

Agriculture Sector Updates

Fall 2014 Regional WIP Workshops

Jason Keppler

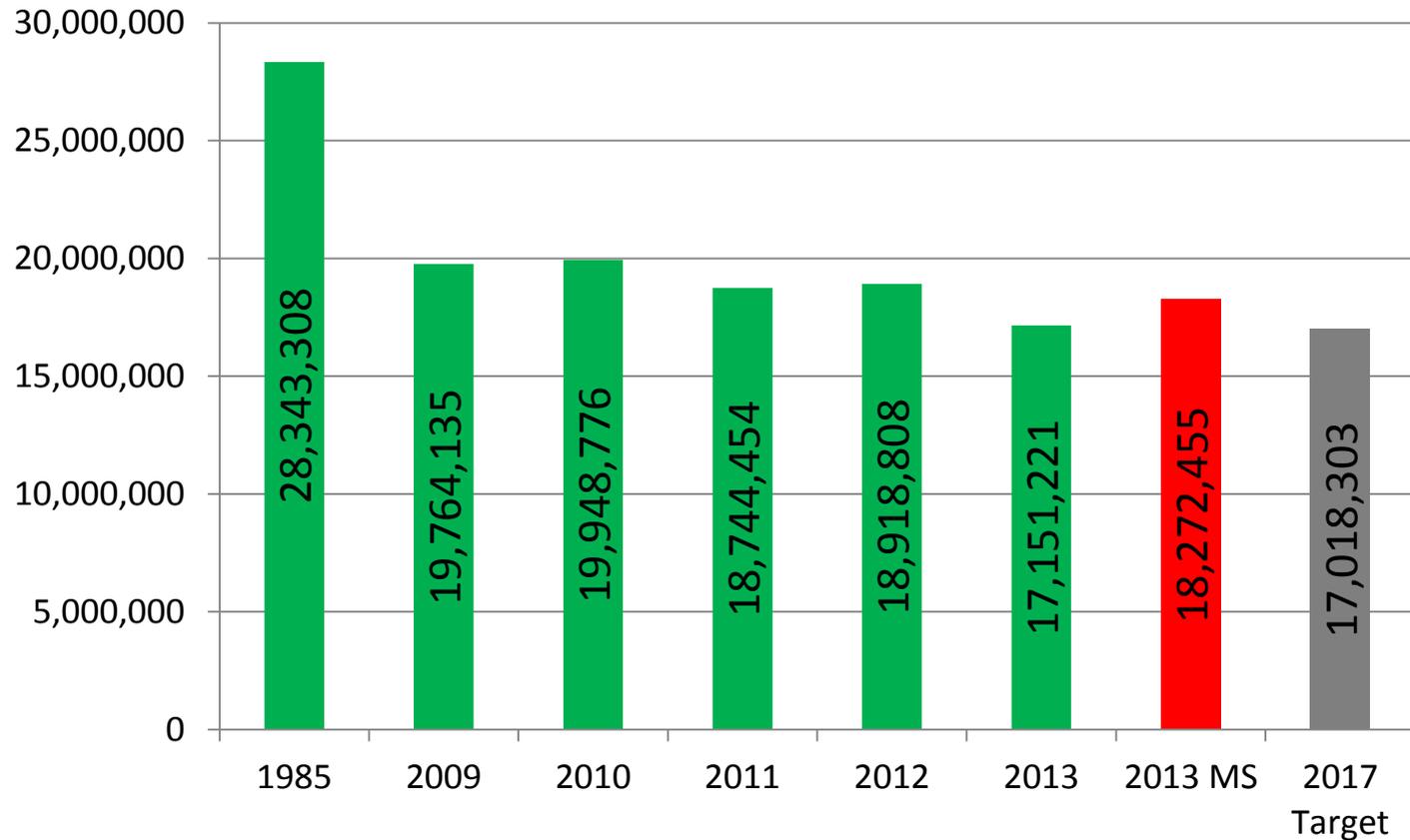
