

WIP Local Refinements and Implementation




Maryland WIP Webinar
May 23, 2012



Webinar Overview

- Refining the WIP by July 2, 2012
 - MAST Scenarios
 - Narrative Strategies
 - Milestones
- March WIP Technical Presentations
- Future Steps
 - WIP Implementation
 - Long-Range Planning



Refining the WIP by July 2, 2012

MAST Scenarios

- Updates are at Local Discretion
- You may Update 2017 or 2025 or Both
- 2025 Strategy should achieve Final Target for TN
 - It's Not Possible to Meet Target for both TN and TP
 - If it Doesn't the State will Supplement the Strategy
 - If Sector Targets are not met Individually, Narrative Strategy Needs to Explain
- 2017 Strategy Target Now 60% (was 70%)
- Submit to State the same way as in November 2011
- Please Do Not make changes after submittal date!
 - Save under a different name before changing anything

Narrative Strategies

- Updates are at Local Discretion
- Opportunity to Account For:
 - Extension from 2020 to 2025 (Planning Horizon)
 - 60% 2017 Target (rather than 70%)
 - Insights from Public Review Process
 - Outcomes of the 2012 General Assembly
- Reductions
- Resources & Funding Plans
- Tracking, Reporting & Verification
- See Guidance Under “What’s New” WIP II Webpage

Local 2013 Milestones

- Updates are at Local Discretion
- Considerable Flexibility in Local 2013 Milestones
- Local 2015 Milestones More Rigorous
- BMP Implementation Milestones:
 - July 1, 2011 – June 30, 2013
 - Consider Pace to Reach Long-Term Targets
 - Acceleration in 2015 Milestones
- Programmatic Milestones:
 - January 1, 2012 – December 31, 2013
 - Consistent with Narrative Strategy
 - Consider New State Legislation



March 30 WIP Technical Presentation

Maryland Assessment Scenario Tool

Webinar

May 23, 2012

Login

User Name:
Password:

[Log In](#)

Presented by:
Lee Currey

The latest test version was deployed on August 15, 2011. Updates include:

- The capacity to compare among three scenarios has been added. The Compare Scenarios page may be accessed by a link from the Scenario List page.
- Documentation has been updated. There are multiple resources available including tables with information about the BMPs and maps of the sub-county areas.
- Users' scenarios are now permanent.
- Processed water page design completed.
- Scenario for Processed Water required to be added by user to new scenarios. Currently the 2010 load (current) are available to be copied from the public scenario. MDE will also make available: 2017 loads, 2020 loads, and cap loads.

Additional planned refinements include:

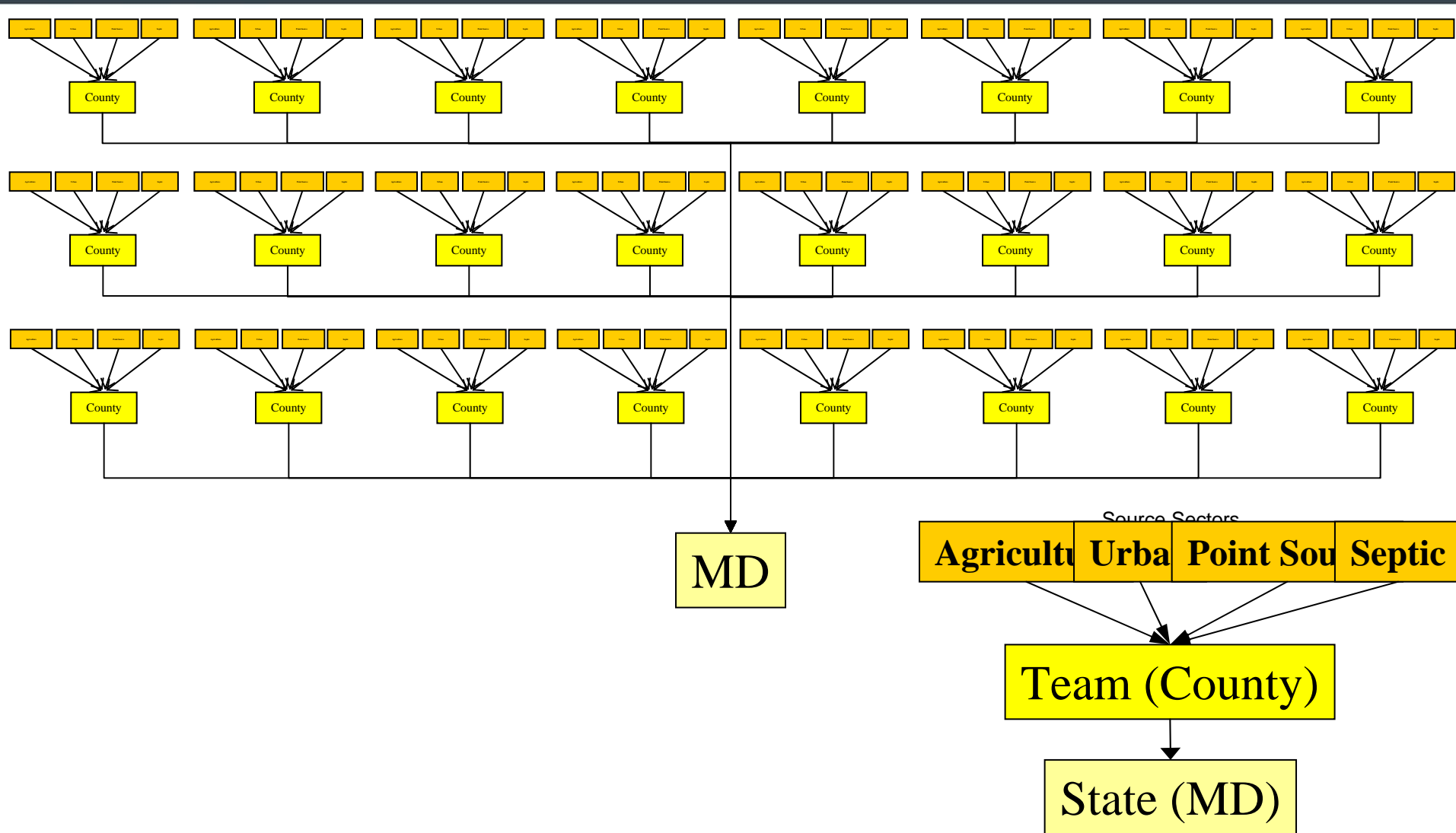
- Calculations for animal BMPs will be added. Currently there are no load reductions being calculated for these BMPs.

