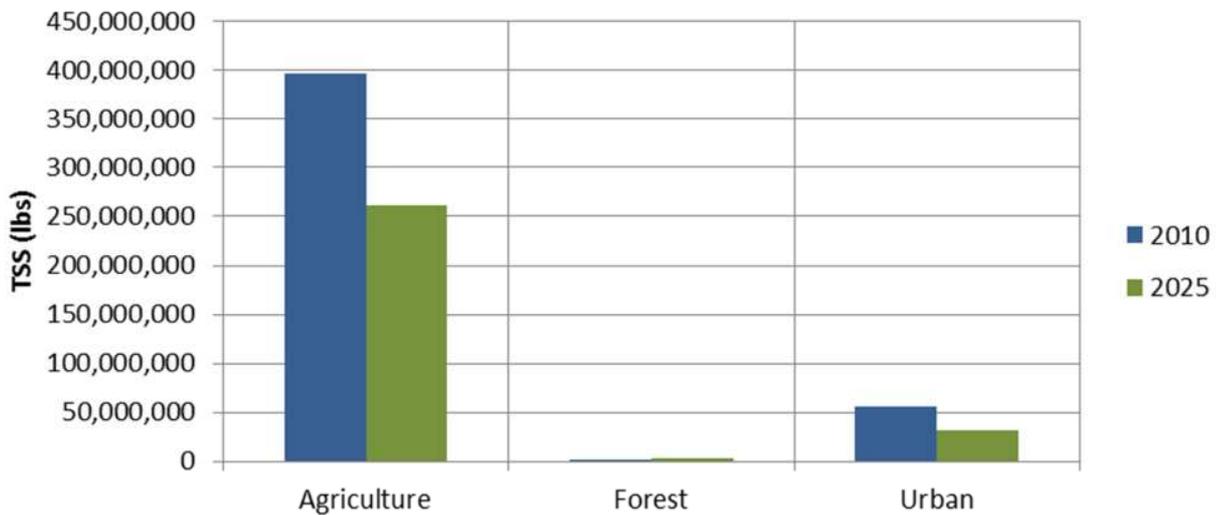
2009 Progress Load	486,627,741
2010 Current Load	454,182,682
2017 Interim Planning Target – 60%*	372,502,774
2017 TSS Reductions (2010 – 2017)	114,124,967
2025 Planning Target – 100%	296,419,462
2025 Total TSS Reductions (2010 – 2025)	190,208,279

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Lancaster County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	108,567	16,222
Conservation Till Row Crops	107,969	137,668
Hay	37,704	87,674
Alfalfa	64,618	63,265
Pasture	54,634	47,320
Animal Feeding Operations	1,450	1,450
Concentrated Animal Feeding Operations	455	455
Nursery	2,380	2,380
<b>Total Agriculture:</b>	<b>377,776</b>	<b>356,433</b>
<b>Urban</b>		
Pervious Urban Land	149,541	147,031
Impervious Urban Land	35,459	35,281
Construction	1,539	1,539
Extractive	2,201	2,201
Combined Sewer System	2,244	2,244
<b>Total Urban:</b>	<b>190,984</b>	<b>188,296</b>
<b>Forest</b>		
	37,899	61,931
<b>Total Acreage:</b>	<b>606,660</b>	<b>606,660</b>

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	768.4	1,656.0	2,247.8
2. Barnyard Runoff Controls	Acres	8.1	764.3	1,268.5
3. Capture Reuse <sup>+</sup>	Acres	0.0	142.8	238.0
4. Carbon Sequestration/ Alternative Crops	Acres	424.0	7,742.7	12,621.8
5. Conservation Plans/SCWQA	Acres	125,363.0	250,683.2	334,230.0
6. Conservation Tillage	Acres	107,968.5	125,788.0	137,667.6
7. Continuous No-Till <sup>**</sup>	Acres	3,874.5	2,995.3	2,409.2
8. Cover Crops	Acres	15,586.3	66,251.3	100,028.0
9. Forest Buffers	Ag Acres	3,301.5	10,861.2	15,900.9
10. Grass Buffers	Ag Acres	174.2	3,872.7	6,338.4
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	4,353.9	24,636.5	38,158.3
14. Manure Injection	Acres	0.0	2,606.9	4,344.8
15. Manure/Litter Transport	Tons	32,404.3	32,747.8	32,976.8
16. Mortality Composters	Units	9.9	32.5	47.5
17. Non-Urban Stream Restoration	Feet	45,387.8	58,735.1	67,633.3
18. Nutrient Management	Acres	188,922.8	225,962.4	250,655.4
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	887.5	4,584.4	7,049.0
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	177.3	896.1	1,375.4
21. Poultry and Swine Phytase	Percent	Poultry 100%; Swine 0%	Poultry 100%; Swine 59%	Poultry 100%; Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	651.7	1,086.2
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	14,542.0	24,236.7
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,416.9	3,042.0	4,125.5
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	2,945.2	25,144.5	39,944.1
29. Wetland Restoration	Acres	192.7	3,839.4	6,270.5

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	46,495.8	21,366.6	4,613.8
31. Dry Extended Detention Ponds	Acres	14,399.9	8,528.3	4,613.8
32. Erosion and Sediment Control	Acres	1,498.7	2,436.8	3,062.2
33. Filtering Practices ***	Acres	0.0	34,730.9	57,884.9
34. Forest Buffers	Urban Acres	0.0	1,462.9	2,438.1
35. Grass Buffers	Urban Acres	0.0	722.1	1,203.5
36. Impervious Surface Reduction	Acres	42.2	151.1	223.7
37. Infiltration Practices ***	Acres	8,468.1	44,592.9	68,676.1
38. Septic System Hook-ups	Units	30.5	7,537.7	12,542.5
39. Street Sweeping	Acres	0.0	2,696.4	4,493.9
40. Tree Planting	Urban Acres	0.0	124.2	207.0
41. Urban Nutrient Management	Acres	0.0	26,737.5	44,562.6
42. Urban Sprawl Reduction	Acres	0.0	26.9	44.9
43. Urban Stream Restoration	Feet	0.0	4,640.5	7,734.2
44. Wet Ponds & Wetlands	Acres	7,284.8	13,987.1	18,455.2

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	342.3	342.3	342.3
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	193,164.9	236,670.4	265,674.1
47. Forest Harvesting Practices	Acres	0.0	56.5	94.1

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Lebanon County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	3,368,479
2010 Current Load	3,422,267
2017 Interim Planning Target – 60%*	2,844,332
2017 Nitrogen Reductions (2010 – 2017)	524,147
2025 Planning Target – 100%	2,494,901
2025 Total Nitrogen Reductions (2010 – 2025)	873,578

### Phosphorus Planning Target

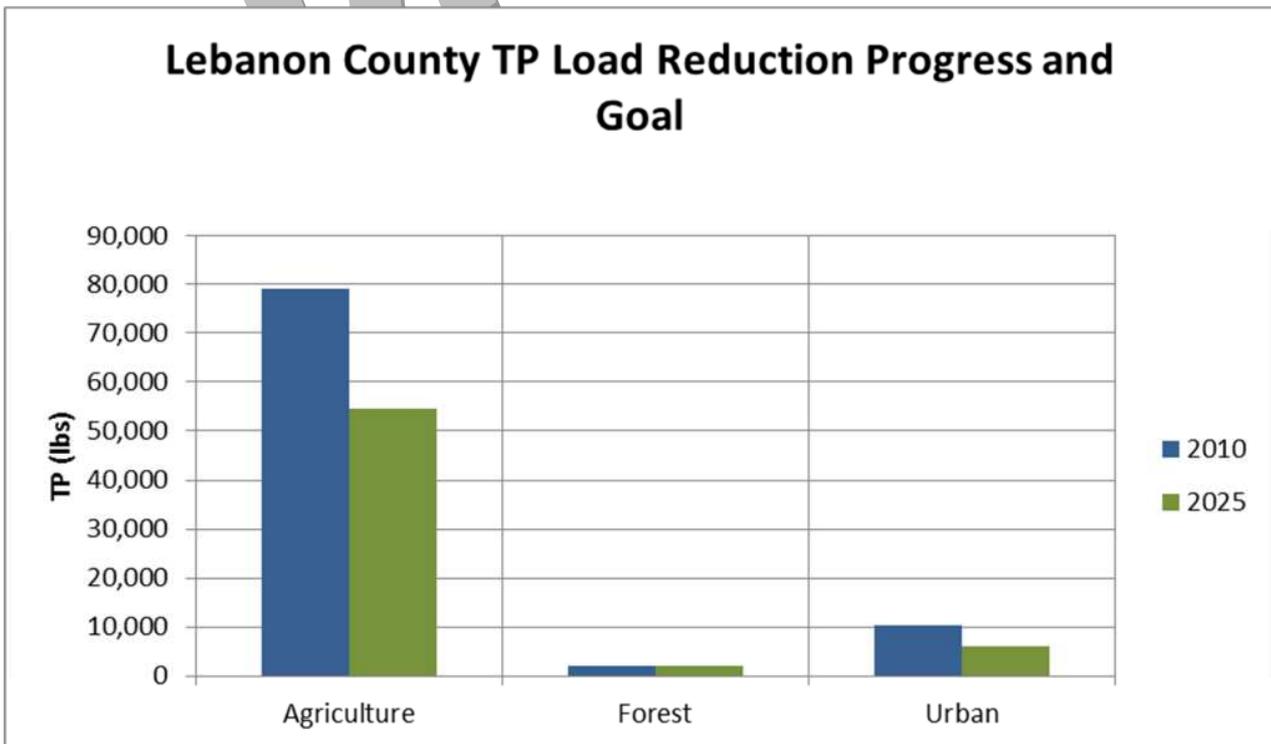
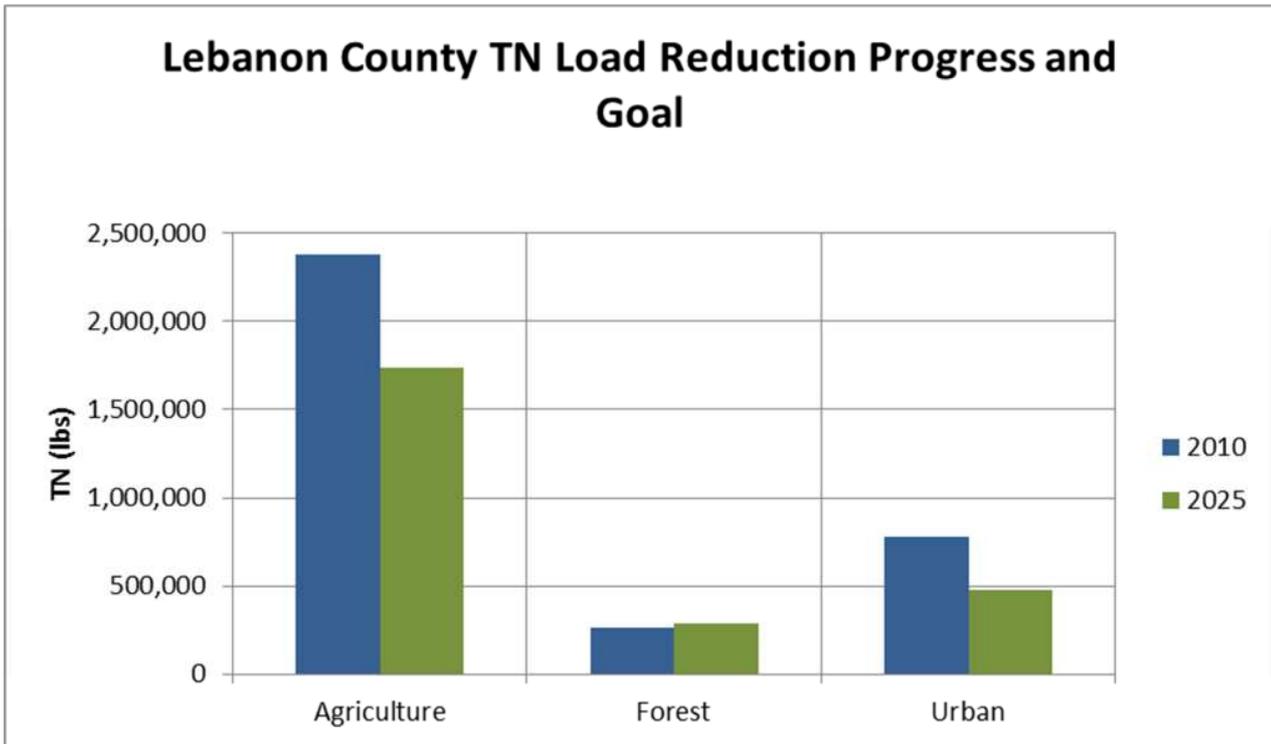
2009 Progress Load	93,731
2010 Current Load	91,583
2017 Interim Planning Target – 60%*	75,236
2017 Phosphorous Reductions (2010 – 2017)	18,495
2025 Planning Target – 100%	62,906
2025 Total Phosphorous Reductions (2010 – 2025)	30,825

### Total Suspended Solids (TSS) Planning Target

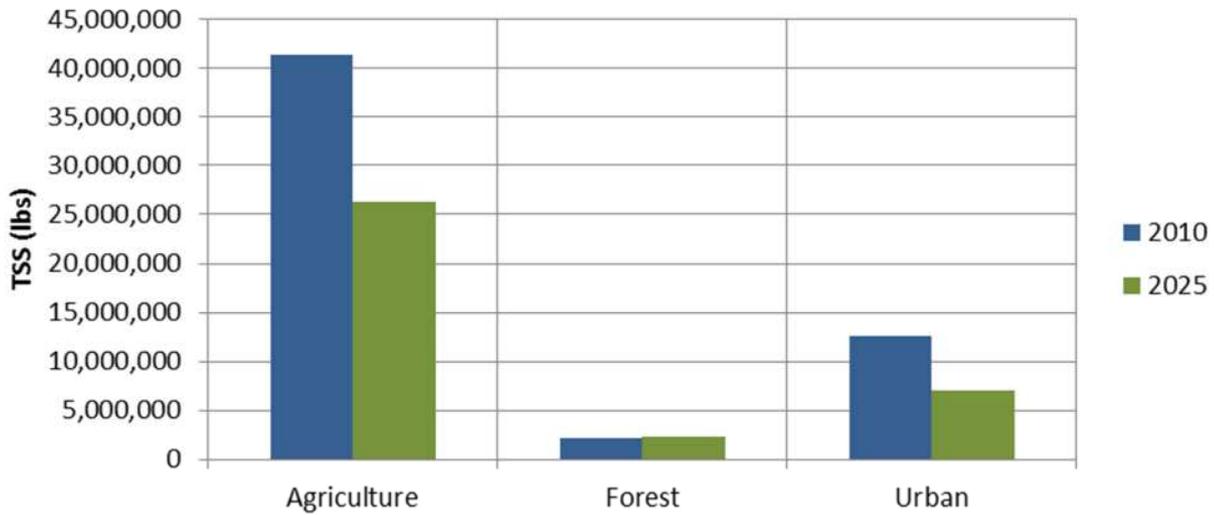
2009 Progress Load	66,680,371
2010 Current Load	56,034,068
2017 Interim Planning Target – 60%*	48,002,722
2017 TSS Reductions (2010 – 2017)	18,677,649
2025 Planning Target – 100%	35,550,955
2025 Total TSS Reductions (2010 – 2025)	31,129,416

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Lebanon County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	20,443	2,191
Conservation Till Row Crops	28,289	32,460
Hay	12,234	23,293
Alfalfa	11,385	11,159
Pasture	11,415	9,885
Animal Feeding Operations	205	205
Concentrated Animal Feeding Operations	61	61
Nursery	176	176
<b>Total Agriculture:</b>	84,208	79,431
<b>Urban</b>		
Pervious Urban Land	34,400	33,842
Impervious Urban Land	10,225	10,164
Construction	271	271
Extractive	1,152	1,120
Combined Sewer System	0	0
<b>Total Urban:</b>	46,049	45,398
<b>Forest</b>		
	66,275	71,704
<b>Total Acreage:</b>	196,532	196,532

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	102.1	306.2	442.3
2. Barnyard Runoff Controls	Acres	1.6	106.6	176.6
3. Capture Reuse <sup>+</sup>	Acres	0.0	10.6	17.6
4. Carbon Sequestration/ Alternative Crops	Acres	228.6	1,856.8	2,942.2
5. Conservation Plans/SCWQA	Acres	30,763.8	57,290.6	74,975.1
6. Conservation Tillage	Acres	28,289.5	30,792.0	32,460.4
7. Continuous No-Till <sup>**</sup>	Acres	1,224.3	830.5	568.1
8. Cover Crops	Acres	4,717.6	15,401.0	22,523.2
9. Forest Buffers	Ag Acres	861.7	2,505.5	3,601.4
10. Grass Buffers	Ag Acres	34.3	858.8	1,408.5
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	1,794.8	6,358.5	9,401.0
14. Manure Injection	Acres	0.0	615.0	1,025.0
15. Manure/Litter Transport	Tons	12,782.4	14,924.5	16,352.6
16. Mortality Composters	Units	0.7	5.9	9.3
17. Non-Urban Stream Restoration	Feet	4,213.9	6,468.9	7,972.1
18. Nutrient Management	Acres	51,907.4	54,263.3	55,833.9
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	285.3	997.7	1,472.6
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	49.6	191.1	285.5
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	153.7	256.2
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	3,282.9	5,471.4
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	495.1	896.7	1,164.4
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	644.8	5,264.9	8,345.0
29. Wetland Restoration	Acres	45.8	872.0	1,422.8

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	18,565.5	8,086.3	1,100.2
31. Dry Extended Detention Ponds	Acres	2,358.6	1,603.5	1,100.2
32. Erosion and Sediment Control	Acres	271.4	808.9	1,167.2
33. Filtering Practices ***	Acres	0.0	8,115.3	13,525.5
34. Forest Buffers	Urban Acres	0.0	336.7	561.2
35. Grass Buffers	Urban Acres	0.0	164.6	274.3
36. Impervious Surface Reduction	Acres	2.2	38.8	63.1
37. Infiltration Practices ***	Acres	397.2	9,745.3	15,977.3
38. Septic System Hook-ups	Units	99.9	2,615.5	4,292.6
39. Street Sweeping	Acres	0.0	761.1	1,268.5
40. Tree Planting	Urban Acres	0.0	28.3	47.2
41. Urban Nutrient Management	Acres	0.0	6,091.6	10,152.6
42. Urban Sprawl Reduction	Acres	0.0	6.2	10.4
43. Urban Stream Restoration	Feet	0.0	1,120.1	1,866.9
44. Wet Ponds & Wetlands	Acres	2,787.2	3,755.3	4,400.6

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	66.2	85.7	98.7
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	33,108.9	49,923.2	61,132.7
47. Forest Harvesting Practices	Acres	150.3	164.8	174.4

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

**PA Chesapeake Bay Phase II Watershed Implementation Plan  
Luzerne County Planning Targets**

**What are Planning Targets?**

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

**Nitrogen Planning Target**

**Pounds**

2009 Progress Load	2,234,489
2010 Current Load	2,180,279
2017 Interim Planning Target – 60%*	1,968,935
2017 Nitrogen Reductions (2010 – 2017)	265,554
2025 Planning Target – 100%	1,791,898
2025 Total Nitrogen Reductions (2010 – 2025)	442,591

**Phosphorus Planning Target**

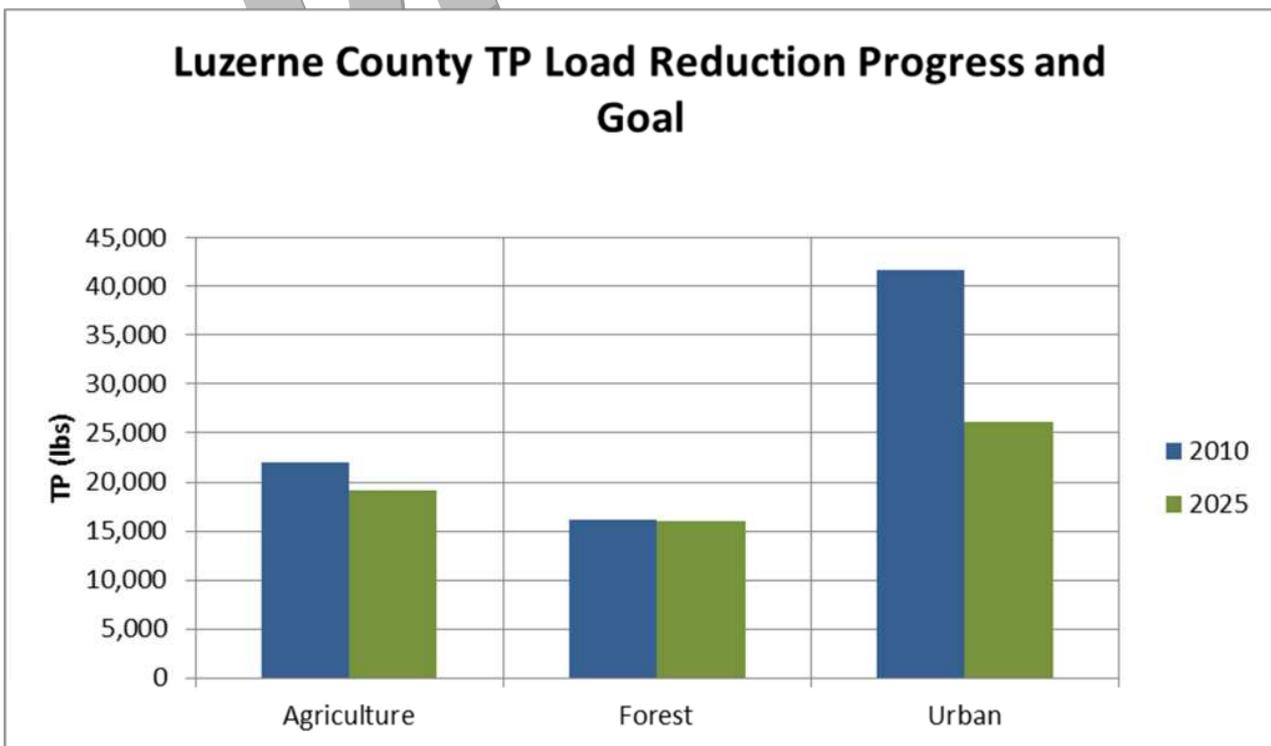
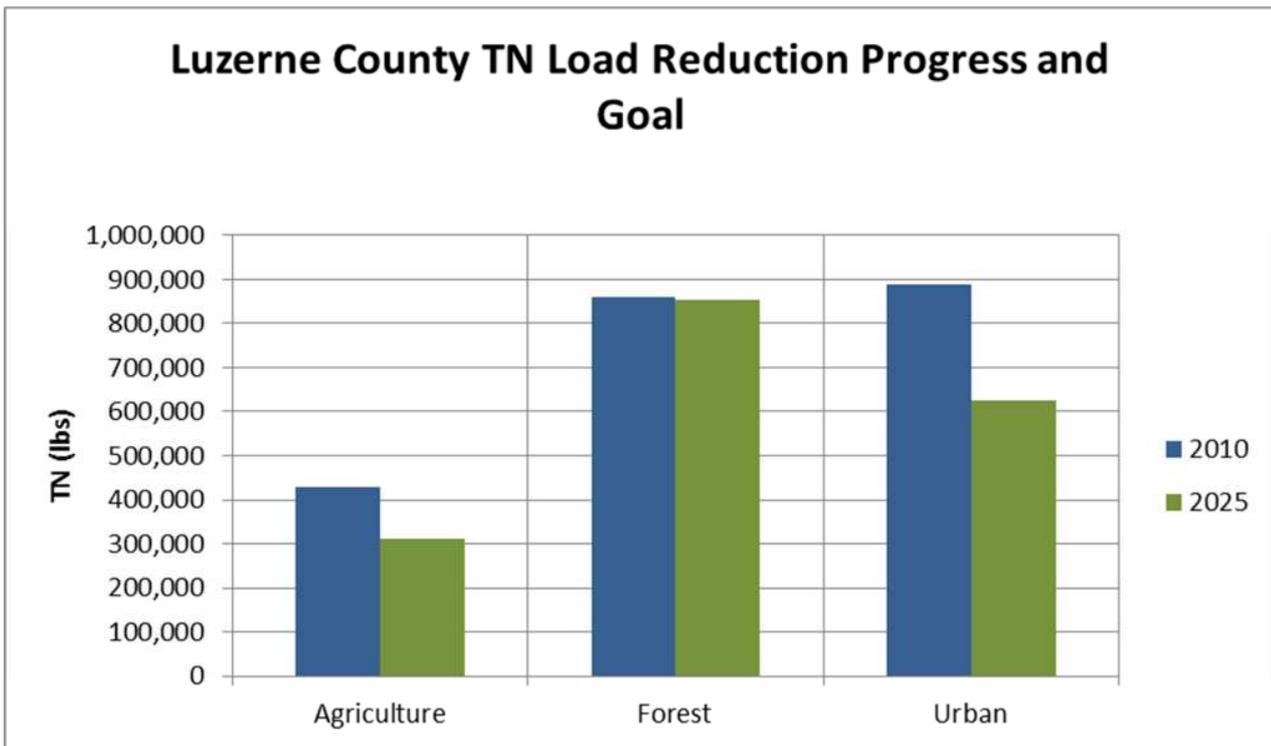
2009 Progress Load	82,069
2010 Current Load	79,779
2017 Interim Planning Target – 60%*	69,568
2017 Phosphorous Reductions (2010 – 2017)	12,501
2025 Planning Target – 100%	61,234
2025 Total Phosphorous Reductions (2010 – 2025)	20,835

**Total Suspended Solids (TSS) Planning Target**

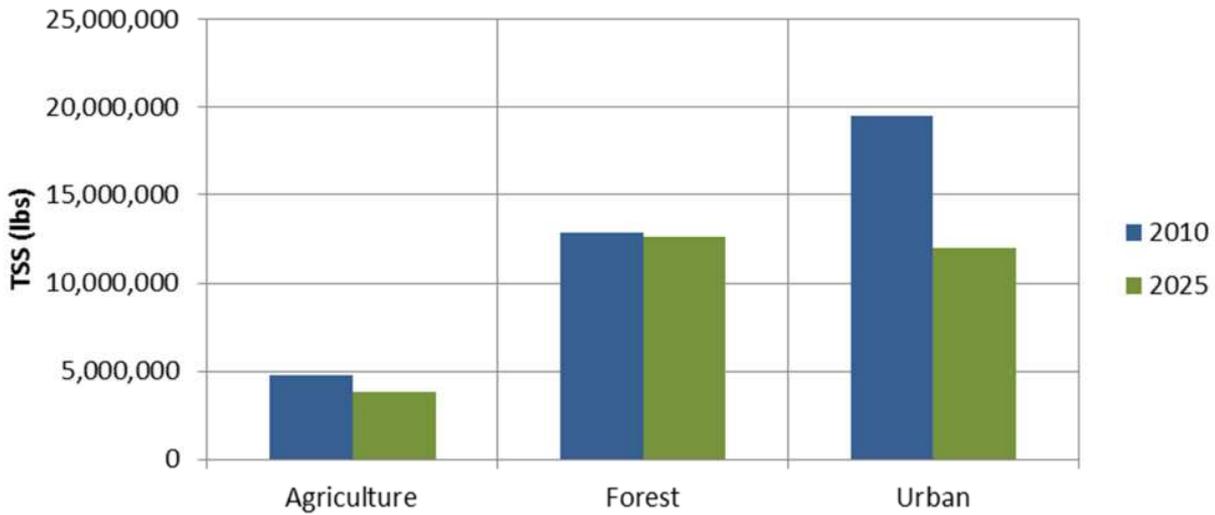
2009 Progress Load	38,622,119
2010 Current Load	37,165,311
2017 Interim Planning Target – 60%*	32,475,160
2017 TSS Reductions (2010 – 2017)	6,146,959
2025 Planning Target – 100%	28,377,187
2025 Total TSS Reductions (2010 – 2025)	10,244,931

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Luzerne County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	6,892	1,838
Conservation Till Row Crops	4,357	7,986
Hay	18,438	19,108
Alfalfa	2,790	2,744
Pasture	7,800	7,254
Animal Feeding Operations	71	71
Concentrated Animal Feeding Operations	0	0
Nursery	115	115
<b>Total Agriculture:</b>	40,462	39,117
<b>Urban</b>		
Pervious Urban Land	40,119	39,499
Impervious Urban Land	17,380	17,273
Construction	169	169
Extractive	6,897	7,101
Combined Sewer System	24,747	24,799
<b>Total Urban:</b>	89,312	88,842
<b>Forest</b>		
	355,048	356,864
<b>Total Acreage:</b>	484,823	484,823

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	41.1	38.6	37.0
2. Barnyard Runoff Controls	Acres	0.0	28.6	47.6
3. Capture Reuse <sup>+</sup>	Acres	0.0	6.9	11.5
4. Carbon Sequestration/ Alternative Crops	Acres	1,265.1	1,731.6	2,042.6
5. Conservation Plans/SCWQA	Acres	31,197.4	34,847.7	37,281.2
6. Conservation Tillage	Acres	4,357.1	6,534.7	7,986.5
7. Continuous No-Till <sup>**</sup>	Acres	0.0	83.9	139.8
8. Cover Crops	Acres	9.8	3,835.4	6,385.8
9. Forest Buffers	Ag Acres	3,093.8	3,347.5	3,516.6
10. Grass Buffers	Ag Acres	128.3	419.7	614.0
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	13,417.4	13,417.4	13,417.4
14. Manure Injection	Acres	0.0	195.8	326.4
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.4	0.6	0.7
17. Non-Urban Stream Restoration	Feet	15,509.6	16,947.4	17,906.0
18. Nutrient Management	Acres	21,174.0	22,569.7	23,500.2
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	112.6	694.9	1,083.0
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	37.0	101.2	144.0
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	49.0	81.6
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	1,174.7	1,957.8
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,494.2	1,706.0	1,847.2
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,113.9	4,127.9	6,137.2
29. Wetland Restoration	Acres	146.7	489.5	718.0

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	16,978.6	8,006.9	2,025.8
31. Dry Extended Detention Ponds	Acres	5,680.8	3,487.8	2,025.8
32. Erosion and Sediment Control	Acres	169.8	4,161.6	6,822.8
33. Filtering Practices ***	Acres	0.0	15,431.1	25,718.6
34. Forest Buffers	Urban Acres	0.0	393.5	655.8
35. Grass Buffers	Urban Acres	0.0	276.5	460.8
36. Impervious Surface Reduction	Acres	0.0	89.1	148.5
37. Infiltration Practices ***	Acres	12,593.3	23,390.8	30,589.2
38. Septic System Hook-ups	Units	7,533.2	10,315.9	12,171.0
39. Street Sweeping	Acres	0.0	1,789.7	2,982.8
40. Tree Planting	Urban Acres	0.0	47.6	79.3
41. Urban Nutrient Management	Acres	0.0	10,283.5	17,139.2
42. Urban Sprawl Reduction	Acres	0.0	9.7	16.1
43. Urban Stream Restoration	Feet	0.0	1,446.4	2,410.7
44. Wet Ponds & Wetlands	Acres	2,532.5	5,874.9	8,103.2

