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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Chesapeake Bay Program Office

Pennsylvania's Phase III Watershed Implementation Plan

Agriculture Advisory Committee

June 22, 2017

Clean water:
Great for PA
Good for the Bay

Chesapeake Bay Program
Science. Restoration. Partnership.

Agenda

- Why Are We Doing This?
- Progress Made and the Job Ahead of Us
  - Need Your Engagement to Move Forward
- Midpoint Assessment
  - Allocations
  - Issues
  - Schedule
- EPA Expectations
  - Baywide
  - PA Specific
- Phase 3 WIP Game Plan

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Why Are We Doing This?

- 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
- Article 1, Section 27, Pennsylvania Constitution
  - The people have the right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment.
  - As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

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PA's Portion of the Bay Watershed

- **PA encompasses 35.2% of the Bay watershed -- that's 14,358,159 acres.**

- **Four PA watersheds**
  - **Susquehanna River (13,298,520 acres, 32.6%)**
  - **Potomac River (1,012,222 acres, 2.5%)**
  - **Eastern Shore (40,262 acres, 0.1%)**
  - **Western Shore (7,155 acres, 0.02%)**



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- What is a Sector?
- In the TMDL, pollutant sources were divided to efficiently reach facilities with similar operations, processes or practices
  - Point Sources = *Wastewater* (Treatment Plants, Combined Sewer Overflows)
  - Nonpoint Sources = Pollution from rainfall and stormwater runoff
    - *Agriculture* – farms or ranches that grow and harvest crops and animals for production
    - *Urban Runoff* – land area that has been developed, or is planned for development (ex. streets and parking lots)
  - *Forest* – areas covered in trees

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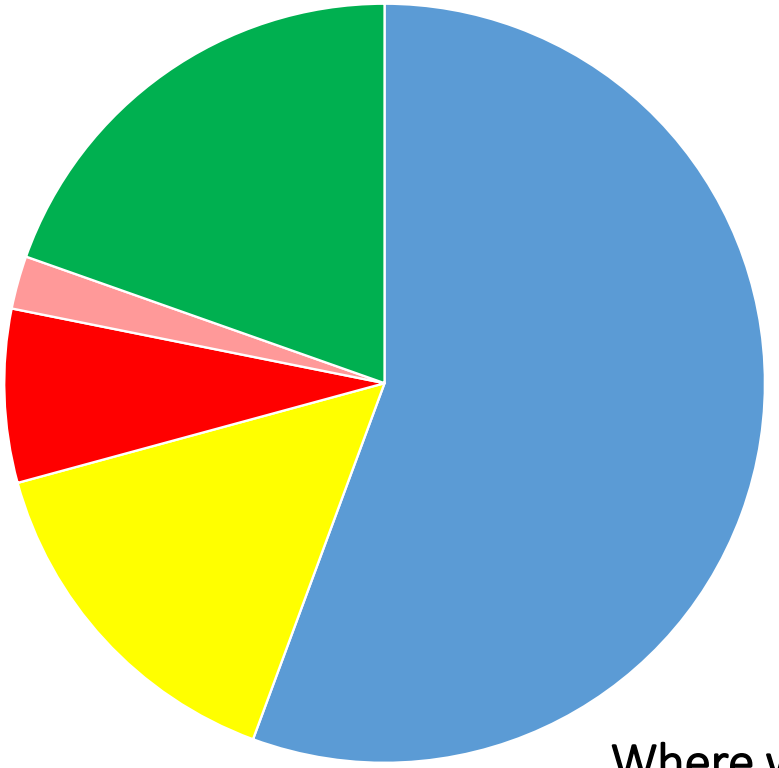
Pennsylvania Nitrogen Loads: 2015-2025

Agriculture | Urban Runoff | Wastewater+CSO | Septic | Forest+

113 M lbs.

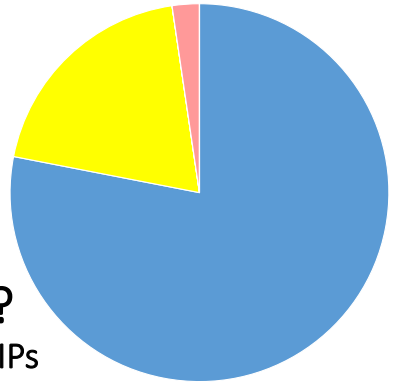
(11 M lbs. reduced 1985-2015)



2015

Where will the remaining Nitrogen reductions* come from?

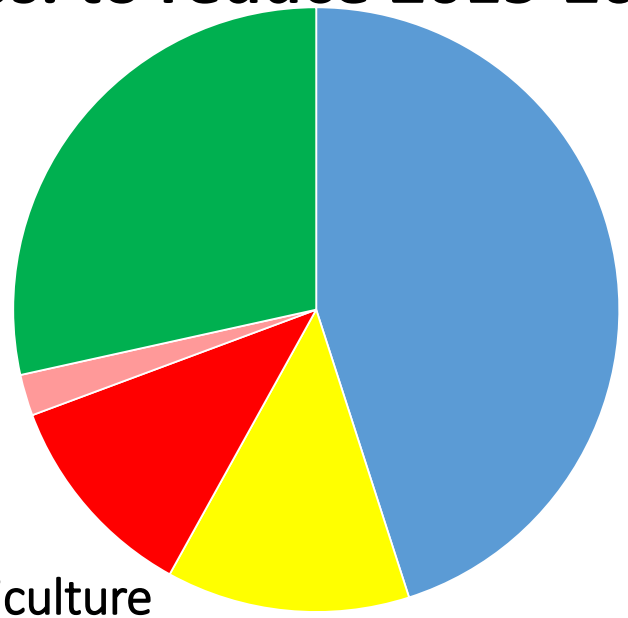
*Based on jurisdictions' Phase II WIPs



78% Agriculture
20% Urban
2% Septic

79 M lbs.

(34 M lbs. to reduce 2015-2025)

