pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Chesapeake Bay Program Office

Pennsylvania's Phase 3 Watershed Implementation Plan

Healthy Waters, Healthy Communities

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Phase 3 Watershed Implementation Plan

Today we will update you on our progress to date with the Phase 3 WIP and the contents of the plan.

Agenda

- The Phase 3 WIP
  - What is it?
  - Why are we doing this?
- Sections
  - Executive Summary
  - Introduction
  - State Actions
  - Countywide Actions
  - Communication and Engagement Strategy
  - Existing and Needed Resources
  - Federal Role
  - Milestones and Progress Reporting
  - Accounting for Growth
  - Climate Change and Climate Resiliency
  - Conclusion
  - Appendices
- Questions

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Background

- What is the Phase 3 WIP?
- Why are we doing this?

- Draft issued April 12, 2019 – Need your comments!!
  - Public comment through June 7, 2019
    www.dep.pa.gov/chesapeakebay/phase3
  - eComment:
    (https://www.ahs.dep.pa.gov/eComment)

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Phase 3 Watershed Implementation Plan

Pennsylvania is working with neighboring states to clean up our shared waters that run to the Chesapeake Bay. This effort is the Phase 3 Watershed Implementation Plan (Phase 3 WIP).

The path to success starts locally.

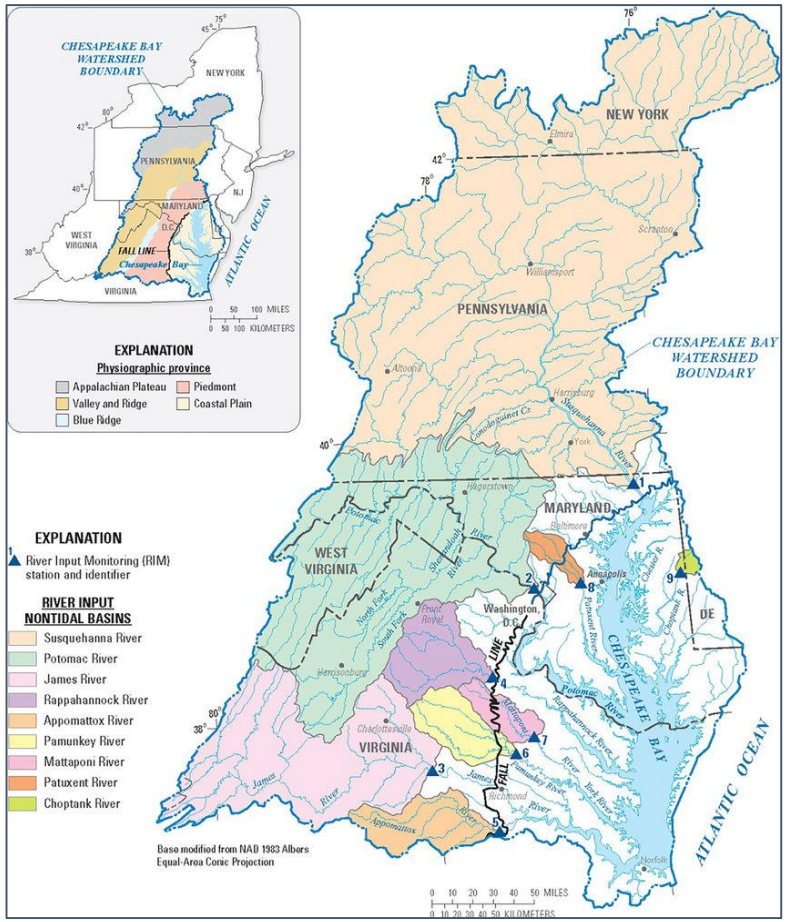

Image Source: Zhang, Qian & Blomquist, Joel. (2018). *Science of The Total Environment.*

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What is the Phase 3 WIP?

..and, get credit for the work already underway.

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Why is this happening now?

To Meet Legal Requirements:

- federal Clean Water Act, federal court orders and regulations
  - 2010 Chesapeake Bay Total Maximum Daily Load (TMDL) requires annual loading reductions of nitrogen, phosphorus and sediment
  - Requires the return of Chesapeake Bay waters to Maryland state water quality standards by 2025
- Pennsylvania's Clean Stream Law

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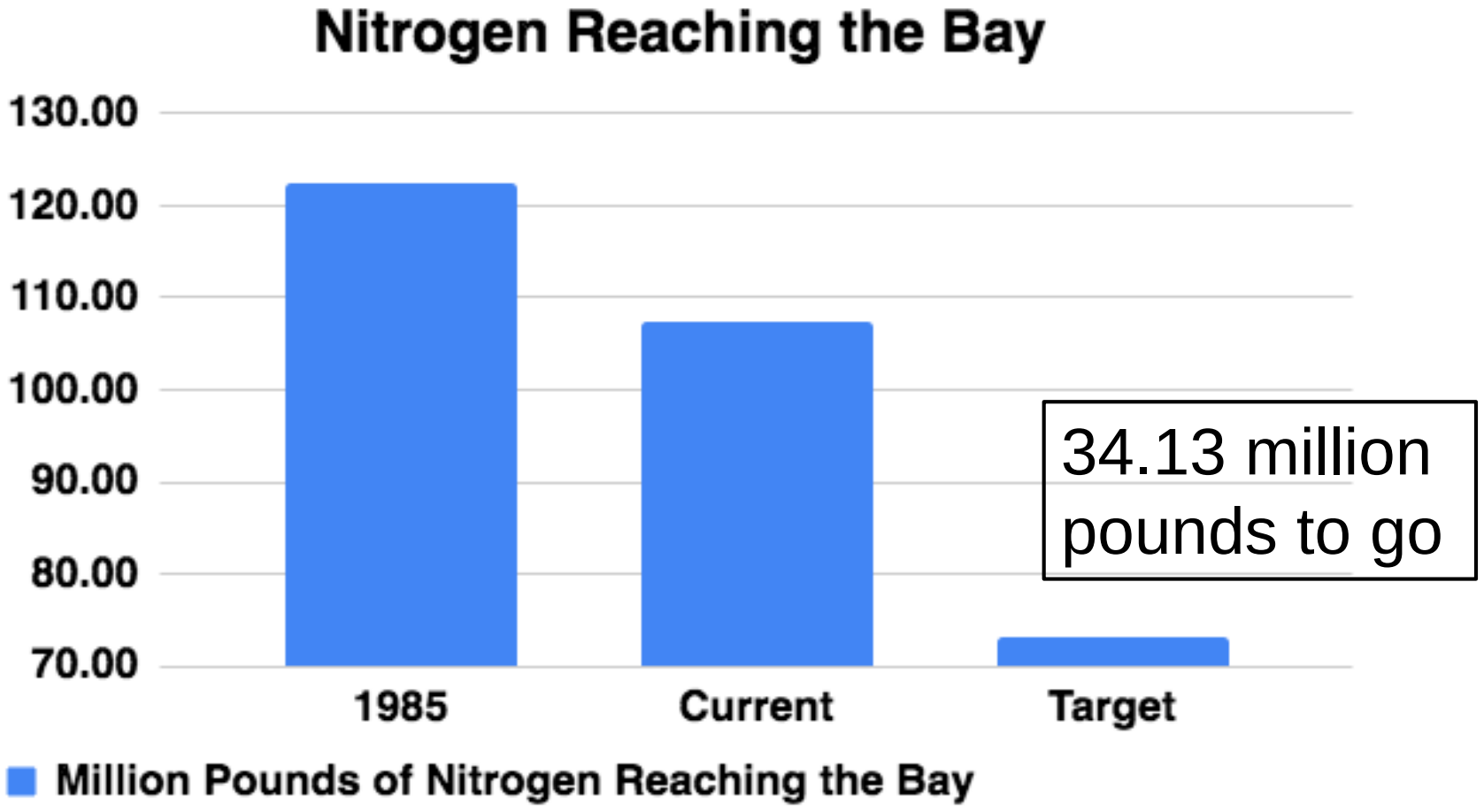
Nitrogen Reduction Goals



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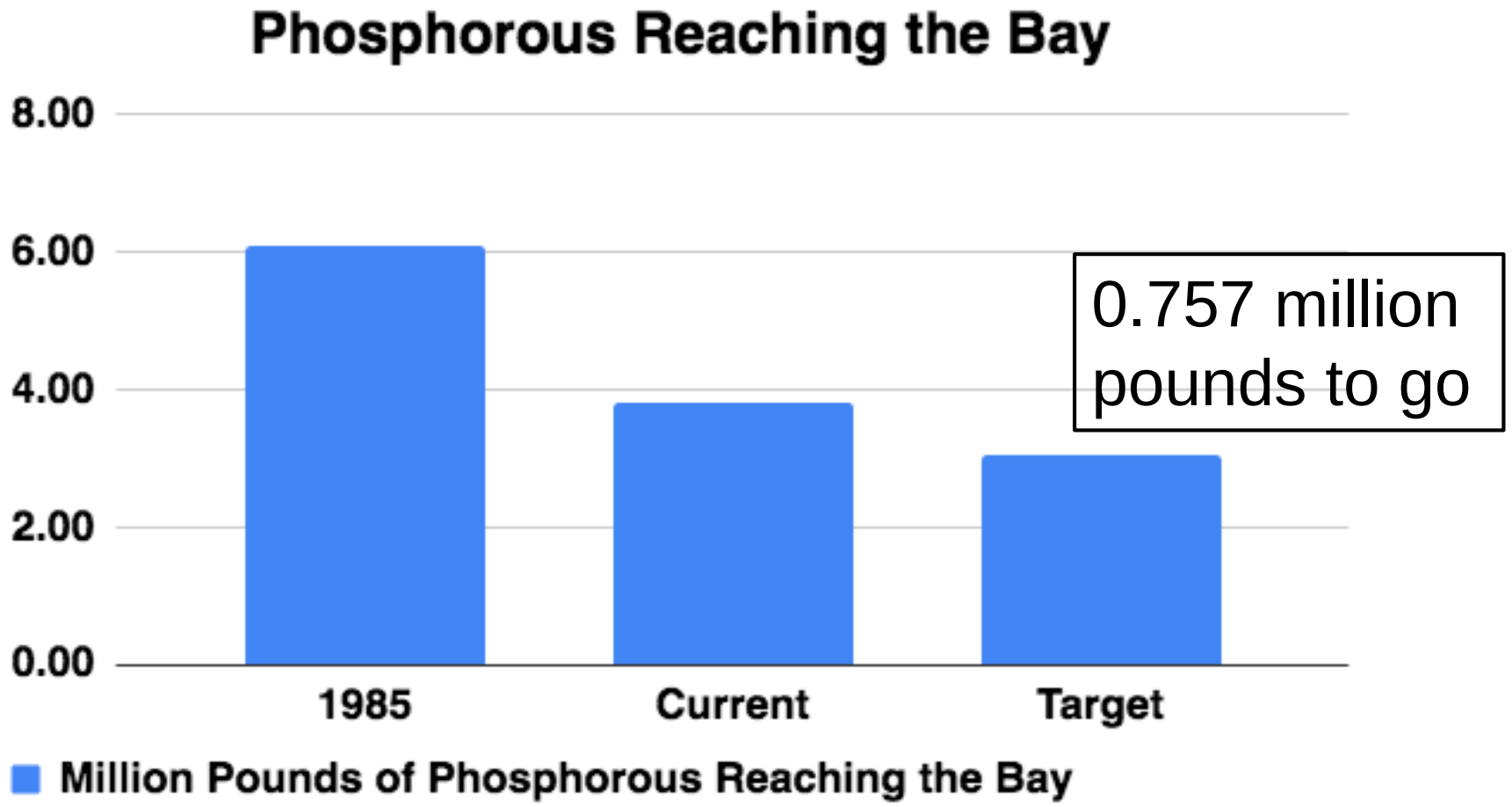
Phosphorus Reduction Goals



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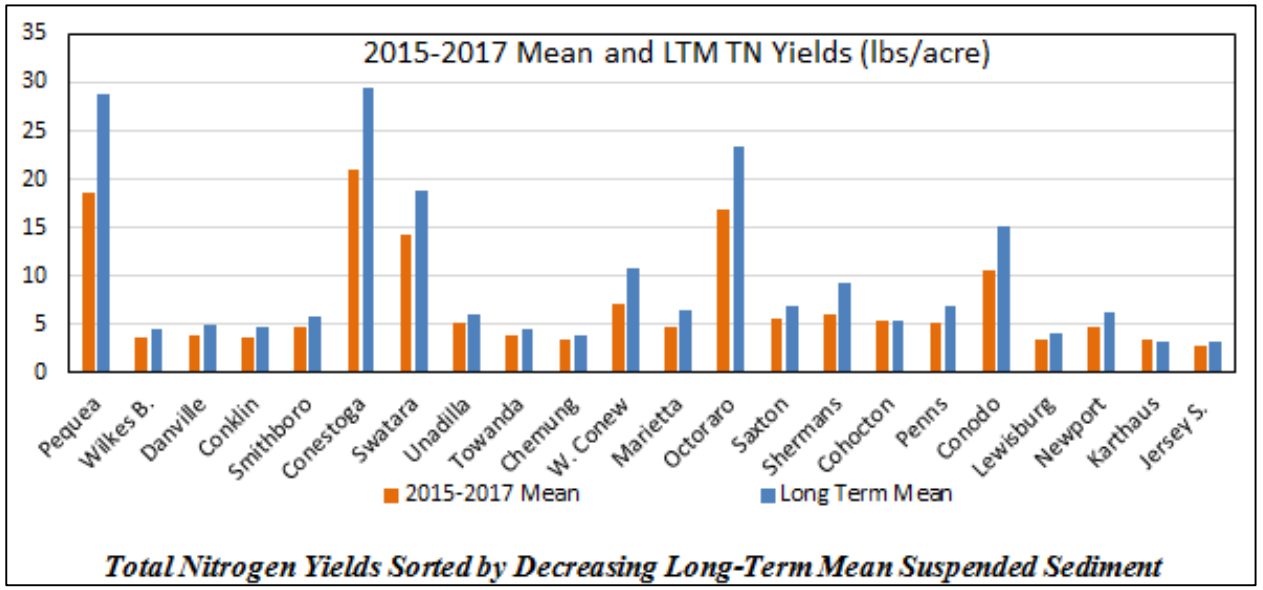
Current Nutrient and Sediment Trends

Nutrient and Sediment Trends	Total Nitrogen	Total Phosphorus	Suspended Sediment
Increasing Trend	25%	35%	45%
No Trend	20%	35%	30%
Decreasing Trend	55%	30%	25%



Nitrogen Yields in the last three years are all below the long-term averages; some sites show significant reductions.