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	1,245.0	1,113.8	1,026.4
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	79,081.6	162,014.7	217,303.5
47. Forest Harvesting Practices	Acres	8.2	564.5	935.3

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

\*BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Lycoming County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	3,370,649
2010 Current Load	3,062,764
2017 Interim Planning Target – 60%*	2,916,786
2017 Nitrogen Reductions (2010 – 2017)	453,863
2025 Planning Target – 100%	2,614,211
2025 Total Nitrogen Reductions (2010 – 2025)	756,438

### Phosphorus Planning Target

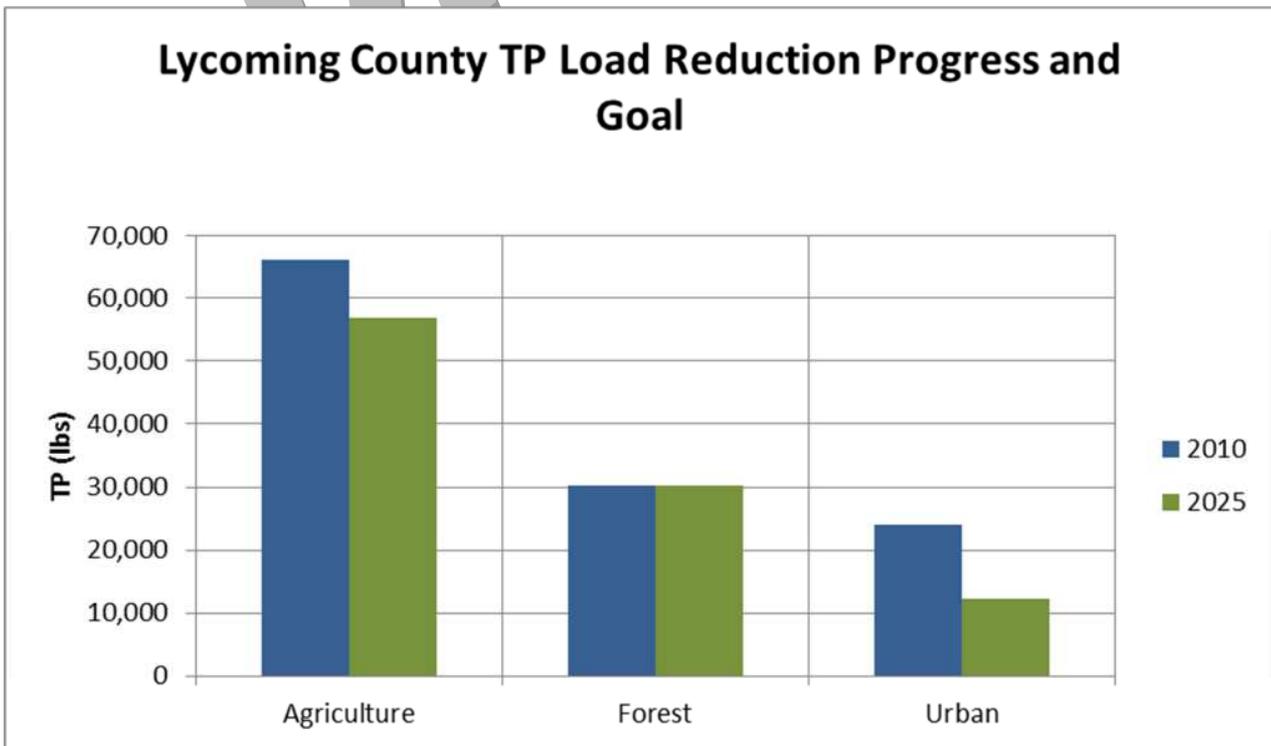
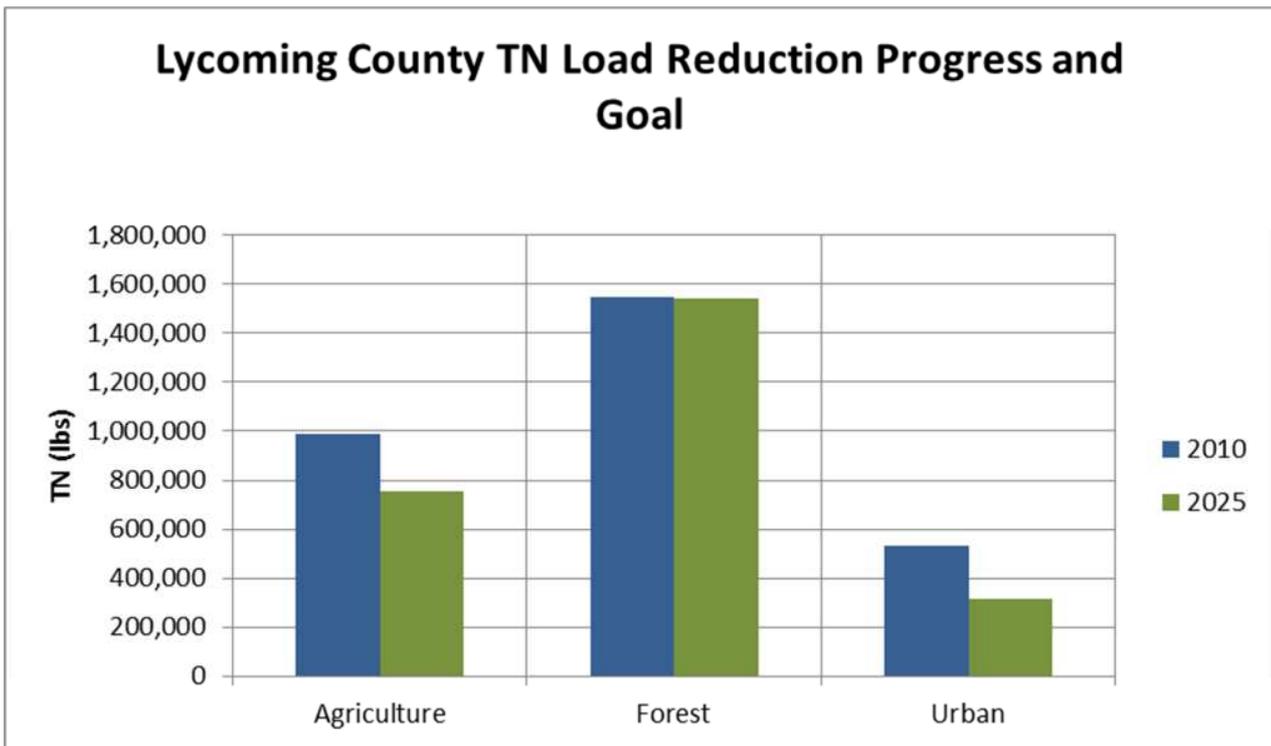
2009 Progress Load	128,752
2010 Current Load	120,491
2017 Interim Planning Target – 60%*	110,978
2017 Phosphorous Reductions (2010 – 2017)	17,775
2025 Planning Target – 100%	99,128
2025 Total Phosphorous Reductions (2010 – 2025)	29,624

### Total Suspended Solids (TSS) Planning Target

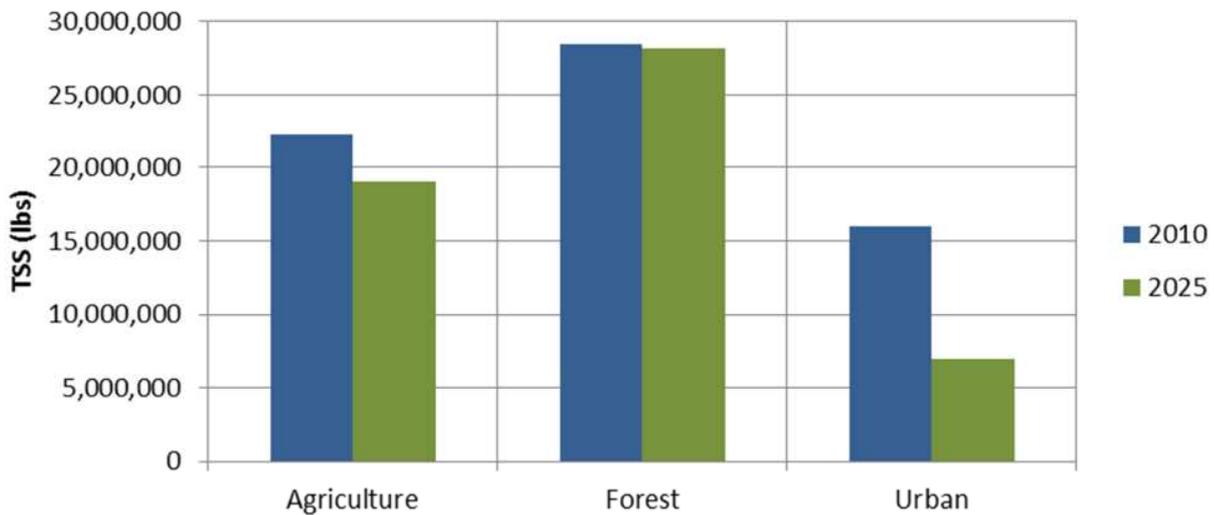
2009 Progress Load	72,181,772
2010 Current Load	66,747,054
2017 Interim Planning Target – 60%*	61,397,188
2017 TSS Reductions (2010 – 2017)	10,784,583
2025 Planning Target – 100%	54,207,466
2025 Total TSS Reductions (2010 – 2025)	17,974,306

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Lycoming County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	12,818	2,667
Conservation Till Row Crops	8,786	15,602
Hay	43,505	45,078
Alfalfa	12,916	12,682
Pasture	17,164	15,740
Animal Feeding Operations	210	210
Concentrated Animal Feeding Operations	29	29
Nursery	525	525
<b>Total Agriculture:</b>	95,953	92,533
<b>Urban</b>		
Pervious Urban Land	27,553	27,132
Impervious Urban Land	12,510	12,433
Construction	18	18
Extractive	2,734	2,734
Combined Sewer System	13,252	13,252
<b>Total Urban:</b>	56,068	55,571
<b>Forest</b>		
	638,811	642,729
<b>Total Acreage:</b>	790,832	790,832

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	104.1	114.6	121.6
2. Barnyard Runoff Controls	Acres	4.0	97.2	159.3
3. Capture Reuse <sup>+</sup>	Acres	0.0	31.5	52.5
4. Carbon Sequestration/ Alternative Crops	Acres	1,161.1	2,141.4	2,794.9
5. Conservation Plans/SCWQA	Acres	54,297.7	74,575.2	88,093.5
6. Conservation Tillage	Acres	8,785.8	12,875.3	15,601.7
7. Continuous No-Till <sup>**</sup>	Acres	2,537.2	1,178.7	273.0
8. Cover Crops	Acres	135.0	7,178.9	11,874.8
9. Forest Buffers	Ag Acres	2,916.0	3,954.6	4,647.0
10. Grass Buffers	Ag Acres	261.0	858.9	1,257.5
11. Horse Pasture Management	Acres	0.4	0.2	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	17,888.6	17,888.6	17,888.6
14. Manure Injection	Acres	0.0	421.6	702.6
15. Manure/Litter Transport	Tons	700.0	700.0	700.0
16. Mortality Composters	Units	0.5	1.7	2.5
17. Non-Urban Stream Restoration	Feet	14,773.2	18,635.8	21,210.9
18. Nutrient Management	Acres	30,818.6	45,002.5	54,458.5
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	544.0	1,634.2	2,361.0
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	477.4	477.4	477.4
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	105.4	175.6
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,788.6	4,647.7
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	2,754.3	2,915.1	3,022.3
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,954.0	8,809.1	13,379.2
29. Wetland Restoration	Acres	220.2	1,074.8	1,644.5

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	13,357.8	6,135.0	1,319.8
31. Dry Extended Detention Ponds	Acres	1,371.7	1,340.5	1,319.8
32. Erosion and Sediment Control	Acres	18.5	1,473.6	2,443.8
33. Filtering Practices ***	Acres	0.0	10,533.1	17,555.2
34. Forest Buffers	Urban Acres	0.0	269.9	449.9
35. Grass Buffers	Urban Acres	0.0	178.3	297.2
36. Impervious Surface Reduction	Acres	0.0	59.4	99.1
37. Infiltration Practices ***	Acres	2,858.0	13,790.1	21,078.2
38. Septic System Hook-ups	Units	1,226.2	3,023.8	4,222.1
39. Street Sweeping	Acres	0.0	1,193.9	1,989.8
40. Tree Planting	Urban Acres	0.0	30.7	51.1
41. Urban Nutrient Management	Acres	0.0	6,632.6	11,054.3
42. Urban Sprawl Reduction	Acres	0.0	6.4	10.7
43. Urban Stream Restoration	Feet	0.0	1,007.1	1,678.6
44. Wet Ponds & Wetlands	Acres	3,098.8	4,407.0	5,279.2

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	332.3	332.3	332.3
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	213,899.9	355,477.0	449,861.7
47. Forest Harvesting Practices	Acres	311.0	1,134.5	1,683.6

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan McKean County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	32,269
2010 Current Load	32,262
2017 Interim Planning Target – 60%*	32,036
2017 Nitrogen Reductions (2010 – 2017)	232
2025 Planning Target – 100%	31,881
2025 Total Nitrogen Reductions (2010 – 2025)	387

### Phosphorus Planning Target

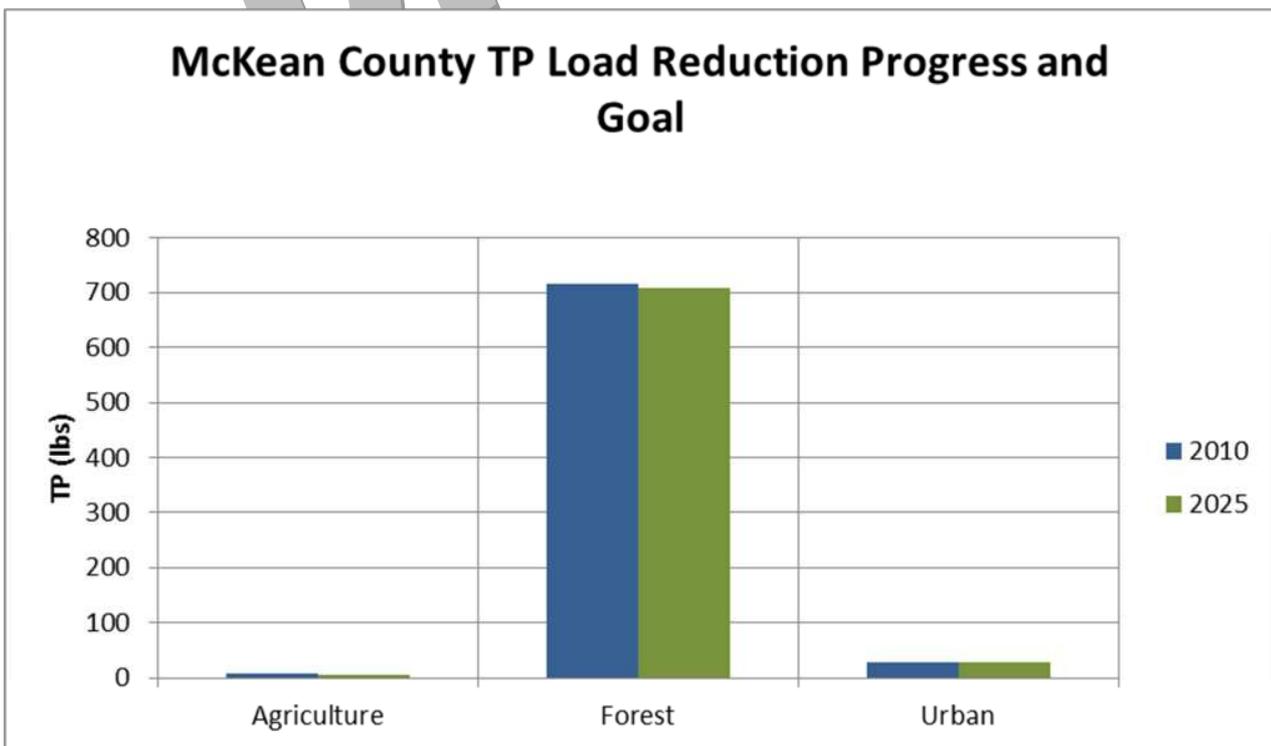
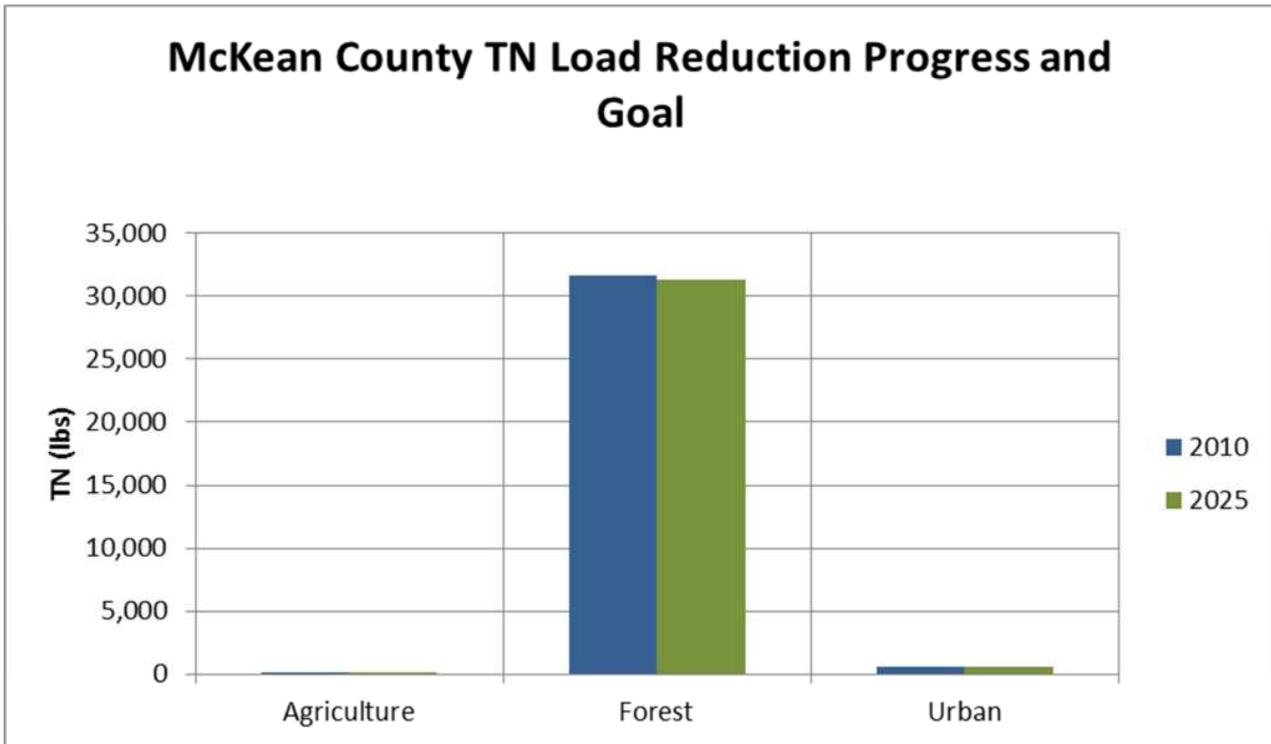
2009 Progress Load	752
2010 Current Load	752
2017 Interim Planning Target – 60%*	746
2017 Phosphorous Reductions (2010 – 2017)	6
2025 Planning Target – 100%	742
2025 Total Phosphorous Reductions (2010 – 2025)	10

### Total Suspended Solids (TSS) Planning Target

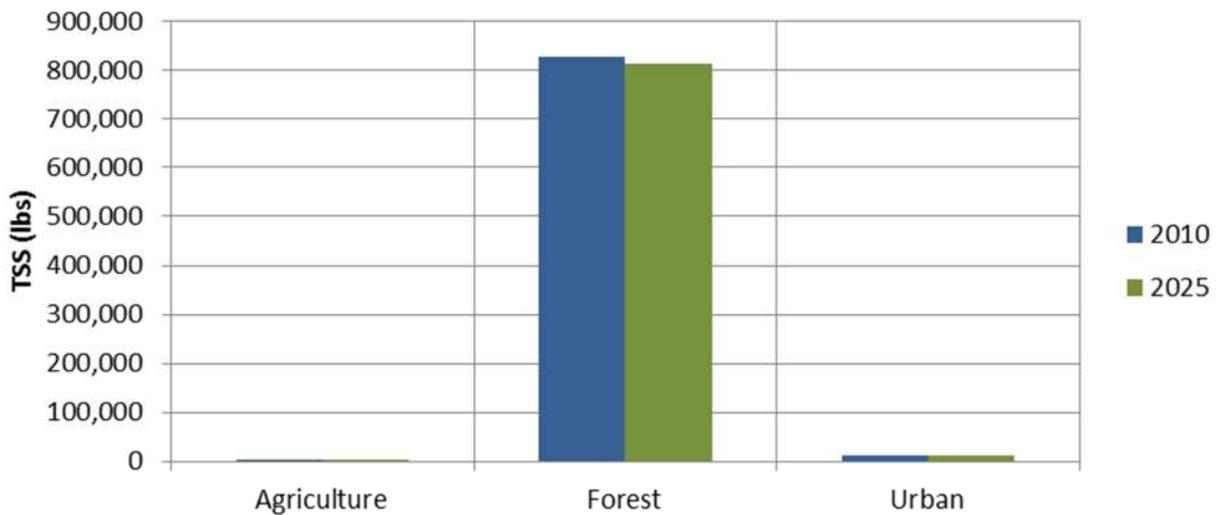
2009 Progress Load	840,698
2010 Current Load	840,369
2017 Interim Planning Target – 60%*	831,528
2017 TSS Reductions (2010 – 2017)	9,170
2025 Planning Target – 100%	825,415
2025 Total TSS Reductions (2010 – 2025)	15,284

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## McKean County TSS Load Reduction Progress and Goal



### County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	0	0
Conservation Till Row Crops	0	0
Hay	14	14
Alfalfa	1	1
Pasture	0	0
Animal Feeding Operations	0	0
Concentrated Animal Feeding Operations	0	0
Nursery	0	0
<b>Total Agriculture:</b>	15	15
<b>Urban</b>		
Pervious Urban Land	5	5
Impervious Urban Land	39	38
Construction	0	0
Extractive	0	0
Combined Sewer System	0	0
<b>Total Urban:</b>	44	44
<b>Forest</b>		
	15,510	15,510
<b>Total Acreage:</b>	15,568	15,568

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	0.0	0.0	0.0
2. Barnyard Runoff Controls	Acres	0.0	0.0	0.0
3. Capture Reuse <sup>+</sup>	Acres	0.0	0.0	0.0
4. Carbon Sequestration/ Alternative Crops	Acres	21.5	21.5	21.5
5. Conservation Plans/SCWQA	Acres	14.6	14.5	14.4
6. Conservation Tillage	Acres	0.0	0.0	0.0
7. Continuous No-Till <sup>**</sup>	Acres	0.0	0.0	0.0
8. Cover Crops	Acres	0.0	0.0	0.0
9. Forest Buffers	Ag Acres	21.5	21.5	21.5
10. Grass Buffers	Ag Acres	2.5	2.5	2.5
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	72.2	72.2	72.2
14. Manure Injection	Acres	0.0	0.0	0.0
15. Manure/Litter Transport	Tons	0.0	30.4	50.6
16. Mortality Composters	Units	0.0	0.0	0.0
17. Non-Urban Stream Restoration	Feet	52.6	60.5	65.7
18. Nutrient Management	Acres	4.7	4.3	4.0
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	0.0	0.0	0.0
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	0.3	0.3	0.3
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	0.0	0.0
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	0.3	0.5
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	54.6	54.8	54.8
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	0.0	0.0	0.0
29. Wetland Restoration	Acres	3.4	3.4	3.4

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	0.0	0.0	0.0
31. Dry Extended Detention Ponds	Acres	0.0	0.0	0.0
32. Erosion and Sediment Control	Acres	0.0	0.0	0.0
33. Filtering Practices ***	Acres	0.0	0.0	0.0
34. Forest Buffers	Urban Acres	0.0	0.1	0.1
35. Grass Buffers	Urban Acres	0.0	0.0	0.0
36. Impervious Surface Reduction	Acres	0.0	0.1	0.2
37. Infiltration Practices ***	Acres	0.0	0.0	0.0
38. Septic System Hook-ups	Units	181.5	81.1	14.2
39. Street Sweeping	Acres	0.0	2.9	4.8
40. Tree Planting	Urban Acres	0.0	0.0	0.0
41. Urban Nutrient Management	Acres	0.0	1.0	1.6
42. Urban Sprawl Reduction	Acres	0.0	0.0	0.0
43. Urban Stream Restoration	Feet	0.0	1.1	1.9
44. Wet Ponds & Wetlands	Acres	44.0	43.9	43.9

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	0.0	0.0	0.0
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	4,989.0	6,991.0	8,325.8
47. Forest Harvesting Practices	Acres	1.2	25.1	41.1

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Mifflin County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

	Pounds
2009 Progress Load	2,820,108
2010 Current Load	2,740,660
2017 Interim Planning Target – 60%*	2,241,159
2017 Nitrogen Reductions (2010 – 2017)	578,949
2025 Planning Target – 100%	1,855,193
2025 Total Nitrogen Reductions (2010 – 2025)	964,915

### Phosphorus Planning Target

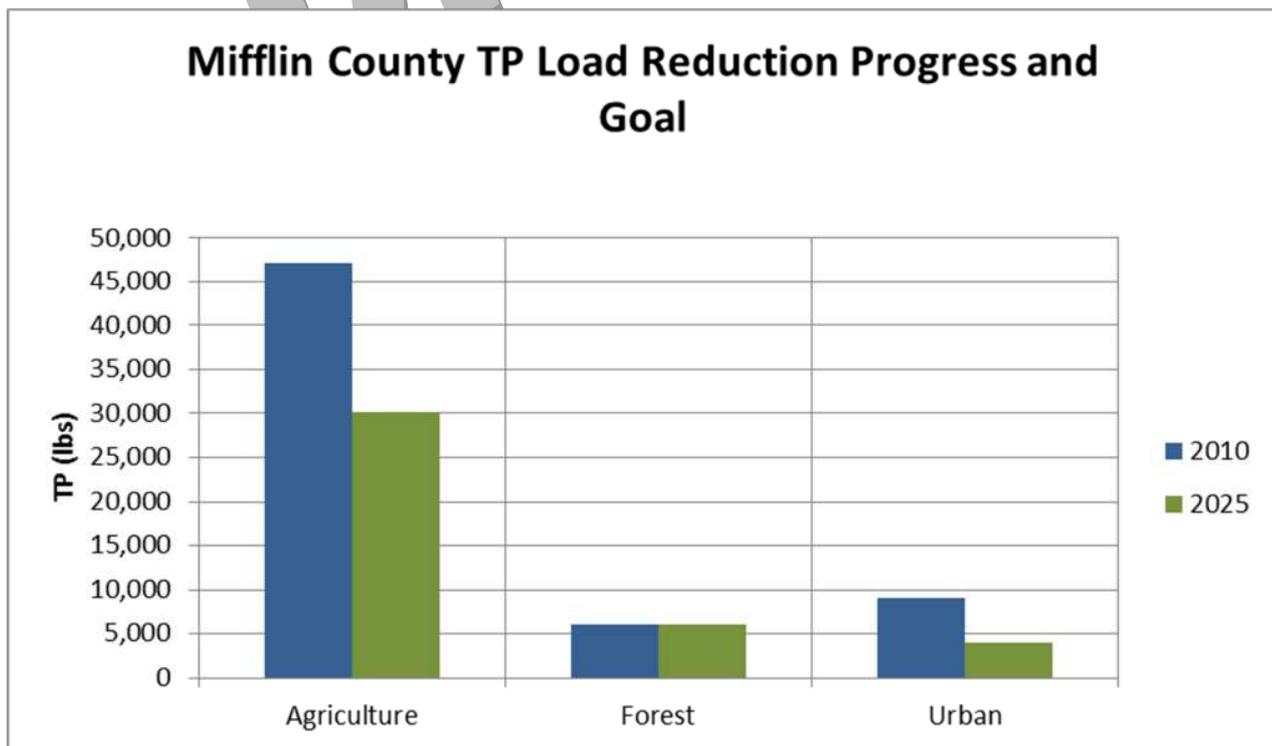
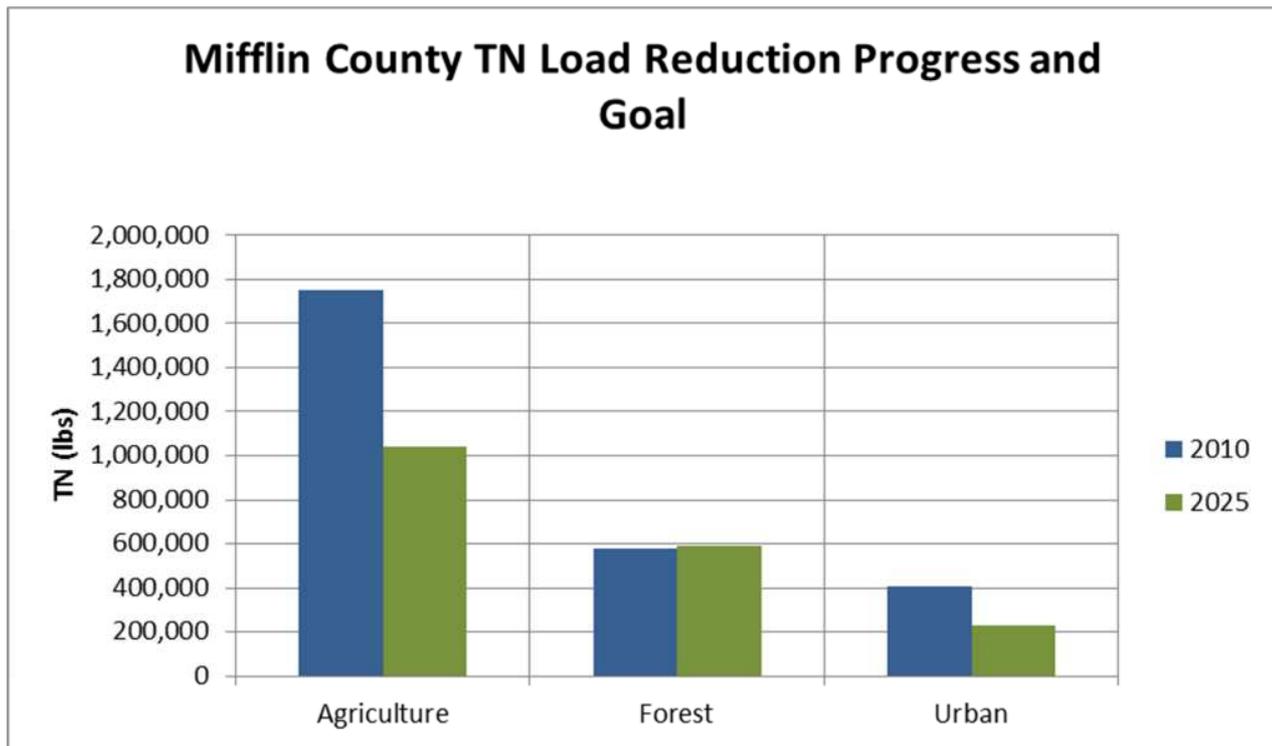
2009 Progress Load	63,384
2010 Current Load	62,183
2017 Interim Planning Target – 60%*	49,506
2017 Phosphorous Reductions (2010 – 2017)	13,878
2025 Planning Target – 100%	40,254
2025 Total Phosphorous Reductions (2010 – 2025)	23,129