[Request a Login](#)

Overview

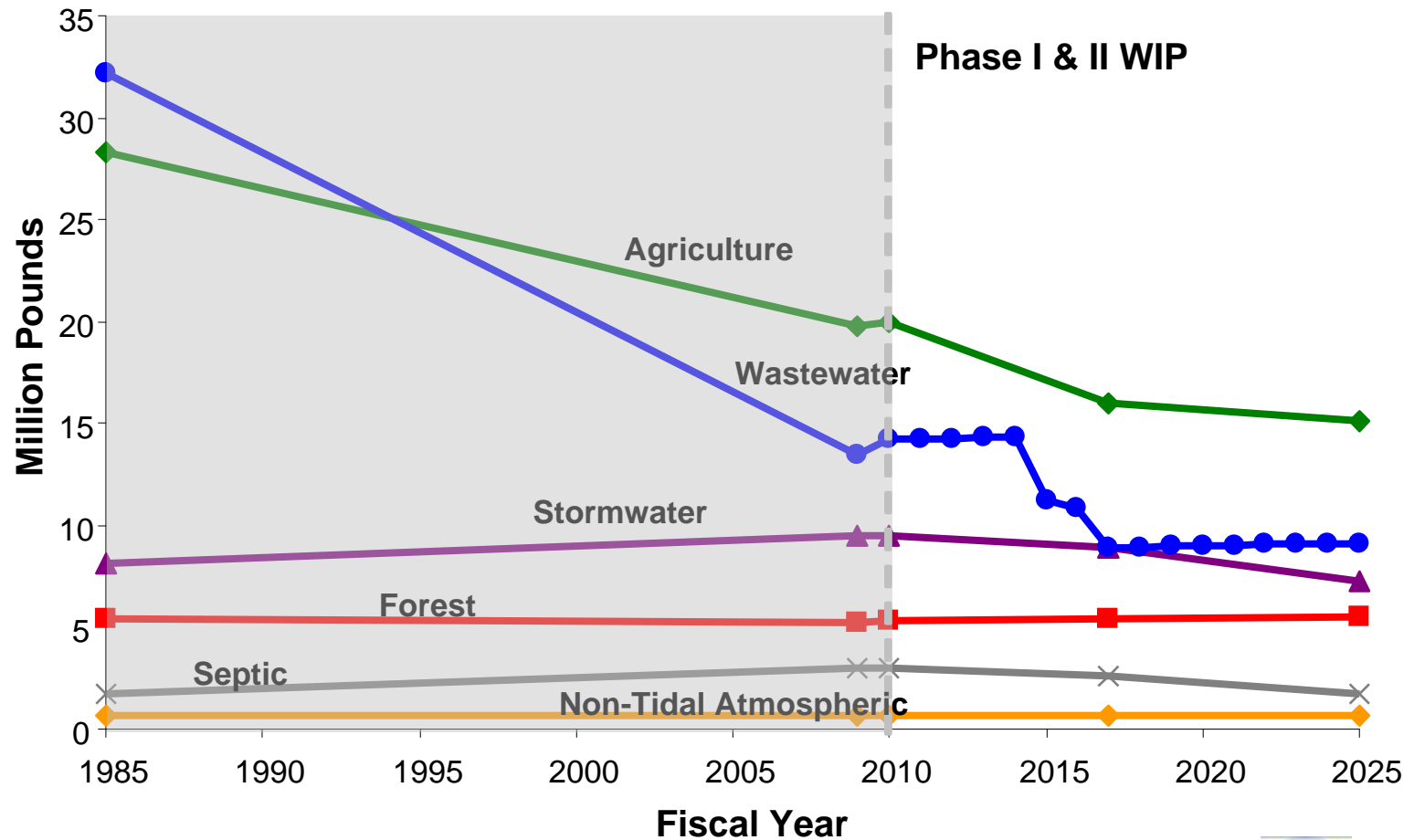
- Dataflow
- Sectors
 - Agriculture
 - WWTP
 - Developed land
 - Septic System
- Next Steps