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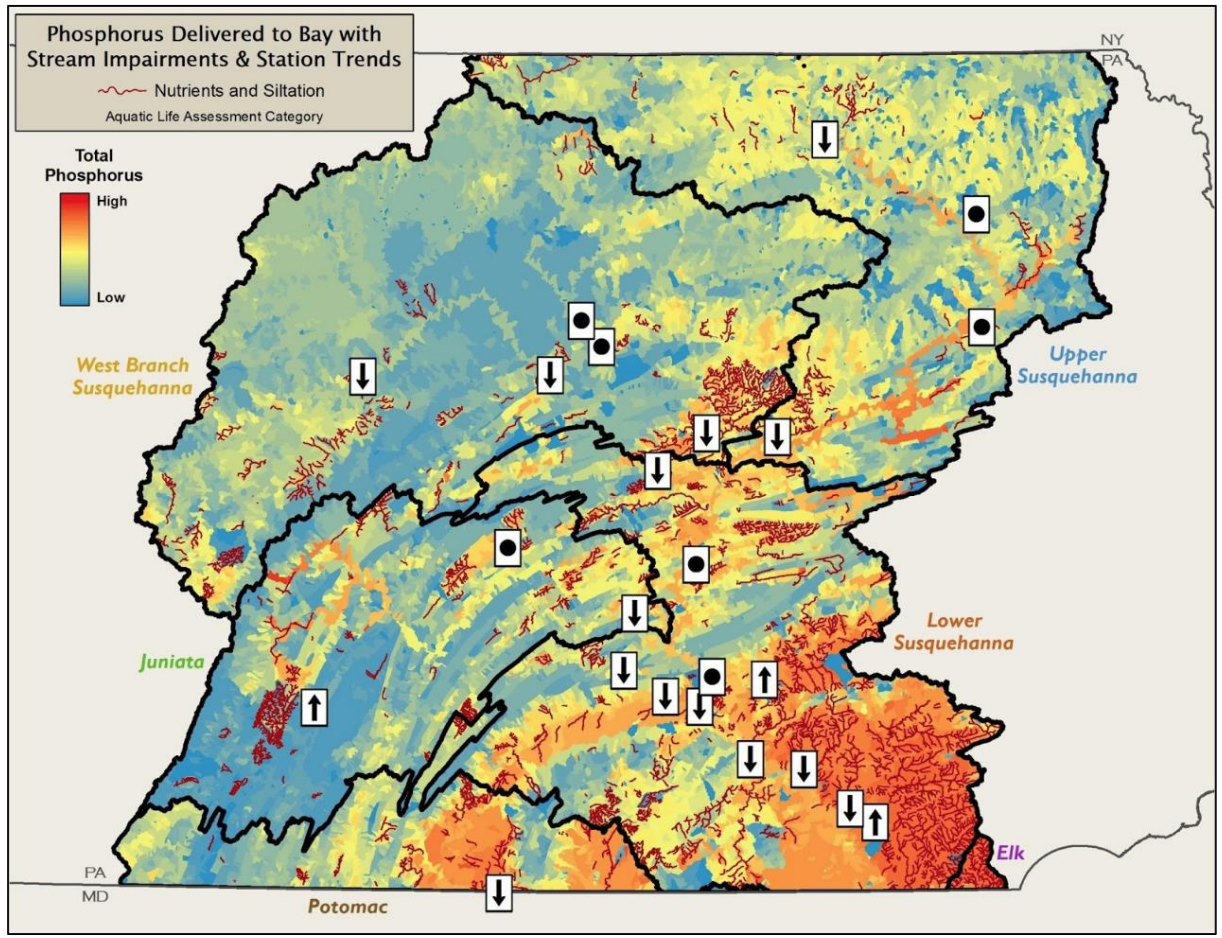
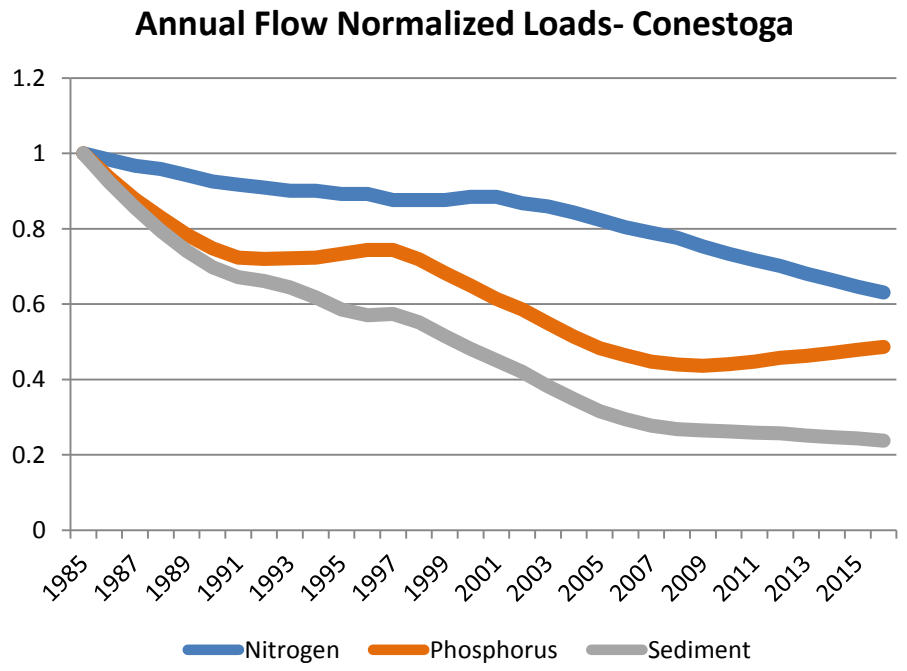
County Clean Water Goals



County Level Modeling Tool

We've created a modeling tool calibrated with 30 years of local monitoring data to help you plan.



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Pennsylvania – Nonpoint Source **Opportunities**

- Agriculture
  - 33,000 Farms, < 400 CAFOs or CAOs with a NPDES Permit
  - All must comply with Manure Management and Agriculture Erosion and Control Plan Regulations
- Urban Stormwater
  - Reducing stormwater pollution from existing developed areas to a large extent must be achieve through voluntary creative collaboration
- Wastewater
  - Met the required 2017 reduction goals 3 years early at a cost of approximately $1.4 billion.
  - Are on track to meet the 2025 goals without further enhancements

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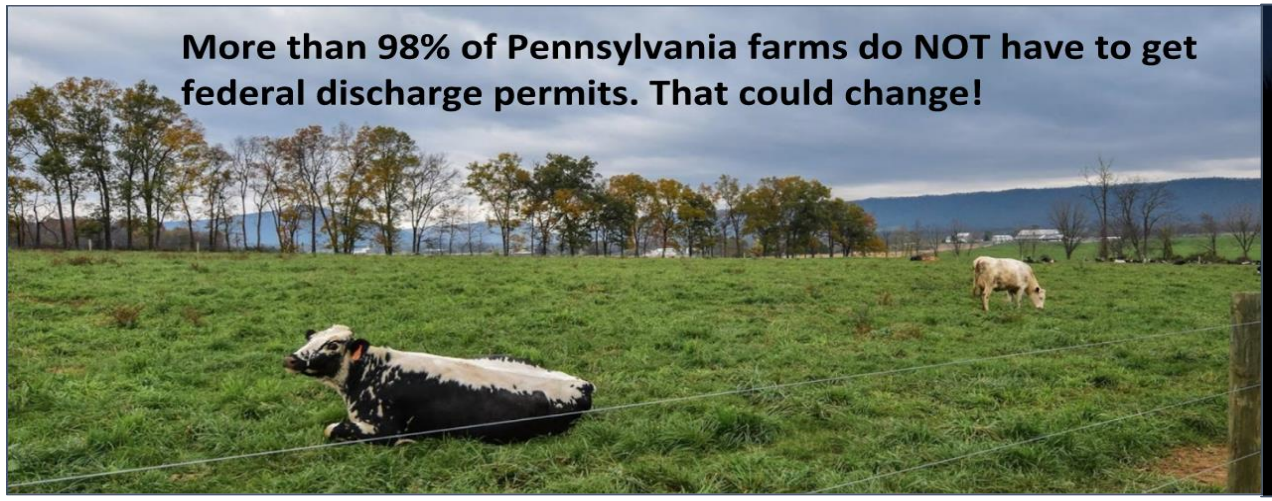
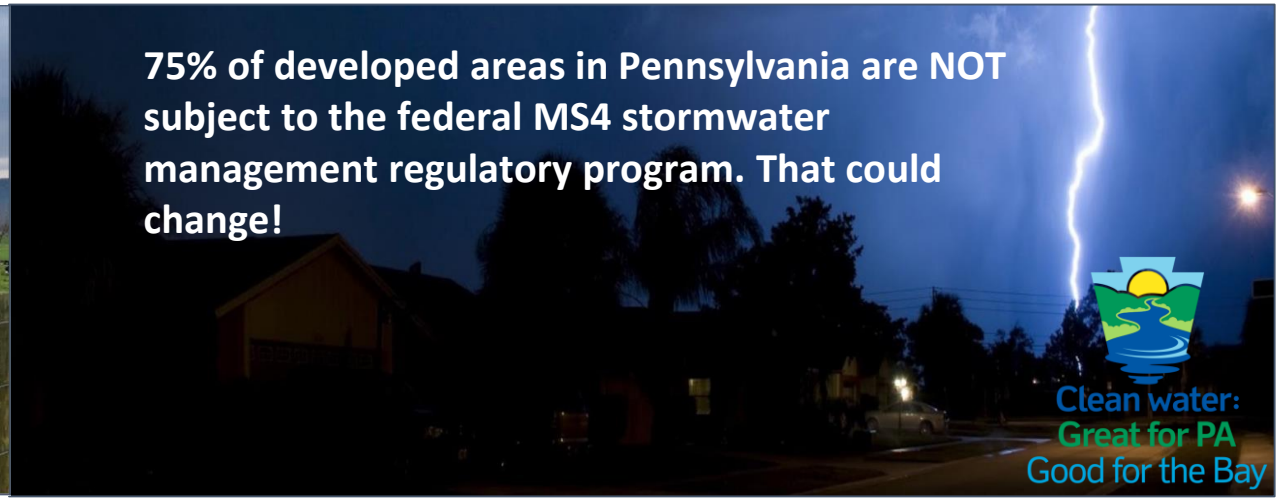
What if we don’t reach our Goals?