### Total Suspended Solids (TSS) Planning Target

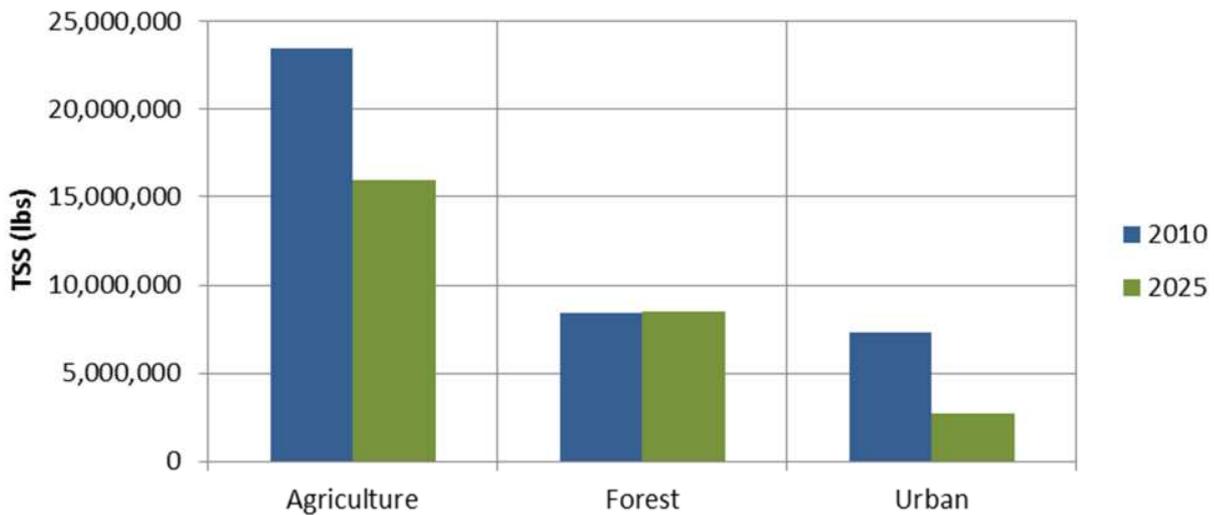
2009 Progress Load	40,835,587
2010 Current Load	39,224,761
2017 Interim Planning Target – 60%*	32,582,870
2017 TSS Reductions (2010 – 2017)	8,252,718
2025 Planning Target – 100%	27,081,058
2025 Total TSS Reductions (2010 – 2025)	13,754,529

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Mifflin County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	15,786	1,537
Conservation Till Row Crops	12,502	19,648
Hay	13,645	18,767
Alfalfa	14,322	13,998
Pasture	13,918	12,093
Animal Feeding Operations	355	355
Concentrated Animal Feeding Operations	19	19
Nursery	56	56
<b>Total Agriculture:</b>	70,602	66,473
<b>Urban</b>		
Pervious Urban Land	16,406	16,145
Impervious Urban Land	5,560	5,526
Construction	27	27
Extractive	953	934
Combined Sewer System	206	206
<b>Total Urban:</b>	23,151	22,837
<b>Forest</b>		
	168,518	172,961
<b>Total Acreage:</b>	262,271	262,271

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	109.2	176.0	220.6
2. Barnyard Runoff Controls	Acres	2.0	150.3	249.1
3. Capture Reuse <sup>+</sup>	Acres		3.4	5.6
4. Carbon Sequestration/ Alternative Crops	Acres	470.6	1,397.9	2,016.1
5. Conservation Plans/SCWQA	Acres	24,203.2	47,279.1	62,663.1
6. Conservation Tillage	Acres	12,501.7	16,789.6	19,648.2
7. Continuous No-Till <sup>**</sup>	Acres	1,413.6	771.7	343.8
8. Cover Crops	Acres	555.0	8,484.3	13,770.4
9. Forest Buffers	Ag Acres	483.6	2,010.0	3,027.7
10. Grass Buffers	Ag Acres	53.4	657.0	1,059.5
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent		6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	4,360.7	6,238.5	7,490.3
14. Manure Injection	Acres	0.0	380.5	634.1
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.2	2.8	4.5
17. Non-Urban Stream Restoration	Feet	4,094.9	6,615.4	8,295.7
18. Nutrient Management	Acres	27,284.0	38,597.0	46,139.0
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	1,429.1	1,652.6	1,801.7
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	57.6	229.6	344.3
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres		95.1	158.5
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent		6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,451.4	4,085.7
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	958.2	1,278.1	1,491.4
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	957.2	6,508.7	10,209.6
29. Wetland Restoration	Acres	67.8	699.8	1,121.1

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	6,193.5	2,805.6	546.9
31. Dry Extended Detention Ponds	Acres	1,564.8	954.1	546.9
32. Erosion and Sediment Control	Acres	26.6	514.2	839.3
33. Filtering Practices ***	Acres	0.0	4,462.8	7,438.0
34. Forest Buffers	Urban Acres	0.0	160.6	267.7
35. Grass Buffers	Urban Acres	0.0	79.3	132.2
36. Impervious Surface Reduction	Acres	0.0	20.7	34.5
37. Infiltration Practices ***	Acres	0.0	5,330.9	8,884.9
38. Septic System Hook-ups	Units	1,208.3	1,944.0	2,434.4
39. Street Sweeping	Acres	0.0	416.1	693.6
40. Tree Planting	Urban Acres	0.0	13.6	22.7
41. Urban Nutrient Management	Acres	0.0	2,937.4	4,895.6
42. Urban Sprawl Reduction	Acres	0.0	3.0	5.0
43. Urban Stream Restoration	Feet	362.4	696.5	919.3
44. Wet Ponds & Wetlands	Acres	954.9	1,694.5	2,187.6

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	124.0	135.8	143.7
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	48,032.5	106,661.9	145,748.1
47. Forest Harvesting Practices	Acres	35.0	281.4	445.7

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

**PA Chesapeake Bay Phase II Watershed Implementation Plan  
Montour County Planning Targets**

**What are Planning Targets?**

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

**Nitrogen Planning Target**

**Pounds**

2009 Progress Load	951,984
2010 Current Load	701,587
2017 Interim Planning Target – 60%*	693,792
2017 Nitrogen Reductions (2010 – 2017)	258,193
2025 Planning Target – 100%	521,663
2025 Total Nitrogen Reductions (2010 – 2025)	430,321

**Phosphorus Planning Target**

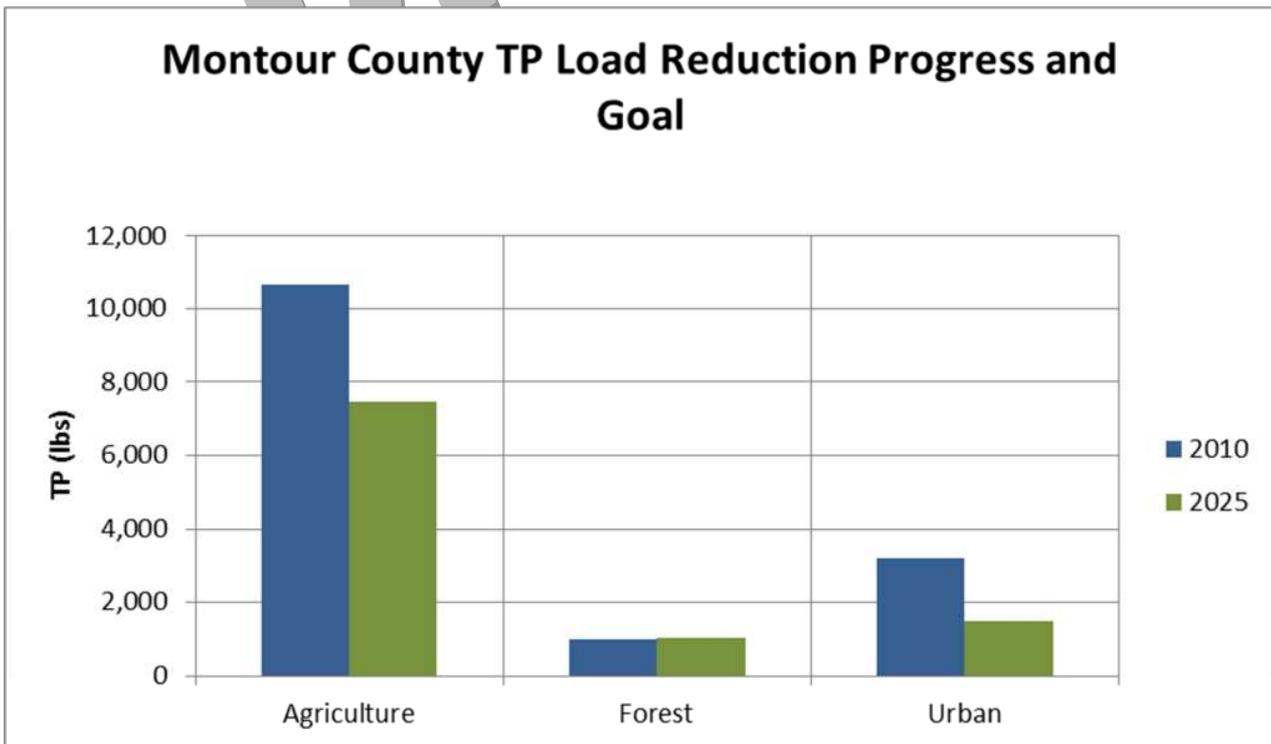
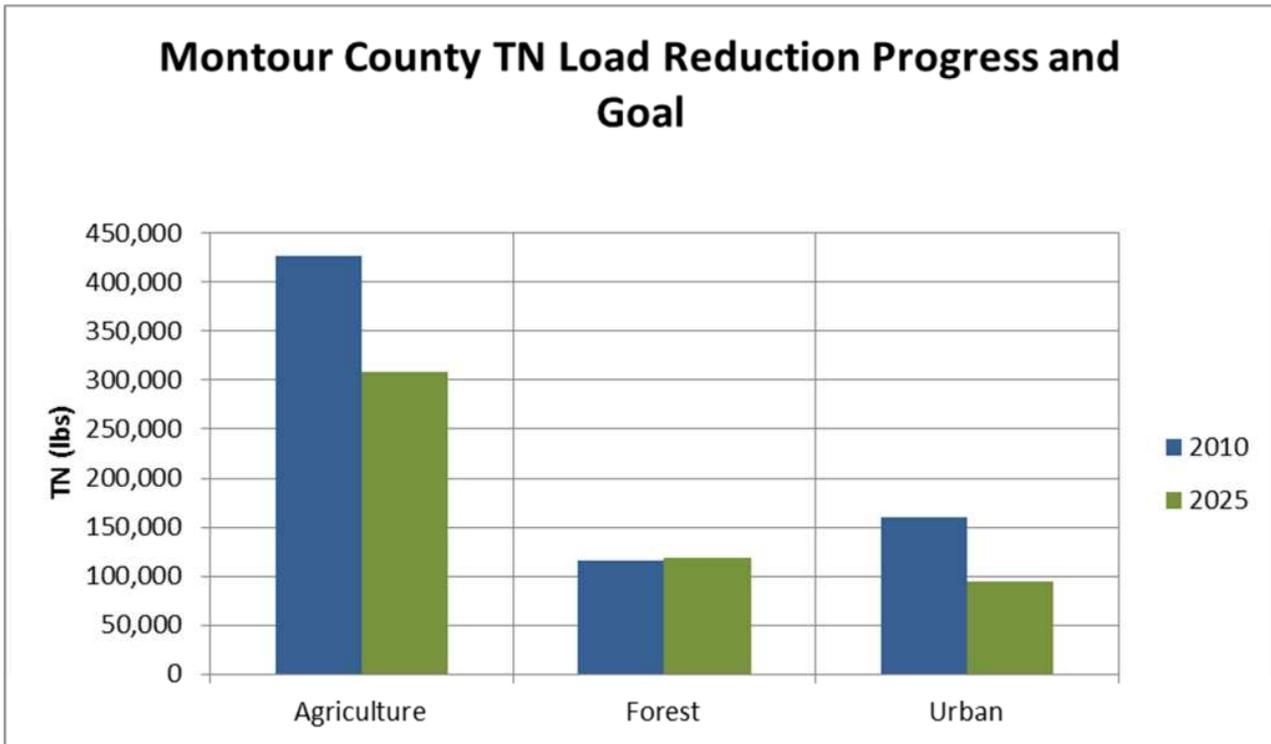
2009 Progress Load	18,051
2010 Current Load	14,874
2017 Interim Planning Target – 60%*	13,222
2017 Phosphorous Reductions (2010 – 2017)	4,829
2025 Planning Target – 100%	10,003
2025 Total Phosphorous Reductions (2010 – 2025)	8,048

**Total Suspended Solids (TSS) Planning Target**

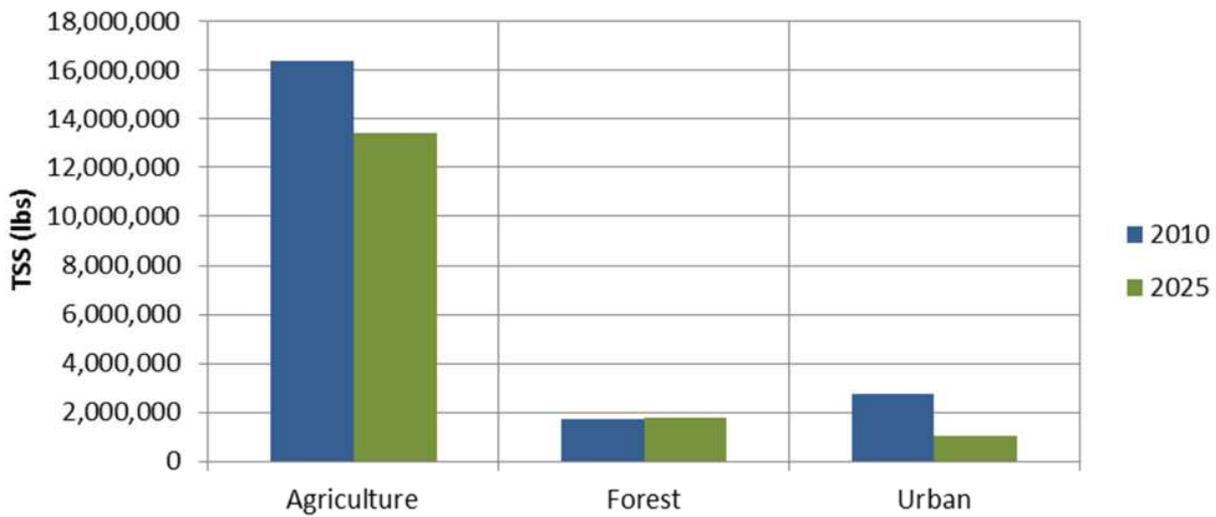
2009 Progress Load	28,376,715
2010 Current Load	20,827,611
2017 Interim Planning Target – 60%*	21,095,127
2017 TSS Reductions (2010 – 2017)	7,281,588
2025 Planning Target – 100%	16,240,735
2025 Total TSS Reductions (2010 – 2025)	12,135,980

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Montour County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	4,982	767
Conservation Till Row Crops	3,702	6,506
Hay	17,796	18,262
Alfalfa	2,891	2,842
Pasture	6,449	5,601
Animal Feeding Operations	98	98
Concentrated Animal Feeding Operations	3	3
Nursery	9	9
<b>Total Agriculture:</b>	35,929	34,087
<b>Urban</b>		
Pervious Urban Land	8,094	7,963
Impervious Urban Land	2,355	2,340
Construction	0	0
Extractive	288	288
Combined Sewer System	0	0
<b>Total Urban:</b>	10,737	10,592
<b>Forest</b>		
	37,035	39,023
<b>Total Acreage:</b>	83,701	83,701

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	15.5	32.6	44.1
2. Barnyard Runoff Controls	Acres	1.0	40.6	67.0
3. Capture Reuse <sup>+</sup>	Acres	0.0	0.5	0.9
4. Carbon Sequestration/ Alternative Crops	Acres	195.0	675.8	996.3
5. Conservation Plans/SCWQA	Acres	15,229.6	25,436.9	32,241.8
6. Conservation Tillage	Acres	3,701.6	5,384.0	6,505.5
7. Continuous No-Till <sup>**</sup>	Acres	411.4	232.9	113.8
8. Cover Crops	Acres	1,400.0	3,396.1	4,726.9
9. Forest Buffers	Ag Acres	1,383.6	1,841.3	2,146.5
10. Grass Buffers	Ag Acres	31.0	302.3	483.1
11. Horse Pasture Management	Acres	0.1	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	6,565.0	6,565.0	6,565.0
14. Manure Injection	Acres	0.0	169.0	281.7
15. Manure/Litter Transport	Tons	50.6	94.4	123.6
16. Mortality Composters	Units	0.1	0.6	0.9
17. Non-Urban Stream Restoration	Feet	4,240.2	6,900.0	8,673.2
18. Nutrient Management	Acres	4,412.2	11,722.7	16,596.4
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	225.3	590.8	834.4
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	43.1	114.8	162.6
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	42.3	70.4
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	798.5	1,330.8
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	349.7	703.3	939.0
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	180.7	2,909.3	4,728.4
29. Wetland Restoration	Acres	100.3	394.9	591.2

**Urban/Suburban Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	1,846.4	893.1	257.6
31. Dry Extended Detention Ponds	Acres	628.4	405.9	257.6
32. Erosion and Sediment Control	Acres	0.2	157.3	262.1
33. Filtering Practices ***	Acres	0.0	2,102.0	3,503.3
34. Forest Buffers	Urban Acres	0.0	79.2	132.1
35. Grass Buffers	Urban Acres	0.0	38.7	64.5
36. Impervious Surface Reduction	Acres	0.0	8.7	14.5
37. Infiltration Practices ***	Acres	1,362.8	3,079.8	4,224.5
38. Septic System Hook-ups	Units	11.0	534.5	883.5
39. Street Sweeping	Acres	0.0	175.2	292.1
40. Tree Planting	Urban Acres	0.0	6.7	11.1
41. Urban Nutrient Management	Acres	0.0	1,433.4	2,389.0
42. Urban Sprawl Reduction	Acres	0.0	1.5	2.4
43. Urban Stream Restoration	Feet	0.0	262.3	437.1
44. Wet Ponds & Wetlands	Acres	279.9	730.2	1,030.4

**Other Activities**

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
45. Abandoned Mine Reclamation	Acres	95.6	95.6	95.6
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	16,126.4	36,336.6	49,810.1
47. Forest Harvesting Practices	Acres	0.0	57.0	95.0

**NOTES:**

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Northumberland County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	5,453,508
2010 Current Load	5,015,039
2017 Interim Planning Target – 60%*	4,222,659
2017 Nitrogen Reductions (2010 – 2017)	1,230,849
2025 Planning Target – 100%	3,402,092
2025 Total Nitrogen Reductions (2010 – 2025)	2,051,415

### Phosphorus Planning Target

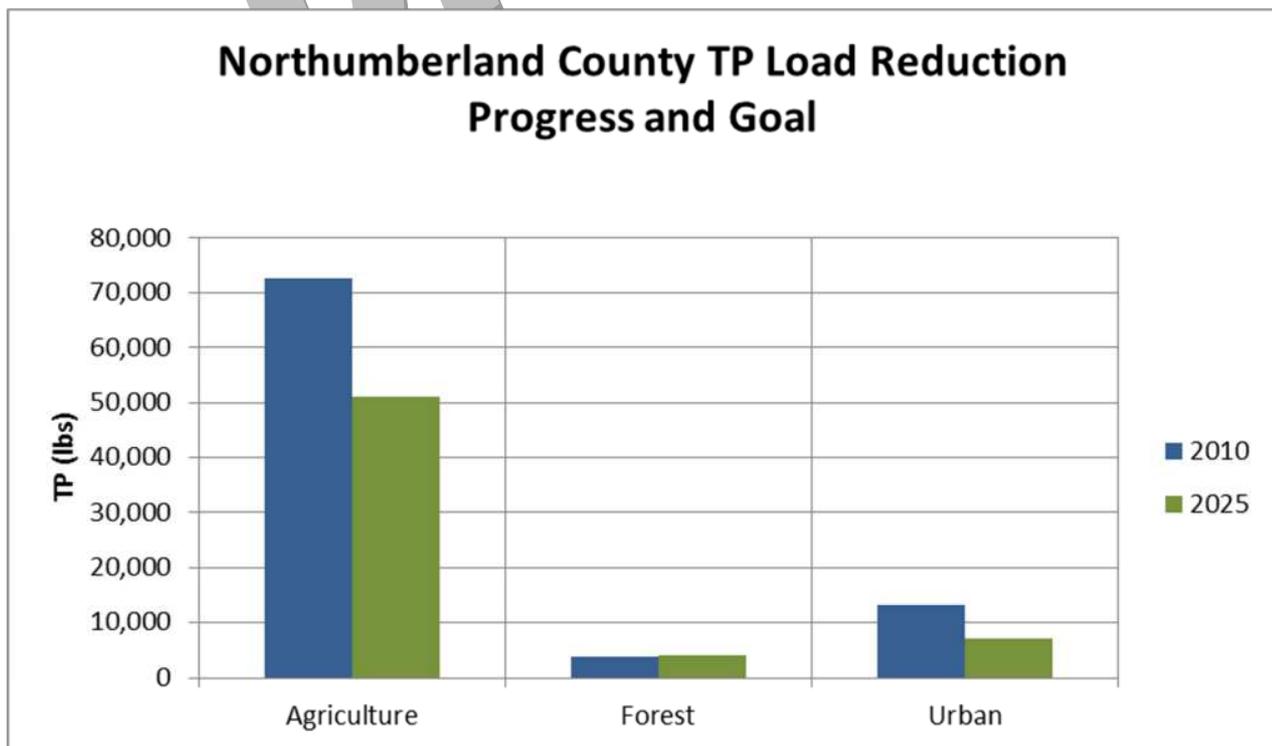
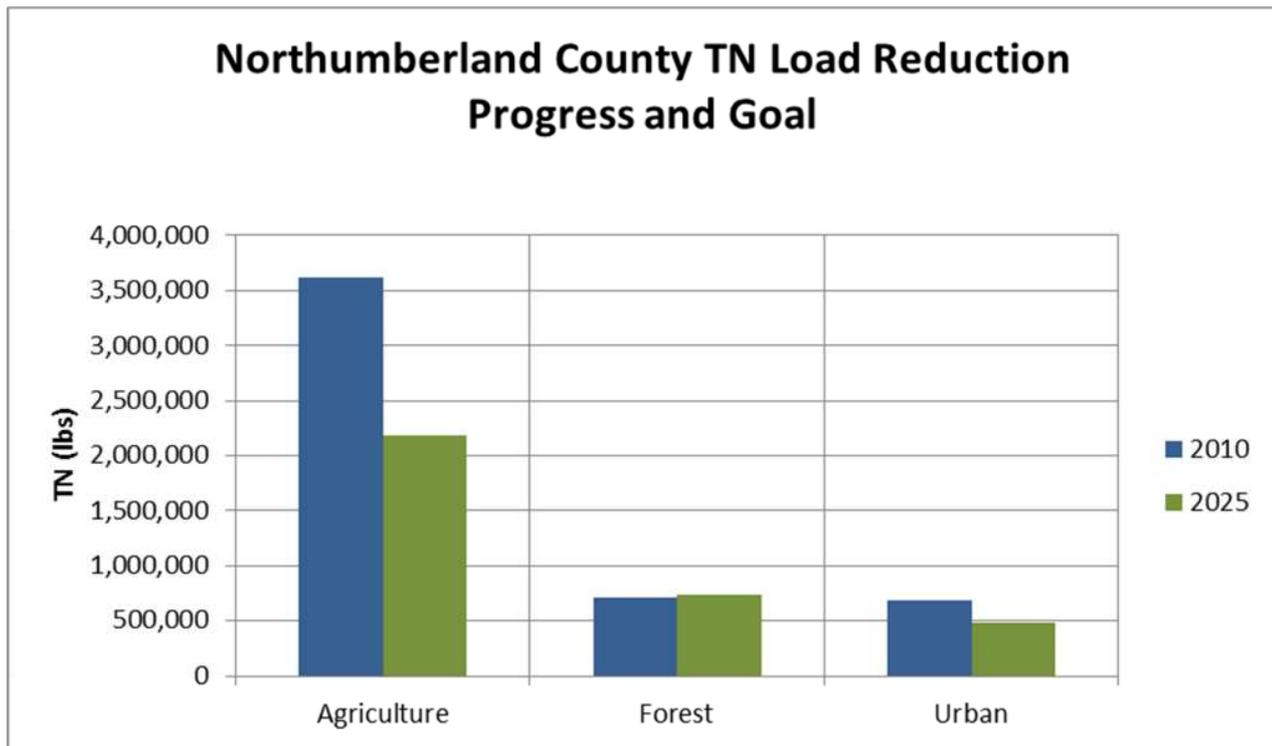
2009 Progress Load	93,781
2010 Current Load	89,467
2017 Interim Planning Target – 60%*	74,784
2017 Phosphorous Reductions (2010 – 2017)	18,997
2025 Planning Target – 100%	62,119
2025 Total Phosphorous Reductions (2010 – 2025)	31,662

### Total Suspended Solids (TSS) Planning Target

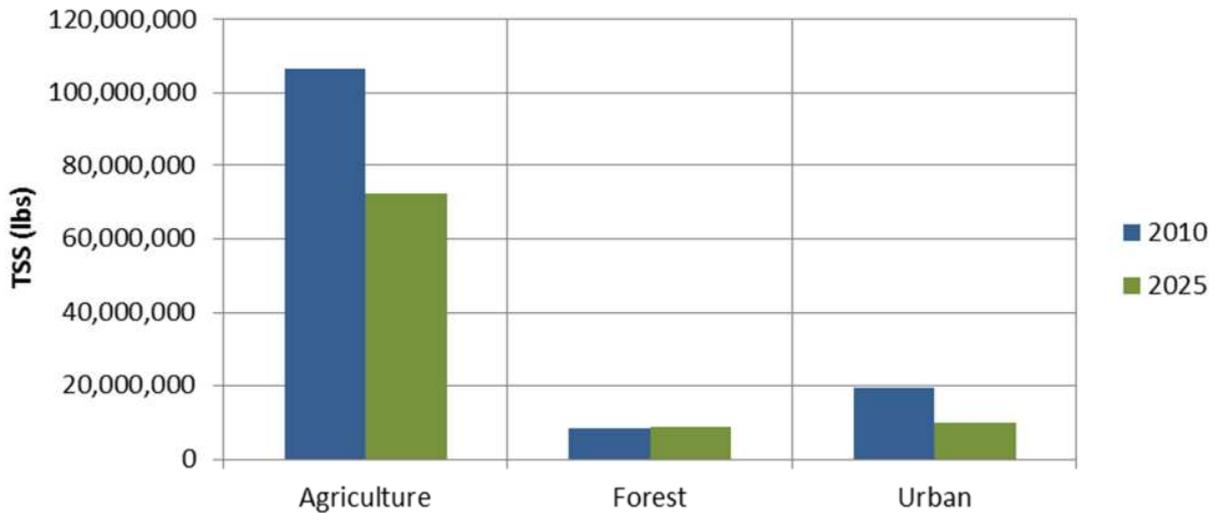
2009 Progress Load	144,162,387
2010 Current Load	134,573,830
2017 Interim Planning Target – 60%*	112,310,580
2017 TSS Reductions (2010 – 2017)	31,851,807
2025 Planning Target – 100%	91,076,042
2025 Total TSS Reductions (2010 – 2025)	53,086,345

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Northumberland County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	38,876	4,478
Conservation Till Row Crops	30,229	50,111
Hay	29,814	38,795
Alfalfa	8,214	8,057
Pasture	12,850	11,245
Animal Feeding Operations	158	158
Concentrated Animal Feeding Operations	17	17
Nursery	325	325
<b>Total Agriculture:</b>	120,482	113,187
<b>Urban</b>		
Pervious Urban Land	25,168	24,769
Impervious Urban Land	8,687	8,634
Construction	110	110
Extractive	5,283	5,255
Combined Sewer System	3,720	3,731
<b>Total Urban:</b>	42,968	42,498
<b>Forest</b>		
	129,753	137,519
<b>Total Acreage:</b>	293,203	293,203

## Pollution Reduction Actions

### Agricultural Activities

BMP	Units	2010	2017*	2025
1. Animal Waste Management Systems	Systems	74.2	121.8	153.6
2. Barnyard Runoff Controls	Acres	0.0	69.9	116.5
3. Capture Reuse <sup>+</sup>	Acres	0.0	19.5	32.5
4. Carbon Sequestration/ Alternative Crops	Acres	637.6	3,258.7	5,006.2
5. Conservation Plans/SCWQA	Acres	50,481.1	84,382.0	106,982.6
6. Conservation Tillage	Acres	30,228.7	42,158.0	50,110.9
7. Continuous No-Till <sup>**</sup>	Acres	1,486.7	1,120.8	876.9
8. Cover Crops	Acres	1,037.0	21,704.6	35,483.0
9. Forest Buffers	Ag Acres	1,925.1	4,284.1	5,856.7
10. Grass Buffers	Ag Acres	93.1	1,334.1	2,161.5
11. Horse Pasture Management	Acres	0.1	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	14,078.8	16,703.0	18,452.4
14. Manure Injection	Acres	0.0	960.7	1,601.2
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.6	2.1	3.1
17. Non-Urban Stream Restoration	Feet	8,701.6	15,746.4	20,442.9
18. Nutrient Management	Acres	23,255.2	51,357.1	70,091.7
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	120.9	1,053.8	1,675.8
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	49.6	205.3	309.2
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	240.2	400.3
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	4,198.5	6,997.4
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,065.8	1,872.9	2,411.0
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	698.1	5,977.0	9,496.2
29. Wetland Restoration	Acres	89.5	1,303.4	2,112.6