Scenario Development Dataflow



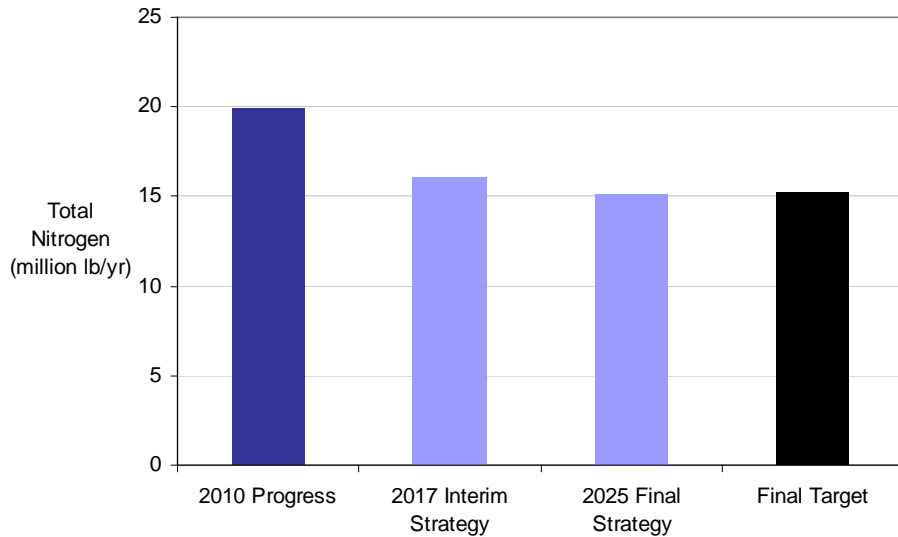
Statewide Summary

Maryland Total Nitrogen Loads 1985 - 2025

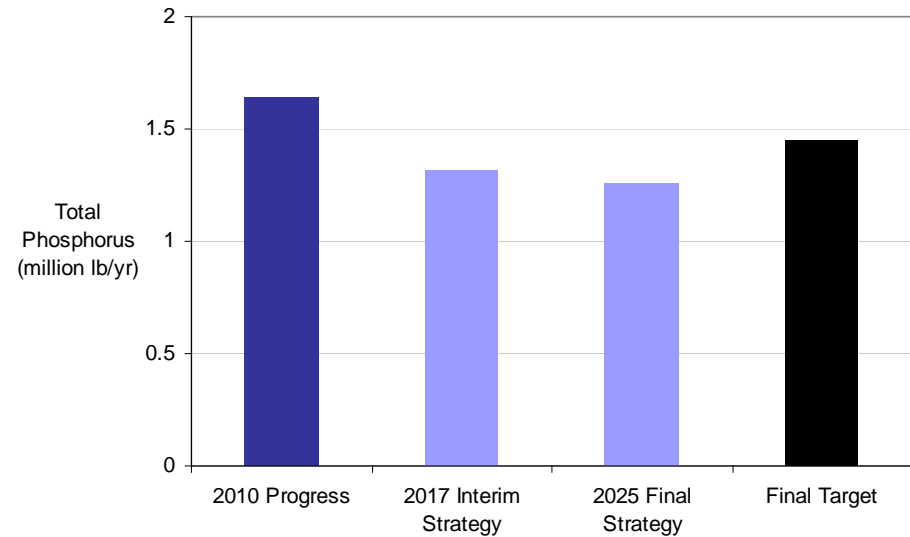


Agriculture Loads

Agriculture - Nitrogen

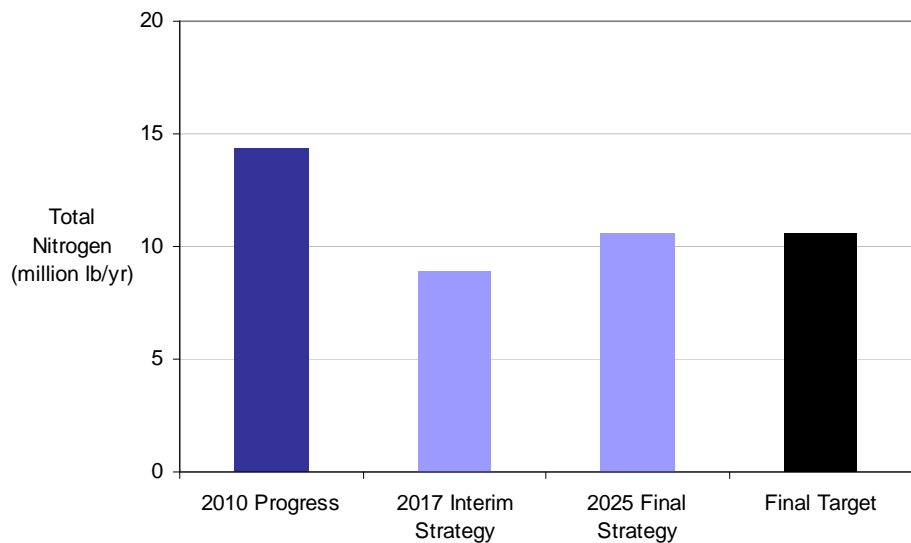


Agriculture - Phosphorus

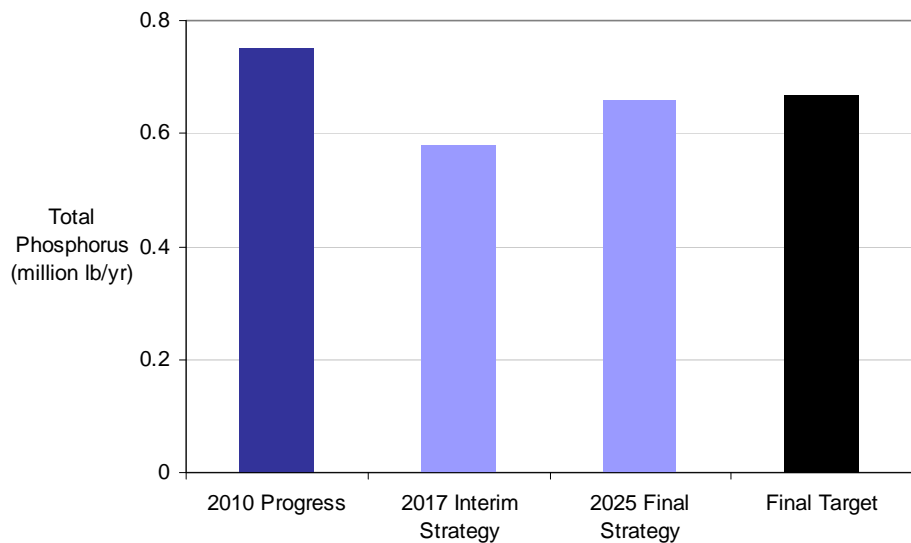