- **Pennsylvania waters do not meet federal minimum water quality standards – fishable or swimmable. This violates federal and state law.**
- **If local PA communities don’t reduce pollution to our local waters, EPA has cautioned it may:**
  - Subject more livestock operations and municipalities to federal regulations
  - Require additional reductions from point sources, such as wastewater and industrial facilities
  - Impose new water quality standards stream-by-stream in Pennsylvania
  - Redirect or withhold EPA funding





Themes to Phase 3 WIP Implementation

Working Together to Clean Up Our Local Waters

1. Communications
2. Funding and Resources
3. Enhancing Technical Capacity
4. Tracking and Reporting
5. Compliance

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Section 1: Introduction

- Planning Targets
- Process

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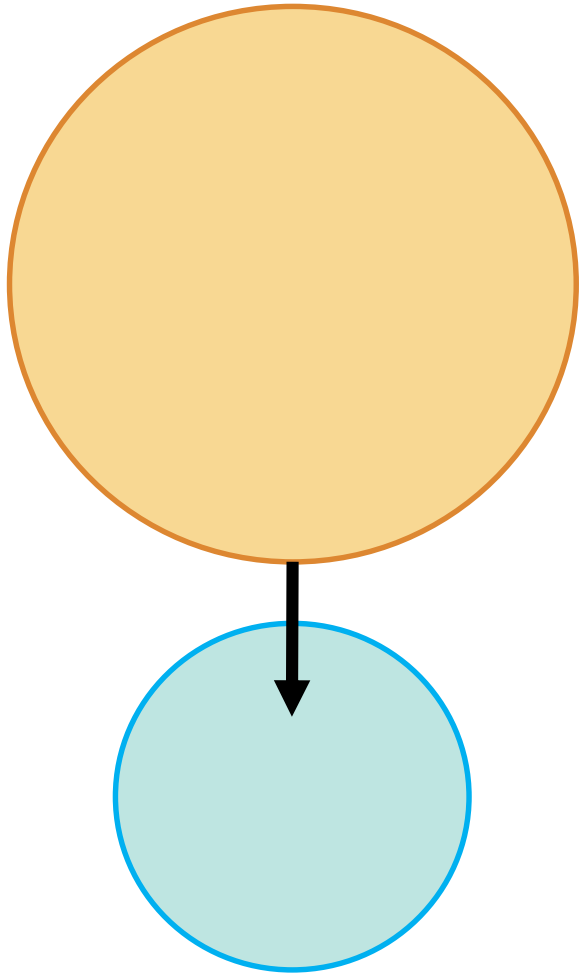
2 Sets of Numbers: Bay Goals and Local Waters Goals

Only a portion of the nutrients and sediment in PA's local waters actually make it to the Bay

What's entering PA Local Waters from PA Land

What's making it to Chesapeake Bay from PA Land



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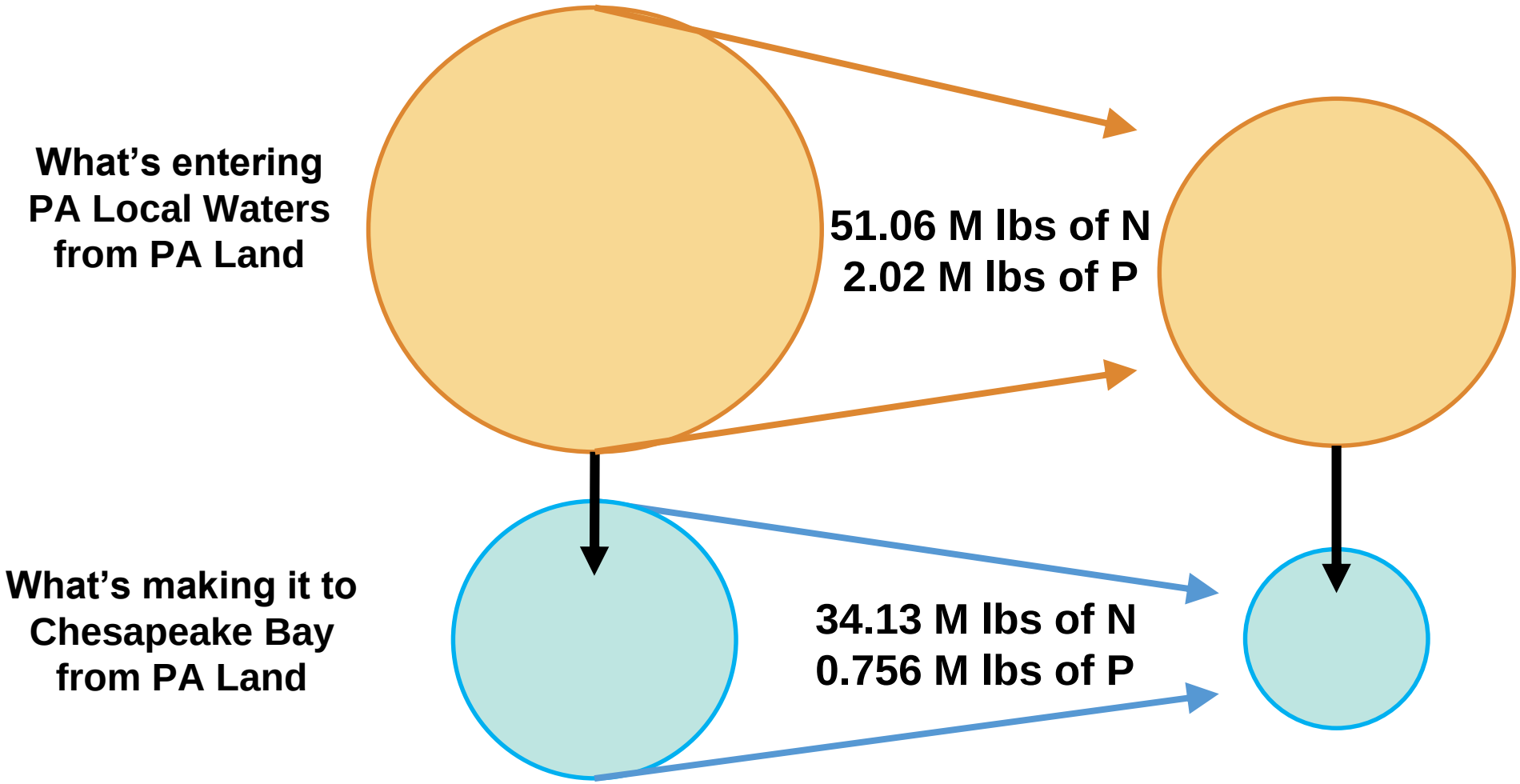
Bay Goals and Local Waters Goals

Reductions necessary to PA's Local Waters and the Bay



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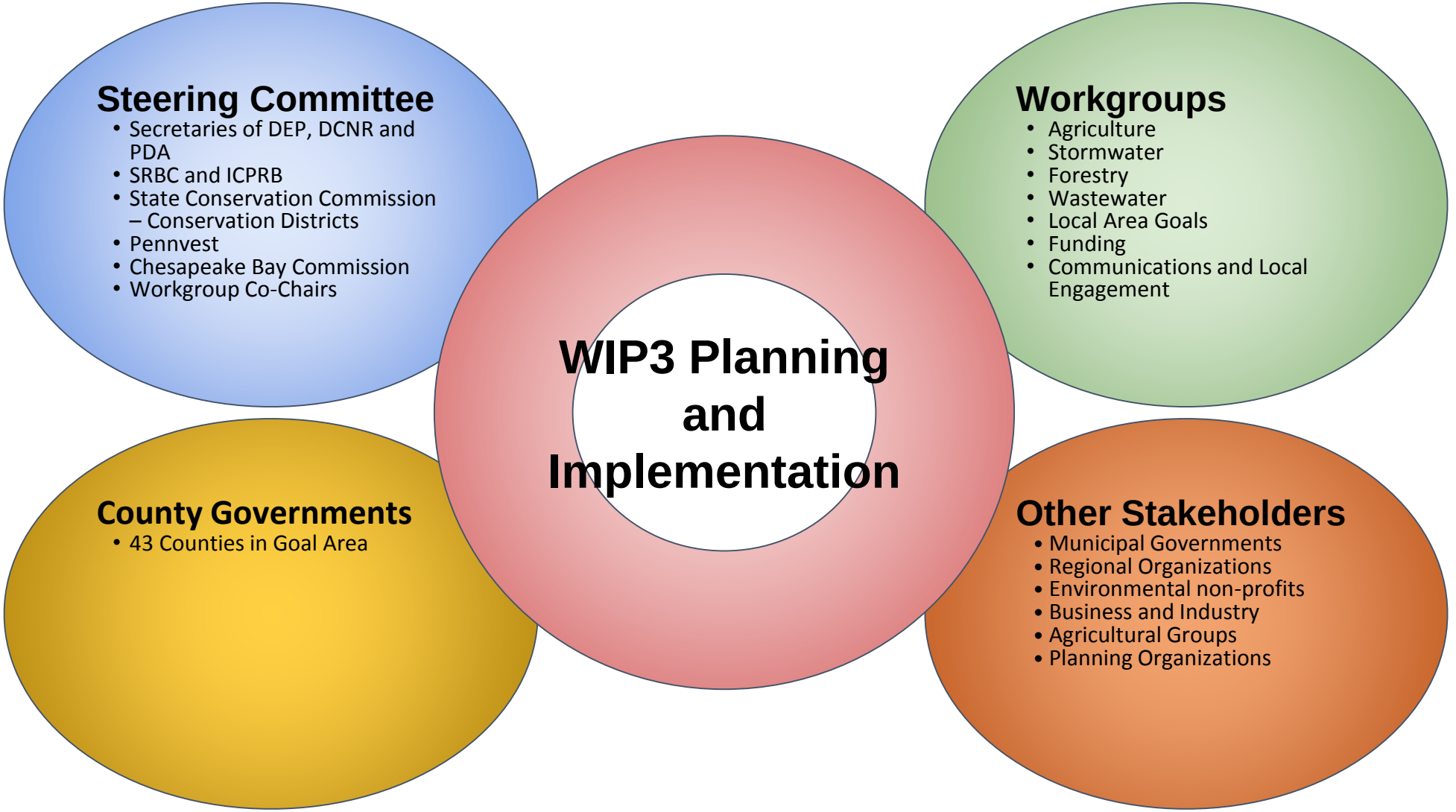
Who is involved?



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Section 2: State Actions

- Existing Reduction Efforts
- Numeric Commitments by Sector
- Programmatic and Narrative Commitments
- Merging State Initiatives with Countywide Action Plans
- Under-reported Practices – Tracking and Verification
- Programs Not Currently Credited

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Agriculture Priority Initiatives

1. **Agricultural Compliance:** Ensure farmers are implementing their state required Agricultural Erosion and Sediment Control, Manure Management/Nutrient Management Plan, and implementing required barnyard runoff controls, where needed.
2. **Soil Health:** Use crop and soil management practices, such as no-till farming and cover crops, that improve long-term soil health and stability.
3. **Expanded Nutrient Management:** Non-manured farms use nutrient management plans and precision nutrient management practices.
4. **Manure Storage Facilities:** Install and use manure storage systems that meet federal standards.
5. **Precision Feeding:** Use precision feed management to reduce nitrogen and phosphorus in manure.
6. **Integrated Systems for Elimination of Excess Manure:** Create integrated (county/regional) programs for removal of or beneficial use of excess manure.
7. **Forested and Grassed Riparian Buffers:** Plant grassy vegetation or forest buffers along streams.

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Forestry Priority Initiatives

1. **Forested Riparian Buffers:** Plant trees and shrubs or grassy vegetation along streams.
2. **Tree Canopy:** Plant trees in developed areas.
3. **Woods and Pollinator Habitat:** Convert lawn and turf areas to woods and meadows.
4. **Forest, Farm, and Natural Areas Conservation:** Provide credits for land conservation and revise zoning and ordinances to conserve existing natural areas.
5. **Stream and Wetland Restoration:** Support efforts to restore local streams and wetlands.

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Stormwater Priority Initiatives

1. **Implement PRPs for MS4 Communities:** MS4 permittees must implement practices to achieve reductions identified in their PRPs by 2023.
2. **New Riparian Forest Buffers:** Plant 450 acres of new forested riparian buffer by 2025.
3. **Control Measures for Illicit Discharges:** Facilitate ordinance amendments to control illicit discharges to storm sewer systems.
4. **Industrial Stormwater:** DEP develop preferred BMPs for use in industrial stormwater discharge permits to reduce pollutants of concern.
5. **Post-Construction Stormwater Management Program:** Continue permitting, inspecting and ensuring compliance with Chapter 102, post-construction stormwater permit requirements.

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Wastewater Priority Initiatives

1. **Biological Nutrient Reduction.** This strategy was implemented by 190 wastewater treatment facilities. They met their 2025 goals in 2018.
2. **Wastewater Plant Optimization.** Maximize treatment results through process changes. Additional technical and financial support would be needed for this to be a viable option.
3. **On-lot Septic Systems.** Municipalities are required to Sewage Management programs implement, under the Sewage Facilities Act. Programs that incorporate onsite septic system inspection and pumping programs. To track the development and implement the implementation of these programs the development of a GIS System is proposed.
4. **Enhanced Nutrient Reduction.** This option was considered. This is a low reduction, high cost approach. As a result it was determined the costs do not justify use of this option to achieve further reductions. Estimated cost is $80,000,000/year.
5. **Non-significant Wastewater Facilities.** These facilities release a minimal flow to discharge streams. Significant technical and financial support would be needed, and current low levels of N and P contribution do not justify the cost/effort.

Text in blue are Priority Initiatives included in the WIP as action items.

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Legislative Actions

- Dedicated Funding Source:
  - Restore PA
  - Water Use Fee
  - Bottled Water Tax
  - Keystone Tree Fund
  - Specialty License Plate
- Facilitate Practice Implementation
  - Revisions to Clean Streams Law
  - Nutrient Reduction Procurement Program
  - Integrators and Private Investors – “Pay for Performance”

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Legislative Actions

- Other Legislation
  - Revisions to the Right to Know Law
  - PA Farm Bill
  - Fertilizer Legislation (SB792, 2017-2018 Session)
  - Restore Act 167 Stormwater Management Funding

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Regulatory Actions

- Possible Chapter 105 Amendments
  - Clarification to waiver provisions
  - Outline environmental assessment requirements
  - Also considering revisions to existing permits and guidance
- Possible Chapter 102 Amendments
  - If needed, revisions to provide authority for mandatory installation of additional practices in impaired watershed.