Watershed Implementation Program





2013 Progress Highlights

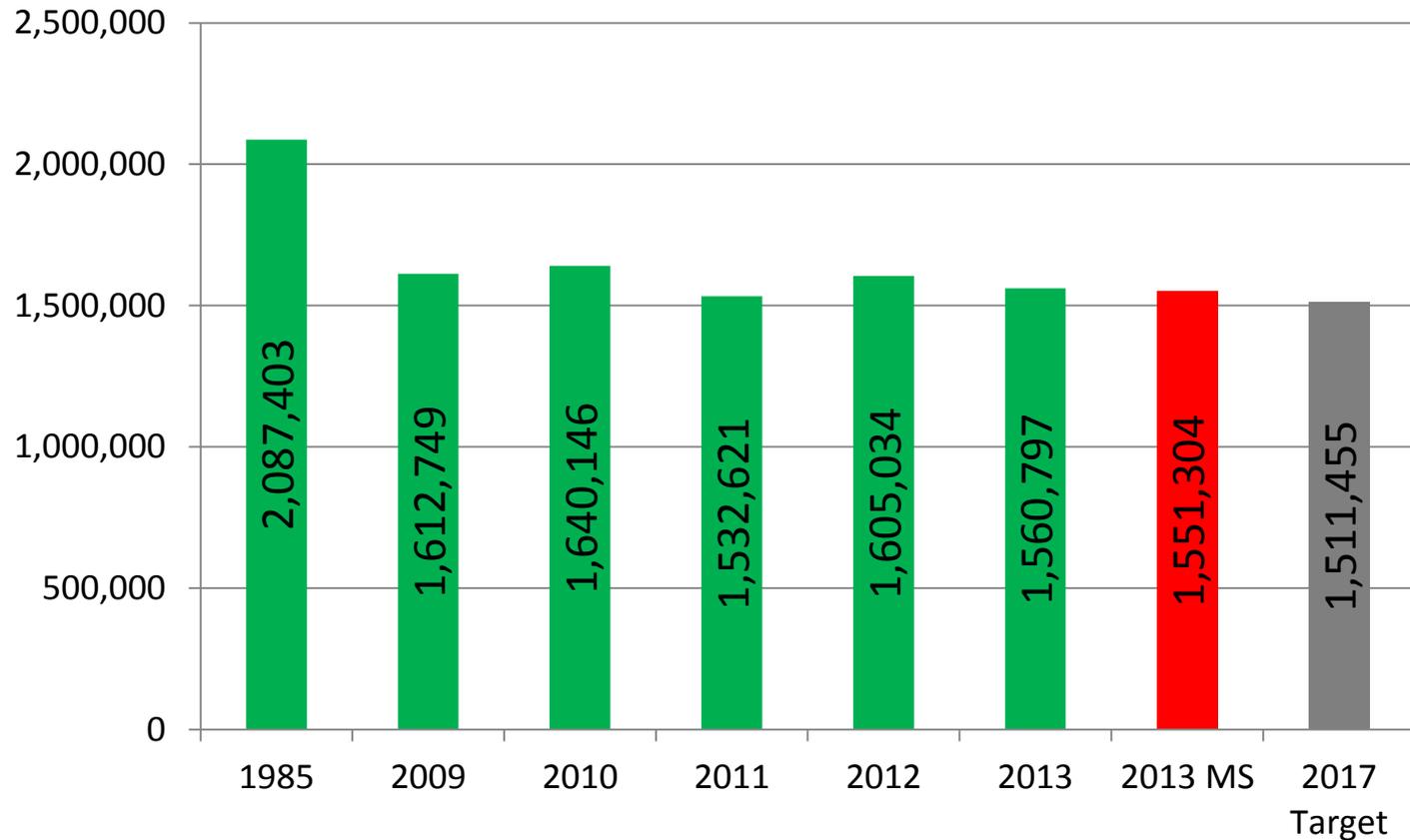
Estimated TN Delivered - Ag