Wastewater Loads

Wastewater - Nitrogen

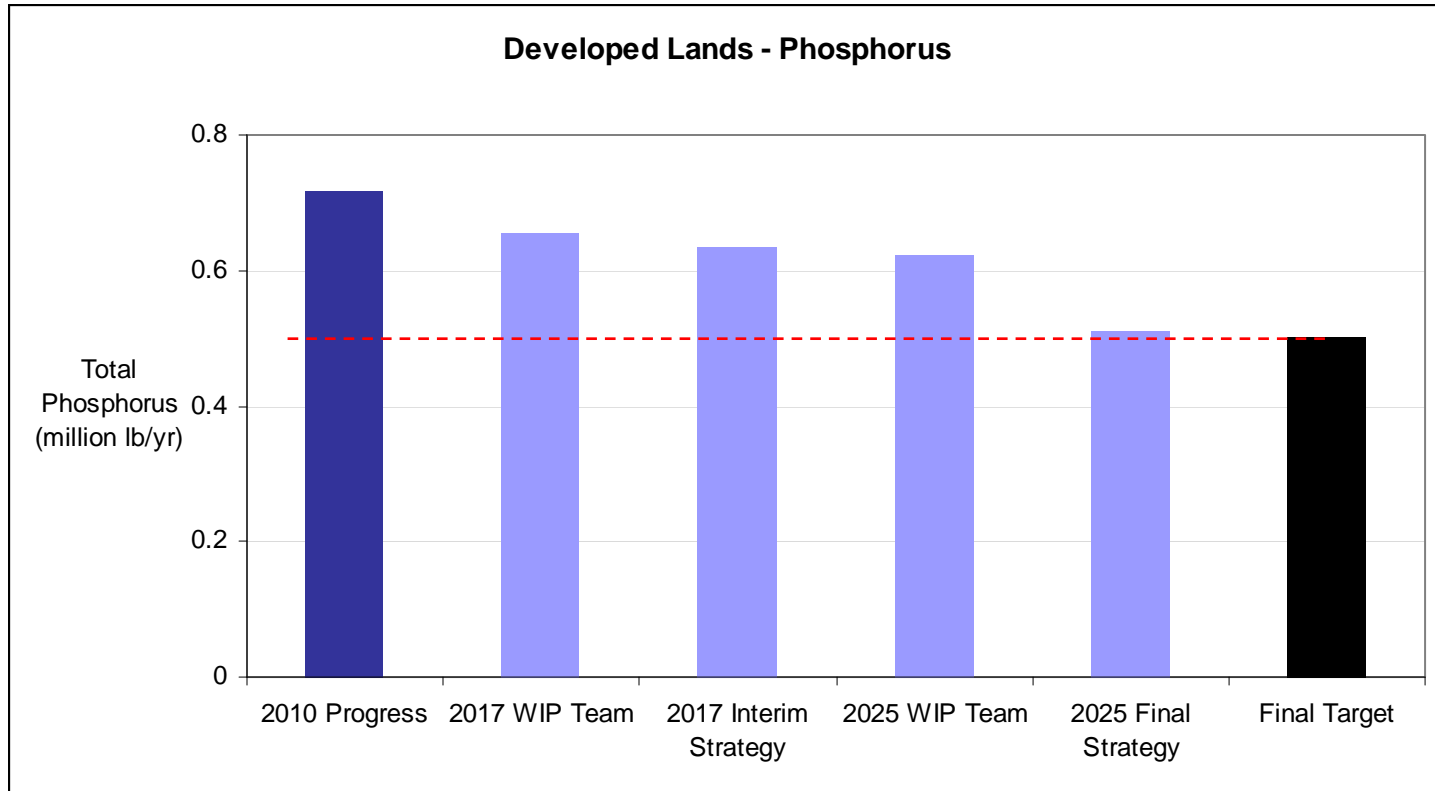


Wastewater - Phosphorus



- 2025 Scenario
 - Major Municipal - ENR Cap Strategy
 - Major Industrial - Tributary Strategy Cap
 - Minor Municipal - Tributary Strategy Cap
 - Minor Industrial – Percent reduction
- 2017 Scenario – Growth Projections