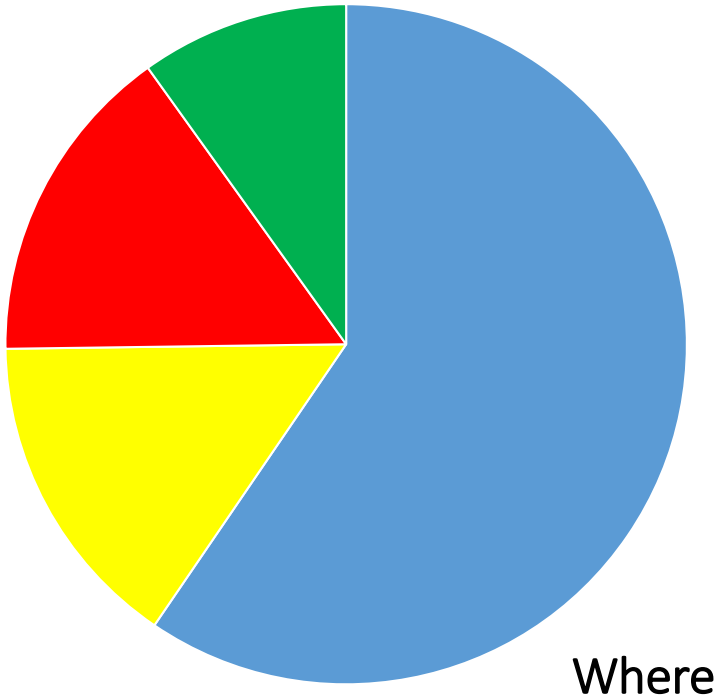


2025

Pennsylvania Phosphorus Loads: 2015-2025

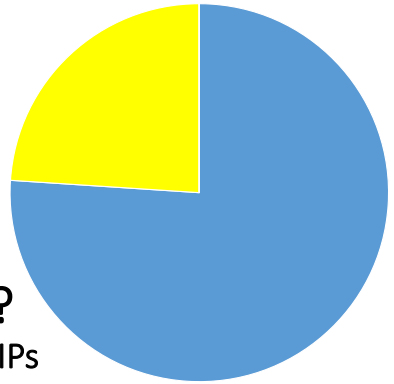
Agriculture Urban Runoff Wastewater+CSO Forest+

4.3 M lbs.
(1.7 M lbs. reduced 1985-2015)



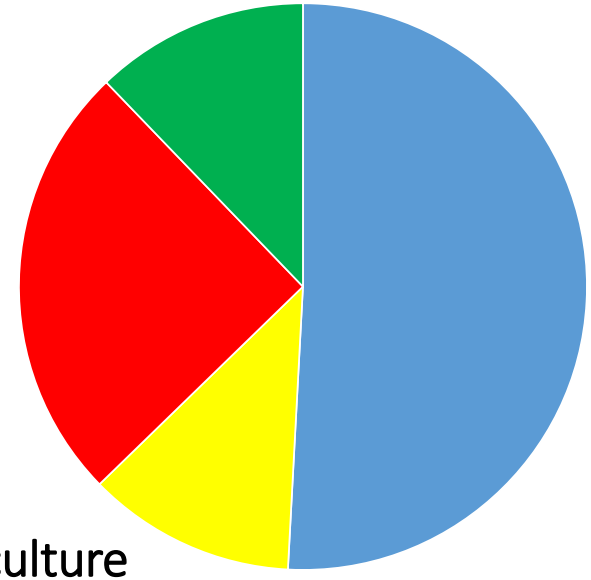
2015

Where will the remaining Phosphorus reductions* come from?
*Based on jurisdictions' Phase II WIPs