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Programmatic and Policy

- Revisions to the P index to allow for land application of biosolids
- Updates to the Stormwater Management BMP Manual
- Programmatic Improvements to the Act 167 Program
  - Integration of planning efforts
  - Prioritization of compliance and enforcement
- Bradford County Stream Reconstruction Pilot Program
  - Delegation of Stream Reconstruction Actions
- Enhancement of Real-Time Water Quality Monitoring Data Network

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Programmatic and Policy

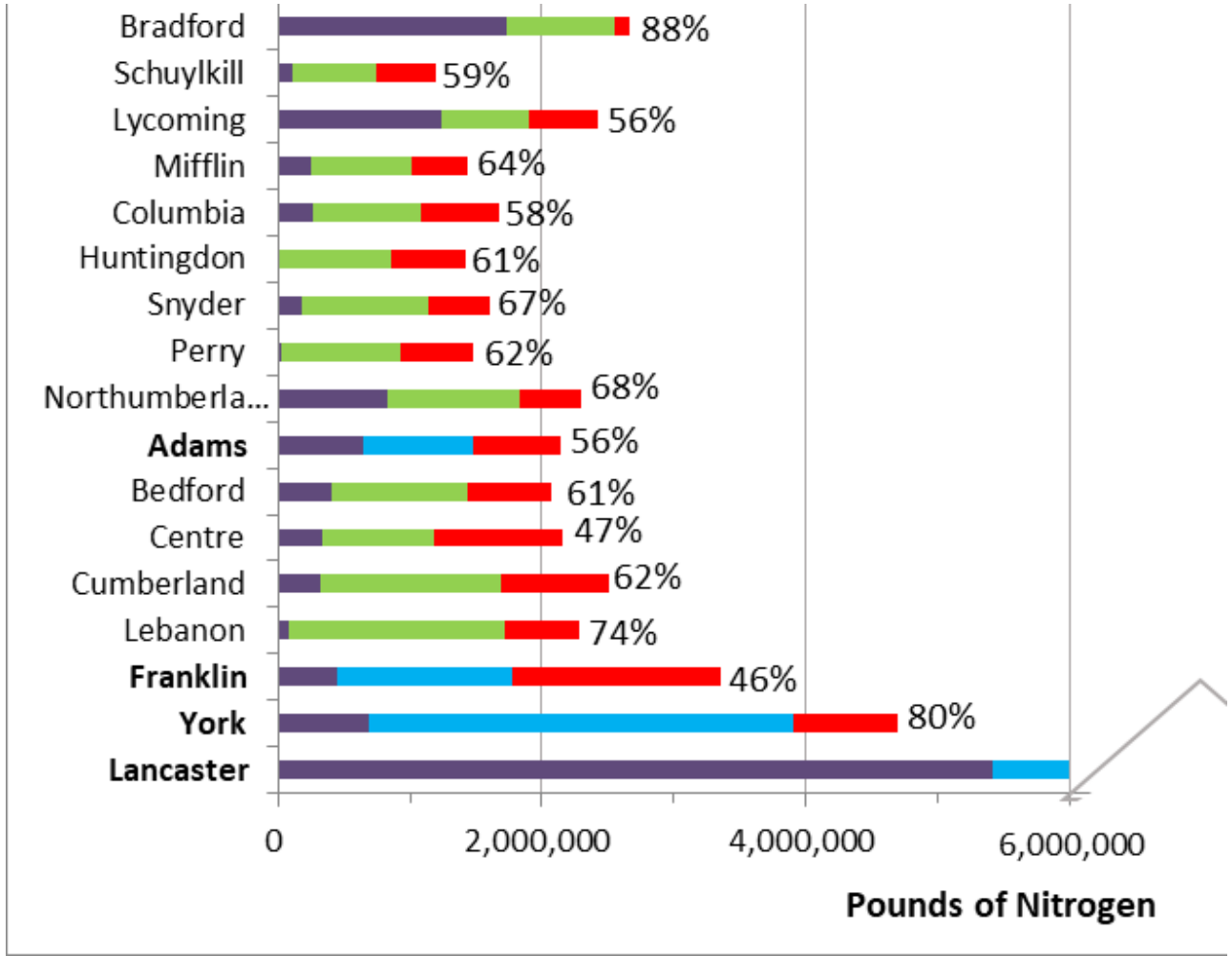
- Incentives or Methods to Accelerate Practice Implementation
  - Combination of Agency Funding Sources
  - Use of Block Grants
  - Creation of a County State Revolving Loan Fund
  - Expansion of Existing Funding Programs
  - One-Stop-Shop for Technical Assistance
  - Installation of Practices on State Agency Lands
  - Technical Guidance to Promote Priority BMPs
  - Nutrient Trading Program

Merging with Countywide Action Plans

This bar chart shows how the State Priority Initiatives or Actions merge with the Countywide Action Plans.

The purple bar represents the nitrogen reductions since 1985. The green bar represent the State Priority Initiatives numeric commitments. The blue bar represents a completed Countywide Action Plan. The red bar represents the remaining gap between the county plan and the 2025 goal.

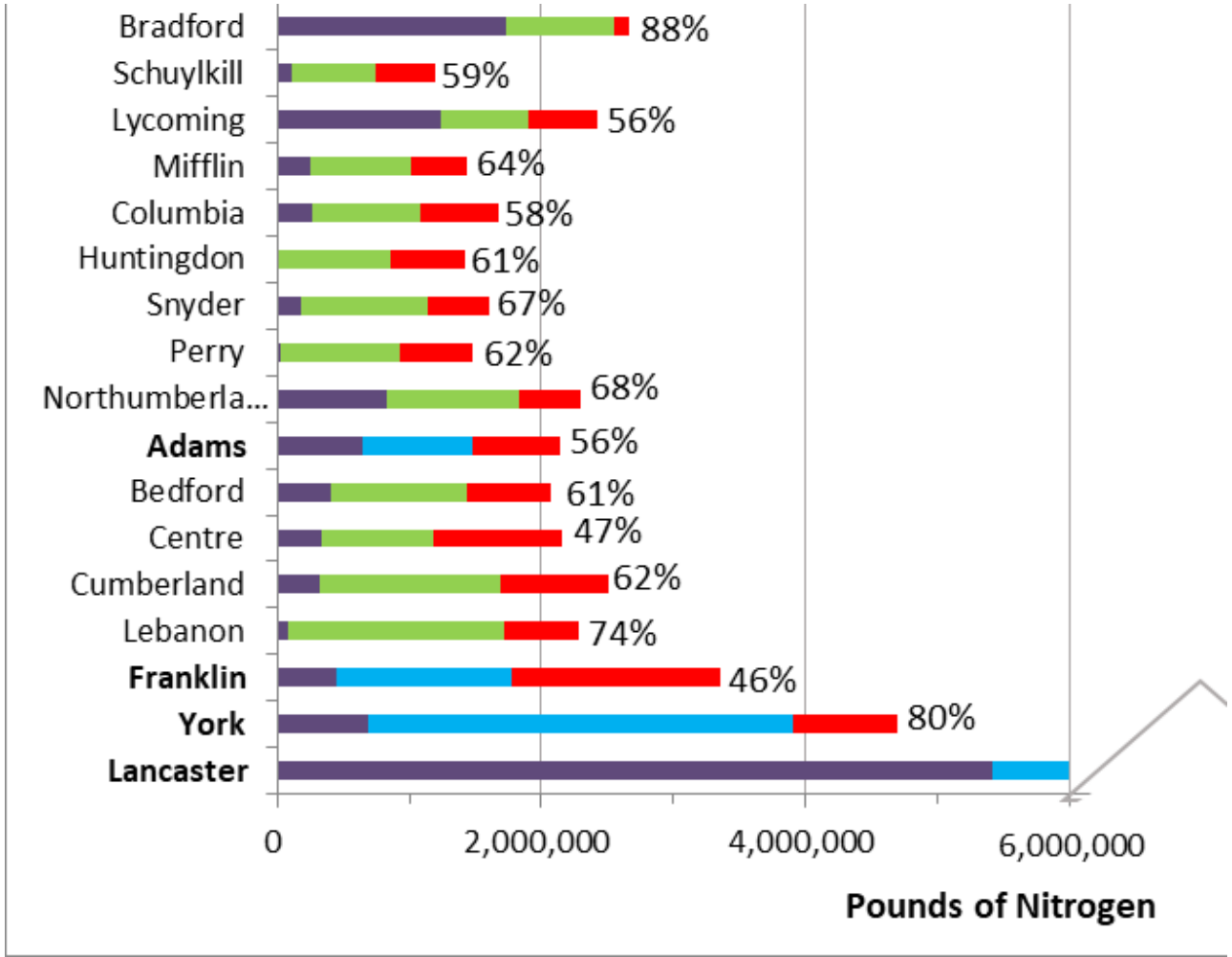
Zoomed in portion of graph



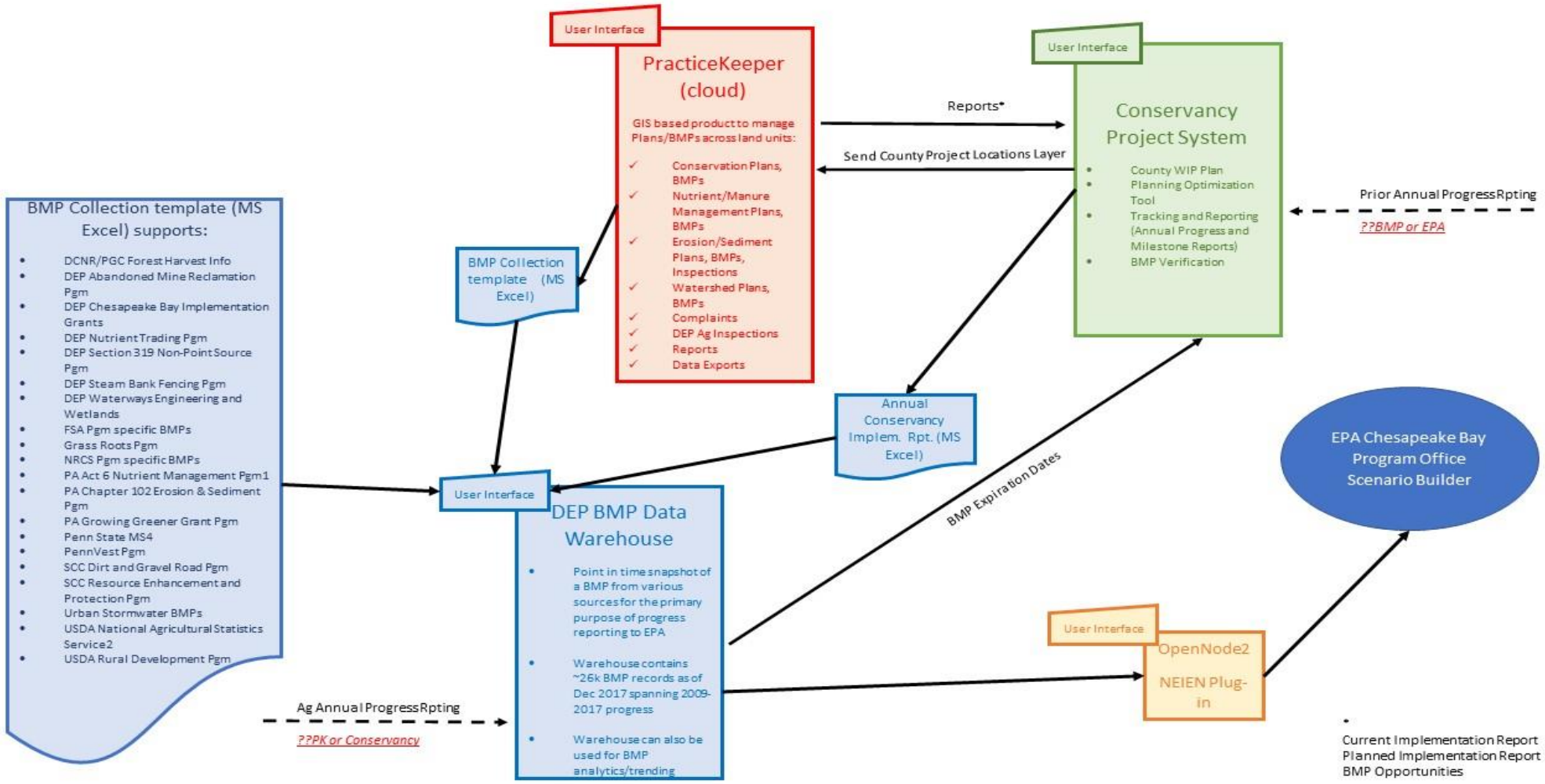
Merging with Countywide Action Plans

The remaining 39 counties will use these state action numeric commitments for beginning their Countywide Action Plan. As each county completes its plan their bar will be updated to represent the results of the planning process. A completed plan will shift to blue and represent a completed Countywide Action Plan.