2013 Progress Highlights

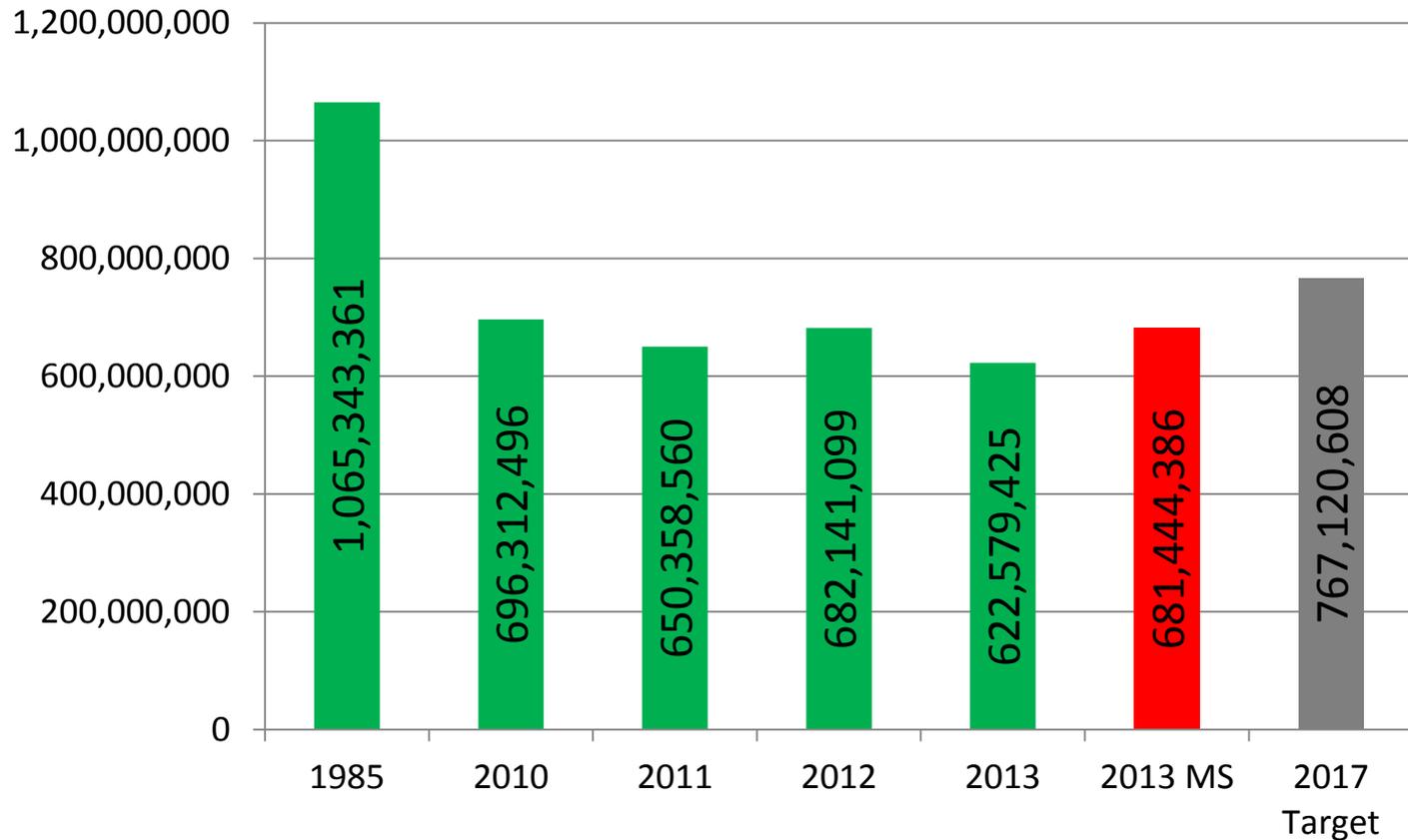
Estimated TP Delivered - Ag





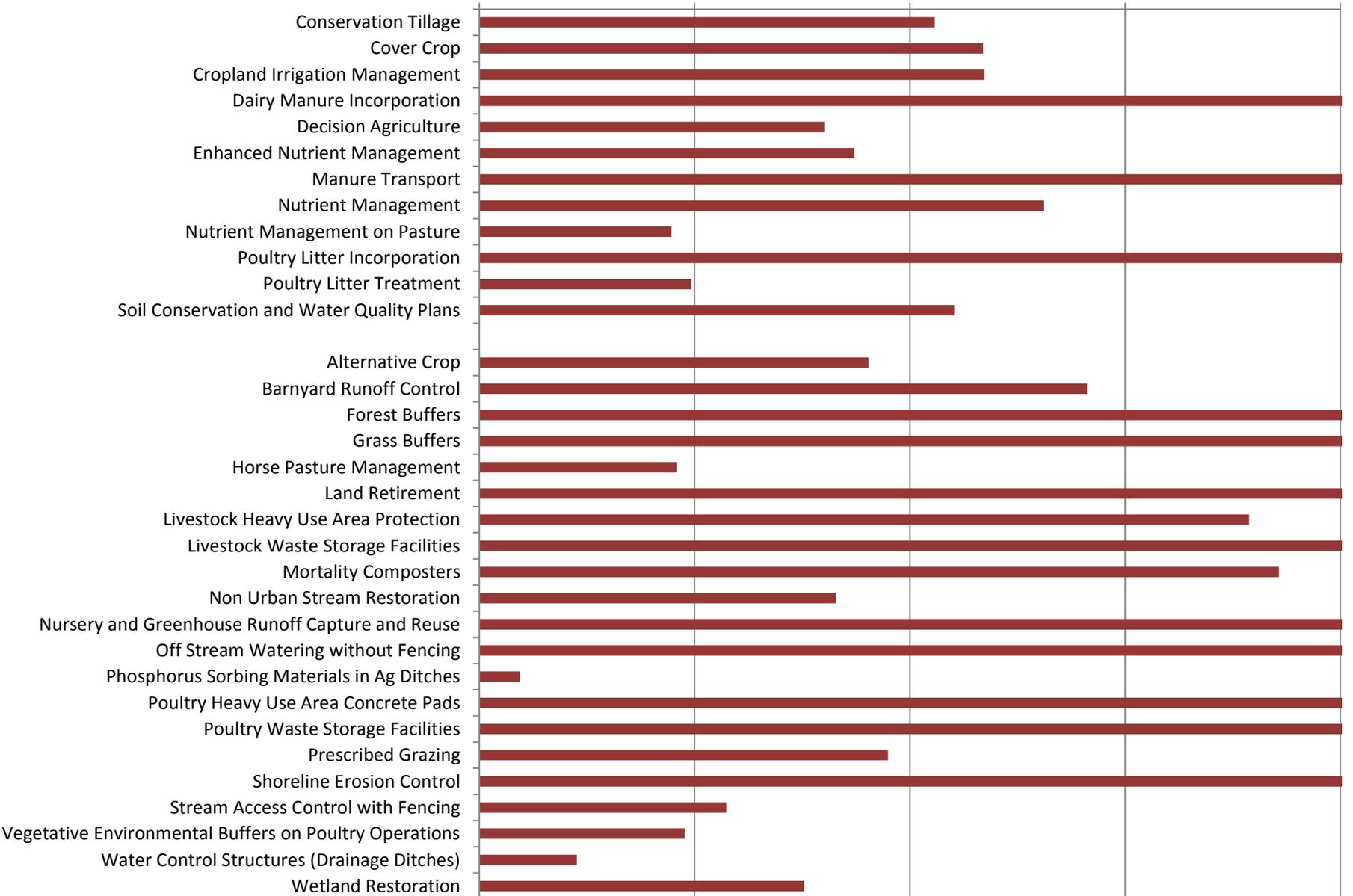