76% Agriculture
24% Urban

3.6 M lbs.
(0.7 M lbs. to reduce 2015-2025)

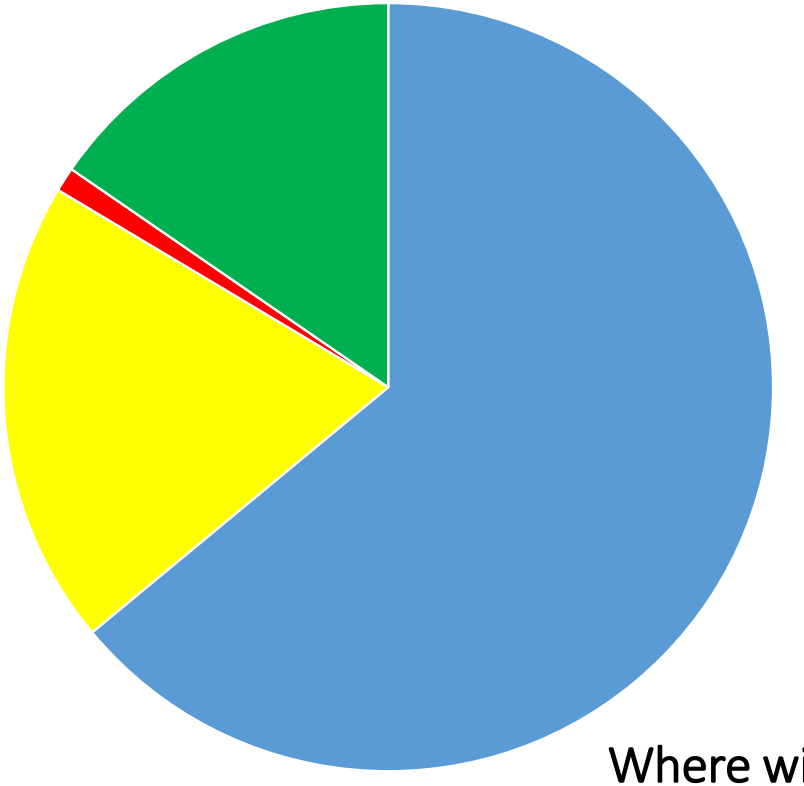


2025

Pennsylvania Sediment Loads: 2015-2025

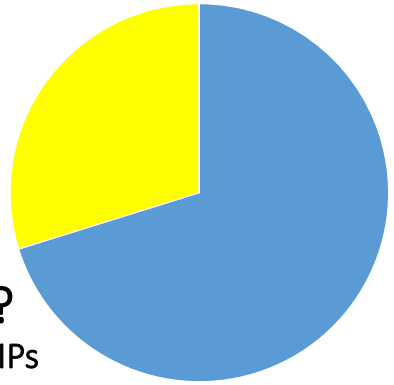
Agriculture Urban Runoff Wastewater+CSO Forest+

2,500 M lbs.
(540 M lbs. reduced 1985-2015)



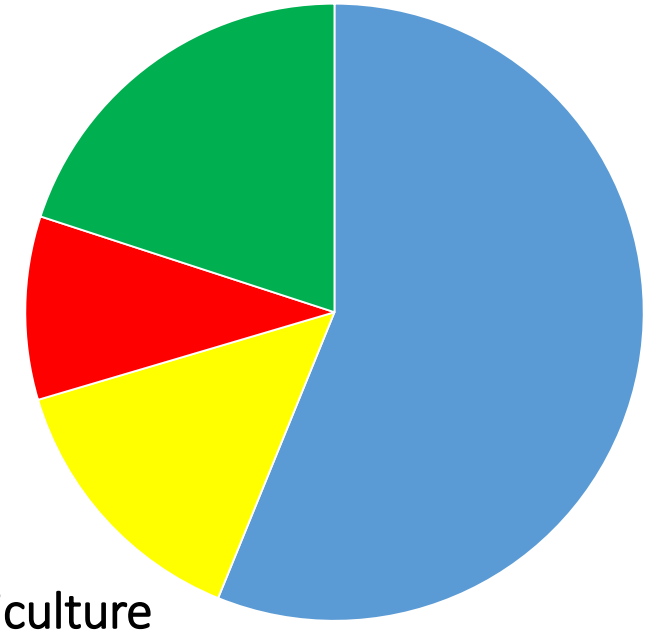
2015

Where will the remaining Sediment reductions* come from?
*Based on jurisdictions' Phase II WIPs



70% Agriculture
30% Urban

1,900 M lbs.
(513 M lbs. to reduce 2015-2025)



2025

Pennsylvania's Source Sector Challenges

- Needs to reduce 19 million lbs. nitrogen by 2017 and a total of 34 million lbs. by 2025

- **Responsible for 69 percent of remaining basinwide nitrogen load reductions by 2025**

- **Agriculture will likely be responsible for <u>more</u> than 80 percent of these nitrogen reductions by 2025**

- ***How do we put the technical assistance/compliance infrastructure and cost share funding in place to deliver on these needed reductions***