Zoomed in portion of graph



Data Management, Tracking and Verification



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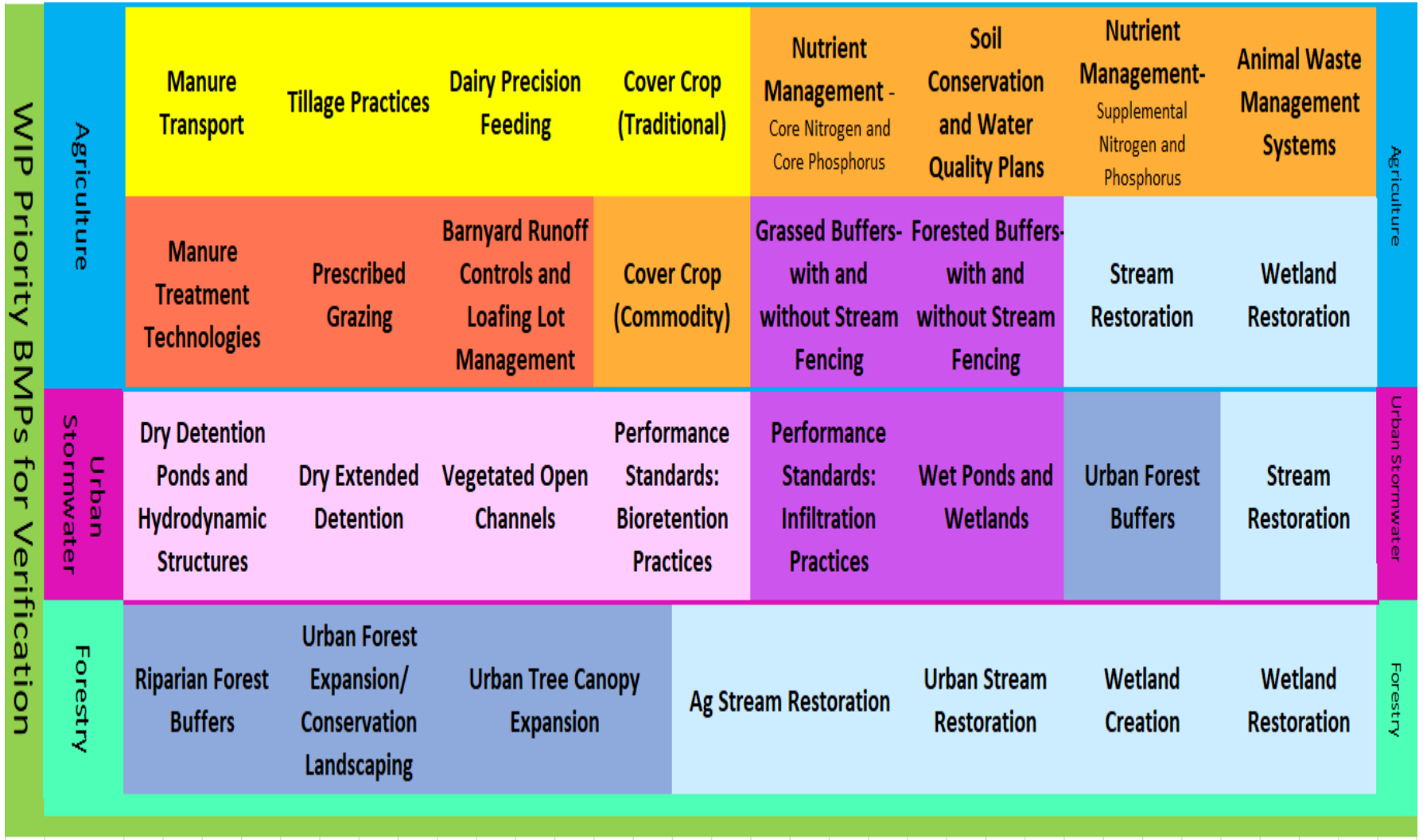
Data Management, Tracking and Verification



Approved Methodologies:

- Survey
- Survey and/or Inspection
- Inspection
- Remote Sensing using Aerial Imagery
- Remote Sensing using Aerial Imagery and/or Inspection
- Remote Sensing using Lidar
- Remote Sensing using Lidar and/or Inspection

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Undocumented Initiatives

- DEP Programs
  - Oil & Gas Erosion and Sediment Control Program
  - Wetland Mitigation
  - Brownfields Redevelopment Program
  - Legacy Sediment Programs
  - Nutrient Trading
- PDA Farmland Preservation Program
- PennDOT/Turnpike Commission MS4 Programs
- Fish and Boat Commission Stream Restoration Initiative
- Chesapeake Bay Foundation Keystone 10 Million Tree Partnership
- Others After DEP Evaluation

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Section 3: Countywide Actions

- Four Pilot County Results
- Total Reductions to the Bay
- Tier 2, 3 and 4 County Engagement

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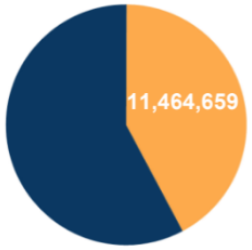
The Lancaster Countywide Action Plan

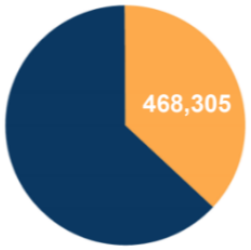
Current Conditions:

Lancaster County is the highest loading county in PA's Chesapeake Bay Watershed.

Nitrogen (N)
Current Load (lbs):
27,193,871



Phosphorus (P)
Current Load (lbs):
1,265,040

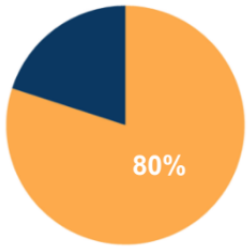


Planning Target (lbs)
Reduction Goal (lbs)

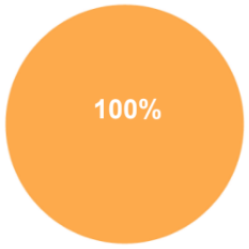
Action Plan:

Lancaster County's plan gets them to **80% of their nitrogen goal** and **100% of their phosphorus goal** by 2025.

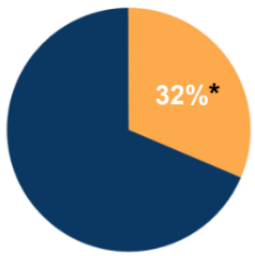
Nitrogen (N)
Reduction Goal (lbs):
11,464,871



Phosphorus (P)
Reduction Goal (lbs):
468,305



Sediment (TSS)
Current Load (lbs):
914,272,960



The Approach:

Lancaster County is focusing its Nitrogen and Phosphorus reduction into five initiatives: Agriculture, Stormwater, Stream Restoration, Buffers, and Land Use. This approach will support efficient use of resources.

As you can see from the table below, Lancaster expects their Agricultural Initiative to provide the greatest reduction in Nitrogen and Phosphorus.

Initiative	Nitrogen (lbs.)	Phosphorous (lbs.)
Agriculture	8,343,241	505,468
Stormwater	30,771	931
Stream Restoration	8,364	3,220
Buffers	868,600	12,683
Land Use	31,718	23
PRPs *	67,751	5,732
Total Reductions	9,197,613	521,292

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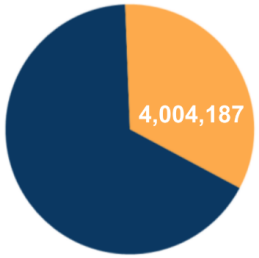
The York Countywide Action Plan

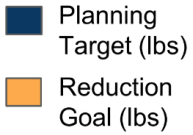
Current Conditions:

York County is the second highest loading county in PA's Chesapeake Bay Watershed.

Nitrogen (N)
Current Load (lbs):
11,993,095



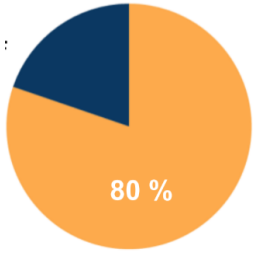
Phosphorus (P)
Current Load (lbs):
446,995



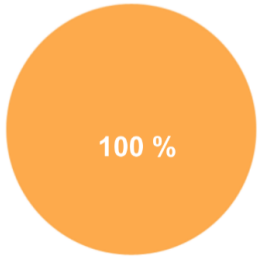
Action Plan:

York County's plan gets them to **80% of their nitrogen goal** and **100% of their phosphorus goal** by 2025.

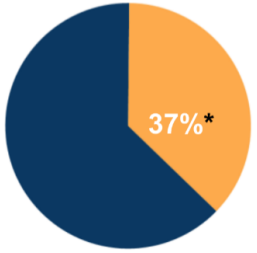
Nitrogen (N)
Reduction Goal (lbs):
4,004,187



Phosphorus (P)
Reduction Goal (lbs):
0



Sediment (TSS)
Current Load (lbs):
957,070,188



The Approach:

York County is focusing its Nitrogen and Phosphorus reduction into three initiatives: Agriculture, Stormwater, and a Watershed Program. This approach will support efficient use of resources.

As you can see from the table below, York expects their Agricultural Initiative to provide the greatest reduction in Nitrogen and Phosphorus.

Initiative	Nitrogen (lbs.)	Phosphorous (lbs.)
Agriculture	3,129,670	72,306
Stormwater	66,724	5,382
Watershed Program	8,127	6,062
Total Reductions	3,213,027	84,702

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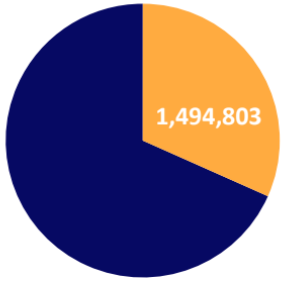
The Adams Countywide Action Plan

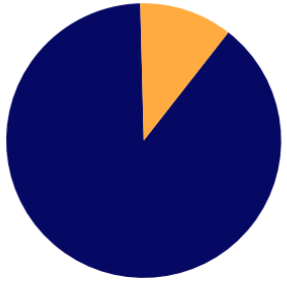
Current Conditions:

Adams County is one of the higher loading county in PA's Chesapeake Bay Watershed.

Nitrogen (N)
Current Load (lbs):
4,721,732



Phosphorus (P)
Current Load (lbs):
360,406

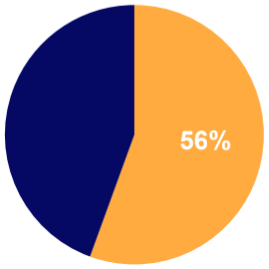


Planning Target (lbs)
Reduction Goal (lbs)

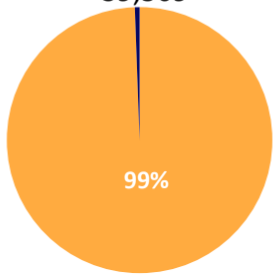
Action Plan:

Adams County's plan gets them to **56% of their nitrogen goal** and **99% of their phosphorus goal** by 2025.

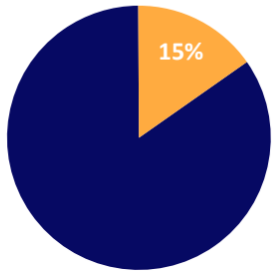
Nitrogen (N)
Reduction Goal (lbs):
1,494,803



Phosphorus (P)
Reduction Goal (lbs):
39,509



Sediment (TSS)
Current Load (lbs):
323,284,215



The Approach:

Adams County is focusing its Nitrogen and Phosphorus reduction into three initiatives: 1) Enhanced reporting and tracking; 2) Achieving pollutant reductions; and 3) Research, education and training.

As you can see from the table below, Adams expects agriculture to provide the greatest reduction in Nitrogen and Phosphorus.

Initiative	Nitrogen (lbs.)	Phosphorous (lbs.)
Agriculture	827,789	38,802
Stormwater	970	97
PRPs	1,858	385
Total Reductions	830,616	39,284

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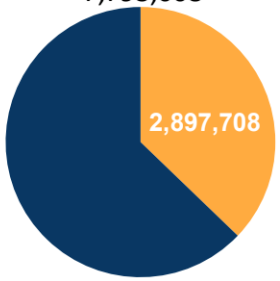
The Franklin Countywide Action Plan

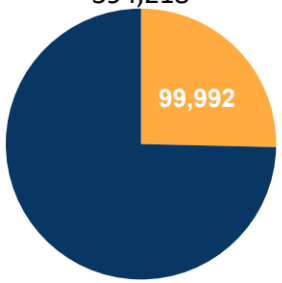
Current Conditions:

Franklin County is the third highest loading county in PA's Chesapeake Bay Watershed.

Nitrogen (N)
Current Load (lbs):
7,793,008



Phosphorus (P)
Current Load (lbs):
394,218

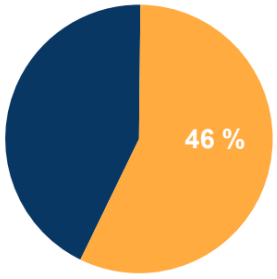


Planning Target (lbs)
Reduction Goal (lbs)

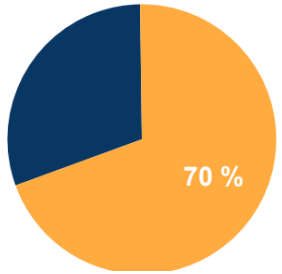
Action Plan:

Franklin County's plan gets them to **46% of their nitrogen goal** and **70% of their phosphorus goal** by 2025.

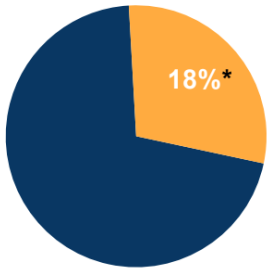
Nitrogen (N)
Reduction Goal (lbs):
2,897,708



Phosphorus (P)
Reduction Goal (lbs):
99,992



Sediment (TSS)
Current Load (lbs):
411,262,208



The Approach:

Franklin County is focusing its Nitrogen and Phosphorus reduction into two initiatives: Agriculture and Stormwater. This approach will support efficient use of resources.

As you can see from the table below, Franklin expects their Agricultural Initiative to provide the greatest reduction in Nitrogen and Phosphorus.

Initiative	Nitrogen (lbs.)	Phosphorous (lbs.)
Agriculture	1,311,409	60,806
Stormwater	8,372	2,392
Total Reductions	1,326,616	69,653

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Total Pilot Counties Implementation Results

In summary if the Pilot Counties' Countywide Action Plans are implemented as drafted...