2013 Progress Highlights

Estimated TSS Delivered - Ag



Maryland Statewide : Progress 7/1/11-6/30/13

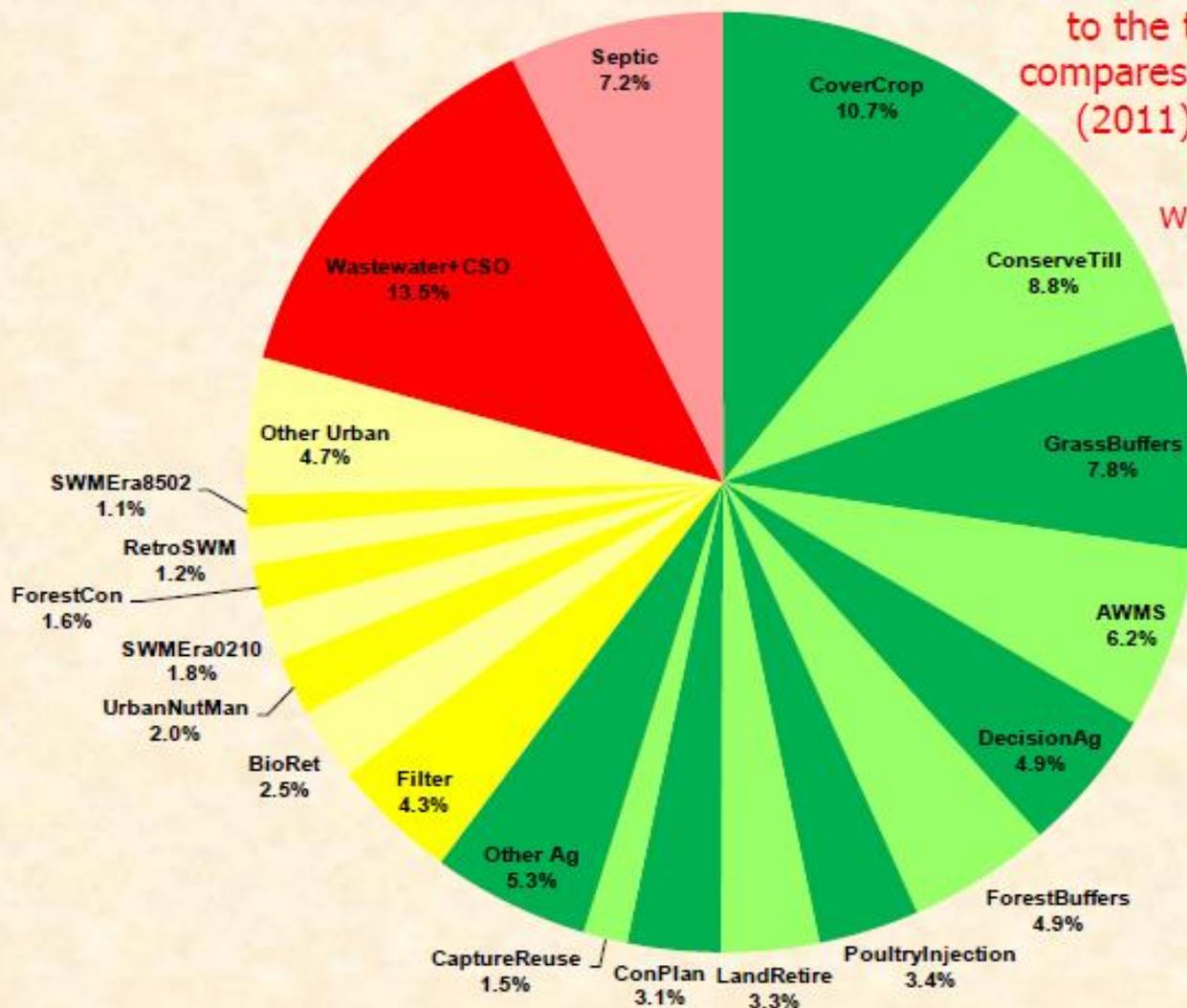
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Nitrogen Relative Load Reductions Maryland