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	10,041.8	4,566.0	915.5
31. Dry Extended Detention Ponds	Acres	3,163.2	1,814.6	915.5
32. Erosion and Sediment Control	Acres	118.5	3,128.3	5,134.8
33. Filtering Practices ***	Acres	0.0	7,470.5	12,450.8
34. Forest Buffers	Urban Acres	0.0	246.5	410.8
35. Grass Buffers	Urban Acres	0.0	131.3	218.9
36. Impervious Surface Reduction	Acres	0.0	35.7	59.5
37. Infiltration Practices ***	Acres	4,585.2	10,842.6	15,014.2
38. Septic System Hook-ups	Units	15,490.7	8,439.1	3,738.0
39. Street Sweeping	Acres	0.0	716.8	1,194.6
40. Tree Planting	Urban Acres	0.0	22.6	37.6
41. Urban Nutrient Management	Acres	0.0	4,868.5	8,114.2
42. Urban Sprawl Reduction	Acres	0.0	4.9	8.2
43. Urban Stream Restoration	Feet	0.0	850.2	1,417.1
44. Wet Ponds & Wetlands	Acres	1,503.4	2,798.6	3,662.0

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	443.8	462.6	475.2
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	54,679.2	128,276.0	177,340.6
47. Forest Harvesting Practices	Acres	0.0	204.4	340.6

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Perry County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	3,740,099
2010 Current Load	3,636,505
2017 Interim Planning Target – 60%*	3,058,059
2017 Nitrogen Reductions (2010 – 2017)	682,039
2025 Planning Target – 100%	2,603,366
2025 Total Nitrogen Reductions (2010 – 2025)	1,136,732

### Phosphorus Planning Target

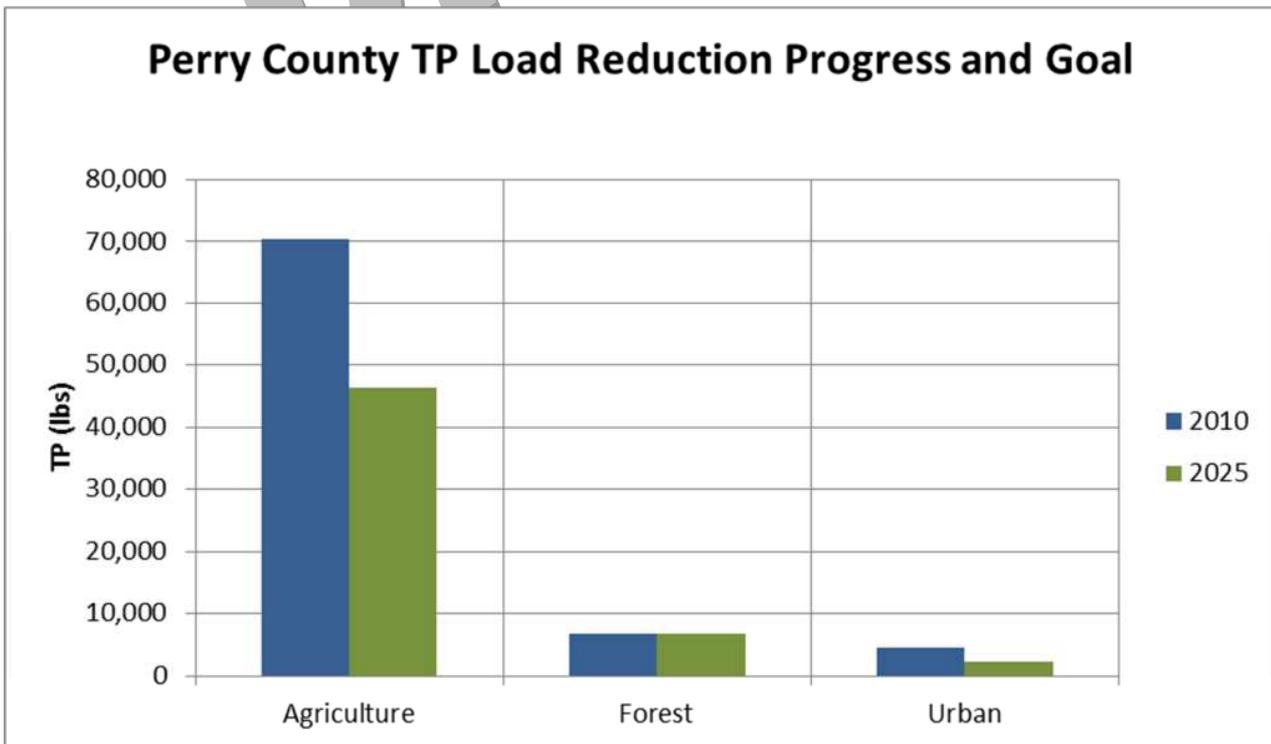
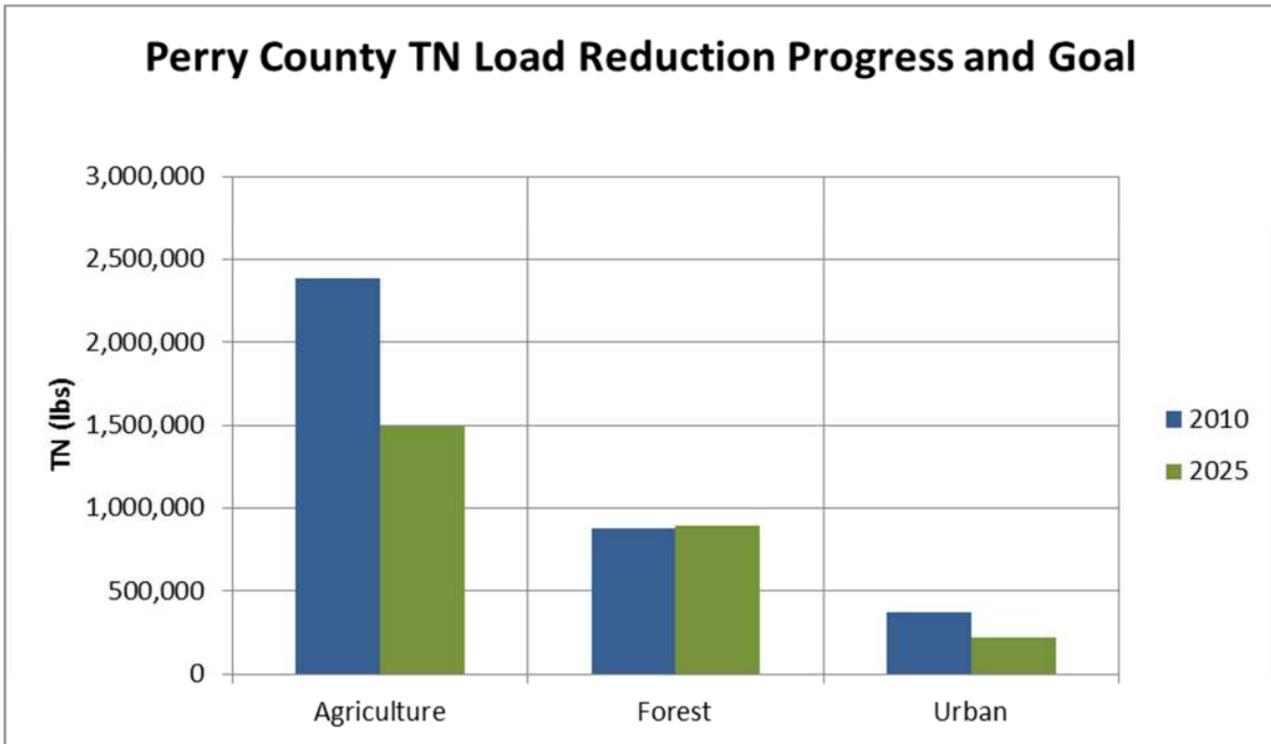
2009 Progress Load	79,843
2010 Current Load	81,559
2017 Interim Planning Target – 60%*	65,130
2017 Phosphorous Reductions (2010 – 2017)	14,713
2025 Planning Target – 100%	55,321
2025 Total Phosphorous Reductions (2010 – 2025)	24,522

### Total Suspended Solids (TSS) Planning Target

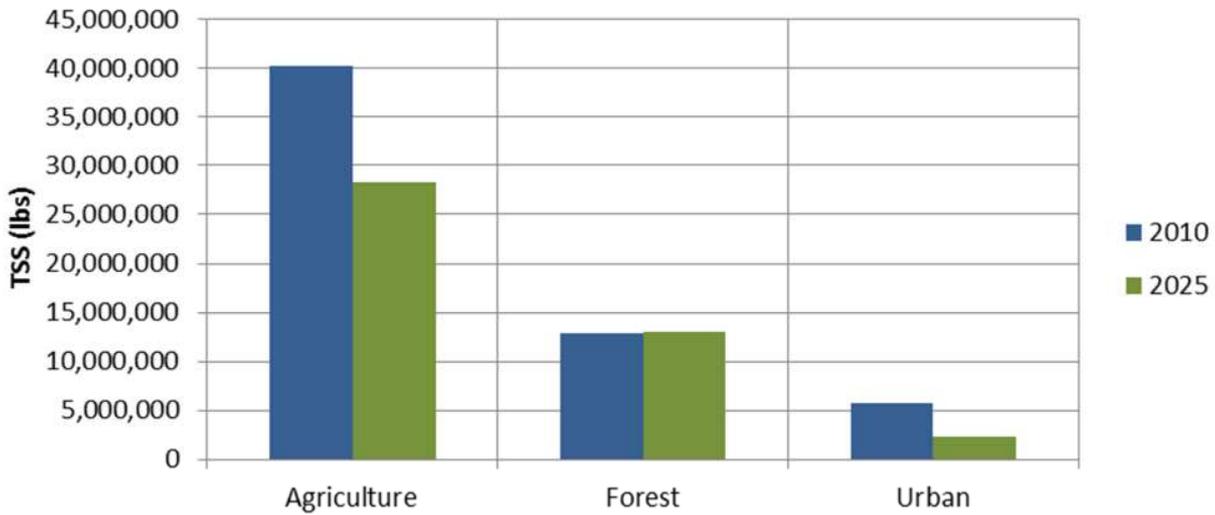
2009 Progress Load	59,655,483
2010 Current Load	58,921,762
2017 Interim Planning Target – 60%*	49,999,343
2017 TSS Reductions (2010 – 2017)	9,656,140
2025 Planning Target – 100%	43,561,917
2025 Total TSS Reductions (2010 – 2025)	16,093,566

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Perry County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	19,637	2,102
Conservation Till Row Crops	15,400	24,983
Hay	41,823	46,385
Alfalfa	12,529	12,288
Pasture	15,864	13,836
Animal Feeding Operations	171	171
Concentrated Animal Feeding Operations	38	38
Nursery	164	164
<b>Total Agriculture:</b>	105,626	99,967
<b>Urban</b>		
Pervious Urban Land	11,750	11,574
Impervious Urban Land	5,741	5,705
Construction	22	22
Extractive	242	242
Combined Sewer System	810	810
<b>Total Urban:</b>	18,565	18,354
<b>Forest</b>		
	228,218	234,089
<b>Total Acreage:</b>	352,409	352,409

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	151.7	236.5	293.1
2. Barnyard Runoff Controls	Acres	4.0	85.2	139.3
3. Capture Reuse <sup>+</sup>	Acres	0.0	9.8	16.4
4. Carbon Sequestration/ Alternative Crops	Acres	708.8	1,852.2	2,614.5
5. Conservation Plans/SCWQA	Acres	31,955.8	70,310.6	95,880.5
6. Conservation Tillage	Acres	15,400.1	21,149.6	24,982.6
7. Continuous No-Till <sup>**</sup>	Acres	1,136.7	717.0	437.2
8. Cover Crops	Acres	2,899.0	11,722.6	17,605.0
9. Forest Buffers	Ag Acres	1,114.9	2,917.2	4,118.7
10. Grass Buffers	Ag Acres	124.4	870.0	1,367.1
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	7,511.8	9,403.7	10,665.0
14. Manure Injection	Acres	0.0	486.1	810.1
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.9	4.1	6.2
17. Non-Urban Stream Restoration	Feet	1,484.8	6,730.2	10,227.2
18. Nutrient Management	Acres	42,589.5	57,061.8	66,710.1
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	339.2	1,372.6	2,061.6
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	85.4	266.9	387.9
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	121.5	202.5
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	3,787.3	6,312.2
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,140.0	1,728.2	2,120.2
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,153.8	7,470.8	11,682.1
29. Wetland Restoration	Acres	108.2	1,113.9	1,784.4

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	12,289.4	5,187.1	452.2
31. Dry Extended Detention Ponds	Acres	3,372.0	1,620.1	452.2
32. Erosion and Sediment Control	Acres	23.4	164.3	258.2
33. Filtering Practices ***	Acres	0.0	3,623.2	6,038.6
34. Forest Buffers	Urban Acres	0.0	115.3	192.2
35. Grass Buffers	Urban Acres	0.0	59.2	98.6
36. Impervious Surface Reduction	Acres	0.0	22.0	36.7
37. Infiltration Practices ***	Acres	0.0	4,154.7	6,924.5
38. Septic System Hook-ups	Units	76.9	1,787.0	2,927.1
39. Street Sweeping	Acres	0.0	442.2	737.0
40. Tree Planting	Urban Acres	0.0	10.2	17.0
41. Urban Nutrient Management	Acres	0.0	2,192.8	3,654.6
42. Urban Sprawl Reduction	Acres	0.0	2.2	3.7
43. Urban Stream Restoration	Feet	158.6	503.3	733.0
44. Wet Ponds & Wetlands	Acres	1,848.5	1,848.5	1,848.5

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	215.5	215.5	215.5
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	49,285.6	112,719.8	155,009.4
47. Forest Harvesting Practices	Acres	294.0	479.1	602.5

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

**PA Chesapeake Bay Phase II Watershed Implementation Plan  
Potter County Planning Targets**

**What are Planning Targets?**

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

**Nitrogen Planning Target**

**Pounds**

2009 Progress Load	897,446
2010 Current Load	869,337
2017 Interim Planning Target – 60%*	853,694
2017 Nitrogen Reductions (2010 – 2017)	43,752
2025 Planning Target – 100%	824,526
2025 Total Nitrogen Reductions (2010 – 2025)	72,920

**Phosphorus Planning Target**

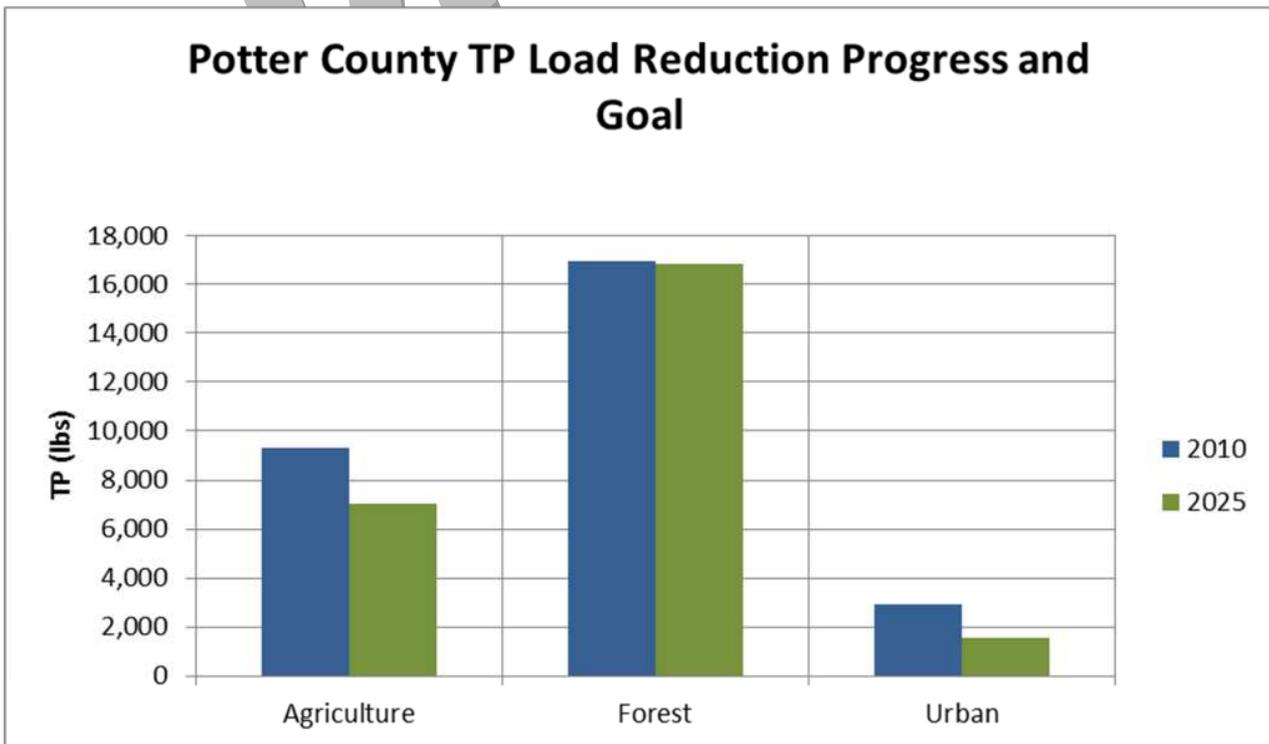
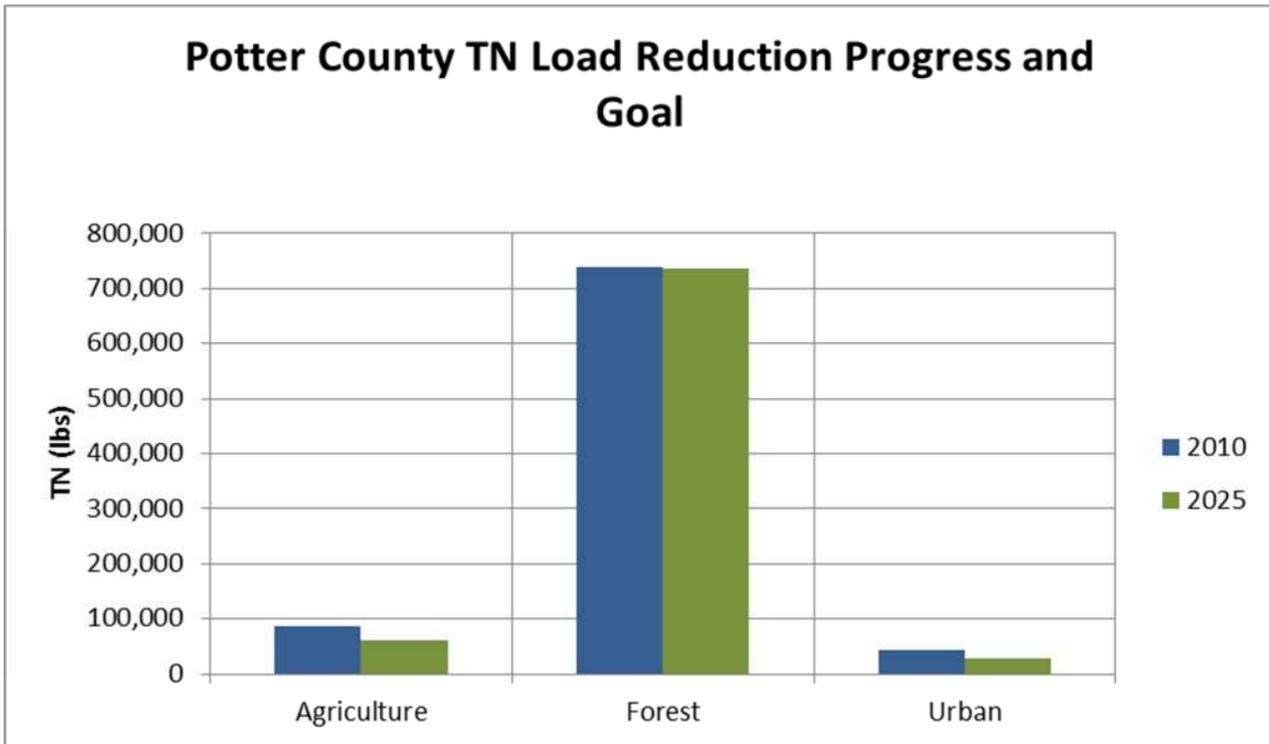
2009 Progress Load	30,593
2010 Current Load	29,148
2017 Interim Planning Target – 60%*	27,488
2017 Phosphorous Reductions (2010 – 2017)	3,106
2025 Planning Target – 100%	25,417
2025 Total Phosphorous Reductions (2010 – 2025)	5,176

**Total Suspended Solids (TSS) Planning Target**

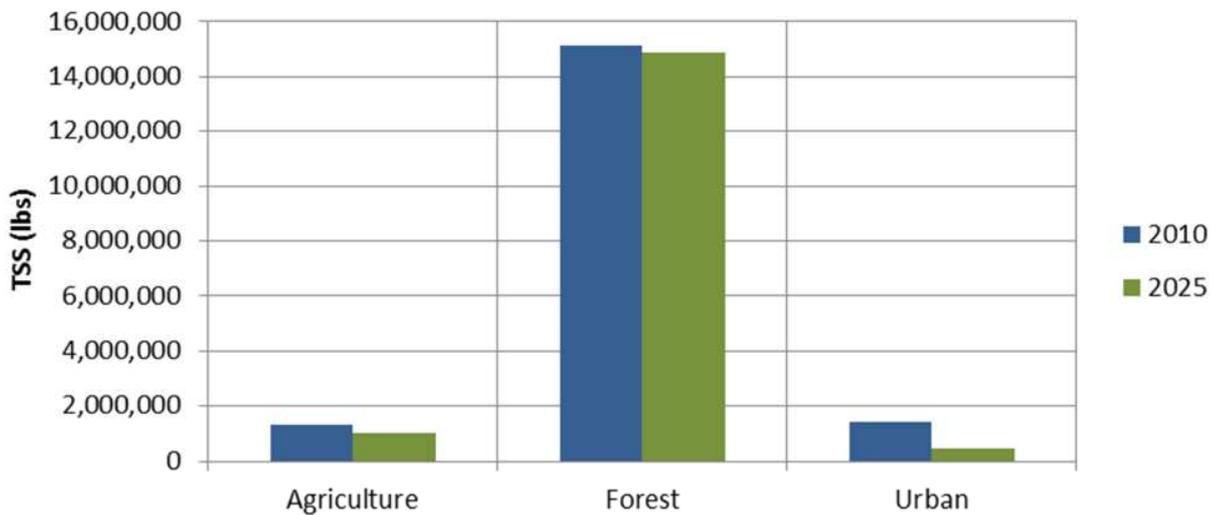
2009 Progress Load	18,200,061
2010 Current Load	17,858,746
2017 Interim Planning Target – 60%*	17,130,083
2017 TSS Reductions (2010 – 2017)	1,069,978
2025 Planning Target – 100%	16,416,764
2025 Total TSS Reductions (2010 – 2025)	1,783,297

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Potter County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	1,768	928
Conservation Till Row Crops	563	960
Hay	8,634	8,801
Alfalfa	2,438	2,390
Pasture	5,042	4,537
Animal Feeding Operations	25	25
Concentrated Animal Feeding Operations	5	5
Nursery	77	77
<b>Total Agriculture:</b>	18,553	17,724
<b>Urban</b>		
Pervious Urban Land	2,699	3,420
Impervious Urban Land	2,936	2,958
Construction	0	0
Extractive	21	21
Combined Sewer System	805	0
<b>Total Urban:</b>	6,462	6,399
<b>Forest</b>		
	409,337	410,230
<b>Total Acreage:</b>	434,351	434,353

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	31.2	29.3	28.0
2. Barnyard Runoff Controls	Acres	0.7	12.4	20.1
3. Capture Reuse <sup>+</sup>	Acres	0.0	4.6	7.7
4. Carbon Sequestration/ Alternative Crops	Acres	686.8	846.7	953.3
5. Conservation Plans/SCWQA	Acres	11,188.5	14,572.0	16,827.6
6. Conservation Tillage	Acres	562.6	800.9	959.8
7. Continuous No-Till <sup>**</sup>	Acres	0.0	10.1	16.8
8. Cover Crops	Acres	124.6	786.0	1,227.0
9. Forest Buffers	Ag Acres	1,132.3	1,390.6	1,562.8
10. Grass Buffers	Ag Acres	90.4	208.6	287.3
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	4,488.5	4,488.5	4,488.5
14. Manure Injection	Acres	0.0	32.0	53.3
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.1	0.4	0.6
17. Non-Urban Stream Restoration	Feet	4,764.4	5,104.8	5,331.7
18. Nutrient Management	Acres	8,710.5	10,221.3	11,228.5
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	325.5	538.6	680.6
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	164.1	164.1	164.1
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	8.0	13.3
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	488.3	813.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,605.9	1,705.3	1,771.6
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	975.2	2,704.1	3,856.8
29. Wetland Restoration	Acres	97.2	238.1	332.0

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	4,240.6	1,791.9	159.5
31. Dry Extended Detention Ponds	Acres	0.0	95.7	159.5
32. Erosion and Sediment Control	Acres	0.0	10.8	18.1
33. Filtering Practices ***	Acres	0.0	813.1	1,355.2
34. Forest Buffers	Urban Acres	0.0	34.0	56.7
35. Grass Buffers	Urban Acres	0.0	16.6	27.7
36. Impervious Surface Reduction	Acres	0.0	11.0	18.4
37. Infiltration Practices ***	Acres	0.0	1,563.6	2,606.0
38. Septic System Hook-ups	Units	32.3	301.0	480.1
39. Street Sweeping	Acres	0.0	221.5	369.1
40. Tree Planting	Urban Acres	0.0	2.9	4.8
41. Urban Nutrient Management	Acres	0.0	615.7	1,026.1
42. Urban Sprawl Reduction	Acres	0.0	0.6	1.0
43. Urban Stream Restoration	Feet	0.0	142.2	237.0
44. Wet Ponds & Wetlands	Acres	2,200.3	2,082.3	2,003.6

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	233.7	234.1	234.3
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	141,661.8	206,622.9	249,930.2
47. Forest Harvesting Practices	Acres	275.7	759.9	1,082.7

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Schuylkill County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	2,020,155
2010 Current Load	1,950,530
2017 Interim Planning Target – 60%*	1,704,479
2017 Nitrogen Reductions (2010 – 2017)	315,675
2025 Planning Target – 100%	1,494,029
2025 Total Nitrogen Reductions (2010 – 2025)	526,125

### Phosphorus Planning Target

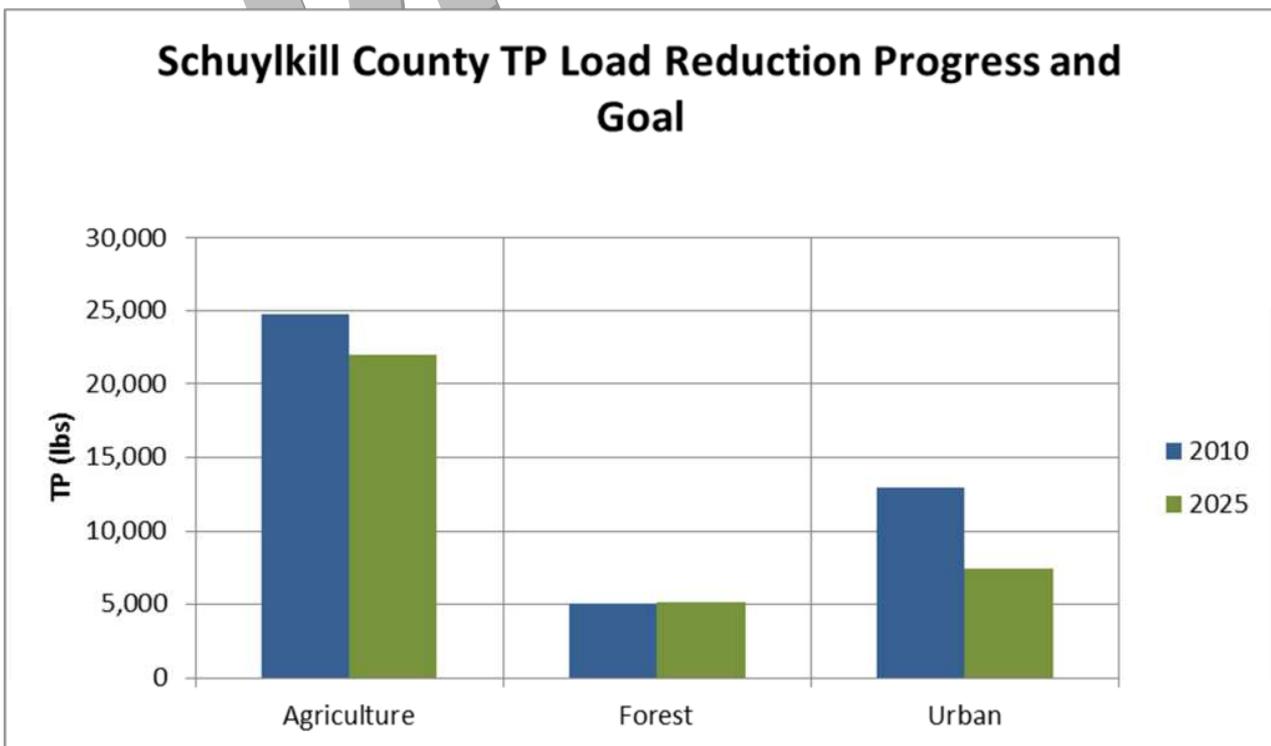
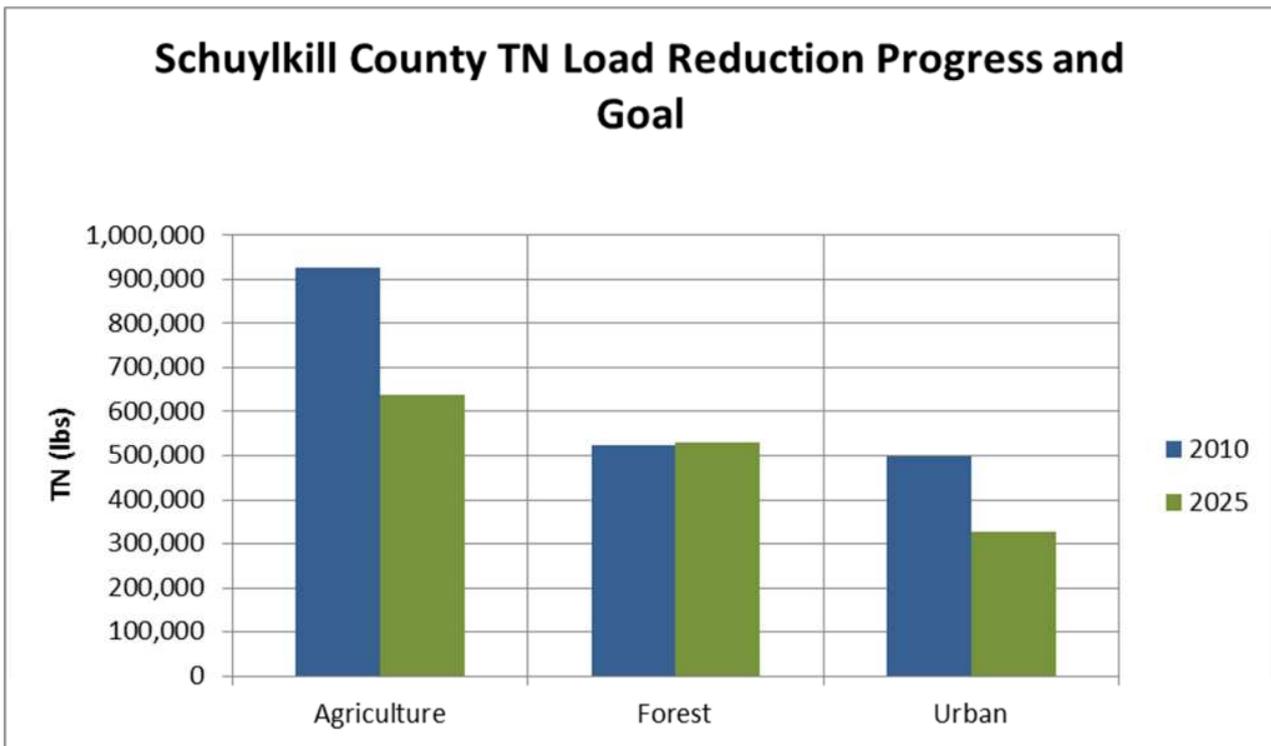
2009 Progress Load	44,718
2010 Current Load	42,842
2017 Interim Planning Target – 60%*	38,620
2017 Phosphorous Reductions (2010 – 2017)	6,098
2025 Planning Target – 100%	34,555
2025 Total Phosphorous Reductions (2010 – 2025)	10,163