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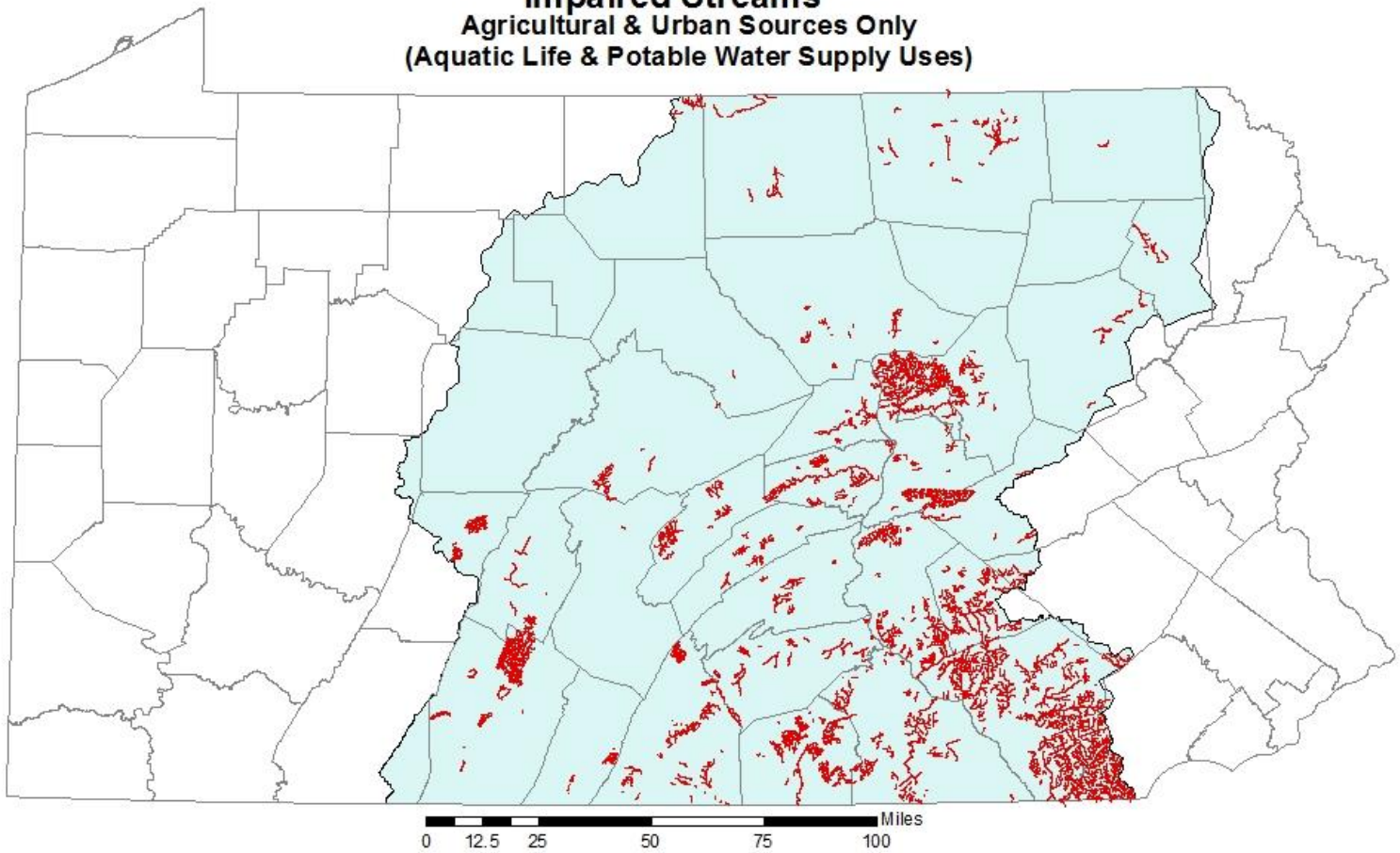
Chesapeake Bay Watershed
Impaired Streams
Agricultural & Urban Sources Only
(Aquatic Life & Potable Water Supply Uses)



Legend:

- Impaired Streams
- Counties
- Chesapeake Bay Watershed - PA

Number of Miles Impaired:

Aquatic Life Use - Agricultural Source: 3500 mi.
Aquatic Life Use - Urban Source: 727 mi.
Aquatic Life Use - Total Impaired: 3906 mi.

Potable Water Supply Use - Agricultural Source: 30 mi.

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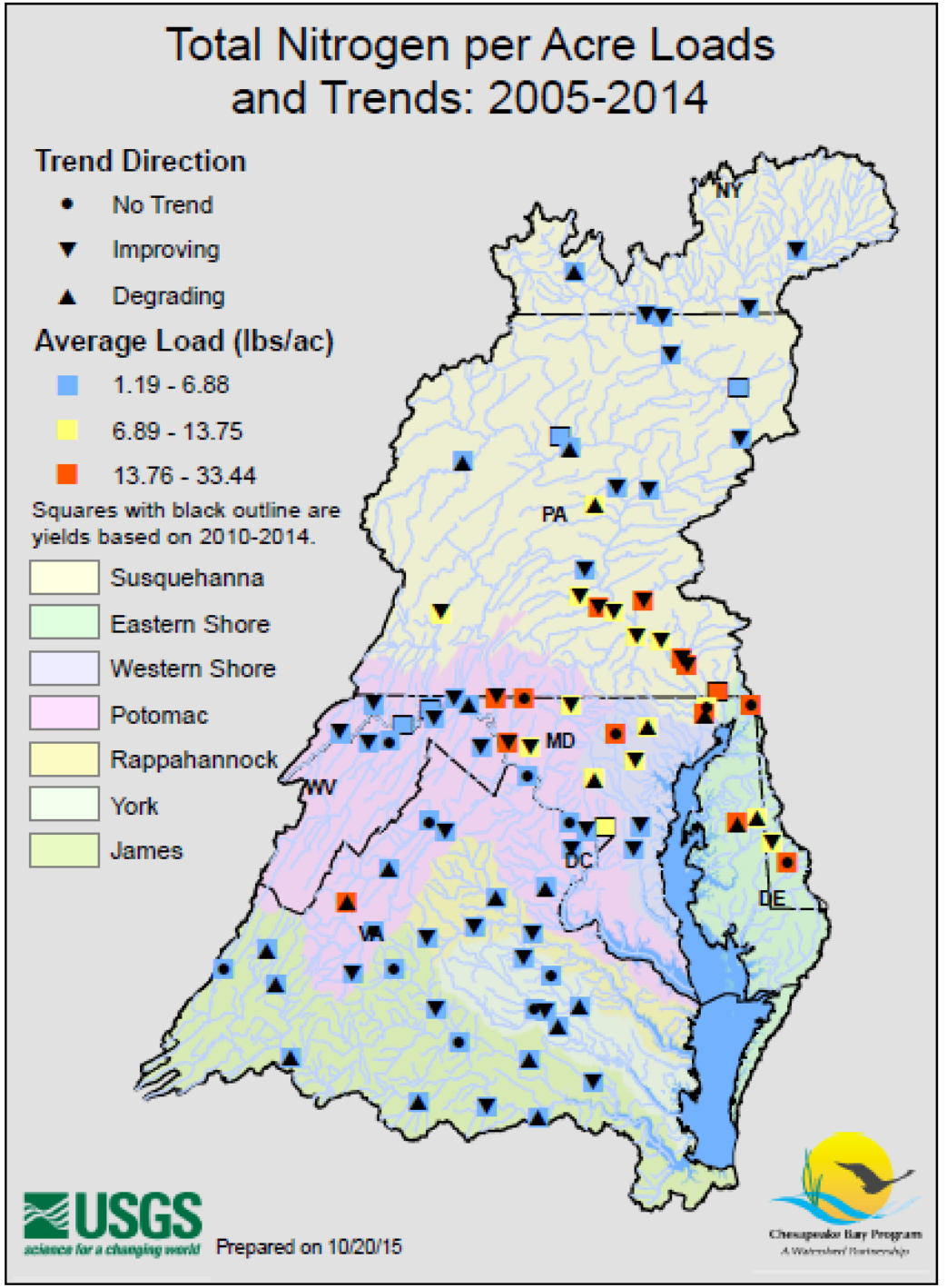
Total Nitrogen per Acre Loads and Trends: 2005-2014