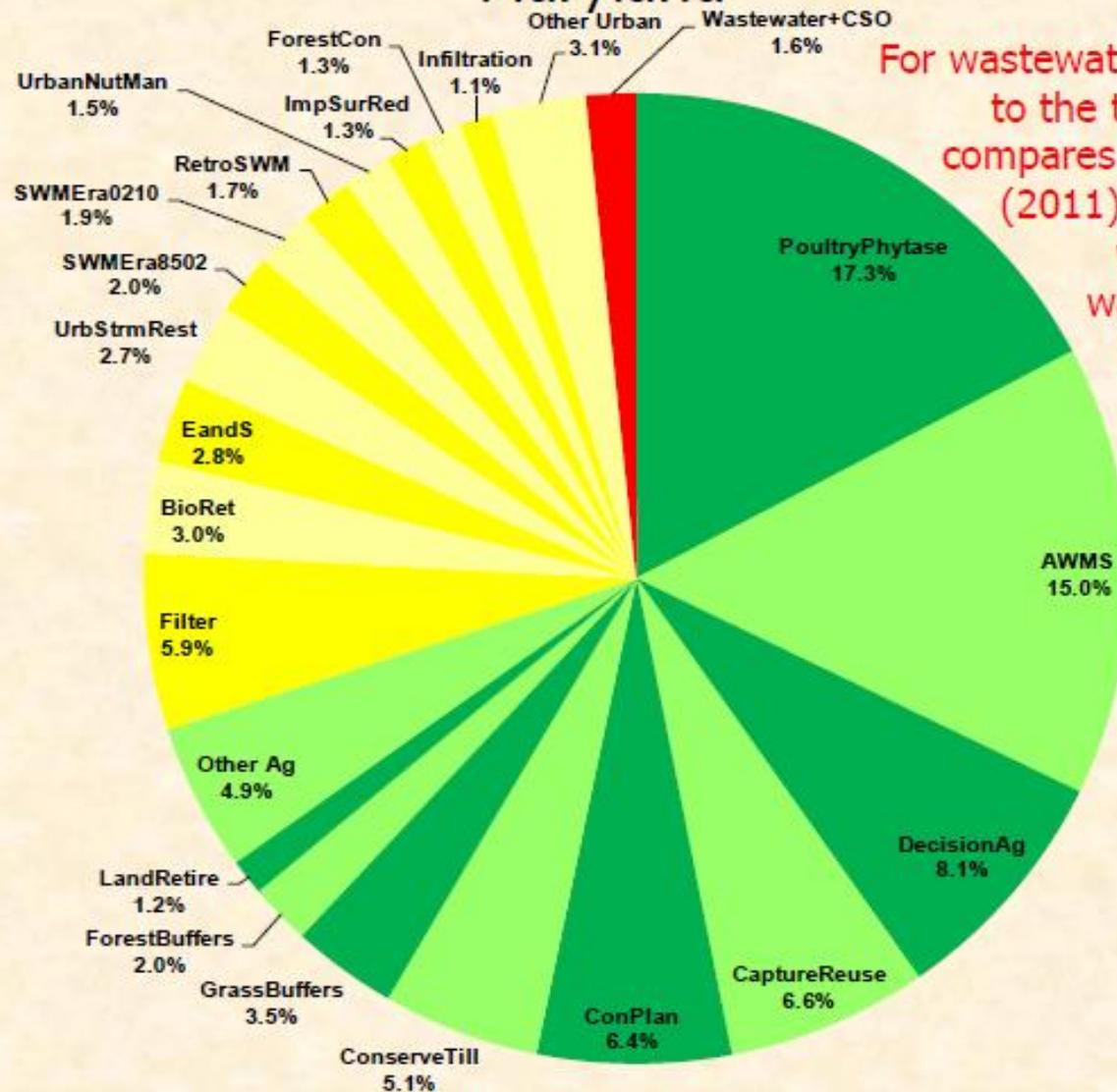
For wastewater, the contribution to the total load reduction compares current discharges (2011) to WIP discharges while BMPs outside wastewater compare No-Action to WIPs.





Phosphorus Relative Load Reductions

Maryland



For wastewater, the contribution to the total load reduction compares current discharges (2011) to WIP discharges while BMPs outside wastewater compare No-Action to WIPs.



Load Observations

- Revised NM efficiencies primary TN driver
 - 974,000 lbs TN
 - 36,000 lbs TP
- Record Cover Crop enrollment
- Increased Cons. Tillage influenced TP & TSS
- Many urban counties experienced significant TP reductions due to 2011 Fertilizer Act



2013 Model "Cutoffs"

| BMP | Excess Acres |
|---------------------------------------|--------------|
| Barn Runoff | 125.74 |
| Commodity Cover Crop Aerial Broadcast | 23.60 |
| Conservation Plan | 1,281.35 |
| Conservation Tillage | 5,656.61 |
| Cover Crop (Early) | 94.82 |
| Enhanced Nutrient Management | 635.40 |
| Loaf Lot | 4.66 |
| Non-Urban Stream Restoration | 0.007 |
| Pasture Fencing | 216.08 |
| Wetland Restoration | 0.36 |



“Interim” BMP Crediting

BMP

Manure Injection / Manure Incorporation

Nursery & Greenhouse Runoff Capture & Reuse

Poultry Heavy Use Area Concrete Pads

Cropland Irrigation Management

Vegetative Environmental Buffers

Multiple Width Grass & Forest Buffers

Alternative Crop (Switchgrass)