### Total Suspended Solids (TSS) Planning Target

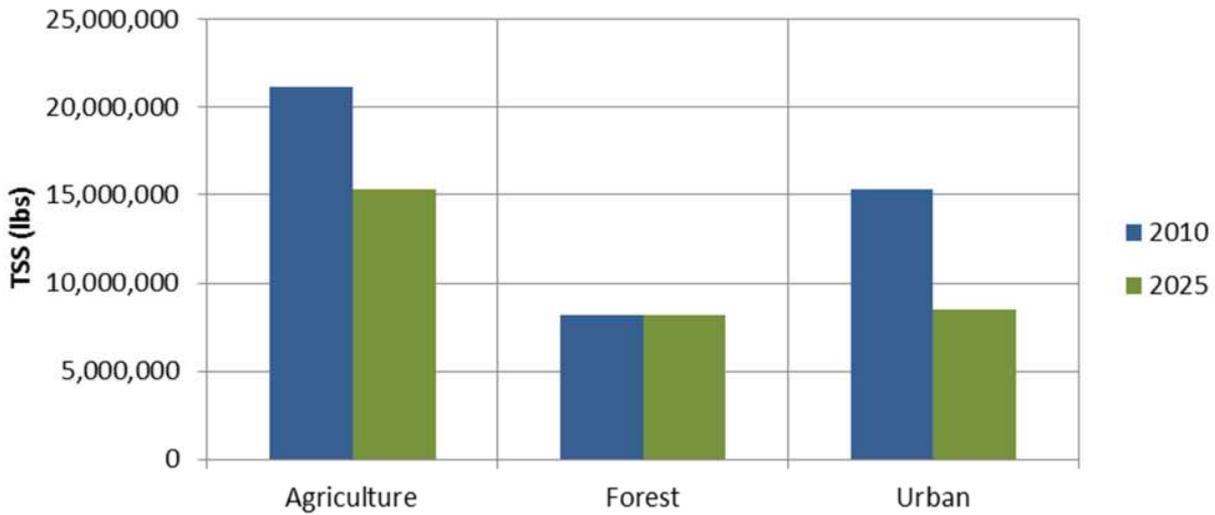
2009 Progress Load	45,872,572
2010 Current Load	44,646,962
2017 Interim Planning Target – 60%*	37,509,644
2017 TSS Reductions (2010 – 2017)	8,362,928
2025 Planning Target – 100%	31,934,359
2025 Total TSS Reductions (2010 – 2025)	13,938,214

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Schuylkill County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	13,905	3,291
Conservation Till Row Crops	8,970	15,291
Hay	16,472	18,754
Alfalfa	3,729	3,656
Pasture	5,146	4,550
Animal Feeding Operations	68	68
Concentrated Animal Feeding Operations	13	13
Nursery	223	223
<b>Total Agriculture:</b>	48,526	45,846
<b>Urban</b>		
Pervious Urban Land	15,148	15,080
Impervious Urban Land	5,805	5,823
Construction	17	18
Extractive	9,839	9,626
Combined Sewer System	1,261	1,037
<b>Total Urban:</b>	32,070	31,583
<b>Forest</b>		
	174,258	177,426
<b>Total Acreage:</b>	254,854	254,854

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	91.6	88.2	85.9
2. Barnyard Runoff Controls	Acres	2.6	33.5	54.1
3. Capture Reuse <sup>+</sup>	Acres	0.0	13.4	22.3
4. Carbon Sequestration/ Alternative Crops	Acres	464.4	1,291.6	1,843.0
5. Conservation Plans/SCWQA	Acres	30,218.0	38,581.8	44,157.7
6. Conservation Tillage	Acres	8,970.3	12,758.5	15,283.9
7. Continuous No-Till <sup>**</sup>	Acres	0.0	160.5	267.5
8. Cover Crops	Acres	100.8	7,283.8	12,072.4
9. Forest Buffers	Ag Acres	1,069.2	1,873.0	2,408.9
10. Grass Buffers	Ag Acres	64.7	501.6	792.9
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	6,736.8	7,349.5	7,758.0
14. Manure Injection	Acres	0.0	297.4	495.7
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.8	1.5	2.0
17. Non-Urban Stream Restoration	Feet	10,631.6	12,836.7	14,306.8
18. Nutrient Management	Acres	32,893.1	30,215.6	28,430.6
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	143.6	464.4	678.3
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	32.3	84.7	119.6
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	74.4	123.9
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	1,703.6	2,839.4
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	720.1	1,044.8	1,261.2
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	689.8	2,582.0	3,843.4
29. Wetland Restoration	Acres	74.4	559.9	883.6

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	15,063.6	6,354.5	548.4
31. Dry Extended Detention Ponds	Acres	2,787.8	1,444.1	548.4
32. Erosion and Sediment Control	Acres	21.5	5,099.3	8,484.5
33. Filtering Practices ***	Acres	0.0	4,453.8	7,423.0
34. Forest Buffers	Urban Acres	0.0	150.6	251.0
35. Grass Buffers	Urban Acres	0.0	77.3	128.9
36. Impervious Surface Reduction	Acres	0.0	22.6	37.7
37. Infiltration Practices ***	Acres	1,507.3	5,968.8	8,943.1
38. Septic System Hook-ups	Units	3,435.8	3,027.7	2,755.6
39. Street Sweeping	Acres	0.0	454.2	756.9
40. Tree Planting	Urban Acres	0.0	13.3	22.2
41. Urban Nutrient Management	Acres	0.0	2,856.6	4,760.9
42. Urban Sprawl Reduction	Acres	0.0	2.9	4.8
43. Urban Stream Restoration	Feet	0.0	527.5	879.2
44. Wet Ponds & Wetlands	Acres	2,252.7	2,255.7	2,257.7

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	286.9	414.9	500.2
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	39,599.0	98,701.3	138,102.9
47. Forest Harvesting Practices	Acres	11.7	280.7	460.1

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Snyder County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	3,568,300
2010 Current Load	3,437,234
2017 Interim Planning Target – 60%*	2,866,639
2017 Nitrogen Reductions (2010 – 2017)	701,661
2025 Planning Target – 100%	2,398,865
2025 Total Nitrogen Reductions (2010 – 2025)	1,169,435

### Phosphorus Planning Target

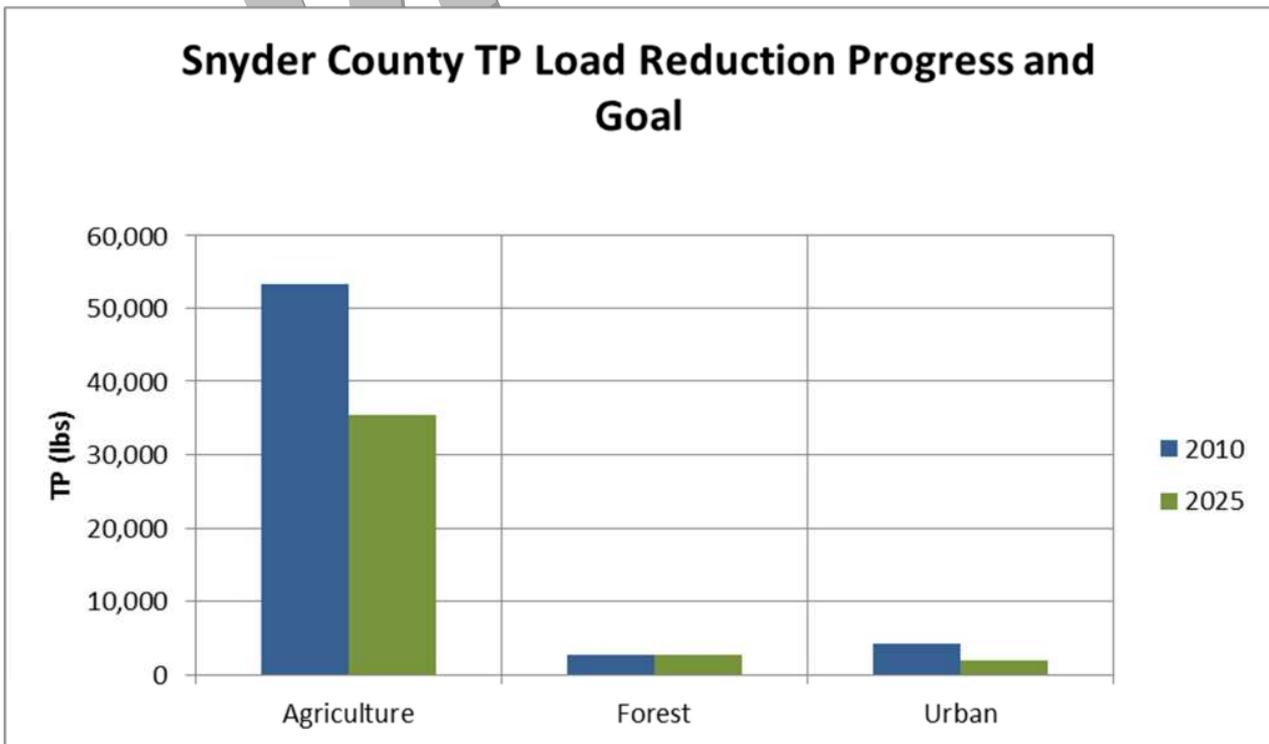
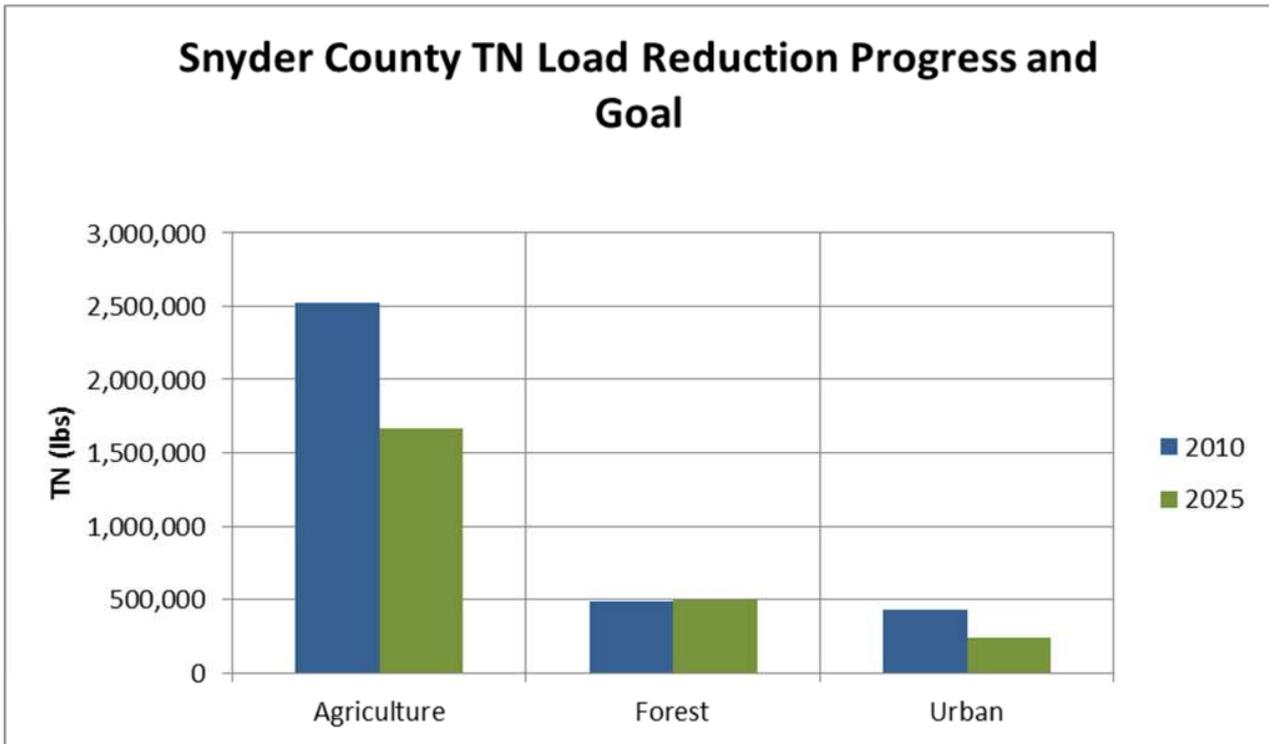
2009 Progress Load	57,565
2010 Current Load	60,032
2017 Interim Planning Target – 60%*	46,996
2017 Phosphorous Reductions (2010 – 2017)	10,568
2025 Planning Target – 100%	39,951
2025 Total Phosphorous Reductions (2010 – 2025)	17,614

### Total Suspended Solids (TSS) Planning Target

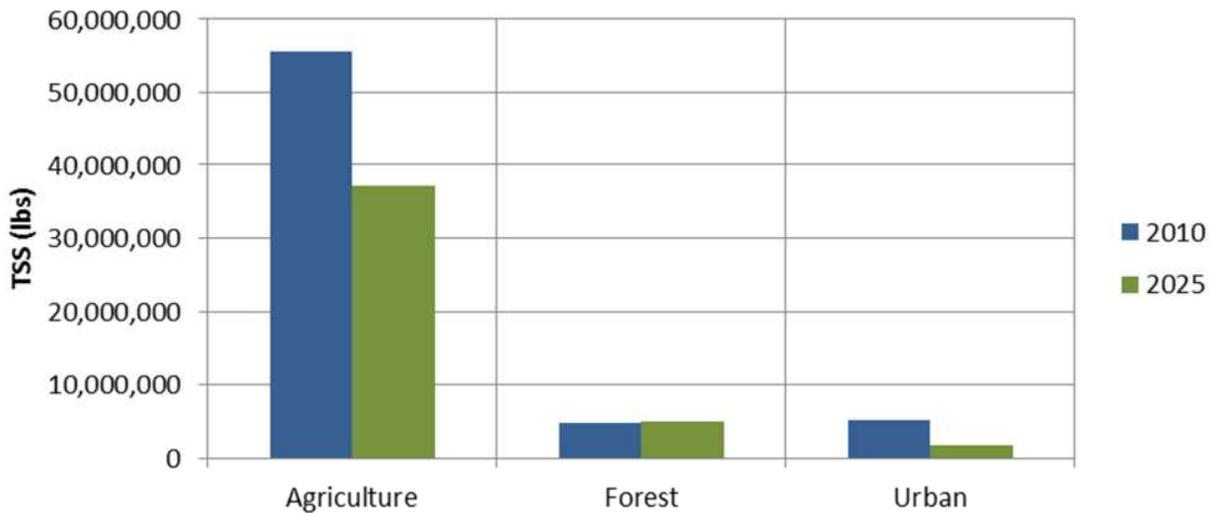
2009 Progress Load	69,976,290
2010 Current Load	65,544,287
2017 Interim Planning Target – 60%*	54,182,358
2017 TSS Reductions (2010 – 2017)	15,793,932
2025 Planning Target – 100%	43,653,070
2025 Total TSS Reductions (2010 – 2025)	26,323,220

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Snyder County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	17,767	2,749
Conservation Till Row Crops	13,079	22,194
Hay	20,422	23,707
Alfalfa	12,454	12,198
Pasture	11,325	9,900
Animal Feeding Operations	232	232
Concentrated Animal Feeding Operations	60	60
Nursery	243	243
<b>Total Agriculture:</b>	75,581	71,282
<b>Urban</b>		
Pervious Urban Land	14,718	14,484
Impervious Urban Land	4,934	4,904
Construction	53	53
Extractive	192	192
Combined Sewer System	0	0
<b>Total Urban:</b>	19,898	19,633
<b>Forest</b>		
	115,151	119,714
<b>Total Acreage:</b>	210,630	210,630

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	91.2	176.5	233.4
2. Barnyard Runoff Controls	Acres	0.0	116.3	193.9
3. Capture Reuse <sup>+</sup>	Acres	0.0	14.6	24.3
4. Carbon Sequestration/ Alternative Crops	Acres	443.6	1,538.6	2,268.6
5. Conservation Plans/SCWQA	Acres	29,612.0	52,882.0	68,395.4
6. Conservation Tillage	Acres	13,078.8	18,548.0	22,194.1
7. Continuous No-Till <sup>**</sup>	Acres	920.7	601.3	388.4
8. Cover Crops	Acres	1,915.0	10,494.0	16,213.4
9. Forest Buffers	Ag Acres	633.4	2,090.5	3,061.9
10. Grass Buffers	Ag Acres	104.5	737.1	1,158.8
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	7,312.1	8,115.8	8,651.6
14. Manure Injection	Acres	0.0	427.9	713.2
15. Manure/Litter Transport	Tons	123.6	49.5	0.0
16. Mortality Composters	Units	0.7	3.1	4.7
17. Non-Urban Stream Restoration	Feet	1,137.8	4,850.9	7,326.2
18. Nutrient Management	Acres	27,970.6	40,119.1	48,218.1
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	559.9	1,109.0	1,475.1
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	98.5	206.1	277.8
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	107.0	178.3
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,744.2	4,573.6
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	619.4	1,023.2	1,292.4
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	666.3	5,281.9	8,359.0
29. Wetland Restoration	Acres	63.7	783.1	1,262.7

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	8,367.0	3,637.6	484.7
31. Dry Extended Detention Ponds	Acres	2,342.0	1,227.6	484.7
32. Erosion and Sediment Control	Acres	53.3	158.0	227.9
33. Filtering Practices ***	Acres	0.0	3,955.1	6,591.8
34. Forest Buffers	Urban Acres	0.0	144.3	240.5
35. Grass Buffers	Urban Acres	0.0	70.4	117.4
36. Impervious Surface Reduction	Acres	0.0	18.3	30.5
37. Infiltration Practices ***	Acres	0.0	4,769.3	7,948.9
38. Septic System Hook-ups	Units	32.2	1,256.9	2,073.3
39. Street Sweeping	Acres	0.0	367.2	612.0
40. Tree Planting	Urban Acres	0.0	12.1	20.2
41. Urban Nutrient Management	Acres	0.0	2,607.1	4,345.1
42. Urban Sprawl Reduction	Acres	0.0	2.7	4.4
43. Urban Stream Restoration	Feet	10.8	497.8	822.5
44. Wet Ponds & Wetlands	Acres	1,250.5	1,663.5	1,938.8

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	141.4	141.4	141.4
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	26,677.9	76,672.1	110,001.6
47. Forest Harvesting Practices	Acres	0.0	182.3	303.9

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Somerset County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	86,130
2010 Current Load	81,713
2017 Interim Planning Target – 60%*	77,814
2017 Nitrogen Reductions (2010 – 2017)	8,317
2025 Planning Target – 100%	72,269
2025 Total Nitrogen Reductions (2010 – 2025)	13,861

### Phosphorus Planning Target

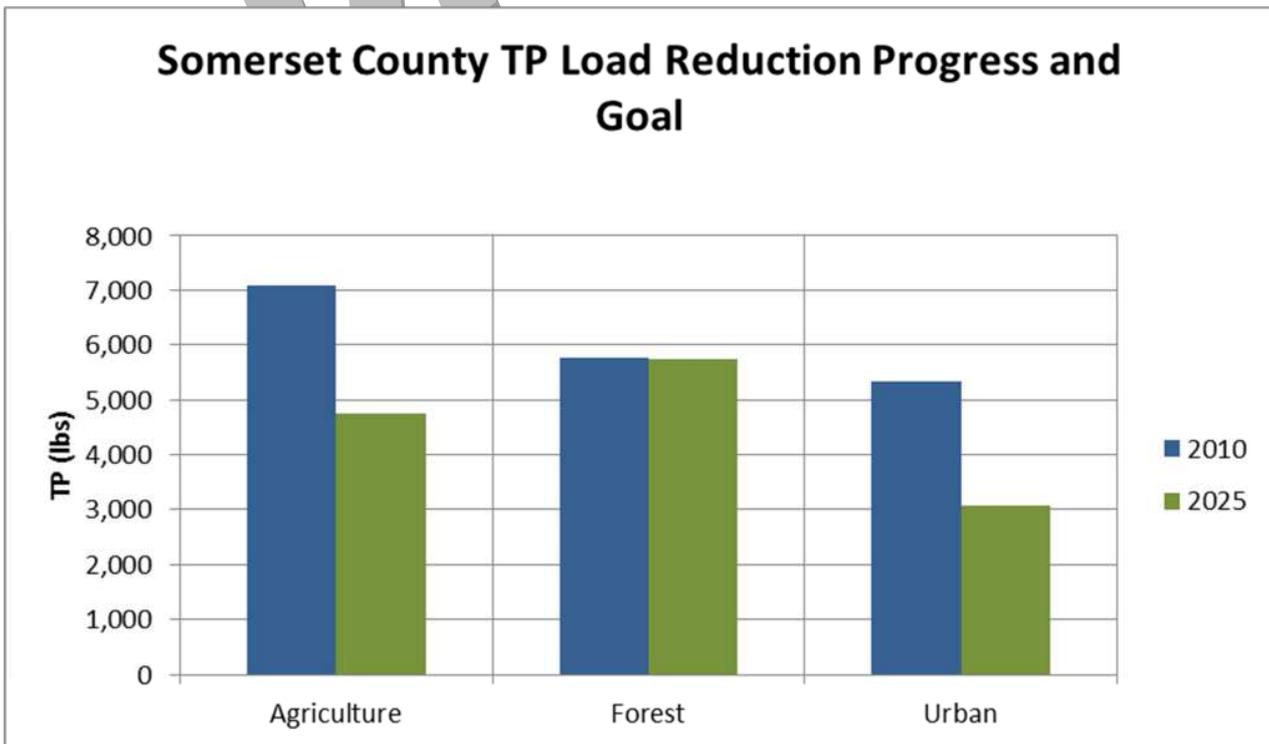
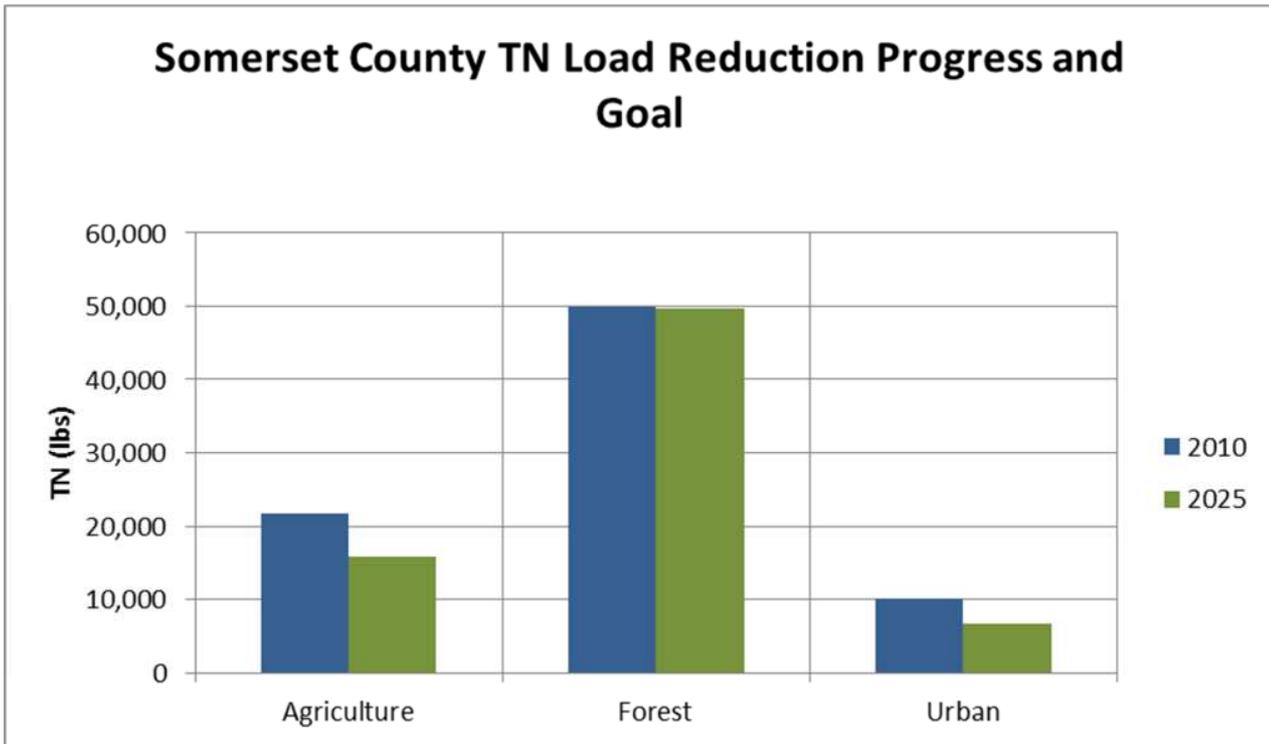
2009 Progress Load	18,064
2010 Current Load	18,190
2017 Interim Planning Target – 60%*	15,364
2017 Phosphorous Reductions (2010 – 2017)	2,700
2025 Planning Target – 100%	13,564
2025 Total Phosphorous Reductions (2010 – 2025)	4,500

### Total Suspended Solids (TSS) Planning Target

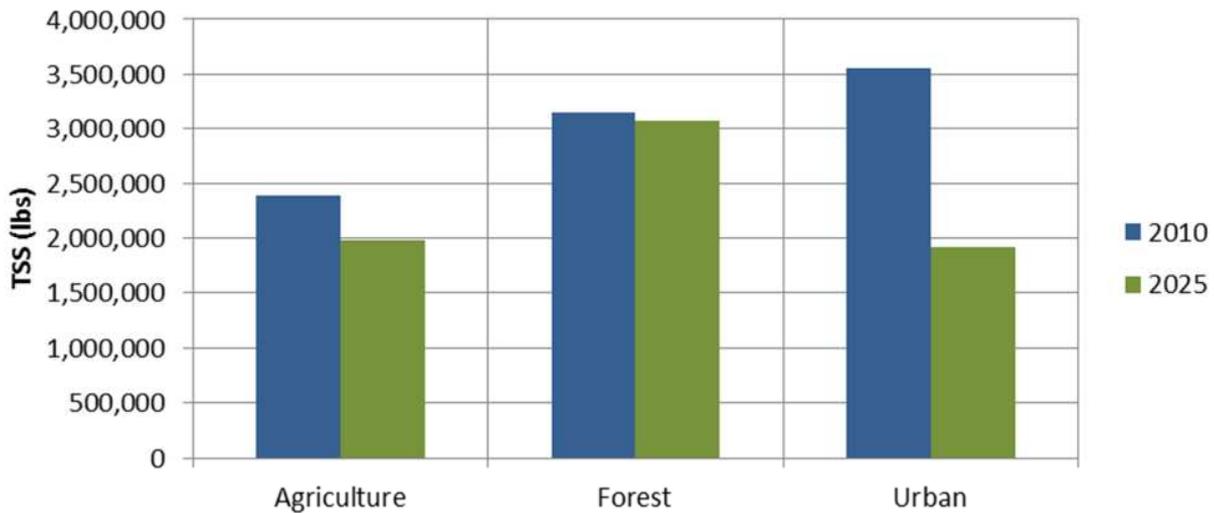
2009 Progress Load	9,469,836
2010 Current Load	9,099,418
2017 Interim Planning Target – 60%*	7,969,060
2017 TSS Reductions (2010 – 2017)	1,500,776
2025 Planning Target – 100%	6,968,542
2025 Total TSS Reductions (2010 – 2025)	2,501,294

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Somerset County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	1,223	117
Conservation Till Row Crops	988	1,760
Hay	4,136	4,238
Alfalfa	2,043	2,004
Pasture	2,306	2,057
Animal Feeding Operations	26	26
Concentrated Animal Feeding Operations	0	0
Nursery	6	6
<b>Total Agriculture:</b>	10,729	10,209
<b>Urban</b>		
Pervious Urban Land	851	842
Impervious Urban Land	1,014	1,007
Construction	0	0
Extractive	1,433	1,393
Combined Sewer System	0	0
<b>Total Urban:</b>	3,298	3,242
<b>Forest</b>		
	80,480	81,056
<b>Total Acreage:</b>	94,508	94,508