Chesapeake Watershed

- Improving Trends: 54%
- Degrading Trends: 27%
- No Trend: 19%

PA: Majority improving

- Improving: 14
- Degrading: 3
- No change: 1



Total Phosphorus per Acre Loads and Trends: 2005-2014

Loads per acre

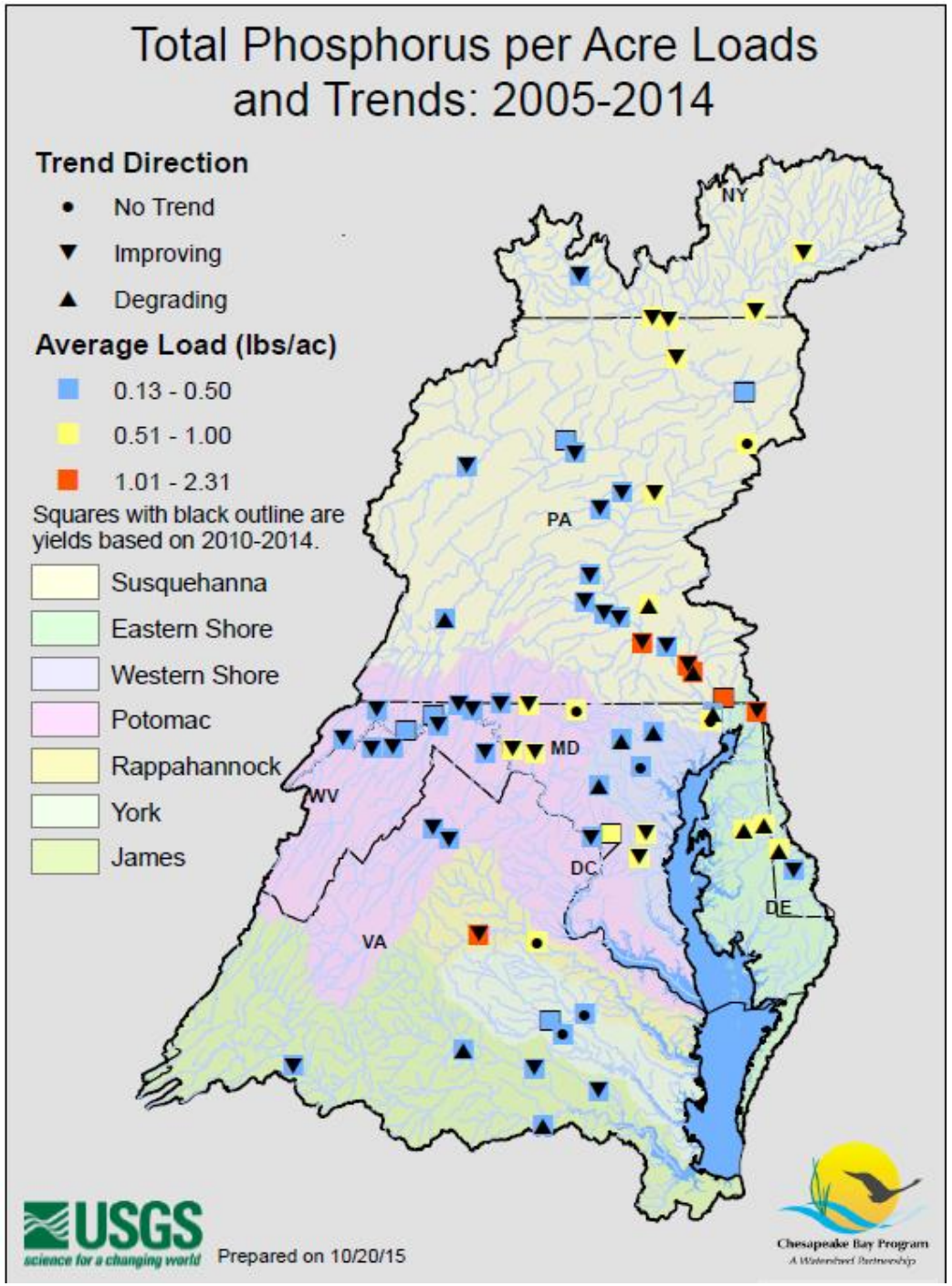
- Above average in PA
- Eastern part of basin