Shoreline Erosion Control

Phosphorus Sorbing Materials in Agricultural Ditches

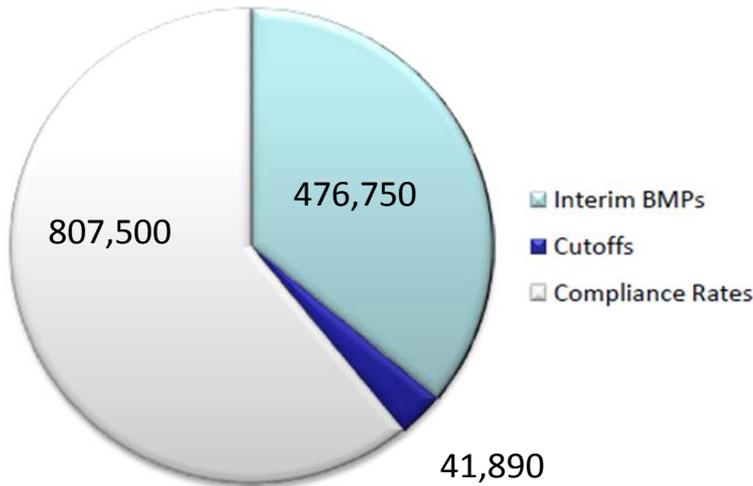
Agricultural Stormwater Structures for AFA Production Areas

Non Poultry Mortality Composters

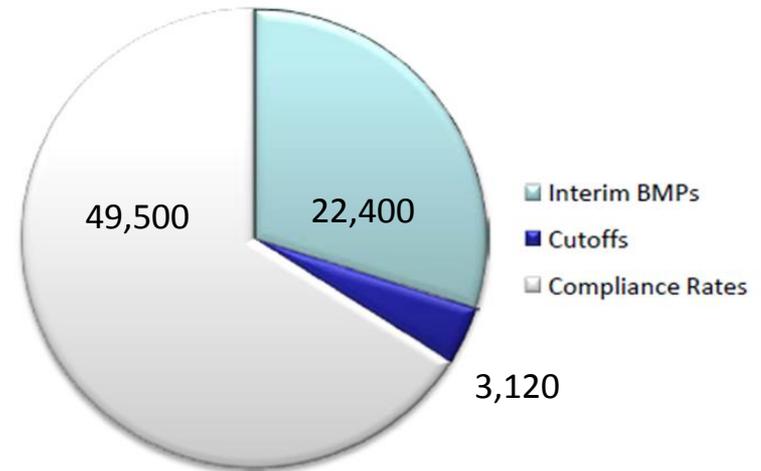


Nutrient Credits Lost

Delivered TN



Delivered TP



Estimated Potential Additional Reductions

Delivered TN – 1,327,000 lbs

Delivered TP – 75,000 lbs

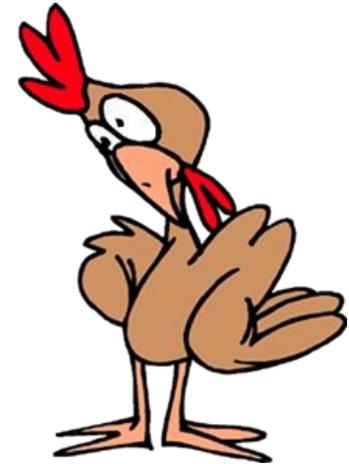
Note: Cutoffs occur when more BMPs are spatially located in areas that do not have enough model land use available to apply them.



Poultry Manure Impacts

How much N & P is being generated within the Bay watershed from the poultry industry?

Pounds of N (or P) = (concentration) x (volume) x (birds)





Model Input Updates

- 2012 Ag Census data
 - Available Cropland
 - Animal Production #s
- Crop Yields / Nutrient Uptake / Recommendations
- Fertilizer Sales Data
- Land Use projections
 - Old -14,000 ac/yr vs new -5,000 ac/yr



On the Horizon

- 2017 Mid-Point
 - New model version WSM 6.0
 - Recalibration
 - Phase III WIP
- Implementation Verification
 - 10% v 5% spot checks
- Loss of Implementation
- Resource Improvement Inventory



Allocation Responsibility & Cost

| Source Sector | N Reduction Mil/lbs/yr | Phase II WIP Cost (Mil) | Cost/lb Reduced | % of Total Load Reduction | % of Total Cost |
|-----------------|---------------------------|----------------------------|--------------------|------------------------------|-----------------|
| WWTP | 5.45 | \$2,368 | \$400 | 41% | 16% |
| Agriculture | 4.73 | \$928 | \$200 | 36% | 6% |
| Urban Retrofits | 1.93 | \$7,388 | \$3,800 | 15% | 51% |
| Septic Systems | 1.15 | \$3,719 | \$3,200 | 9% | 26% |
| Total | 13.26 | \$14,403 | \$1,100 | 100% | 100% |

| Source Sector | N Reduction Mil/lbs/yr | Phase II WIP Cost (Mil) | Cost/lb Reduced | % of Total Load Reduction | % of Total Cost |
|-----------------|---------------------------|----------------------------|--------------------|------------------------------|-----------------|
| WWTP | 0.177 | \$2,368 | \$13,400 | 30% | 22% |
| Agriculture | 0.190 | \$928 | \$4,900 | 32% | 9% |
| Urban Retrofits | 0.220 | \$7,388 | \$33,600 | 37% | 69% |
| Total | 0.587 | \$10.684 | \$18,200 | 100% | 100% |