Nutrient Reductions in Pilot Countywide Action Plans

Action: Pilot counties are successful in fully implementing their Countywide Action Plans.

Total Estimated Cost:
$344 million
(Over the next six years)

Nitrogen runoff reduced by
14.6 M lbs or 29% of PA's Goal

Phosphorus runoff reduced by
715,000 lbs or 35% of PA's Goal

Total Sediment Reductions = 811,000,000 lbs

The Pilot Counties represent 19.9 M lbs or 39% of PA's nitrogen goal, and 0.61 M lbs or 30% of PA's phosphorous goal.

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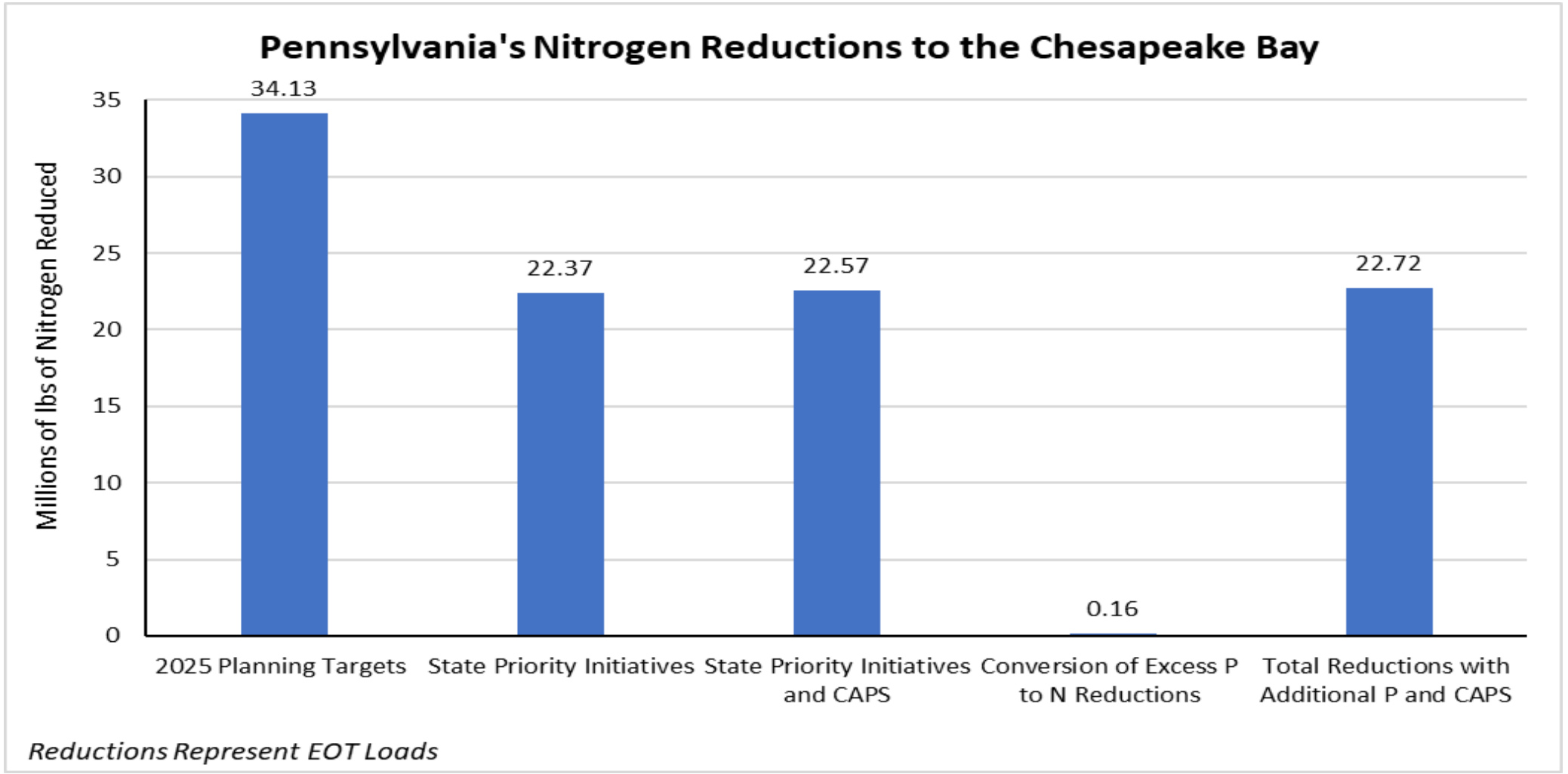
Total Reduction Results from Priority Initiatives



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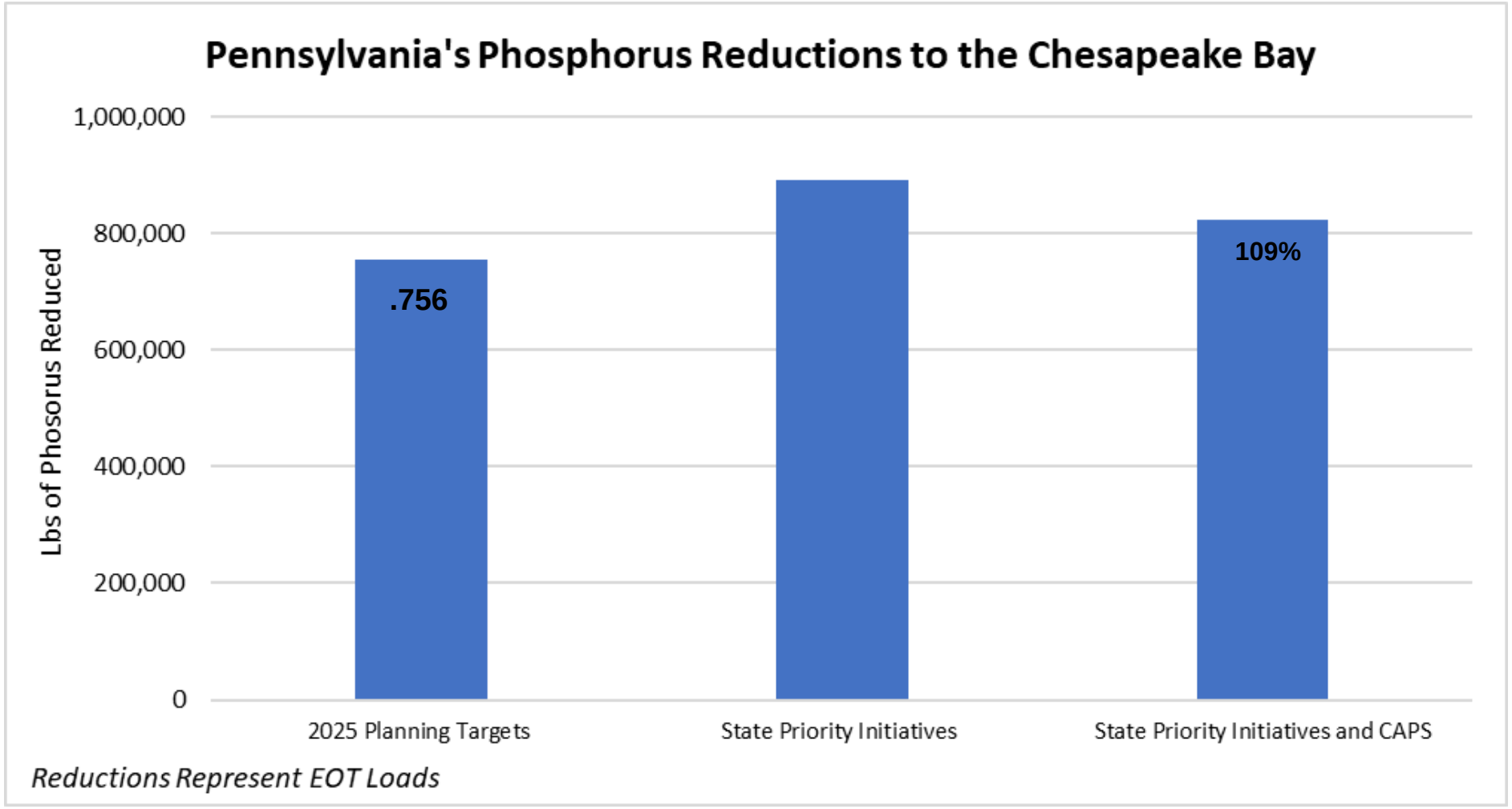
Total Reduction Results from Priority Initiatives



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Phased Plan Implementation

Phase 1	Phase 2			
Tier 2 - Second 25% of Reductions	**Tier 3 - Third 25% of Reductions**		**Tier 4 - Last 25% of Reductions**	
Franklin -- Completed	**Adams -- Completed**	Schuylkill	Union	Potter
Lebanon	Northumberland	Bradford	Chester	Somerset
Cumberland	Perry	Juniata	Dauphin	Wyoming
Centre	Snyder	Clinton	Berks	Elk
Bedford	Huntingdon	Tioga	Blair	Indiana
	Columbia	Susquehanna	Lackawanna	Cameron
	Mifflin	Clearfield	Luzerne	Wayne
	Lycoming	Fulton	Montour	McKean
			Cambria	Jefferson
			Sullivan	Carbon

NOTE: Plans for the Two Tier 1 Counties, **Lancaster and York** are also **Completed.**

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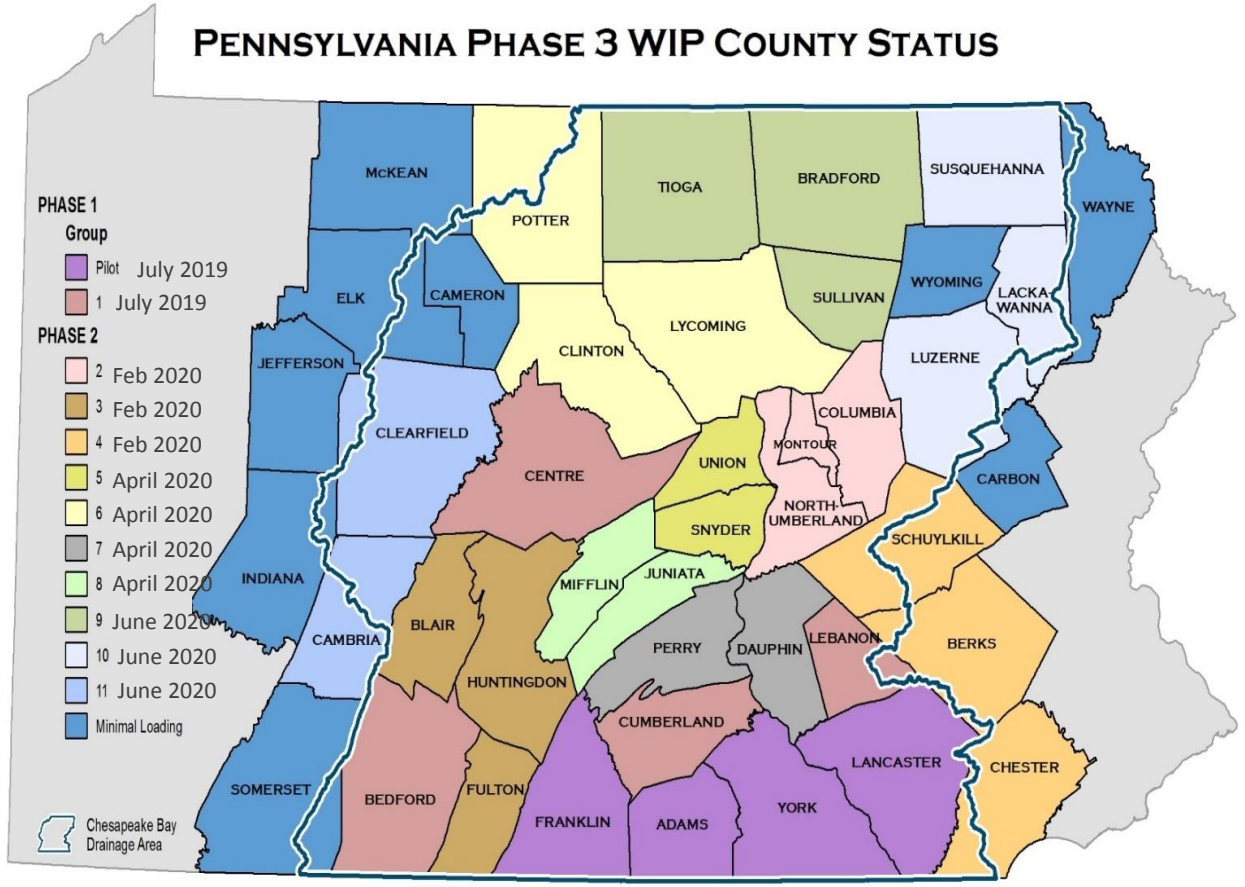
Phased Plan Implementation

Phase 1 (Begins July 2019 and lasts 6 to 8 months)

- Efforts in this phase are focused on the eight Tier 1 & 2 counties that make up 54% of PA's nutrient load.
- Actions include:
  - Assist Pilot Counties with transition to Countywide Action Plan implementation.
  - Work with remaining Tier 2 counties develop and implement Countywide Action Plans.
  - Begin outreach to Tier 3 and 4 counties.

Phase 2 (Begins February 2020 and lasts 6 to 8 months)

- Efforts in this phase are focused on the thirty-five Tier 3 & 4 counties that make up 46% of PA's nutrient load.
- Actions include:
  - Assist Pilot and Tier 2 counties with Countywide Action Plan implementation.
  - Break Tier 3 and 4 counties in to regional groupings based on existing partnerships.
  - Work with regional groups to help Tier 3 and 4 counties to develop and implement Countywide Action Plans.