Bay Watershed trends:

- Improving Trends : 68%
- Degrading Trends : 20%
- No Trend : 12%

PA trends: Majority improving

- Improving: 14
- Degrading: 3
- No change: 1



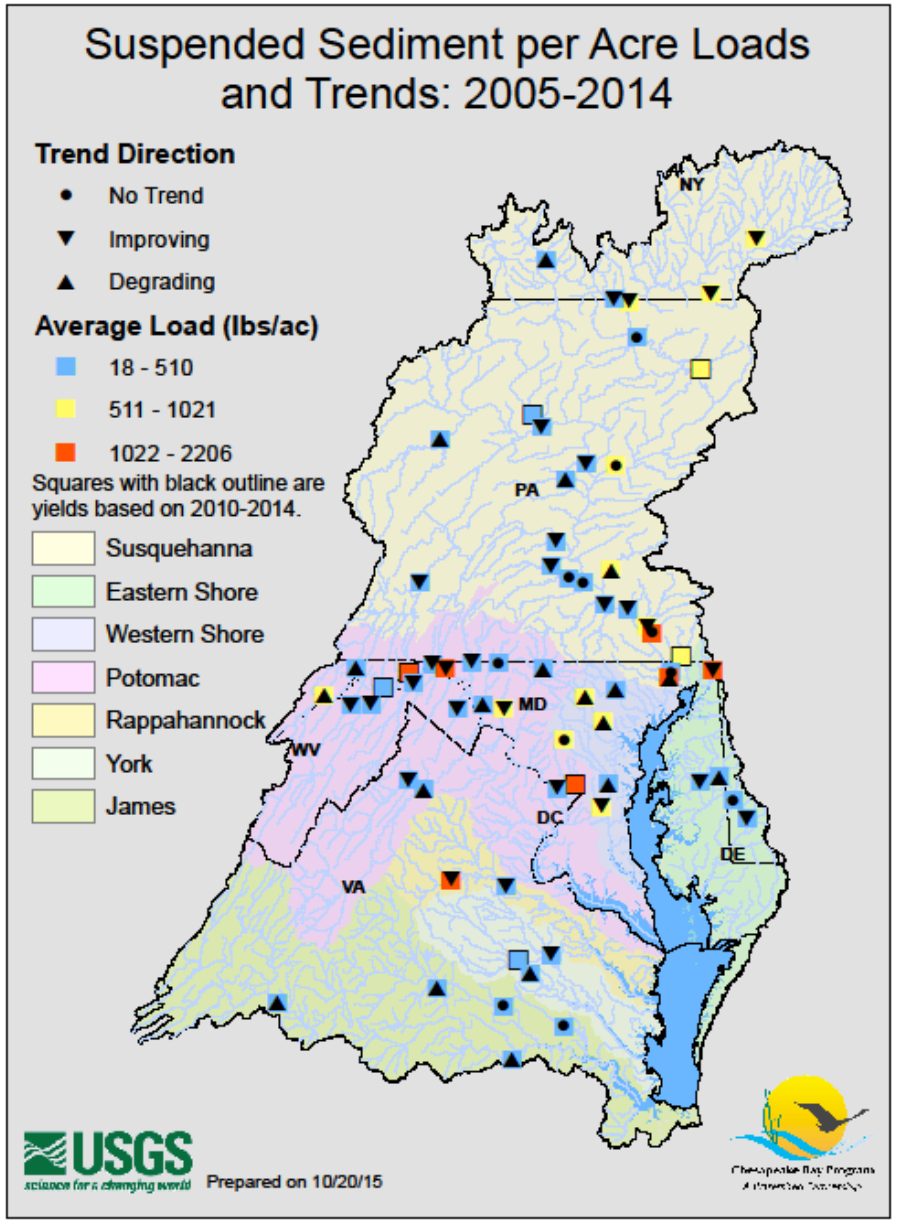
Total Suspended Sediment per Acre Loads and Trends: 2005-2014

Bay Watershed trends:

- Improving Trends : 47%
- Degrading Trends : 30%
- No Trend : 23%

PA trends: Majority improving

- Improving: 9
- Degrading: 3
- No change: 6



Restoration Strategy: Six Elements

1) Address Pollutant Reduction
2) Quantify & Multiply BMPs
3) Improve Record-keeping
4) Identify Needed Changes
5) Establish a DEP Chesapeake Bay Office
6) Seek New Resources

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Agricultural Inspection Initiative

- DEP began inspections August 29, 2016
- Districts began inspections October 3, 2016
- Preliminary Results (as of March 31, 2017):
  - Over 1125 Inspections Completed
    - Over 858 by Conservation Districts
    - Over 264 by DEP
  - Results of inspections to date
    - Total Acres Covered – 119,000 acres