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	15.3	17.2	18.4
2. Barnyard Runoff Controls	Acres	0.0	0.0	0.0
3. Capture Reuse <sup>+</sup>	Acres	0.0	0.4	0.6
4. Carbon Sequestration/ Alternative Crops	Acres	11.5	103.1	164.2
5. Conservation Plans/SCWQA	Acres	9,647.8	9,785.9	9,878.0
6. Conservation Tillage	Acres	988.0	1,451.3	1,760.2
7. Continuous No-Till <sup>**</sup>	Acres	110.1	62.5	30.8
8. Cover Crops	Acres	19.5	740.0	1,220.4
9. Forest Buffers	Ag Acres	437.6	602.0	711.6
10. Grass Buffers	Ag Acres	64.5	133.7	179.9
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	1,813.0	1,813.0	1,813.0
14. Manure Injection	Acres	0.0	33.9	56.6
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.2	0.4
17. Non-Urban Stream Restoration	Feet	341.1	707.9	952.4
18. Nutrient Management	Acres	5,662.4	6,487.2	7,037.1
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	23.3	194.5	308.6
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	76.7	76.7	76.7
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	8.5	14.1
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	358.8	598.0
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	393.7	454.5	495.1
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	883.7	1,402.7	1,748.7
29. Wetland Restoration	Acres	63.5	141.9	194.3

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	671.4	296.3	46.2
31. Dry Extended Detention Ponds	Acres	59.1	51.4	46.2
32. Erosion and Sediment Control	Acres	0.0	735.3	1,225.6
33. Filtering Practices ***	Acres	0.0	377.3	628.8
34. Forest Buffers	Urban Acres	0.0	8.4	14.0
35. Grass Buffers	Urban Acres	0.0	4.1	6.8
36. Impervious Surface Reduction	Acres	0.0	3.8	6.3
37. Infiltration Practices ***	Acres	68.2	482.2	758.3
38. Septic System Hook-ups	Units	1,056.1	552.8	217.3
39. Street Sweeping	Acres	0.0	75.4	125.7
40. Tree Planting	Urban Acres	0.0	0.7	1.2
41. Urban Nutrient Management	Acres	0.0	151.6	252.6
42. Urban Sprawl Reduction	Acres	0.0	0.2	0.3
43. Urban Stream Restoration	Feet	0.0	47.1	78.5
44. Wet Ponds & Wetlands	Acres	106.1	153.4	184.9

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	66.2	90.5	106.7
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	68,983.2	84,973.6	95,633.8
47. Forest Harvesting Practices	Acres	5.6	129.9	212.7

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

**PA Chesapeake Bay Phase II Watershed Implementation Plan  
Sullivan County Planning Targets**

**What are Planning Targets?**

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

**Nitrogen Planning Target**

**Pounds**

2009 Progress Load	820,318
2010 Current Load	801,071
2017 Interim Planning Target – 60%*	770,019
2017 Nitrogen Reductions (2010 – 2017)	50,299
2025 Planning Target – 100%	736,486
2025 Total Nitrogen Reductions (2010 – 2025)	83,832

**Phosphorus Planning Target**

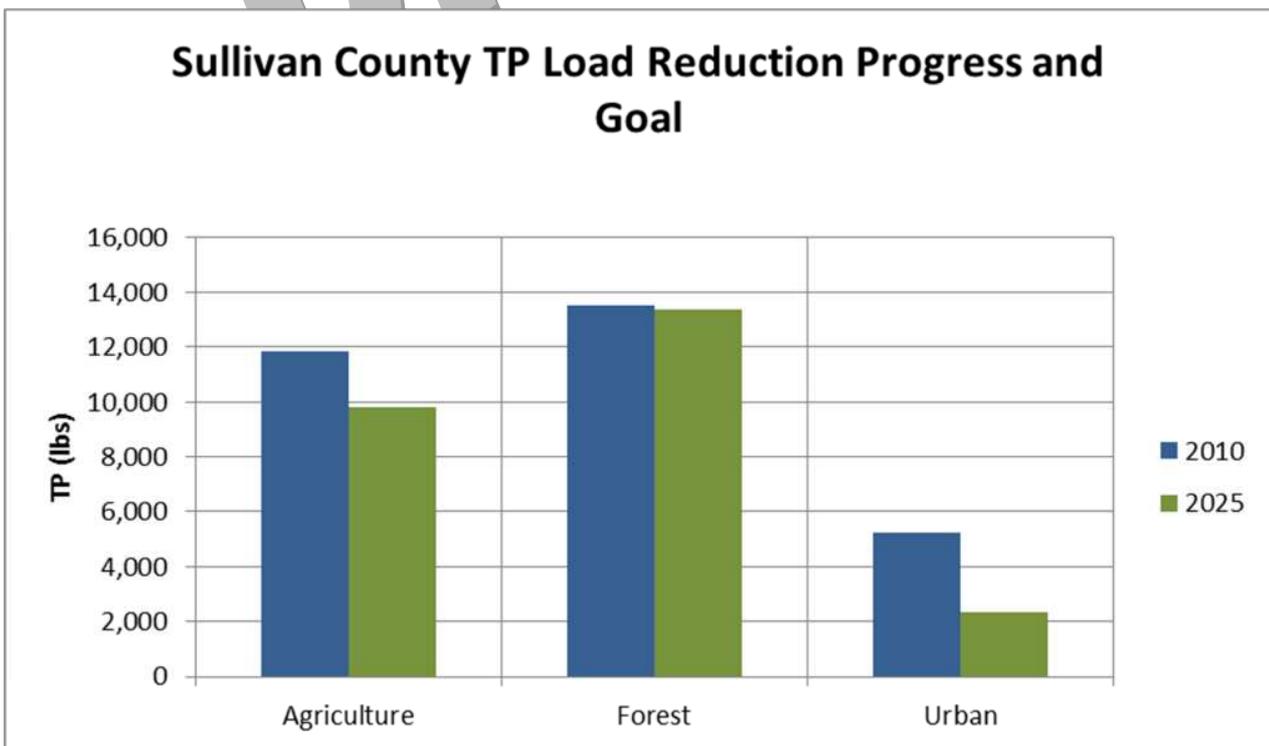
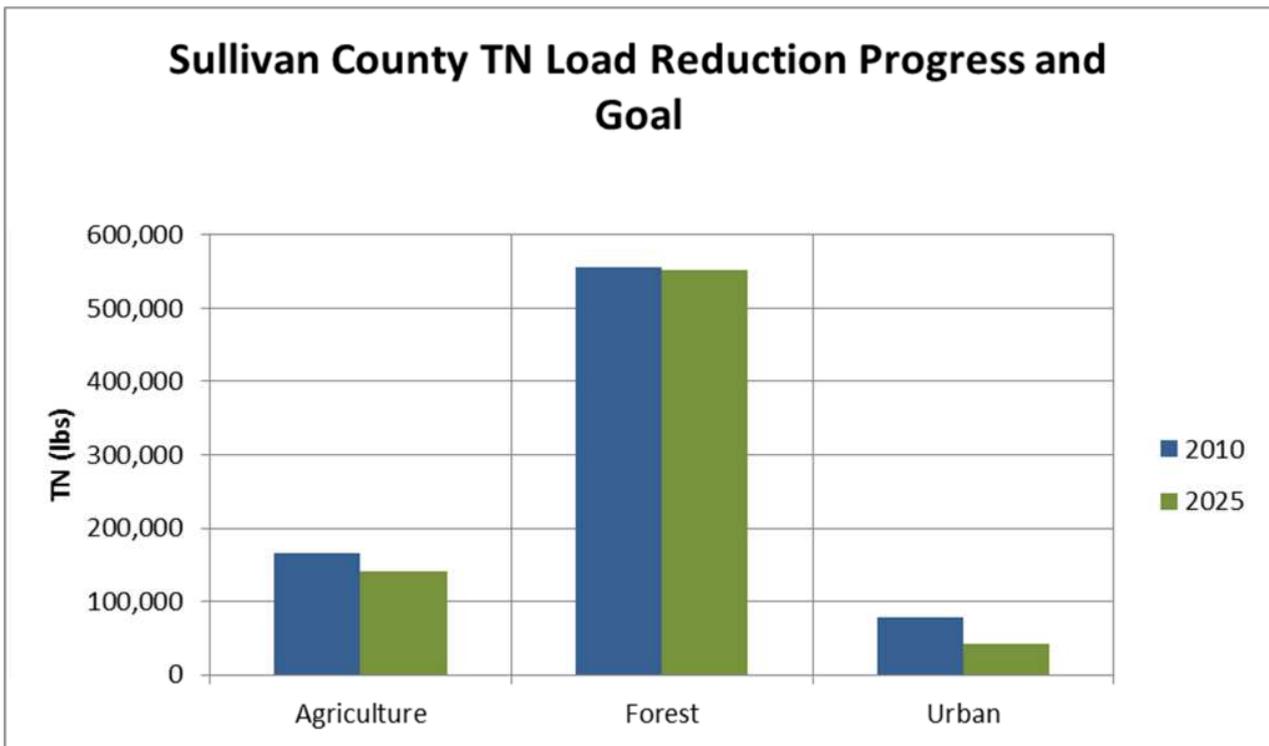
2009 Progress Load	31,394
2010 Current Load	30,569
2017 Interim Planning Target – 60%*	27,851
2017 Phosphorous Reductions (2010 – 2017)	3,543
2025 Planning Target – 100%	25,488
2025 Total Phosphorous Reductions (2010 –2025)	5,906

**Total Suspended Solids (TSS) Planning Target**

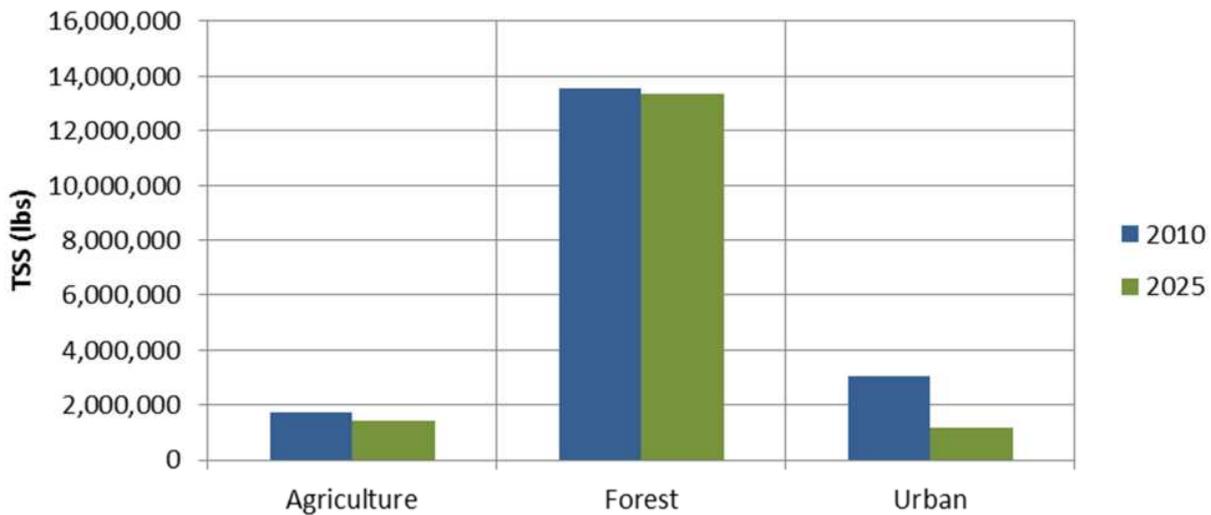
2009 Progress Load	18,608,305
2010 Current Load	18,348,031
2017 Interim Planning Target – 60%*	17,006,364
2017 TSS Reductions (2010 – 2017)	1,601,941
2025 Planning Target – 100%	15,938,403
2025 Total TSS Reductions (2010 – 2025)	2,669,902

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Sullivan County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	2,519	1,265
Conservation Till Row Crops	989	1,839
Hay	7,951	8,047
Alfalfa	3,182	3,118
Pasture	3,117	2,740
Animal Feeding Operations	34	34
Concentrated Animal Feeding Operations	5	5
Nursery	70	70
<b>Total Agriculture:</b>	17,867	17,118
<b>Urban</b>		
Pervious Urban Land	3,943	3,891
Impervious Urban Land	3,032	3,013
Construction	0	0
Extractive	449	437
Combined Sewer System	0	0
<b>Total Urban:</b>	7,424	7,341
<b>Forest</b>		
	262,745	263,578
<b>Total Acreage:</b>	288,036	288,036

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	31.3	29.4	28.2
2. Barnyard Runoff Controls	Acres	0.0	15.6	25.9
3. Capture Reuse <sup>+</sup>	Acres	0.0	4.2	7.0
4. Carbon Sequestration/ Alternative Crops	Acres	703.4	857.0	959.4
5. Conservation Plans/SCWQA	Acres	10,434.3	14,043.9	16,450.3
6. Conservation Tillage	Acres	989.1	1,498.9	1,838.8
7. Continuous No-Till <sup>**</sup>	Acres	0.0	19.3	32.2
8. Cover Crops	Acres	0.0	1,210.6	2,017.7
9. Forest Buffers	Ag Acres	1,637.0	1,849.8	1,991.7
10. Grass Buffers	Ag Acres	111.6	184.6	233.3
11. Horse Pasture Management	Acres	0.3	0.1	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	5,791.1	5,791.1	5,791.1
14. Manure Injection	Acres	0.0	35.8	59.6
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.3	0.5	0.6
17. Non-Urban Stream Restoration	Feet	3,270.3	3,512.6	3,674.1
18. Nutrient Management	Acres	11,256.8	11,520.4	11,696.2
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	163.9	312.1	410.9
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	109.9	109.9	109.9
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	8.9	14.9
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	641.9	1,069.8
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,173.5	1,256.1	1,311.2
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	733.7	1,690.7	2,328.7
29. Wetland Restoration	Acres	95.0	249.2	352.0

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	4,528.3	1,914.9	172.6
31. Dry Extended Detention Ponds	Acres	1,542.7	720.6	172.6
32. Erosion and Sediment Control	Acres	0.0	230.5	384.1
33. Filtering Practices ***	Acres	0.0	1,408.4	2,347.4
34. Forest Buffers	Urban Acres	0.0	38.7	64.5
35. Grass Buffers	Urban Acres	0.0	18.9	31.5
36. Impervious Surface Reduction	Acres	0.0	11.2	18.7
37. Infiltration Practices ***	Acres	199.2	2,046.2	3,277.5
38. Septic System Hook-ups	Units	5.0	361.7	599.6
39. Street Sweeping	Acres	0.0	225.6	376.0
40. Tree Planting	Urban Acres	0.0	3.3	5.4
41. Urban Nutrient Management	Acres	0.0	700.4	1,167.3
42. Urban Sprawl Reduction	Acres	0.0	0.7	1.2
43. Urban Stream Restoration	Feet	0.0	175.7	292.9
44. Wet Ponds & Wetlands	Acres	705.0	705.0	705.0

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	202.4	210.0	215.1
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	49,449.7	100,425.0	134,408.6
47. Forest Harvesting Practices	Acres	5.0	418.8	694.7

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Susquehanna County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	1,412,093
2010 Current Load	1,311,038
2017 Interim Planning Target – 60%*	1,249,869
2017 Nitrogen Reductions (2010 – 2017)	162,224
2025 Planning Target – 100%	1,141,720
2025 Total Nitrogen Reductions (2010 – 2025)	270,373

### Phosphorus Planning Target

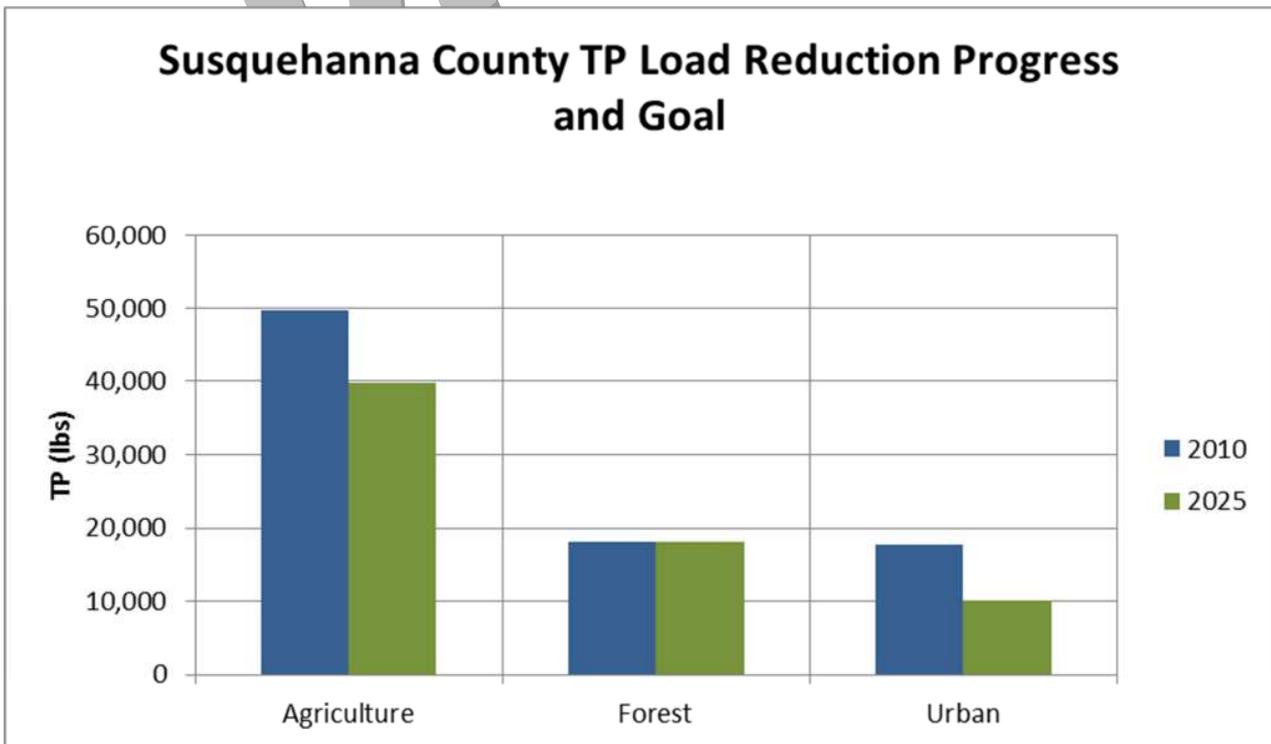
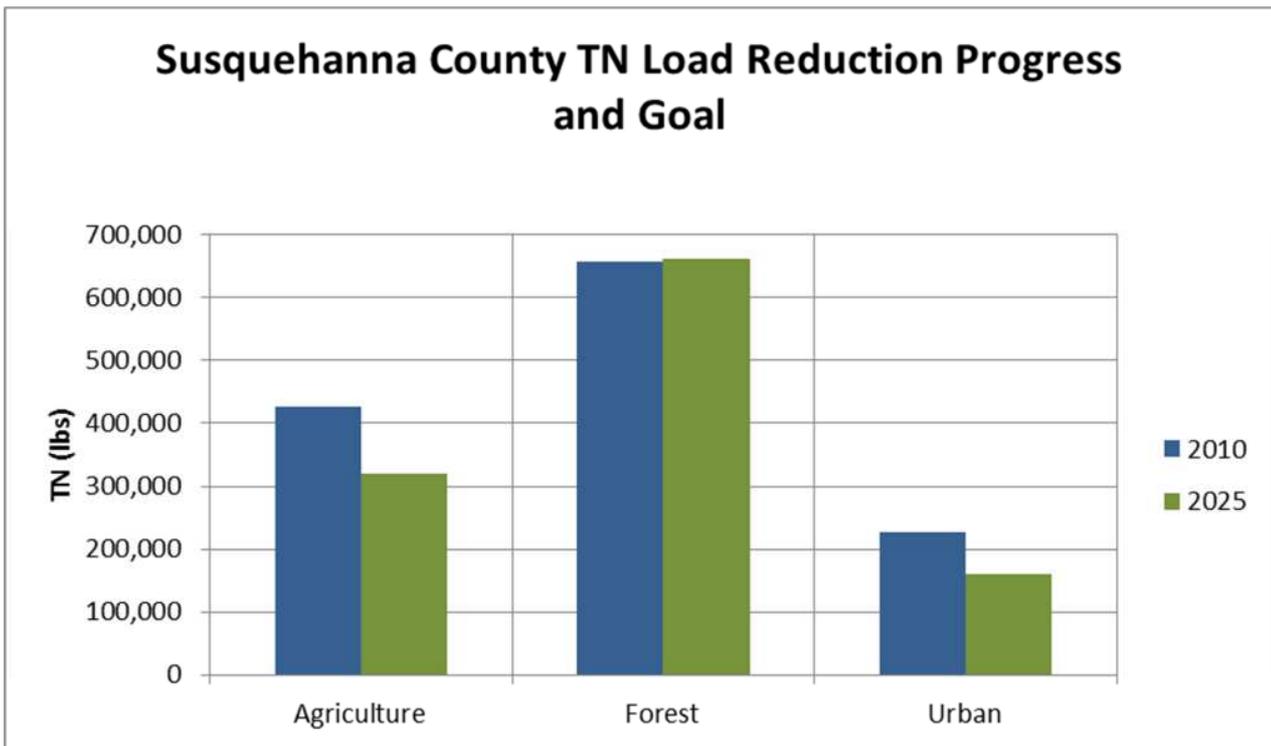
2009 Progress Load	93,368
2010 Current Load	85,498
2017 Interim Planning Target – 60%*	78,153
2017 Phosphorous Reductions (2010 – 2017)	15,215
2025 Planning Target – 100%	68,009
2025 Total Phosphorous Reductions (2010 – 2025)	25,359

### Total Suspended Solids (TSS) Planning Target

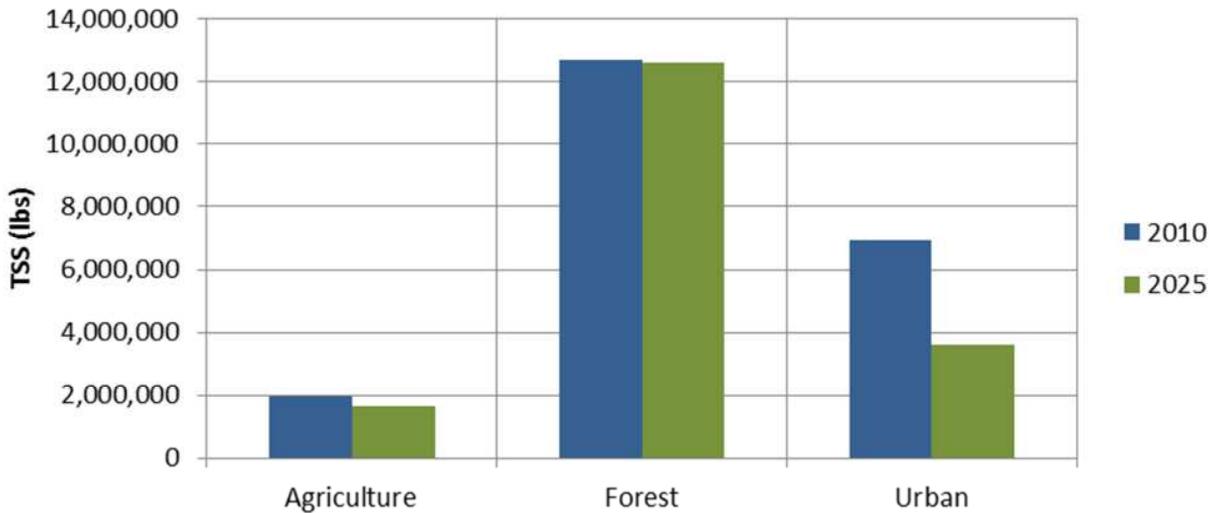
2009 Progress Load	21,684,408
2010 Current Load	21,586,613
2017 Interim Planning Target – 60%*	19,378,714
2017 TSS Reductions (2010 – 2017)	2,305,694
2025 Planning Target – 100%	17,841,585
2025 Total TSS Reductions (2010 – 2025)	3,842,823

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Susquehanna County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	740	280
Conservation Till Row Crops	357	681
Hay	58,462	57,055
Alfalfa	7,493	7,358
Pasture	25,133	22,502
Animal Feeding Operations	229	229
Concentrated Animal Feeding Operations	0	0
Nursery	352	352
<b>Total Agriculture:</b>	92,766	88,456
<b>Urban</b>		
Pervious Urban Land	16,967	16,711
Impervious Urban Land	8,019	7,969
Construction	166	166
Extractive	2,792	2,713
Combined Sewer System	1,090	1,090
<b>Total Urban:</b>	29,033	28,648
<b>Forest</b>		
	405,050	409,744
<b>Total Acreage:</b>	526,848	526,848

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	98.7	129.0	149.1
2. Barnyard Runoff Controls	Acres	2.1	92.3	152.5
3. Capture Reuse <sup>+</sup>	Acres	0.0	21.1	35.2
4. Carbon Sequestration/ Alternative Crops	Acres	2,139.6	2,139.6	2,139.6
5. Conservation Plans/SCWQA	Acres	19,318.6	57,845.3	83,529.7
6. Conservation Tillage	Acres	356.8	551.4	681.2
7. Continuous No-Till <sup>**</sup>	Acres	149.1	66.8	11.9
8. Cover Crops	Acres	44.0	392.5	624.9
9. Forest Buffers	Ag Acres	5,153.0	6,543.3	7,470.2
10. Grass Buffers	Ag Acres	257.3	628.9	876.7
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	9,648.0	9,648.0	9,648.0
14. Manure Injection	Acres	0.0	58.3	97.2
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	1.8	3.0
17. Non-Urban Stream Restoration	Feet	16,562.0	17,343.6	17,864.7
18. Nutrient Management	Acres	25,328.6	45,349.8	58,697.2
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	203.2	2,106.5	3,375.3
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	833.1	833.1	833.1
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	14.6	24.3
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,634.4	4,390.7
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,891.6	2,377.2	2,700.9
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	2,221.3	12,364.4	19,126.5
29. Wetland Restoration	Acres	186.8	897.2	1,370.8

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	7,101.3	3,227.0	644.0
31. Dry Extended Detention Ponds	Acres	2,464.4	1,372.2	644.0
32. Erosion and Sediment Control	Acres	170.1	1,570.5	2,504.1
33. Filtering Practices ***	Acres	0.0	5,162.3	8,603.8
34. Forest Buffers	Urban Acres	0.0	166.3	277.1
35. Grass Buffers	Urban Acres	0.0	85.9	143.1
36. Impervious Surface Reduction	Acres	0.0	30.1	50.2
37. Infiltration Practices ***	Acres	5,271.4	8,326.1	10,362.5
38. Septic System Hook-ups	Units	4,768.3	3,814.0	3,177.8
39. Street Sweeping	Acres	0.0	605.6	1,009.3
40. Tree Planting	Urban Acres	0.0	14.8	24.6
41. Urban Nutrient Management	Acres	0.0	3,181.4	5,302.3
42. Urban Sprawl Reduction	Acres	0.0	3.2	5.4
43. Urban Stream Restoration	Feet	0.0	628.2	1,047.0
44. Wet Ponds & Wetlands	Acres	1,097.4	1,984.7	2,576.2

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	642.2	689.5	721.1
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	122,427.4	215,425.2	277,423.8
47. Forest Harvesting Practices	Acres	275.0	747.5	1,062.5

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Tioga County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	928,093
2010 Current Load	829,478
2017 Interim Planning Target – 60%*	813,372
2017 Nitrogen Reductions (2010 – 2017)	114,721
2025 Planning Target – 100%	736,892
2025 Total Nitrogen Reductions (2010 – 2025)	191,201

### Phosphorus Planning Target

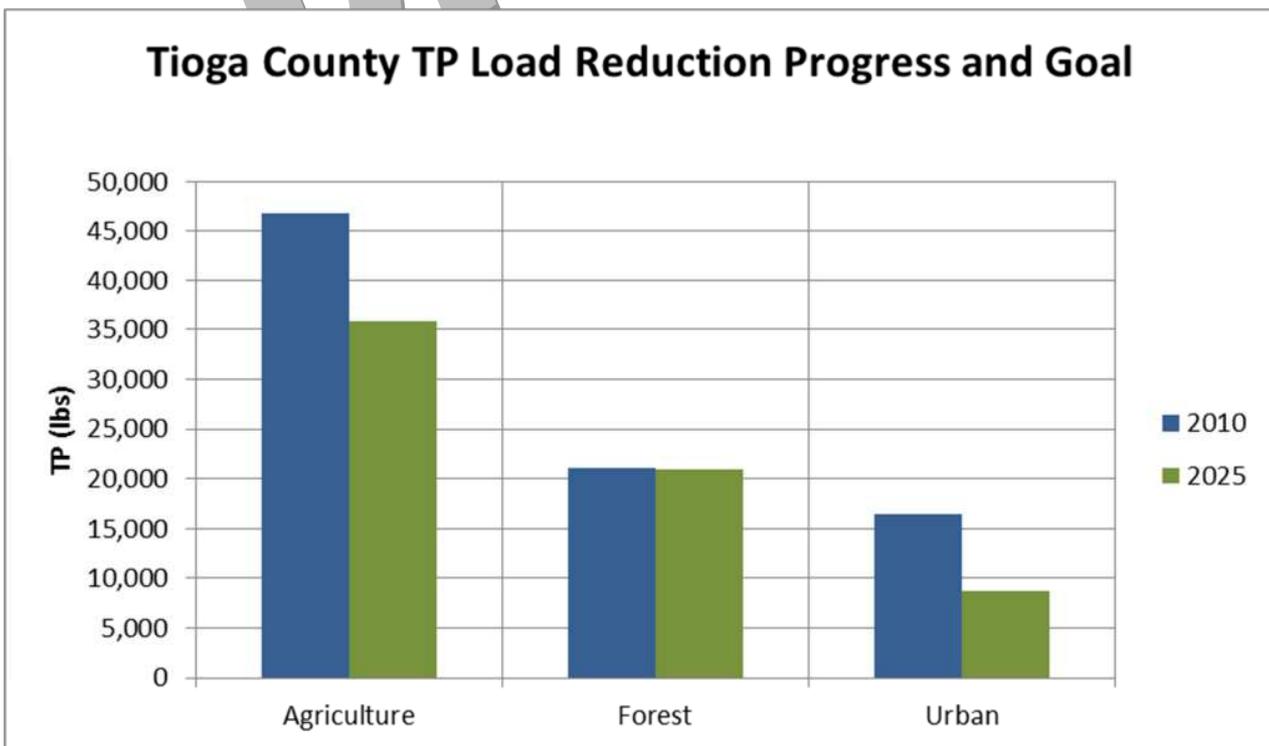
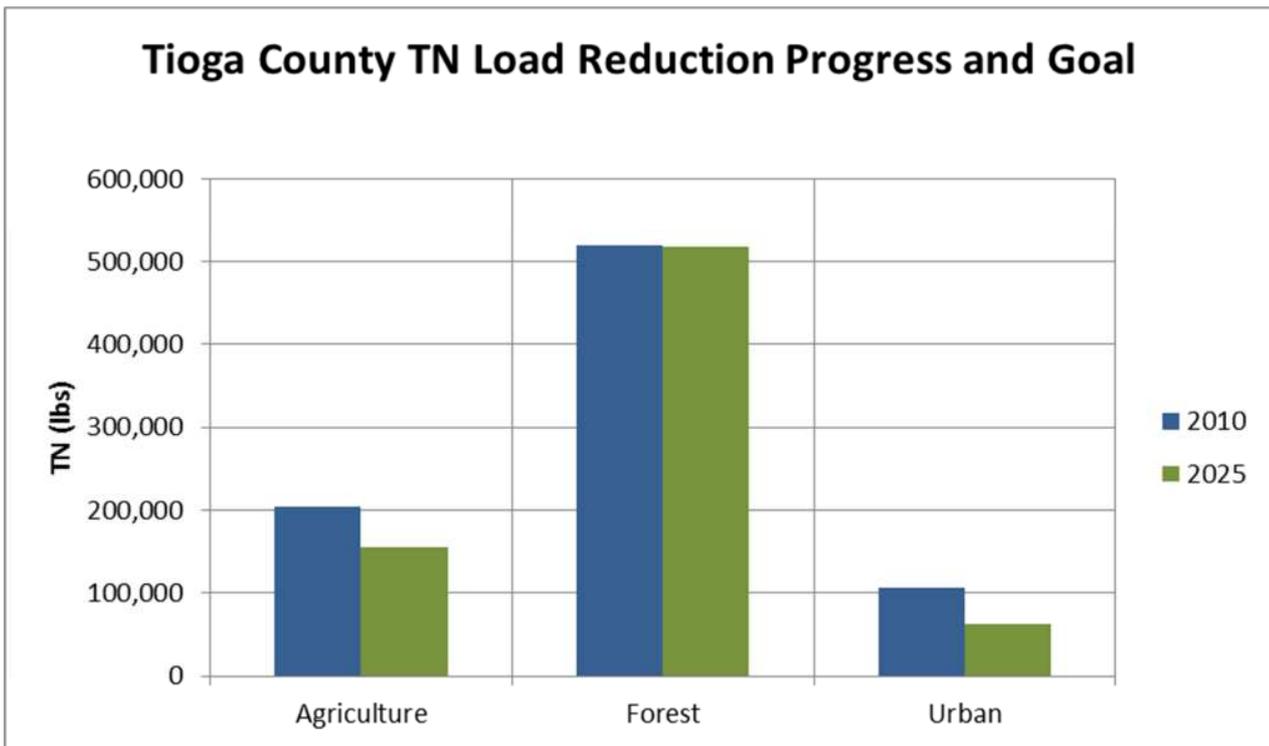
2009 Progress Load	92,279
2010 Current Load	84,202
2017 Interim Planning Target – 60%*	76,287
2017 Phosphorous Reductions (2010 – 2017)	15,991
2025 Planning Target – 100%	65,627
2025 Total Phosphorous Reductions (2010 – 2025)	26,652