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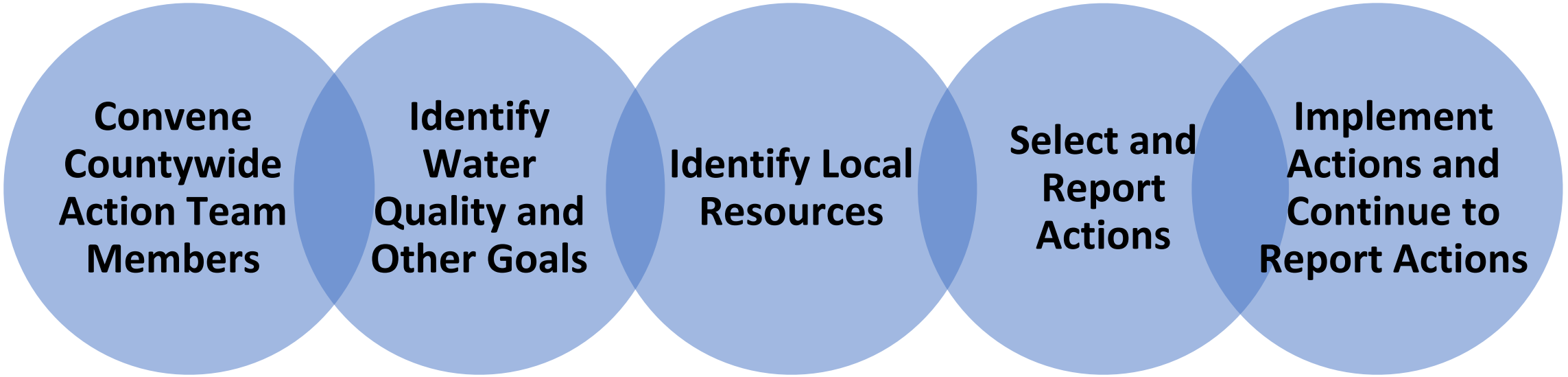
How Does a County Prepare Its Action Plan?

Pennsylvania Countywide Pilot Planning Process
Phase III WIP



We anticipate this will take 6 to 8 months

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How Does a County Prepare Its Action Plan?

- Support Team
  - DEP Staff Person from Chesapeake Bay Office – Internal Coordinator
  - DEP Regional Office
  - Member(s) of Technical Support Team
- External Coordinator (County Planning Team Lead)
- Revised County Specific Toolbox
- Planning Process Guide

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Section 4: Communication and Engagement Strategy

- Public Comment Period
- Plan Implementation

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Phase 3 WIP Public Comment Period

- Website:

DEP Chesapeake Bay Program Website:
http://www.dep.pa.gov/ChesapeakeBay

Phase 3 WIP Website:
www.dep.pa.gov/chesapeakebay/phase3

- eComment:
  (https://www.ahs.dep.pa.gov/eComment)
- Webinars, Focus Groups, Meetings

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Phase 3 WIP Implementation

- DEP/DCNR/PDA Communications Office – Message Development
  - DEP StoryMap
  - Success stories, videos, etc.
  - Materials for youth
- C & E Workgroup
  - Help with message delivery

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Section 5: Existing and Needed Resources

- Results of Analyses
- Summary of Resources Available and Needed
  - Practice Implementation
  - Priority Initiatives
  - Identification of Gap

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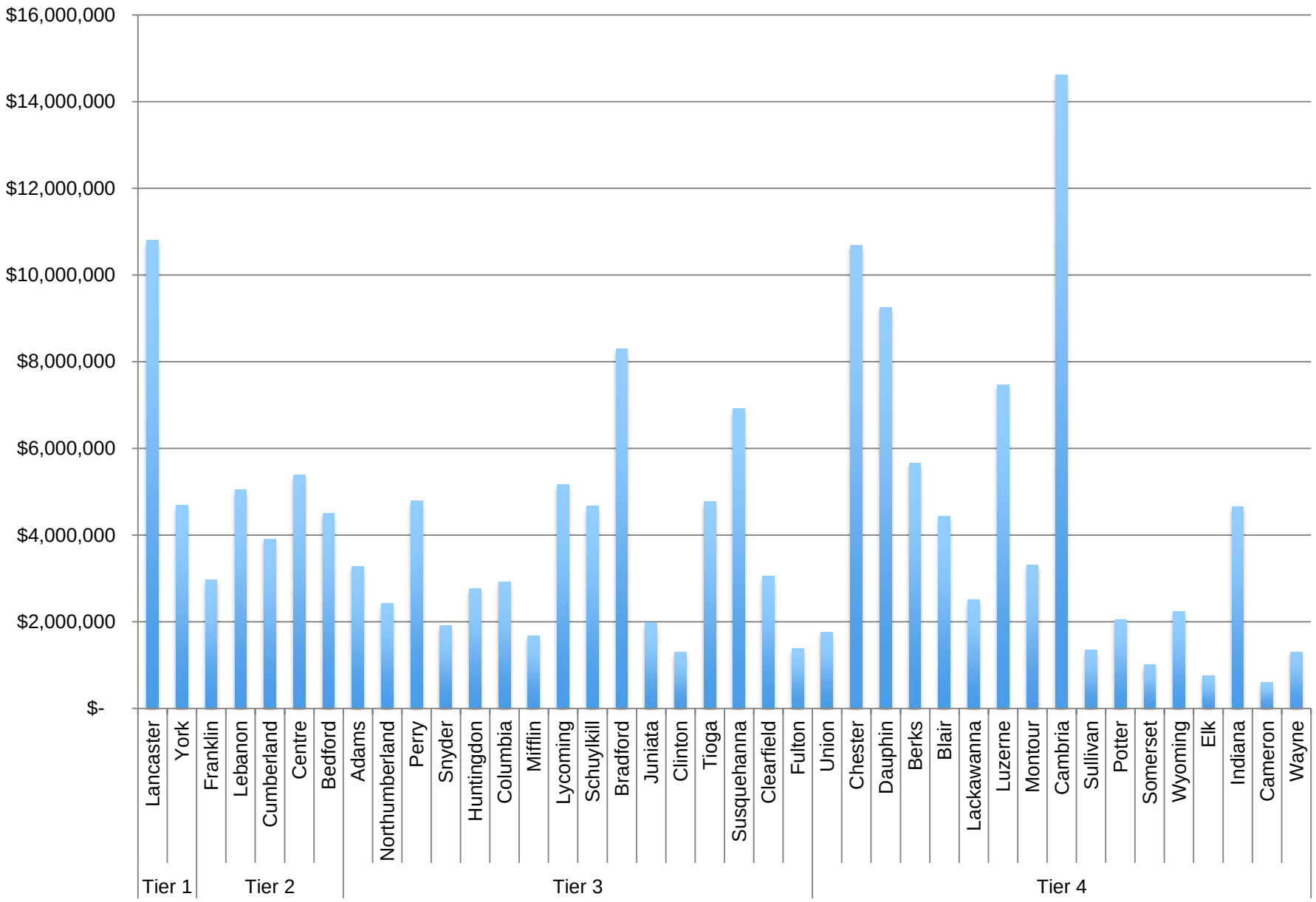
Average County Funding (FY14-18) by WIP Tiers



State Priority Initiatives, Numeric Commitments , Cost and Reductions

Statewide Workgroup Recommendation	Nitrogen Reduction (to Pennsylvania Streams)	Phosphorus Reduction (to Pennsylvania Streams)	Estimated Annual Cost for Practice Implementation[2]
Agriculture			
Total	28,572,000	1,790,000	$313,140,000
Agriculture Compliance	7,381,000	251,000	$33,105,000
Soil Health	7,337,000	298,000	$32,980,000
Expanded Nutrient Management	755,000	34,000	$20,853,000
Manure Storage Facilities	7,167,000	300,000	$214,042,000
Precision Feeding	604,000	61,000	(-$1,687,000)
Integrated Systems for Elimination of Excess Manure	1,230,000	101,000	$4,666,000
Grassed Riparian Buffers	4,098,000	747,000	$9,183,000
Stormwater[1]			
Total	296,000	39,250	$78,552,000
Meet Current MS4 Permit Requirements	179,000	34,000	$74,033,000
New Riparian Forest Buffers	7,000	1,000	$68,000
Residential Pools and Car Washing	3,000	150	$898,000
Industrial Stormwater	2,000	100	$3,553,000
Fertilizer Legislation	105,000	4,000	TBD
Recommendations for the 2023 MS4 Permit[1]	TBD	TBD	TBD
Forestry			
Total	7,681,000	1,029,000	$67,701,000
Forested Riparian Buffers	7,445,000	993,000	$41,439,000
Tree Canopy	180	10	$5,400
Woods and Pollinator Habitat	86,000	5,300	$1,046,000
Forest, Farm, and Natural Areas Conservation	TBD	TBD	TBD
Stream and Wetland Restoration	147,000	29,000	$27,303,000
Total State Priority Initiatives (to Pennsylvania Streams)	**33,239,000**	**2,123,000**	**$459,393,000**

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Phase 3 WIP, Agency and External Personnel Resource Needs

	Number (FTE's)		Cost (Annual)	
	Existing	**New**	**Existing**	**New**
Total (Agency Resources)	32.5	79.5	$3,597,645	$8,389,982
Total (External Resources)	93	109	$9,361,502	$5,774,467
TOTAL	**125.5**	**188.5**	**$12,959,147**	**$14,164,449**
GRAND TOTAL		**312**		**$26,483,596**

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Current Funding is NOT Enough

HAVE	Existing Resources 2018	$ 216,142,282
	Existing Staff Resources	$ 12, 959,147
	Total	$ 229,101,429
NEED	Statewide WG Practices	$ 459,393,000
	Statewide WG Staffing	$ 26,483,596
	Total	$ 485,876,596
Funding Gap (Annual)		**$ 256,775,167**

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Funding Gap – Another Approach

Priority Initiative	Cost in millions	Nitrogen Reduction	Phosphorus Reduction
Agricultural Compliance	$33.1	14%	12%
Soil Health	$32.9	14%	14%
Grass Buffers	$9.2	8%	37%
Forested Buffers	$41.4	14%	49%
TOTAL (Annual)	**$116.6**	**45%**	**75%**

+ Associated Staff and Technical Assistance Resources

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Section 6: Federal Role

- Federal Facility Reduction Plans
- Agency Support and Coordination
  - EPA
  - NRCS
  - Army Corps of Engineers
  - US Fish and Wildlife Service

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Reductions from Federal Facilities

- 24 Counties Have Federal Facilities

Agency	Nitrogen Planning Goal (pounds)	Phosphorus Planning Goal (pounds)
Department of Defense	88,613	8316
National Park Service	8515	977
US Fish and Wildlife Service	214	23
General Services Administration	15	1
TOTAL	**97,358**	**9,316**

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Section 7: Milestones and Progress Reporting

- Coordination and Tracking of Progress
- Key Action Steps

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Section 7: Milestones and Progress Reporting

- State Progress – 6 months
- Countywide Action Plan Implementation –Annually
- Milestone Updates – Every 2 Years
- Action Steps –
  - Communications and Outreach
  - Funding and Resources
  - Expanding Capacity for Technical Assistance
  - Reporting and Tracking
  - Compliance

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Section 7: Milestones and Progress Reporting

	Phase 3 Watershed Implementation Plan (WIP) Progress and Milestones Template											
	Green - action has been completed or is moving forward as planned Yellow - action has encountered minor obstacles Red - action has not been taken or has encountered a serious barrier											
Action #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources Available		Resources Needed		Progress to Date	Justification for Change to Action Item
							Technical	Financial	Technical	Financial		
Priority Initiative 1:												
1.1												
1.2												
Priority Initiative 2:												
2.1												
2.2												

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Section 8: Accounting for Growth

- Impact of Sector Growth
- Pennsylvania's Strategy
  - Forest Conservation Program
  - Private Forest Management
  - Wetland Preservation
  - Farmland Preservation Program

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Section 8: Accounting for Growth

Why are we using 2025 Land Use

- TMDL specifies need to account for growth in different sectors across the timeline of the TMDL subsequent changes in loads
- For Phase III WIP we now have the estimates of growth (Land Change Model)
- Jurisdictions chose to “bake in” accounting for growth into their WIPs by running their final WIP scenarios on 2025 estimated land use