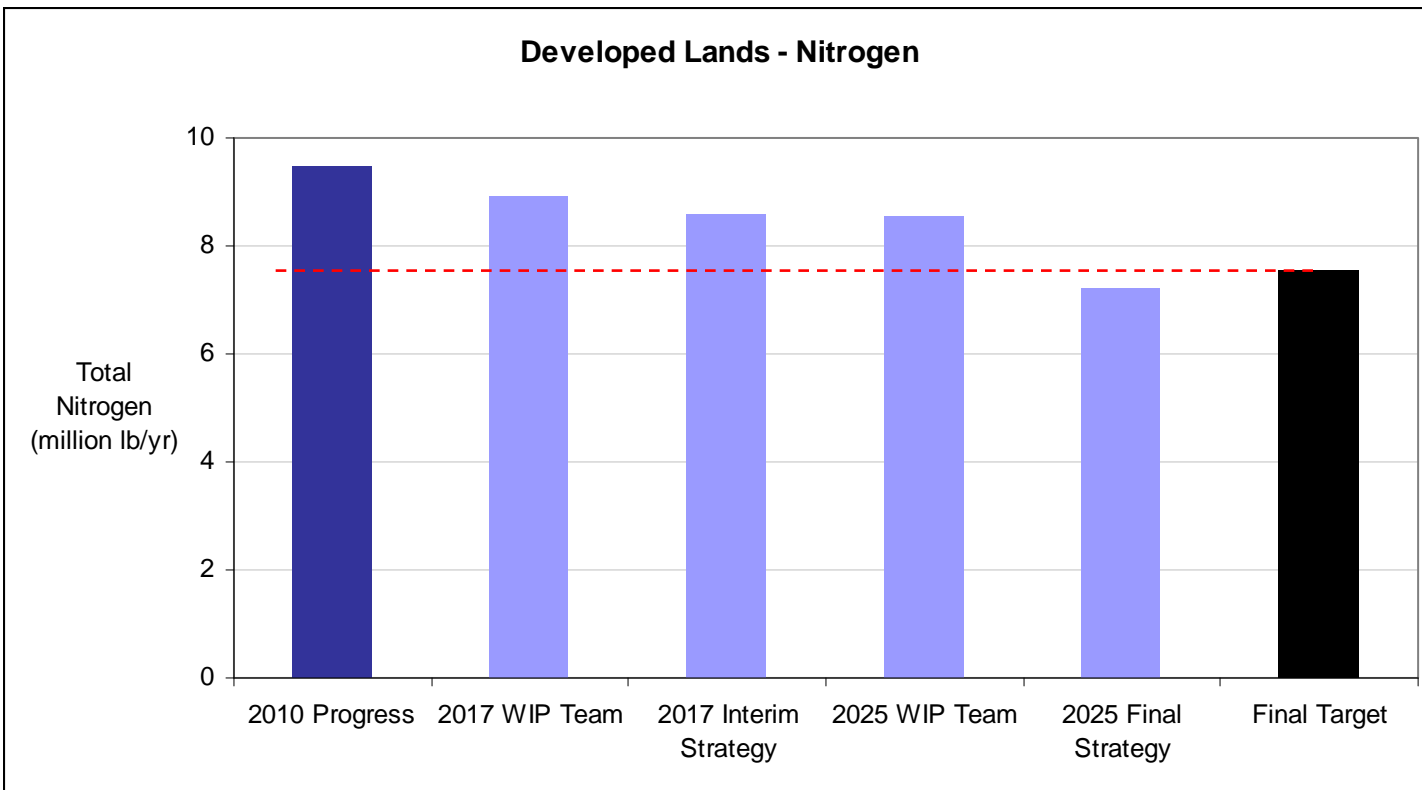
Stormwater - Phosphorus



Nitrogen vs. Phosphorus

- The current approach is designed to increase BMPs implementation levels to meet the regulated urban and non-regulated urban targets within the sector and at the county scale
- Because bmp efficiencies are different for N and P, the “level of effort” required may differ for each pollutant within a county
- The scenario development approach applies the level of effort to meet the more stringent of N and P