### Total Suspended Solids (TSS) Planning Target

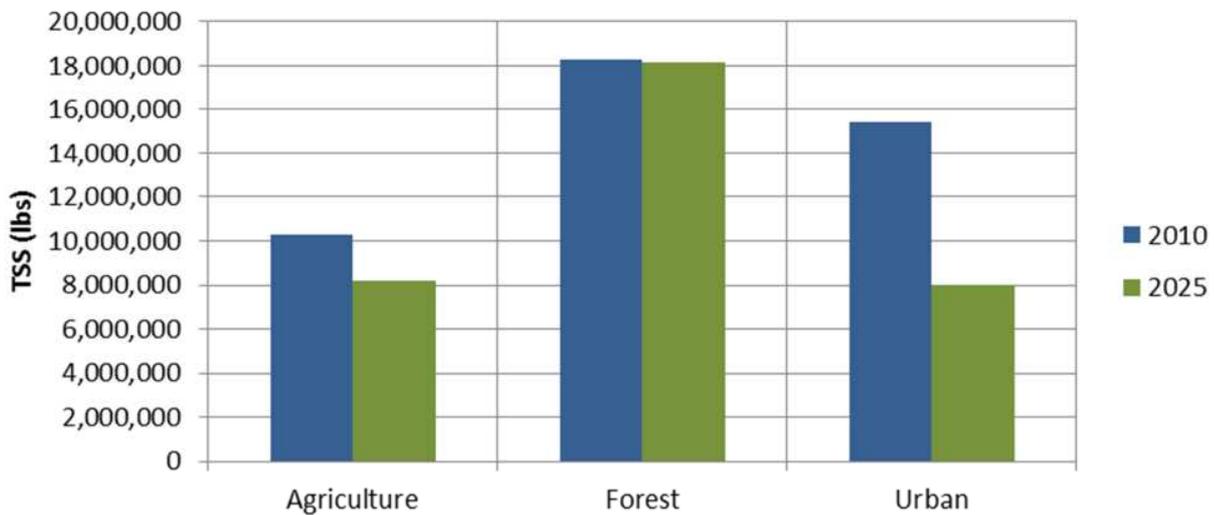
2009 Progress Load	47,209,046
2010 Current Load	44,021,863
2017 Interim Planning Target – 60%*	39,506,104
2017 TSS Reductions (2010 – 2017)	7,702,942
2025 Planning Target – 100%	34,370,809
2025 Total TSS Reductions (2010 – 2025)	12,838,237

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Tioga County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	177	0
Conservation Till Row Crops	122	0
Hay	73,079	71,707
Alfalfa	12,488	12,265
Pasture	32,241	28,673
Animal Feeding Operations	208	208
Concentrated Animal Feeding Operations	51	51
Nursery	368	368
<b>Total Agriculture:</b>	118,734	113,273
<b>Urban</b>		
Pervious Urban Land	18,090	17,814
Impervious Urban Land	7,967	7,918
Construction	35	35
Extractive	6,920	6,724
Combined Sewer System	756	756
<b>Total Urban:</b>	33,768	33,247
<b>Forest</b>		
<b>Total Acreage:</b>	571,801	577,783
	724,303	724,303

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	118.3	151.4	173.5
2. Barnyard Runoff Controls	Acres	5.0	105.5	172.5
3. Capture Reuse <sup>+</sup>	Acres	0.0	22.1	36.8
4. Carbon Sequestration/ Alternative Crops	Acres	2,408.0	2,332.8	2,282.7
5. Conservation Plans/SCWQA	Acres	27,771.0	75,205.2	106,828.0
6. Conservation Tillage	Acres	121.7	48.7	0.0
7. Continuous No-Till <sup>**</sup>	Acres	0.0	0.0	0.0
8. Cover Crops	Acres	298.7	119.5	0.0
9. Forest Buffers	Ag Acres	5,383.9	7,095.6	8,236.8
10. Grass Buffers	Ag Acres	171.0	719.5	1,085.1
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.4	10.0
13. Land Retirement/ Environmental Planting	Acres	17,803.2	17,803.2	17,803.2
14. Manure Injection	Acres	0.0	0.0	0.0
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.1	2.1	3.5
17. Non-Urban Stream Restoration	Feet	9,592.1	14,591.5	17,924.4
18. Nutrient Management	Acres	42,695.1	60,115.6	71,729.3
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	1,446.2	3,141.5	4,271.7
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	523.3	703.2	823.1
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	0.0	0.0
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	3,153.6	5,255.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	2,633.7	3,284.8	3,718.8
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	2,153.5	15,385.1	24,206.2
29. Wetland Restoration	Acres	240.4	1,154.8	1,764.4

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	17,450.9	7,377.6	662.1
31. Dry Extended Detention Ponds	Acres	38.1	412.5	662.1
32. Erosion and Sediment Control	Acres	37.5	3,580.3	5,942.2
33. Filtering Practices ***	Acres	0.0	5,402.9	9,004.8
34. Forest Buffers	Urban Acres	0.0	177.2	295.4
35. Grass Buffers	Urban Acres	0.0	89.6	149.3
36. Impervious Surface Reduction	Acres	0.0	30.0	50.0
37. Infiltration Practices ***	Acres	83.5	6,548.6	10,858.7
38. Septic System Hook-ups	Units	149.0	1,771.3	2,852.9
39. Street Sweeping	Acres	0.0	603.1	1,005.1
40. Tree Planting	Urban Acres	0.0	15.4	25.7
41. Urban Nutrient Management	Acres	0.0	3,317.5	5,529.2
42. Urban Sprawl Reduction	Acres	0.0	3.4	5.6
43. Urban Stream Restoration	Feet	0.0	655.0	1,091.6
44. Wet Ponds & Wetlands	Acres	3,324.0	3,324.0	3,324.0

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	239.2	356.5	434.7
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	239,777.7	345,270.6	415,599.2
47. Forest Harvesting Practices	Acres	206.0	984.3	1,503.1

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Union County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	2,151,268
2010 Current Load	2,076,188
2017 Interim Planning Target – 60%*	1,734,378
2017 Nitrogen Reductions (2010 – 2017)	416,890
2025 Planning Target – 100%	1,456,452
2025 Total Nitrogen Reductions (2010 – 2025)	694,816

### Phosphorus Planning Target

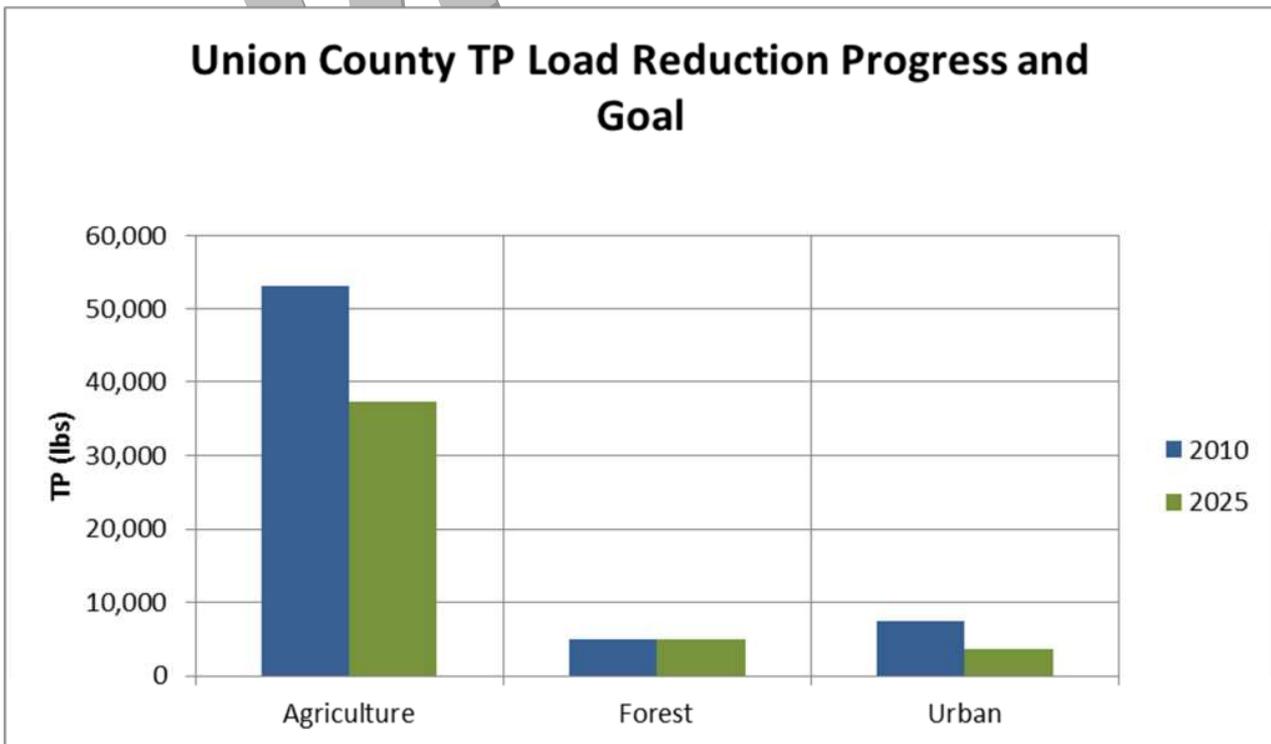
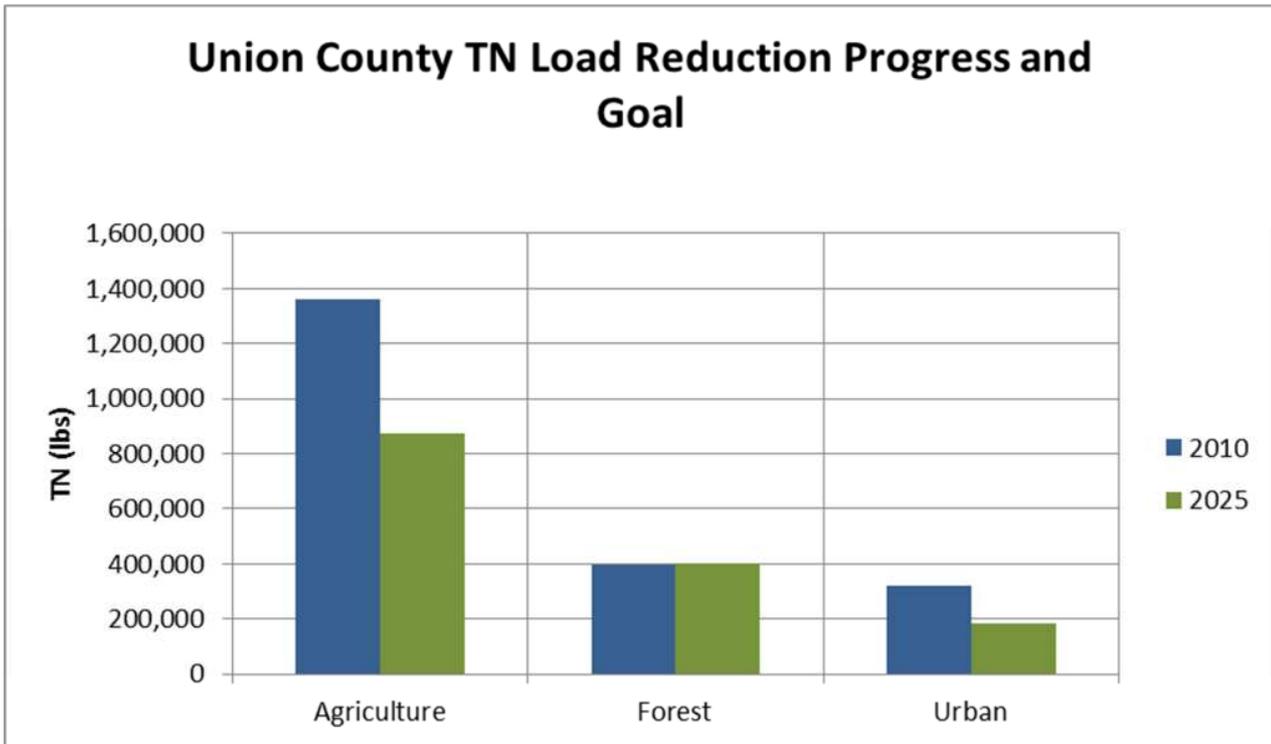
2009 Progress Load	63,377
2010 Current Load	65,589
2017 Interim Planning Target – 60%*	52,910
2017 Phosphorous Reductions (2010 – 2017)	10,466
2025 Planning Target – 100%	45,933
2025 Total Phosphorous Reductions (2010 – 2025)	17,444

### Total Suspended Solids (TSS) Planning Target

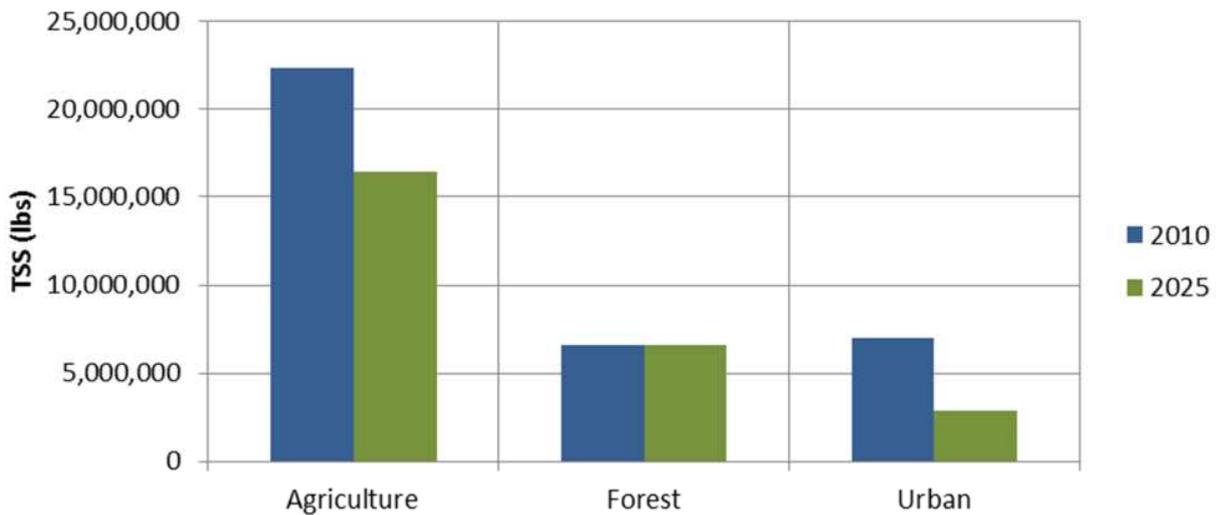
2009 Progress Load	37,774,746
2010 Current Load	35,979,319
2017 Interim Planning Target – 60%*	30,637,382
2017 TSS Reductions (2010 – 2017)	7,137,364
2025 Planning Target – 100%	25,879,140
2025 Total TSS Reductions (2010 – 2025)	11,895,607

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Union County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	13,934	1,364
Conservation Till Row Crops	11,083	18,042
Hay	11,999	15,814
Alfalfa	11,695	11,457
Pasture	6,582	5,862
Animal Feeding Operations	148	148
Concentrated Animal Feeding Operations	27	27
Nursery	59	59
<b>Total Agriculture:</b>	<b>55,527</b>	<b>52,773</b>
<b>Urban</b>		
Pervious Urban Land	14,065	13,839
Impervious Urban Land	4,383	4,356
Construction	89	89
Extractive	821	821
Combined Sewer System	0	0
<b>Total Urban:</b>	<b>19,359</b>	<b>19,106</b>
<b>Forest</b>		
	127,086	130,093
<b>Total Acreage:</b>	<b>201,972</b>	<b>201,972</b>

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	53.6	131.2	183.0
2. Barnyard Runoff Controls	Acres	0.0	70.0	116.7
3. Capture Reuse <sup>+</sup>	Acres	0.0	3.5	5.9
4. Carbon Sequestration/ Alternative Crops	Acres	370.3	1,270.0	1,869.8
5. Conservation Plans/SCWQA	Acres	32,446.0	43,488.1	50,849.5
6. Conservation Tillage	Acres	11,083.0	15,258.5	18,042.2
7. Continuous No-Till <sup>**</sup>	Acres	908.1	552.7	315.7
8. Cover Crops	Acres	2,000.0	8,368.5	12,614.1
9. Forest Buffers	Ag Acres	790.7	1,683.6	2,278.8
10. Grass Buffers	Ag Acres	86.3	533.3	831.3
11. Horse Pasture Management	Acres	0.2	0.1	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	5,778.7	7,013.1	7,836.0
14. Manure Injection	Acres	0.0	359.9	599.9
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.4	2.4	3.7
17. Non-Urban Stream Restoration	Feet	8,404.9	10,804.0	12,403.3
18. Nutrient Management	Acres	15,561.6	27,495.1	35,450.8
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	120.7	572.7	874.1
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	30.3	100.1	146.7
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	90.0	150.0
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	2,111.6	3,519.4
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	616.2	820.4	956.4
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	524.2	3,181.5	4,953.1
29. Wetland Restoration	Acres	53.0	609.8	981.0

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	4,067.4	1,899.9	454.9
31. Dry Extended Detention Ponds	Acres	1,272.3	781.8	454.9
32. Erosion and Sediment Control	Acres	89.5	507.1	785.6
33. Filtering Practices ***	Acres	0.0	3,711.8	6,186.3
34. Forest Buffers	Urban Acres	0.0	137.7	229.5
35. Grass Buffers	Urban Acres	0.0	67.3	112.2
36. Impervious Surface Reduction	Acres	0.0	16.2	27.1
37. Infiltration Practices ***	Acres	1,356.0	5,018.4	7,460.0
38. Septic System Hook-ups	Units	288.5	1,220.8	1,842.3
39. Street Sweeping	Acres	0.0	326.1	543.6
40. Tree Planting	Urban Acres	0.0	11.6	19.3
41. Urban Nutrient Management	Acres	0.0	2,491.1	4,151.8
42. Urban Sprawl Reduction	Acres	0.0	2.5	4.2
43. Urban Stream Restoration	Feet	0.0	463.1	771.9
44. Wet Ponds & Wetlands	Acres	620.2	1,339.8	1,819.5

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	84.0	84.0	84.0
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	33,109.6	78,943.0	109,498.6
47. Forest Harvesting Practices	Acres	71.0	229.4	335.0

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

**PA Chesapeake Bay Phase II Watershed Implementation Plan  
Wayne County Planning Targets**

**What are Planning Targets?**

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

**Nitrogen Planning Target**

**Pounds**

2009 Progress Load	76,736
2010 Current Load	74,496
2017 Interim Planning Target – 60%*	72,440
2017 Nitrogen Reductions (2010 – 2017)	4,296
2025 Planning Target – 100%	69,575
2025 Total Nitrogen Reductions (2010 – 2025)	7,160

**Phosphorus Planning Target**

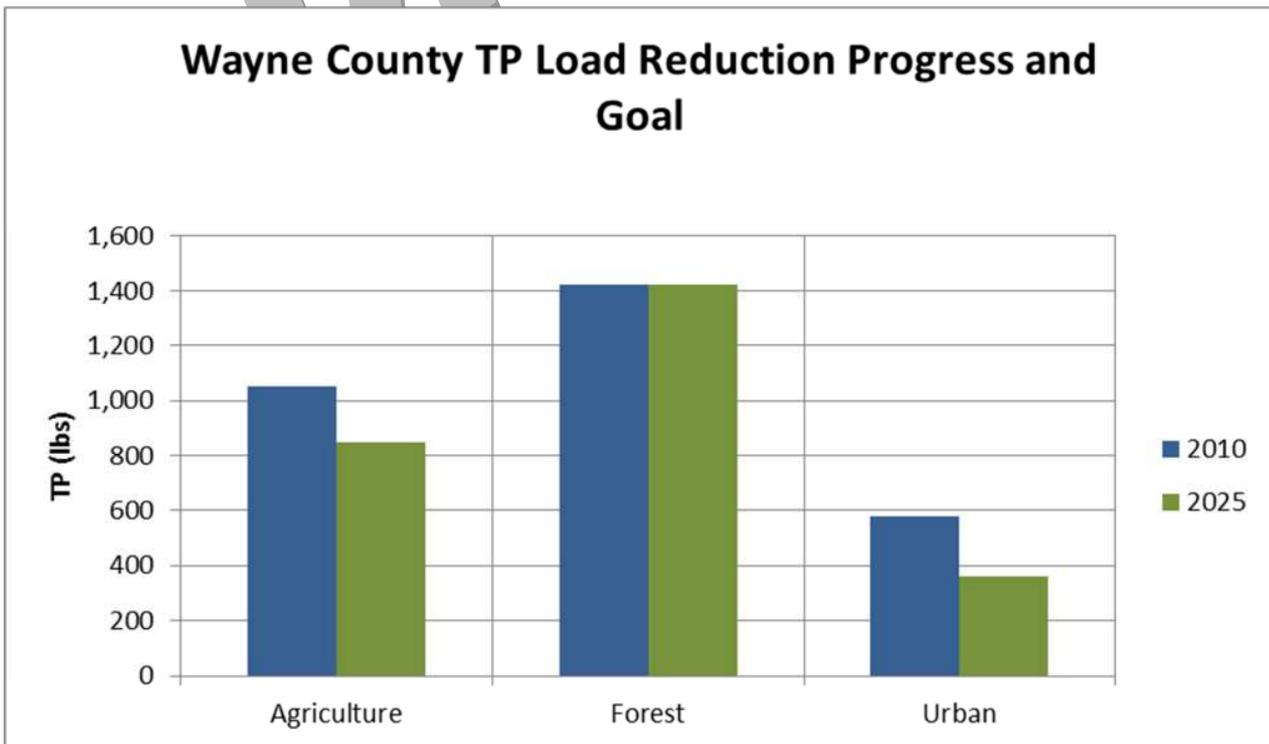
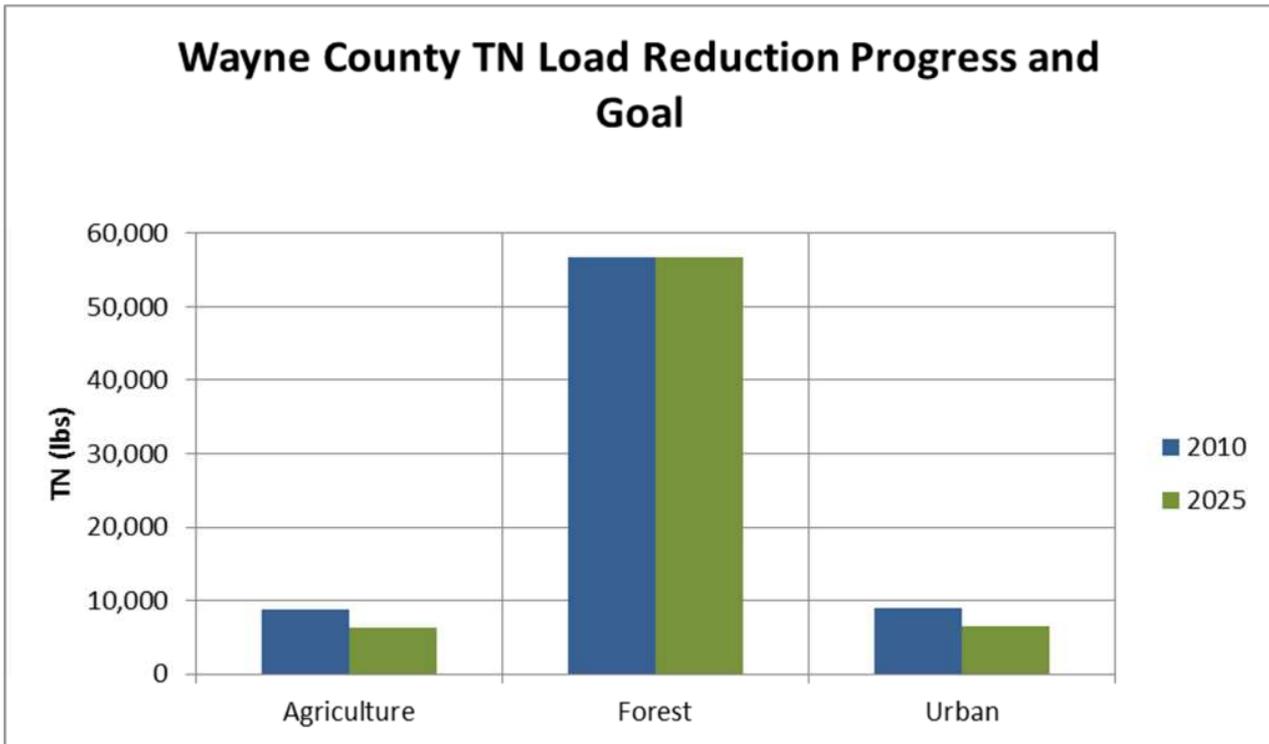
2009 Progress Load	3,257
2010 Current Load	3,056
2017 Interim Planning Target – 60%*	2,883
2017 Phosphorous Reductions (2010 – 2017)	374
2025 Planning Target – 100%	2,633
2025 Total Phosphorous Reductions (2010 –2025)	623

**Total Suspended Solids (TSS) Planning Target**

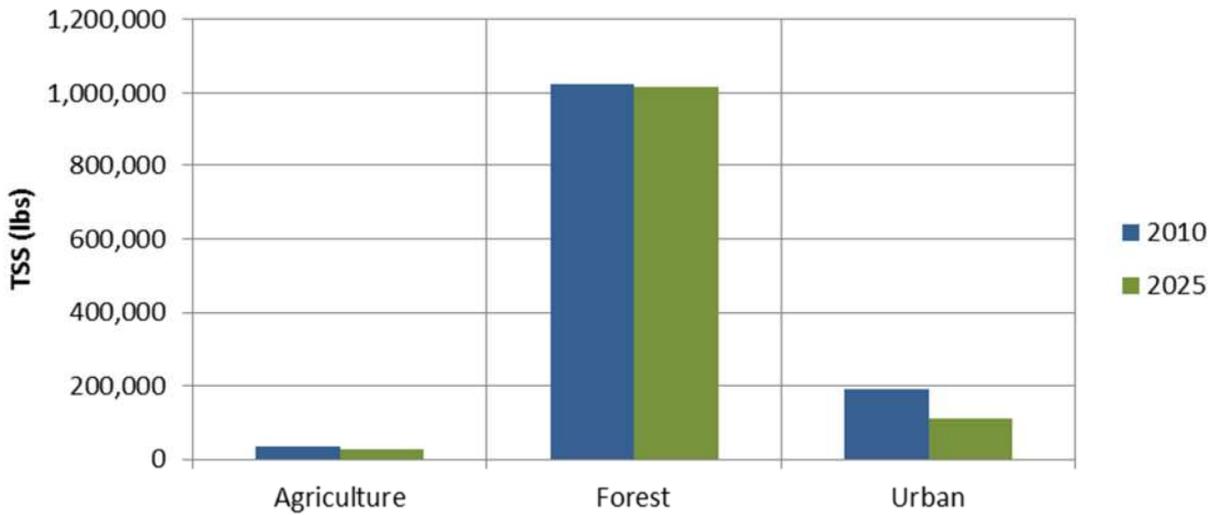
2009 Progress Load	1,257,821
2010 Current Load	1,246,129
2017 Interim Planning Target – 60%*	1,194,755
2017 TSS Reductions (2010 – 2017)	63,066
2025 Planning Target – 100%	1,152,711
2025 Total TSS Reductions (2010 – 2025)	105,110