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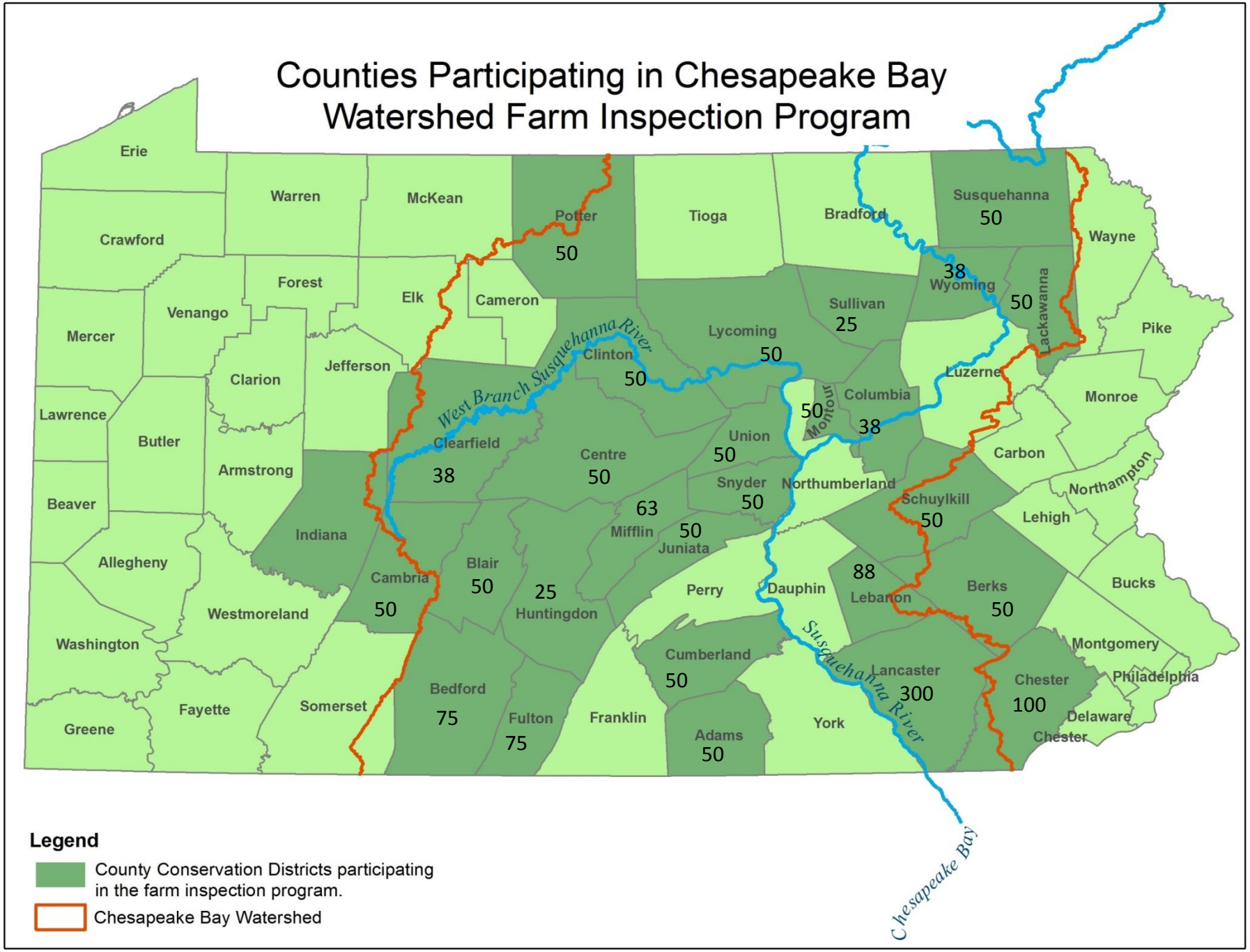
Counties Participating in Chesapeake Bay Watershed Farm Inspection Program



Legend

County Conservation Districts participating in the farm inspection program.

Chesapeake Bay Watershed

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Data Management Initiatives

- **Penn State Farmer Self-Reporting Survey Results (6700 surveys returned!)**
  - **475,800 acres** of nutrient/manure management; **97,562 acres** of enhanced nutrient management;
  - **2,164** animal-waste storage units; **2,106** barnyard runoff-control systems;
  - **55,073 acres** of agricultural erosion and sedimentation control plans; **228,264 acres** of conservation plans;
  - More than **1.3 million linear feet** of stream-bank fencing; **1,757 acres** of grass riparian buffers; and **5,808 acres** of forested riparian buffers.
  - **Total estimated reductions:**
    - **Nitrogen -- 1,047,704 lbs/year**
    - **Phosphorus -- 79,620 lbs/year**
    - **Sediment -- 10,395,906 lbs/year**
- **NRCS Potomac Watershed Remote Sensing Project**
  - Collected data on 26 conservation BMPs using a grid approach
  - Field verification “spot checks” were done by experienced NRCS staff using the standard USDA quality assurance/quality control sample

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Data Management Initiatives

- Worldview Development
  - Used the existing database design that was created for five Pennsylvania county conservation districts and Virginia Department of Environmental Quality
  - Submitted 2016 Progress Data Using the new Database Software
- PracticeKeeper Software Launch to ALL Districts in July, 2017
  - 6 Modules – Nutrient Management, E & S Planning, Watershed Projects, Complaints and BMPs
  - DEP staff and 9 Districts pilot testing starting now
- Hardware for PracticeKeeper
  - Funding Distributed for tablets for in-the-field data collection

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Urban Stormwater Cost Share Program