Stormwater - Nitrogen

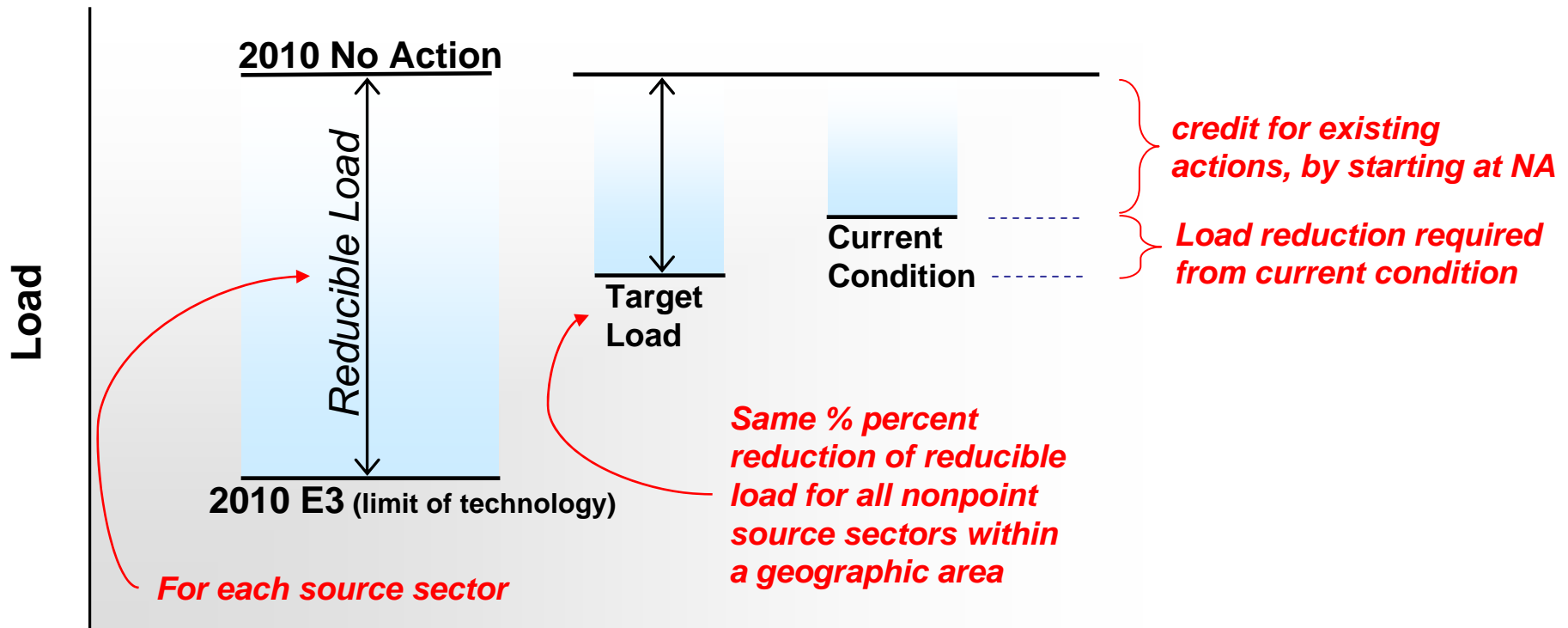


- Scenario development rules
 - If a county/sector did not provide a scenario
 - Meet MS4 retrofit goals
 - Urban nutrient management and forest buffers on non-regulated
 - If a county/sector provided a scenario then it was not modified
 - Assumes commitment to meet the 2025 target
 - State must meet 60% of statewide goal by 2017