Options for Achieving 2025

- Trading between sectors
 - Actively discussing cross-sector trading with Bay agencies
 - Issues
 - Amount of credits that can be purchased
 - Geographic restrictions
 - Agricultural assurances
 - Draft policy out later this year
 - Expected to be a critical tool for Phase III development



Nutrient Trading Program

§8–901.

The General Assembly finds and declares that:

(1) Voluntary nutrient and sediment trading programs provide an innovative and cost-effective approach to enhance water and air quality and achieve additional water and air quality benefits; and

(2) The Agricultural Nutrient and Sediment Credit Certification Program established under this subtitle authorizes the Department to verify, certify, and register agricultural nutrient or sediment credits in support of private and public nutrient or sediment trading activities.....



Draft Regulations

- Establishes the requirements and standards for the generation and certification of nonpoint source nutrient and sediment credits on agricultural land
- The purpose is to reduce the amount of nitrogen, phosphorus, and sediment entering the Chesapeake Bay and its tributaries through a form of water quality trading utilizing a market-based strategy.
- Establishes the protocols for approving professionals qualified to evaluate and review agricultural operations for eligibility and compliance with the Program.



Draft Regulations

- Application and eligibility requirements for certification
- Baseline requirements
- Standards for quantifying nutrient or sediment credits resulting from any existing or proposed agronomic, land use, and structural practice
- Requirements governing the duration and maint. of credits
- Certification and registration of credits
- Annual verification and reporting;
- Departmental review;
- Protocols for the approval of professionals qualified to act as verifiers
- Enforcement provisions, including the suspension or revocation of credits.



Online Offset Calculation Tool for AFG

\$500,000 USDA/NRCS Conservation Innovation Grant

- Expand CBNTT by enhancing and re-calibrating the calculation tool to provide the capabilities to estimate credit and offset needs in the stormwater sector
- Modify the registry, marketplace, and administrative modules to meet programmatic changes and facilitate the ease of market participation for sellers and buyers
- Provide a transparent and accessible tracking and accounting system for credits and offsets and generate reports for state entities and the EPA.



Additional Enhancements to Tool

\$115,000 EPA Chesapeake Bay Implementation Grant

- Establish minimum data collection and reporting requirements as well as minimum certification and verification standards for Chesapeake Bay states
- Modify and enhance the functionality of the multi-states registry and marketplace components



Maryland Certainty Program

To create a program that provides a “safe harbor” (regulatory relief for any new regulations with regards to nitrogen, phosphorus and sediment) for farmers who meet and exceed their local TMDL reductions at the farm scale.





Certainty Program Background

- In 2012, MDA receives a CIG grant from USDA to develop a Certainty Program.
- During the following Legislative session SB 1029 was introduced and passed creating the Maryland Agricultural Certainty Program.
- Over the next 1½ years the Agricultural Certainty Oversight Committee worked together to develop the regulations of how the program will be run.



The Regulations will be finalized in November 2014. Full role out of the Program to begin January 2015.



Certainty Program Process

- To become a certified farm in the Certainty Program the farm operation is subject to a thorough review including:
 - Review of the SCWQP with on-farm verification
 - Full nutrient management plan implementation review
 - Evaluation using the MNTT to determine whether a baseline condition is met
- MDE will also take part in the onsite inspections of the farm.
- Once a farm is certified, records will be submitted annually as well as fully inspections every 3 years.
- After the 10 year period they must be in compliance with any new regulations.





Certainty Program Benefits

- Demonstrated at their farm scale that they have met their TMDL requirement
- Provides relief from potential State regulatory requirements
- Eligible to Trade on an Ecosystem Marketplace to help others with Bay restoration goals.



Phosphorus Management Tool

- Risk assessment tool to mitigate phosphorus loss
- Proposed Regulations held Nov 2013
- Economic impact report release delayed

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Questions

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