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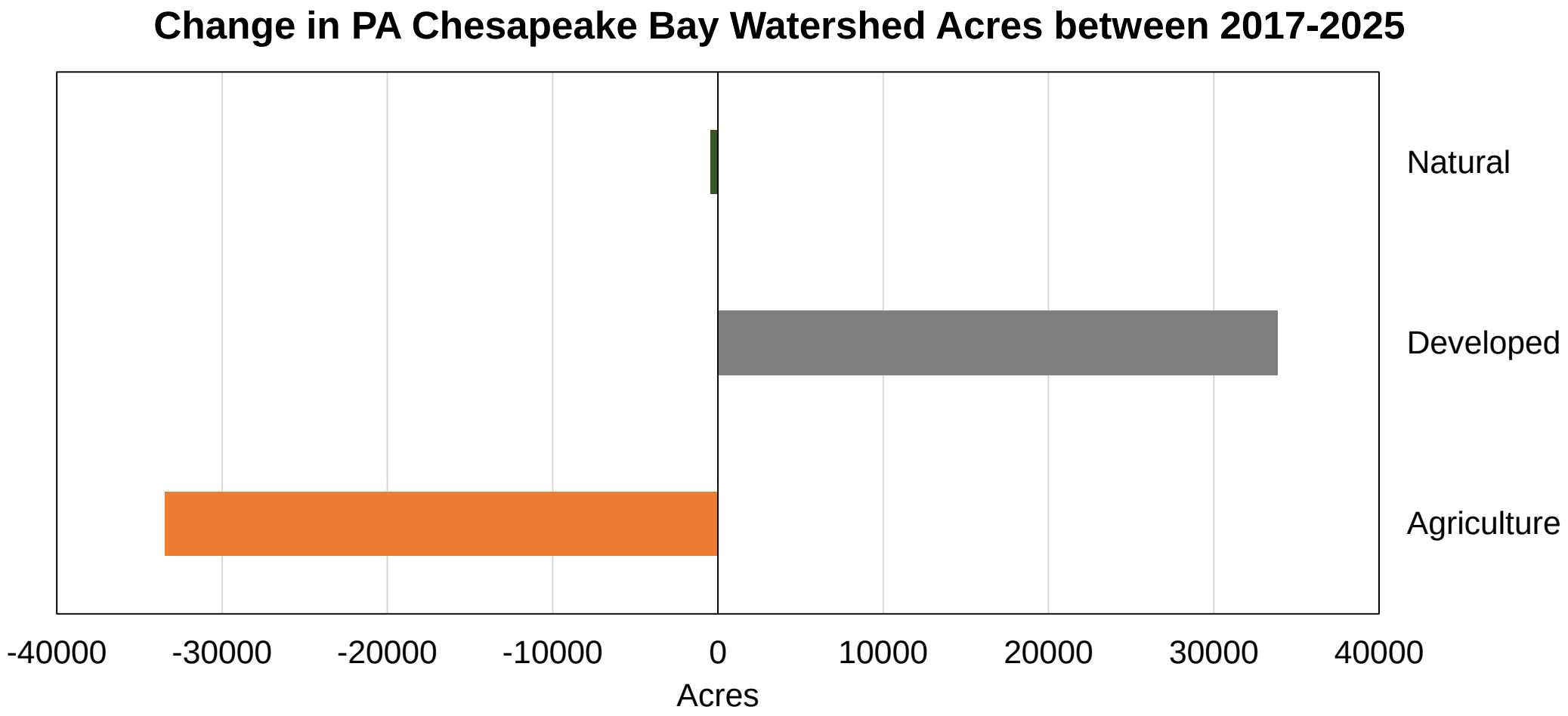
Moving from 2017 to 2025

Why is there a difference between 2017 and 2025?



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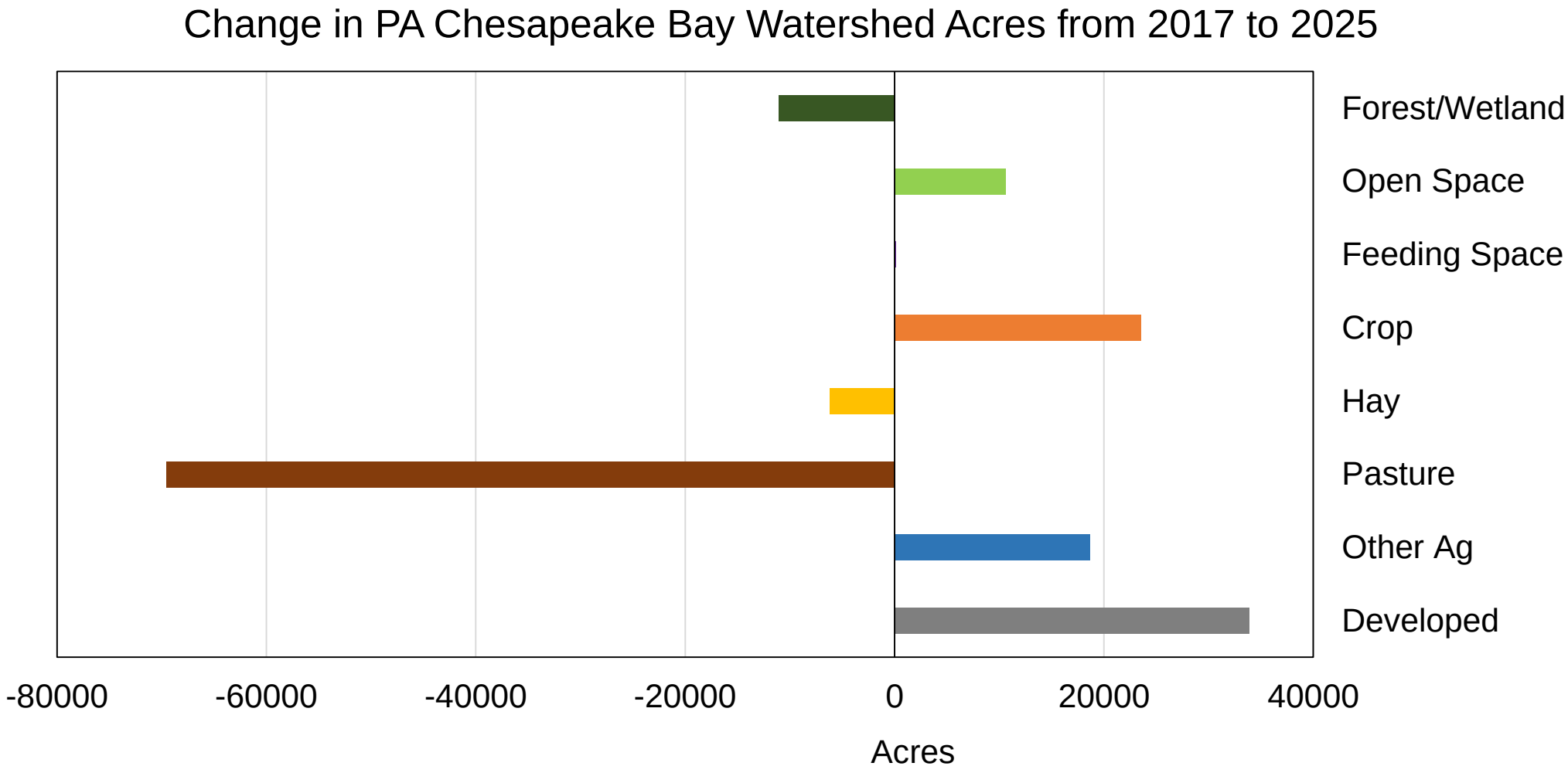

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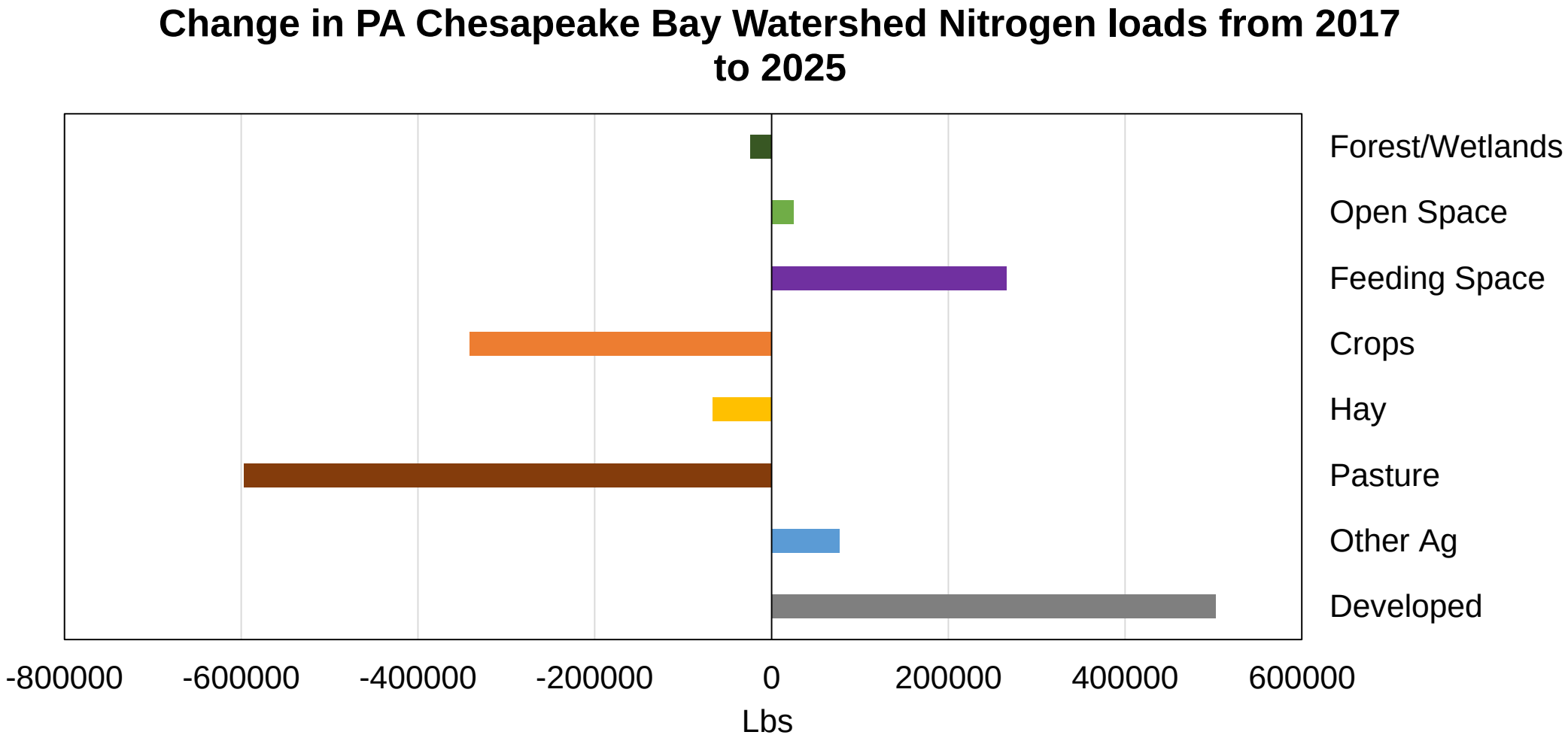

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Section 9. Climate Change

- Impact of Climate Change in Pennsylvania
- Pennsylvania's Strategy for Climate Change

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Impact of Climate Change

Nitrogen

Jurisdiction	1985 Baseline	2013 Progress	Climate Change
NY	18.71	15.44	0.400 (3.8%)
PA	122.41	99.28	4.135 (5.7%)
MD	83.56	55.89	2.194 (4.8%)
WV	8.73	8.06	0.236 (3.7%)
DC	6.48	1.75	0.006 (0.3%)
DE	6.97	6.59	0.397 (8.5%)
VA	84.29	61.53	1.722 (3.1%)
Basinwide	331.15	248.54	9.09 (4.6%)

Phosphorus

Jurisdiction	1985 Baseline	2013 Progress	Climate Change
NY	1.198	0.710	0.014(2.9%)
PA	6.282	3.749	0.141 (4.7%)
MD	7.495	3.942	0.114 (3.2%)
WV	0.902	0.617	0.019 (3.9%)
DC	0.090	0.062	0.001 (0.8%)
DE	0.225	0.116	0.006 (5.1%)
VA	14.244	6.751	0.193 (3.0%)
Basinwide	30.44	15.95	0.489 (3.4%)

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Pennsylvania's Climate Change Strategy

- Option of Narrative Strategy
- Strategy to Include:
  - Penn State Study
  - Executive Order 2019-1
  - Climate Change Act 2008
  - Alternative Energy Portfolio Standards
  - Finding Pennsylvania's Solar Future
  - Emission Control and Reduction Initiatives
  - Energy Efficiency
  - Climate Change Adaptation and Mitigation Plan

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Appendices

- Steering Committee and Workgroup Members
- Summary of Local Engagement

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Integrated Documents

- Countywide Action Plan Planning Guide & County Toolboxes
- Countywide Action Plans
  - Lancaster, York, Adams and Franklin
- Federal Facility Action Plans
  - Department of Defense
- Milestone and Progress Reporting Template
  - State Actions
- Draft BMP Verification Plan
- County and Workgroup Recommendations

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Next Steps for the Phase 3 WIP

Phase 3 WIP	What's Next	When
Finalize Draft for Public Comment	• Write first draft of the Phase 3 WIP • Revise Phase 3 WIP and Submit by April 12, 2019	Submitted April 12, 2019
Public Comment	• Invite public comment on Draft Phase 3 WIP	April 12 – June 7, 2019
Finalize the Phase 3 WIP	• Phase 3 WIP finalized and submitted	August 12, 2019
Implementing the Phase 3 WIP	• Phase 1 Countywide Action Plan development begins • Phase 2 begins	July 2019 Feb 2020

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Phase 3 Watershed Implementation Plan

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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Chesapeake Bay Program Office

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717-772-4053

Public Comment (April 12 through June 7, 2019)
eComment:(https://www.ahs.dep.pa.gov/eComment)

DEP Chesapeake Bay Program Website:
http://www.dep.pa.gov/ChesapeakeBay

Phase 3 WIP Website:
www.dep.pa.gov/chesapeakebay/phase3

Sign Up for Participation in Countywide Action Plan
http://bit.ly/wip3-cap

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