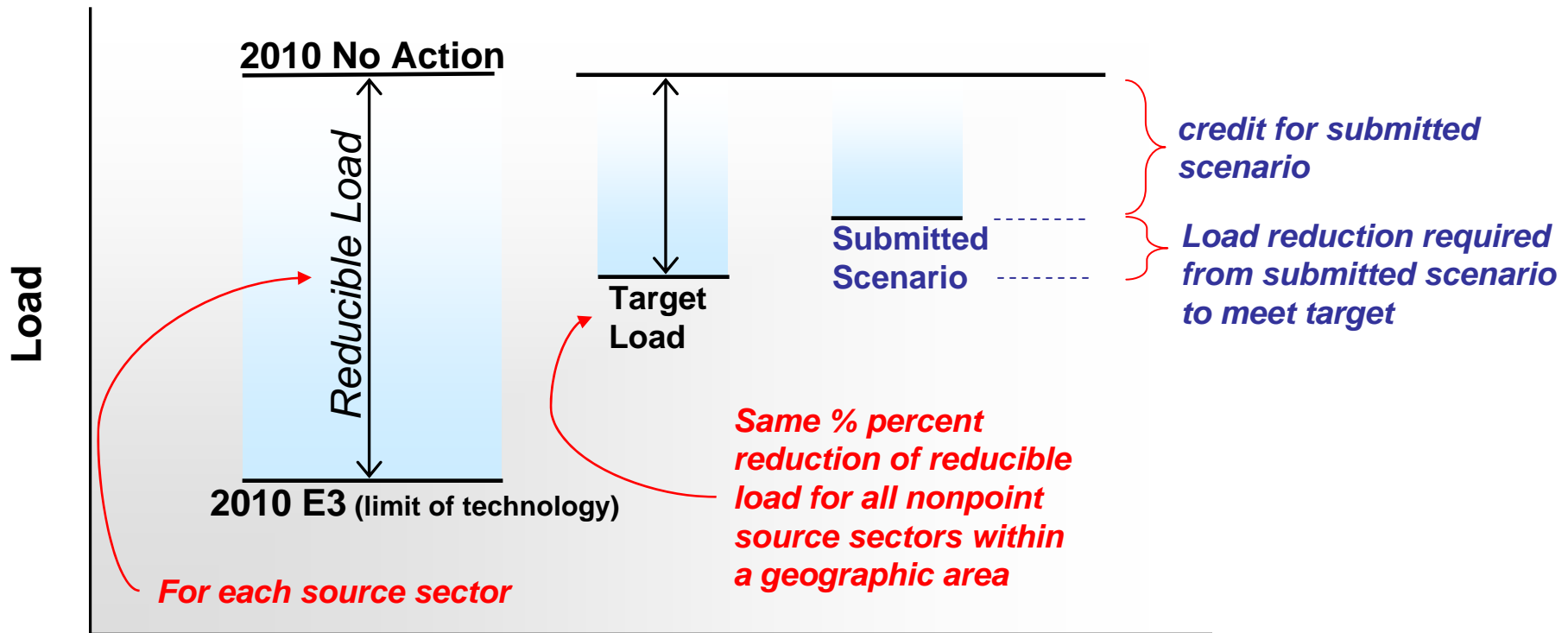
2025 Developed Land Scenario

- Goal
 - Add BMPs to meet countywide urban target, for both N and P
- BMPs applied based on E3 (consistent with allocation process)
 - Forest Buffers