- Municipalities, MS4 Communities in Blair, Cumberland, Dauphin, Franklin, Lackawanna, Lancaster, Lebanon, Luzerne, Lycoming and York Counties
- $200,000 maximum per grantee
- Round #1 (Awarded July, 2016)
  - Over $2.2 million awarded to 19 projects
- Round #2 (To be announced shortly)
  - Over $5.5 million requested for 40 projects
  - Expect to award around $2.3 million

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Conservation District Special Projects

- Support Implementation of the Restoration Strategy
  - BMP Implementation Projects in areas identified as part of the Agricultural Inspection Strategies
  - In impaired watersheds or priority watersheds identified by the County in their Implementation Plans
  - BMP verification and tracking, including the further documentation of voluntary practices
- Priority Projects:
  - Comprehensive solutions, Plan Implementation, Regulatory Compliance
  - More emphasis placed on shovel ready projects where designs are completed
- Available funding is $2.5 to $3 million (2 years funding)
  - Over $4.4 million requested for 58 projects
- Projects MUST be completed by **June 30, 2019.**

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EPA Baywide Expectations—Top 4

- Programmatic and numeric implementation commitments for 2018-2025
- Strategies for engagement of local, regional and federal partners in implementation
- Account for changed conditions: climate change, Conowingo Dam infill, growth
- Develop, implement local planning goals below the state-major basin scales

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EPA Pennsylvania Expectations

- Programmatic, policy, legislative and regulatory changes needed
- Demonstration of the staff, partnerships and financial resources needed
- A dedicated and targeted annual state cost-share program
- Next steps as we move forward:
  - Evaluate the expectations and define how the Commonwealth can meet these expectations or
  - Define a viable alternative to their expectations that achieves the same end result.
- EPA Actions
  - Continue to target federal compliance and enforcement actions
  - Direct or withhold federal funding
  - Establish finer scale load allocations through a Pennsylvania-specific amendment to the TMDL
  - Require additional reductions from point sources
  - Promulgate nitrogen and phosphorus numeric water quality standards for Pennsylvania streams and rivers

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Midpoint Assessment

- Data Collection & Analysis
  - Water Quality Monitoring and Trend Analysis
  - Conowingo Dam
  - Climate Change
  - Sector Growth
- Policy and Methodology Decisions – Planning Targets
  - By state, basin
  - Equity vs Cost-effectiveness
- Model Calibration
  - Expert Panel Reports – BMP Efficiencies
  - Historical Data Cleanup

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Midpoint Assessment Schedule

- June-July: 2017: Partnership's review of models
- October 2017: Draft Phase III WIP planning targets
  - Resolution of Issues around Conowingo, Climate Change, Sector Growth
- October - Feb 2018: Partnership review of targets
- Feb 2018: Final Phase III WIP planning targets
- Dec 2018: Draft Phase III WIPs shared for partner, stakeholder review
- Mar 2019: Final Phase III WIPs due

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Phase 3 Watershed Implementation Plan

- Stakeholder Input and Outreach
  - Steering Committee/Workgroups
  - Website
  - Communications Strategy Being Developed:
    - One-Day Kick-Off Conference, Listening Sessions, Public Comment
- Planning Targets & Implementation
  - Sector Specific
  - Local Area Goals
  - Priority Areas/Watersheds
- Measurable Outputs, Milestones
- Emphasis on Local Water Quality, Local Goals, Local Benefits

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Local Planning Goals

- Jurisdictional Boundaries (County, Township, Borough, Conservation District)
- Federal or State Facilities
- Regional Entity Boundaries (River Basin Commission, Planning Commission)
- Watershed or sub-watershed
- “Segment-shed” as defined in the TMDL
- Area with a defined need for pollutant reduction (ex. MS4s)
- Targeted area with high pollutant loadings

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Phase 3 WIP Schedule

- April, May, 2017 – Form Steering Committee and Workgroups
- **June 5, 2017** – Phase 3 WIP Kick-Off Conference, Radisson Harrisburg
- **June 3 – July 7, 2017** – Follow-up Written Comment Response to Conference
- July 2017 through October 2017
  - Bay Program Partnership Works Through Issues
  - Workgroups Formed, Convened
  - Comments Compiled, Additional Information and Data Compiled
- October 2017 through May 2018
  - Workgroups and Steering Committee develop the WIP
  - Additional Outreach Around Development of Local Planning Goals/Sector Specific Plans
- August/September 2018 – Public Comment Period of Draft Phase 3 WIP
- December 2018 – Submit to EPA for Partnership Review
- January 2019 – Revise in Response to Partnership Review
- March 2019 – Submit Final Phase 3 WIP

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Public Comment

- What key elements need to be included for this effort to be a success? What priority issues MUST be addressed in the Phase 3 WIP for me to agree the plan would be implementable?
- Is there a particular initiative, action, partnership, training that would aid this effort?
- When 2025 arrives, what measurable outcome does Pennsylvania need to achieve that would make you agree that this effort was a success?
- Are there possibilities for continuing and enhancing current projects or initiatives?

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Other Resources

- Chesapeake Bay Program Website
  - http://www.chesapeakebay.net
- Chesapeake Bay Assessment Scenario Tool - CAST
  - http://www.casttool.org – County level scenario calculator
- Chesapeake Bay Facility Assessment Scenario Tool - BayFAST
  - http://www.bayfast.org – Facility level scenario calculator
- Phase 6 Model Data Visualization Tool – New Beta 4 Run
  - https://mpa.chesapeakebay.net/Phase6DataVisualization.html

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