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Wayne County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	0	0
Conservation Till Row Crops	0	0
Hay	1,943	1,900
Alfalfa	103	101
Pasture	850	769
Animal Feeding Operations	8	8
Concentrated Animal Feeding Operations	0	0
Nursery	6	6
<b>Total Agriculture:</b>	2,910	2,784
<b>Urban</b>		
Pervious Urban Land	570	562
Impervious Urban Land	407	405
Construction	1	1
Extractive	39	38
Combined Sewer System	106	106
<b>Total Urban:</b>	1,122	1,111
<b>Forest</b>		
	33,665	33,803
<b>Total Acreage:</b>	37,697	37,697

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	4.6	4.3	4.2
2. Barnyard Runoff Controls	Acres	0.1	3.2	5.3
3. Capture Reuse <sup>+</sup>	Acres	0.0	0.4	0.6
4. Carbon Sequestration/ Alternative Crops	Acres	125.8	125.8	125.8
5. Conservation Plans/SCWQA	Acres	902.6	1,939.8	2,631.3
6. Conservation Tillage	Acres	0.0	0.0	0.0
7. Continuous No-Till <sup>**</sup>	Acres	0.0	0.0	0.0
8. Cover Crops	Acres	0.0	0.0	0.0
9. Forest Buffers	Ag Acres	270.0	311.8	339.6
10. Grass Buffers	Ag Acres	13.3	25.1	32.9
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	470.3	470.2	470.2
14. Manure Injection	Acres	0.0	0.0	0.0
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.0	0.1
17. Non-Urban Stream Restoration	Feet	1,273.9	1,315.8	1,343.7
18. Nutrient Management	Acres	1,078.9	1,568.3	1,894.5
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	33.7	82.7	115.3
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	29.1	29.1	29.1
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	0.0	0.0
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	82.2	136.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	131.6	146.1	155.8
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	167.7	459.3	653.6
29. Wetland Restoration	Acres	12.0	31.3	44.2

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	405.7	178.4	26.8
31. Dry Extended Detention Ponds	Acres	143.4	73.5	26.8
32. Erosion and Sediment Control	Acres	0.6	20.6	33.9
33. Filtering Practices ***	Acres	0.0	210.4	350.7
34. Forest Buffers	Urban Acres	0.0	5.6	9.3
35. Grass Buffers	Urban Acres	0.0	3.2	5.3
36. Impervious Surface Reduction	Acres	0.0	1.6	2.6
37. Infiltration Practices ***	Acres	301.1	377.5	428.3
38. Septic System Hook-ups	Units	32.7	81.1	113.3
39. Street Sweeping	Acres	0.0	31.3	52.2
40. Tree Planting	Urban Acres	0.0	0.5	0.9
41. Urban Nutrient Management	Acres	0.0	117.7	196.2
42. Urban Sprawl Reduction	Acres	0.0	0.1	0.2
43. Urban Stream Restoration	Feet	0.0	24.6	41.0
44. Wet Ponds & Wetlands	Acres	63.9	89.9	107.2

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	34.6	35.3	35.7
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	9,707.2	15,120.8	18,729.8
47. Forest Harvesting Practices	Acres	61.8	78.0	88.7

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan Wyoming County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	815,202
2010 Current Load	751,289
2017 Interim Planning Target – 60%*	730,096
2017 Nitrogen Reductions (2010 – 2017)	85,105
2025 Planning Target – 100%	673,359
2025 Total Nitrogen Reductions (2010 – 2025)	141,842

### Phosphorus Planning Target

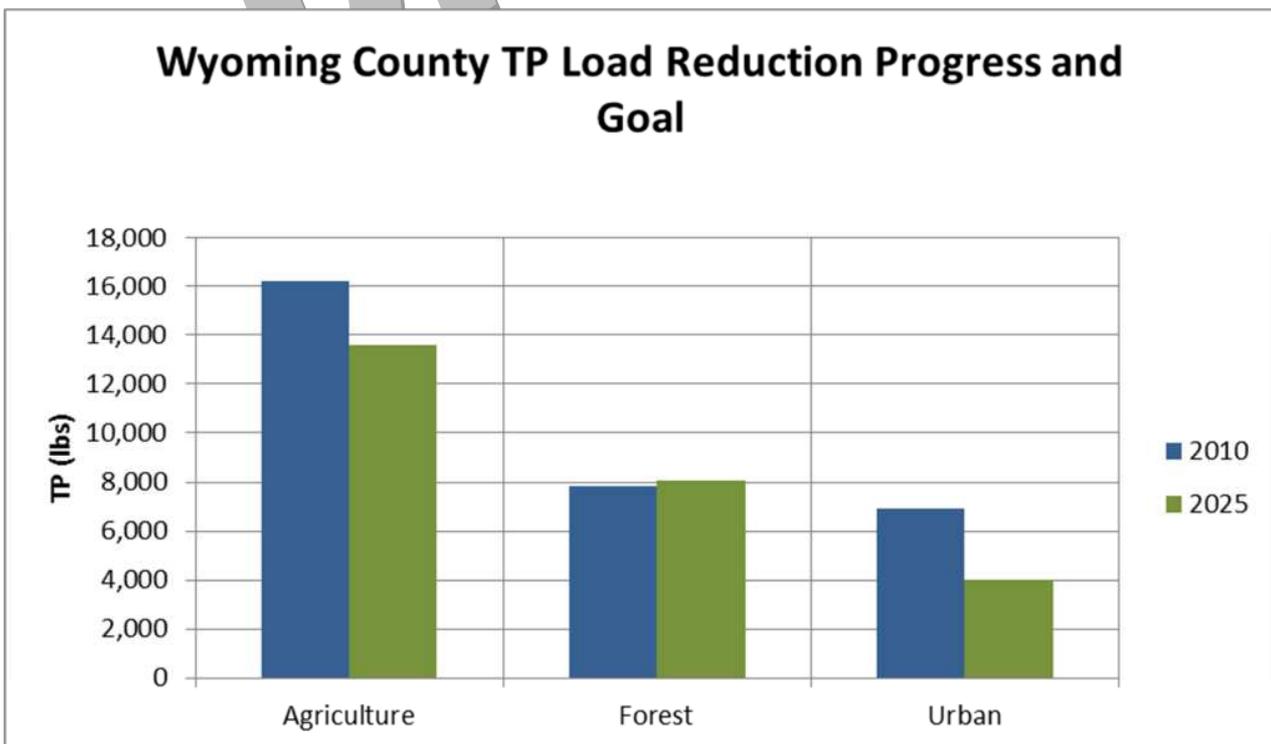
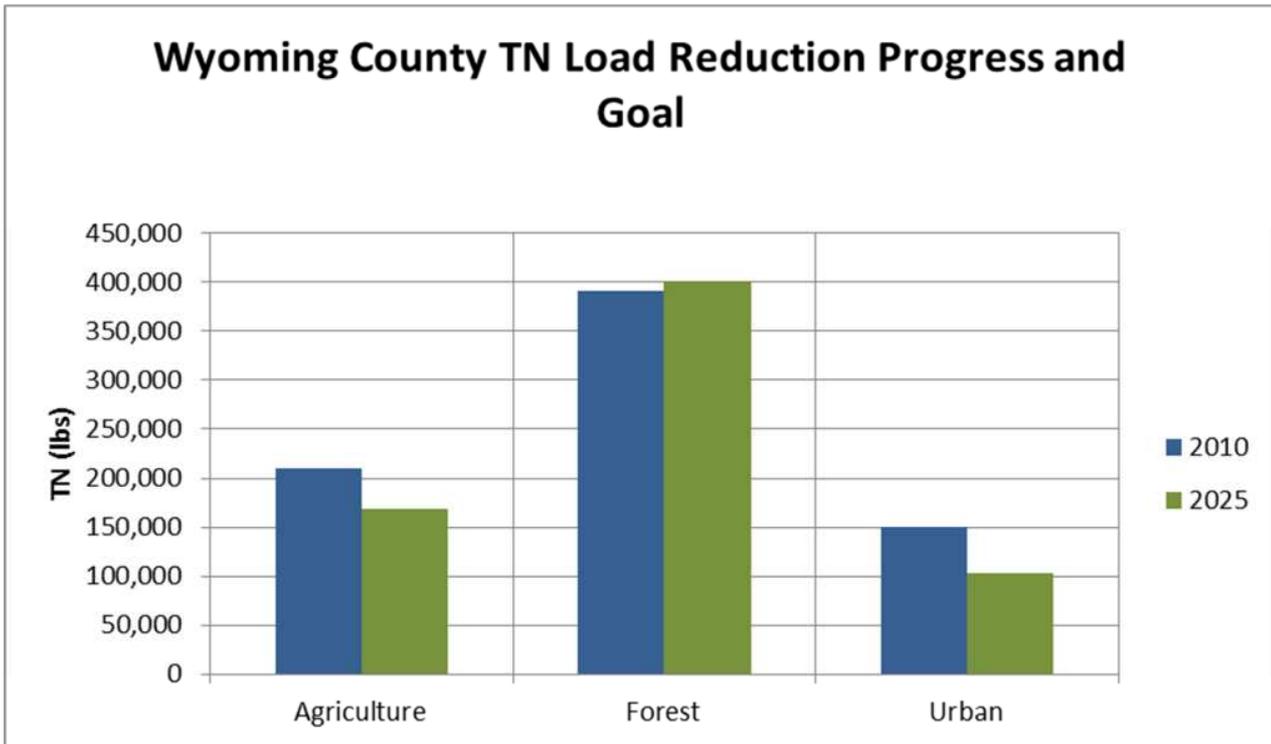
2009 Progress Load	33,832
2010 Current Load	30,985
2017 Interim Planning Target – 60%*	28,909
2017 Phosphorous Reductions (2010 – 2017)	4,923
2025 Planning Target – 100%	25,627
2025 Total Phosphorous Reductions (2010 – 2025)	8,205

### Total Suspended Solids (TSS) Planning Target

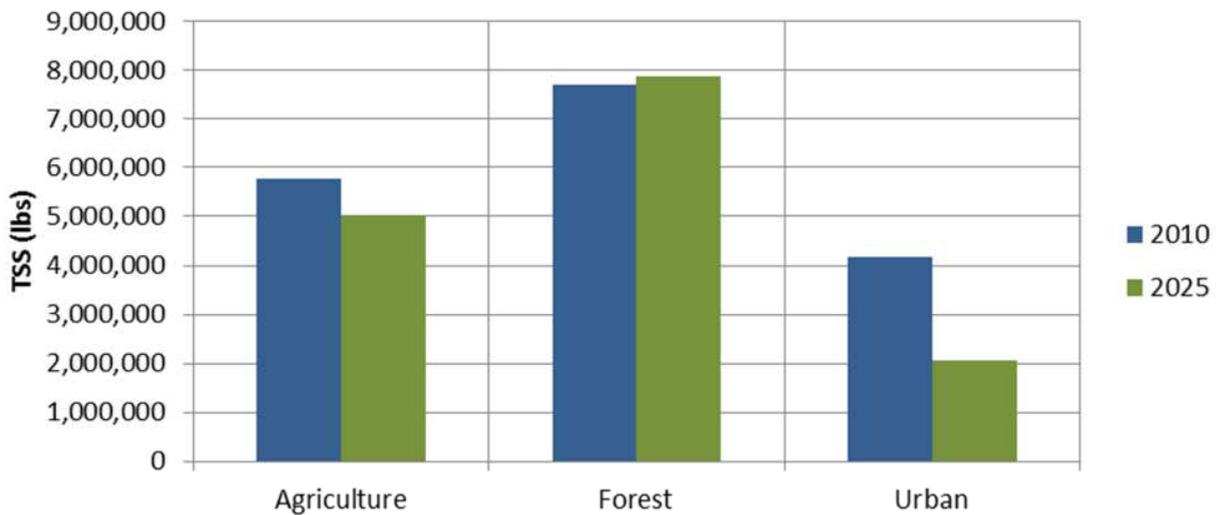
2009 Progress Load	18,731,894
2010 Current Load	17,640,930
2017 Interim Planning Target – 60%*	16,474,999
2017 TSS Reductions (2010 – 2017)	2,256,895
2025 Planning Target – 100%	14,970,402
2025 Total TSS Reductions (2010 – 2025)	3,761,492

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## Wyoming County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	1,608	458
Conservation Till Row Crops	1,010	1,984
Hay	28,254	27,445
Alfalfa	4,900	4,811
Pasture	10,243	9,217
Animal Feeding Operations	88	88
Concentrated Animal Feeding Operations	0	0
Nursery	33	33
<b>Total Agriculture:</b>	46,136	44,035
<b>Urban</b>		
Pervious Urban Land	11,543	11,491
Impervious Urban Land	3,856	3,884
Construction	0	0
Extractive	1,133	1,133
Combined Sewer System	186	0
<b>Total Urban:</b>	16,718	16,508
<b>Forest</b>		
	192,125	194,435
<b>Total Acreage:</b>	254,978	254,979

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	34.7	32.6	31.2
2. Barnyard Runoff Controls	Acres	1.0	35.5	58.4
3. Capture Reuse <sup>+</sup>	Acres	0.0	2.0	3.3
4. Carbon Sequestration/ Alternative Crops	Acres	955.7	962.2	966.5
5. Conservation Plans/SCWQA	Acres	15,276.4	31,215.1	41,841.0
6. Conservation Tillage	Acres	1,010.4	1,594.3	1,983.6
7. Continuous No-Till <sup>**</sup>	Acres	299.7	140.7	34.7
8. Cover Crops	Acres	122.0	1,001.1	1,587.1
9. Forest Buffers	Ag Acres	1,680.2	2,270.2	2,663.5
10. Grass Buffers	Ag Acres	120.4	296.7	414.3
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	5,166.9	5,166.9	5,166.9
14. Manure Injection	Acres	0.0	64.6	107.7
15. Manure/Litter Transport	Tons	0.0	0.0	0.0
16. Mortality Composters	Units	0.0	0.4	0.6
17. Non-Urban Stream Restoration	Feet	4,503.9	6,322.9	7,535.6
18. Nutrient Management	Acres	12,485.6	20,059.8	25,109.3
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	342.9	966.7	1,382.5
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	334.8	334.8	334.8
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	16.1	26.9
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	1,154.3	1,923.9
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	868.4	1,142.3	1,324.9
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,043.0	5,117.8	7,834.4
29. Wetland Restoration	Acres	71.3	468.4	733.1

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	4,937.7	2,205.7	384.4
31. Dry Extended Detention Ponds	Acres	1,676.2	901.1	384.4
32. Erosion and Sediment Control	Acres	0.0	617.0	1,028.4
33. Filtering Practices ***	Acres	0.0	3,110.5	5,184.1
34. Forest Buffers	Urban Acres	0.0	114.3	190.6
35. Grass Buffers	Urban Acres	0.0	55.9	93.1
36. Impervious Surface Reduction	Acres	0.0	14.5	24.1
37. Infiltration Practices ***	Acres	3,665.3	5,212.8	6,244.4
38. Septic System Hook-ups	Units	477.8	1,515.6	2,207.5
39. Street Sweeping	Acres	0.0	290.8	484.7
40. Tree Planting	Urban Acres	0.0	9.6	16.0
41. Urban Nutrient Management	Acres	0.0	2,068.5	3,447.4
42. Urban Sprawl Reduction	Acres	0.0	2.1	3.5
43. Urban Stream Restoration	Feet	0.0	386.7	644.5
44. Wet Ponds & Wetlands	Acres	746.4	1,221.1	1,537.5

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	417.7	417.7	417.7
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	53,841.0	101,016.0	132,466.0
47. Forest Harvesting Practices	Acres	1,008.0	706.1	504.8

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

## PA Chesapeake Bay Phase II Watershed Implementation Plan York County Planning Targets

### What are Planning Targets?

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, stormwater and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The Draft County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning target.

### Nitrogen Planning Target

### Pounds

2009 Progress Load	10,381,002
2010 Current Load	10,192,541
2017 Interim Planning Target – 60%*	7,951,720
2017 Nitrogen Reductions (2010 – 2017)	2,429,282
2025 Planning Target – 100%	6,332,199
2025 Total Nitrogen Reductions (2010 – 2025)	4,048,803

### Phosphorus Planning Target

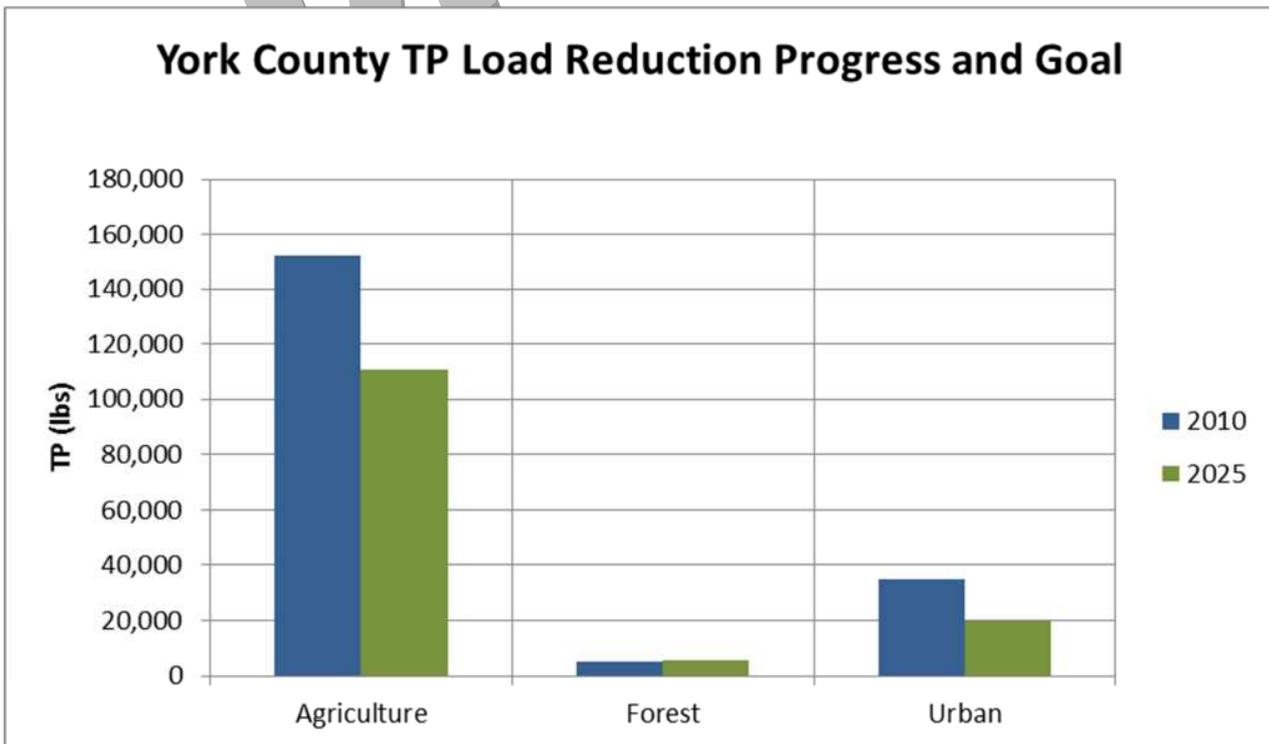
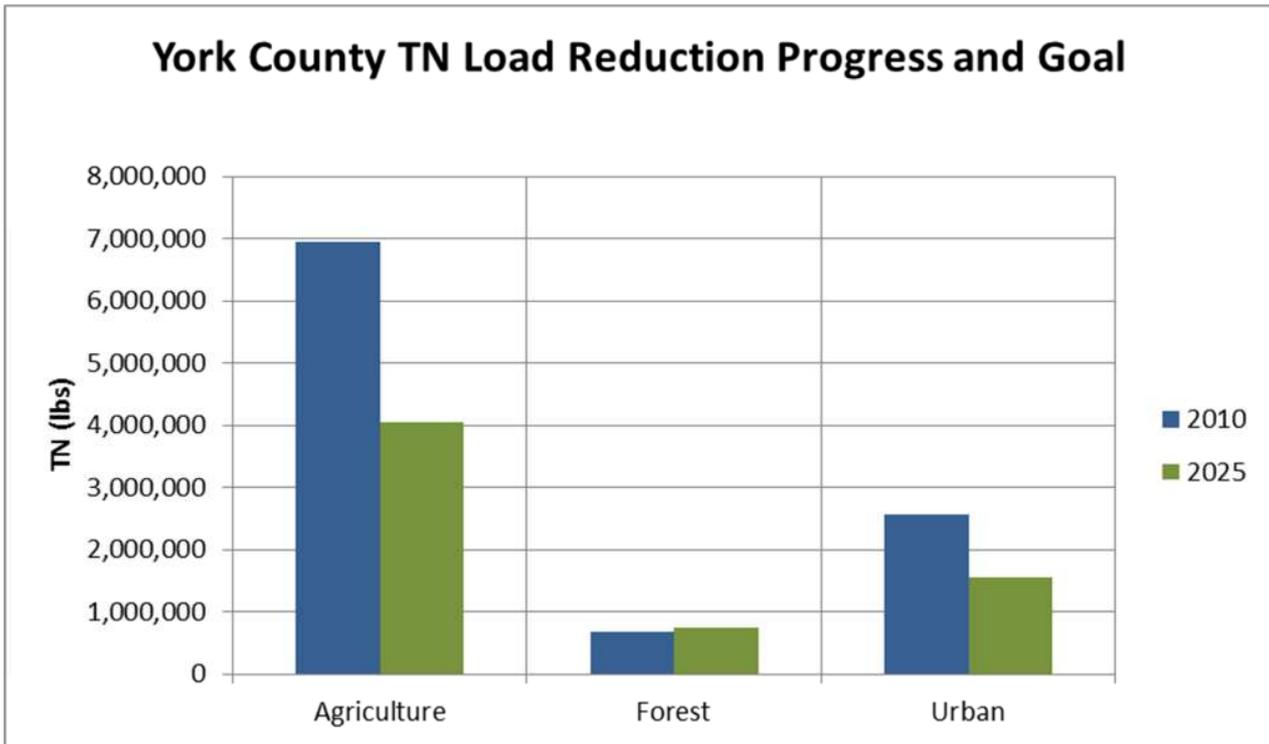
2009 Progress Load	194,967
2010 Current Load	192,604
2017 Interim Planning Target – 60%*	159,704
2017 Phosphorous Reductions (2010 – 2017)	35,262
2025 Planning Target – 100%	136,196
2025 Total Phosphorous Reductions (2010 – 2025)	58,771

### Total Suspended Solids (TSS) Planning Target

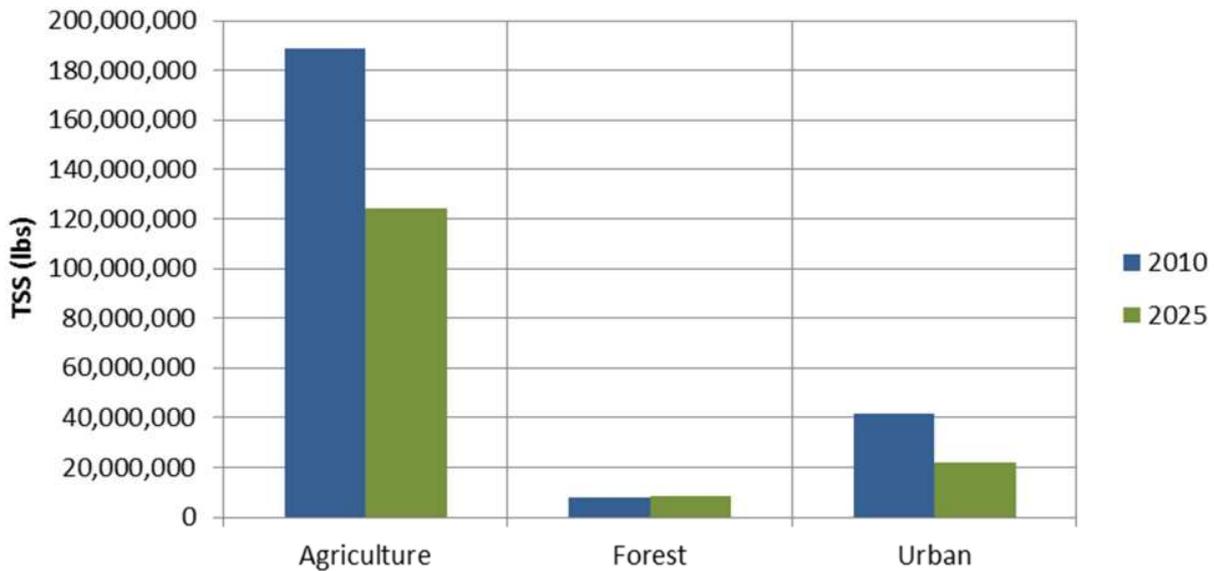
2009 Progress Load	254,167,549
2010 Current Load	238,273,838
2017 Interim Planning Target – 60%*	194,401,015
2017 TSS Reductions (2010 – 2017)	59,766,534
2025 Planning Target – 100%	154,556,659
2025 Total TSS Reductions (2010 – 2025)	99,610,891

NOTE: \* 60% of reductions from the 2009 progress load.

## Nonpoint Source Pollution Reductions by Sector



## York County TSS Load Reduction Progress and Goal



## County Land Use Distribution

<b>Agriculture</b>	<b>2010 Acres</b>	<b>2025 Acres</b>
Conventional Till Row Crops	44,979	4,181
Conservation Till Row Crops	120,718	114,678
Hay	48,606	83,396
Alfalfa	12,149	11,879
Pasture	23,860	20,683
Animal Feeding Operations	368	368
Concentrated Animal Feeding Operations	61	61
Nursery	1,062	1,062
<b>Total Agriculture:</b>	<b>251,805</b>	<b>236,308</b>
<b>Urban</b>		
Pervious Urban Land	119,228	117,308
Impervious Urban Land	36,423	36,198
Construction	1,637	1,637
Extractive	3,368	3,273
Combined Sewer System	0	0
<b>Total Urban:</b>	<b>160,656</b>	<b>158,417</b>
<b>Forest</b>	<b>166,387</b>	<b>184,124</b>
<b>Total Acreage:</b>	<b>578,848</b>	<b>578,848</b>

## Pollution Reduction Actions

### *Agricultural Activities*

<b>BMP</b>	<b>Units</b>	<b>2010</b>	<b>2017*</b>	<b>2025</b>
1. Animal Waste Management Systems	Systems	312.9	377.2	420.1
2. Barnyard Runoff Controls	Acres	6.0	174.0	286.0
3. Capture Reuse <sup>+</sup>	Acres	0.0	63.7	106.2
4. Carbon Sequestration/ Alternative Crops	Acres	591.2	6,211.1	9,957.7
5. Conservation Plans/SCWQA	Acres	89,203.1	169,445.9	222,941.1
6. Conservation Tillage	Acres	120,718.3	117,094.1	114,677.9
7. Continuous No-Till <sup>**</sup>	Acres	3,396.9	2,562.9	2,006.9
8. Cover Crops	Acres	21,974.0	55,144.4	77,258.1
9. Forest Buffers	Ag Acres	1,963.5	7,287.6	10,837.0
10. Grass Buffers	Ag Acres	75.6	2,725.1	4,491.5
11. Horse Pasture Management	Acres	0.0	0.0	0.0
12. Lagoon Covers <sup>+</sup>	Percent	0.0	6.0	10.0
13. Land Retirement/ Environmental Planting	Acres	7,079.3	21,521.0	31,148.9
14. Manure Injection	Acres	0.0	2,063.9	3,439.8
15. Manure/Litter Transport	Tons	2,164.0	2,476.0	2,684.0
16. Mortality Composters	Units	1.4	5.9	9.0
17. Non-Urban Stream Restoration	Feet	21,526.3	30,910.1	37,165.9
18. Nutrient Management	Acres	149,101.3	153,282.5	156,069.9
19. Off-Stream Watering without Fencing (Alternative Watering Facilities)	Acres	626.4	2,099.3	3,081.3
20. Pasture Fencing (Stream Access Control with Fencing)	Acres	83.7	390.9	595.7
21. Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 59%	Poultry 100% Swine 99%
22. Poultry Litter Injection <sup>+</sup>	Acres	0.0	516.0	860.0
23. Poultry Litter Treatment (Alum) <sup>+</sup>	Percent	0.0	6.0	10.0
24. Precision Agriculture (Decision Agriculture)	Acres	0.0	9,639.2	16,065.3
25. Precision Feeding	Percent	0.0	45.0	75.0
26. Tree Planting	Ag Acres	1,410.3	2,825.0	3,768.1
27. Upland Precision Grazing	Acres	0.0	0.0	0.0
28. Upland Precision Rotational Grazing	Acres	1,673.8	11,145.8	17,460.4
29. Wetland Restoration	Acres	137.4	2,709.7	4,424.6

### Urban/Suburban Activities

BMP	Units	2010	2017*	2025
30. Dry Detention Ponds/ Hydrodynamic Structures	Acres	43,027.1	19,513.4	3,837.7
31. Dry Extended Detention Ponds	Acres	5,424.5	4,472.4	3,837.7
32. Erosion and Sediment Control	Acres	1,637.1	3,041.3	3,977.5
33. Filtering Practices ***	Acres	0.0	28,825.9	48,043.2
34. Forest Buffers	Urban Acres	0.0	1,167.2	1,945.3
35. Grass Buffers	Urban Acres	0.0	570.4	950.7
36. Impervious Surface Reduction	Acres	0.0	134.9	224.9
37. Infiltration Practices ***	Acres	520.1	34,392.1	56,973.5
38. Septic System Hook-ups	Units	289.2	8,982.4	14,777.9
39. Street Sweeping	Acres	0.0	2,710.4	4,517.4
40. Tree Planting	Urban Acres	0.0	98.1	163.5
41. Urban Nutrient Management	Acres	0.0	21,115.5	35,192.5
42. Urban Sprawl Reduction	Acres	0.0	21.6	35.9
43. Urban Stream Restoration	Feet	0.0	3,907.3	6,512.2
44. Wet Ponds & Wetlands	Acres	6,506.5	11,813.0	15,350.6

### Other Activities

BMP	Units	2010	2017*	2025
45. Abandoned Mine Reclamation	Acres	422.5	479.6	517.7
46. Dirt and Gravel Road Erosion and Sediment Control	Feet	108,659.6	205,995.4	270,886.0
47. Forest Harvesting Practices	Acres	0.0	263.2	438.7

#### NOTES:

\*2017: 60% of 2025 BMPs.

\*\*Continuous No-Till (CNT): This BMP was under projected in the 2025 WIP watershed model input deck because the EPA model does not recognize other BMPs when CNT is applied on conservation tillage acres.

\*\*\*Filtering Practices & \*\*\* Infiltration Practices: These BMPs were over projected in the 2025 WIP watershed model input deck to compensate for the EPA model's inability to address stormwater treatment trains.

+BMP not previously included in Phase I reduction actions.

**DRAFT**