 - Filtering Practices
 - Impervious Surface Reduction
 - Urban Nutrient Management
 - Erosion & Sediment Control

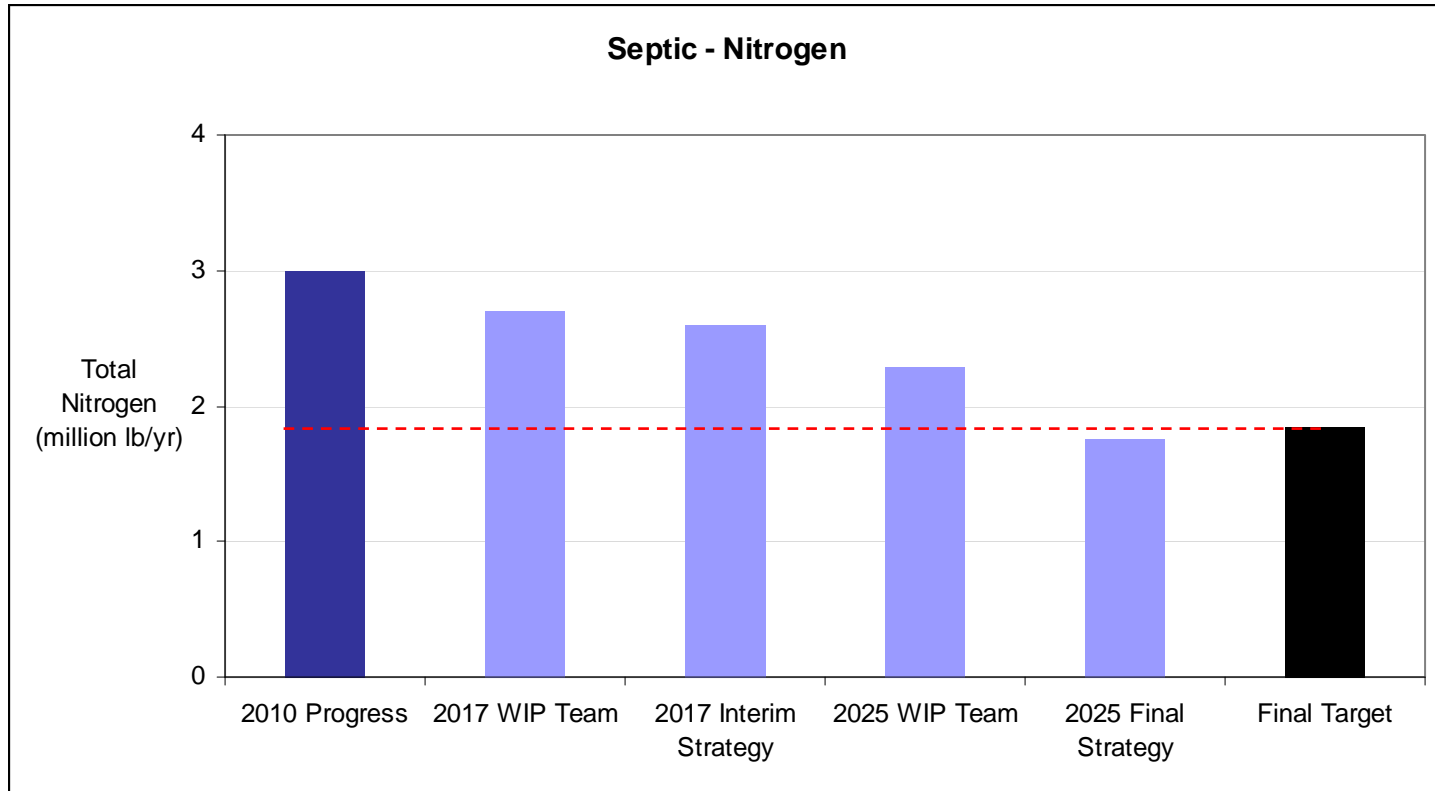
Recall the Allocation Process



Application in “Gap Filler”



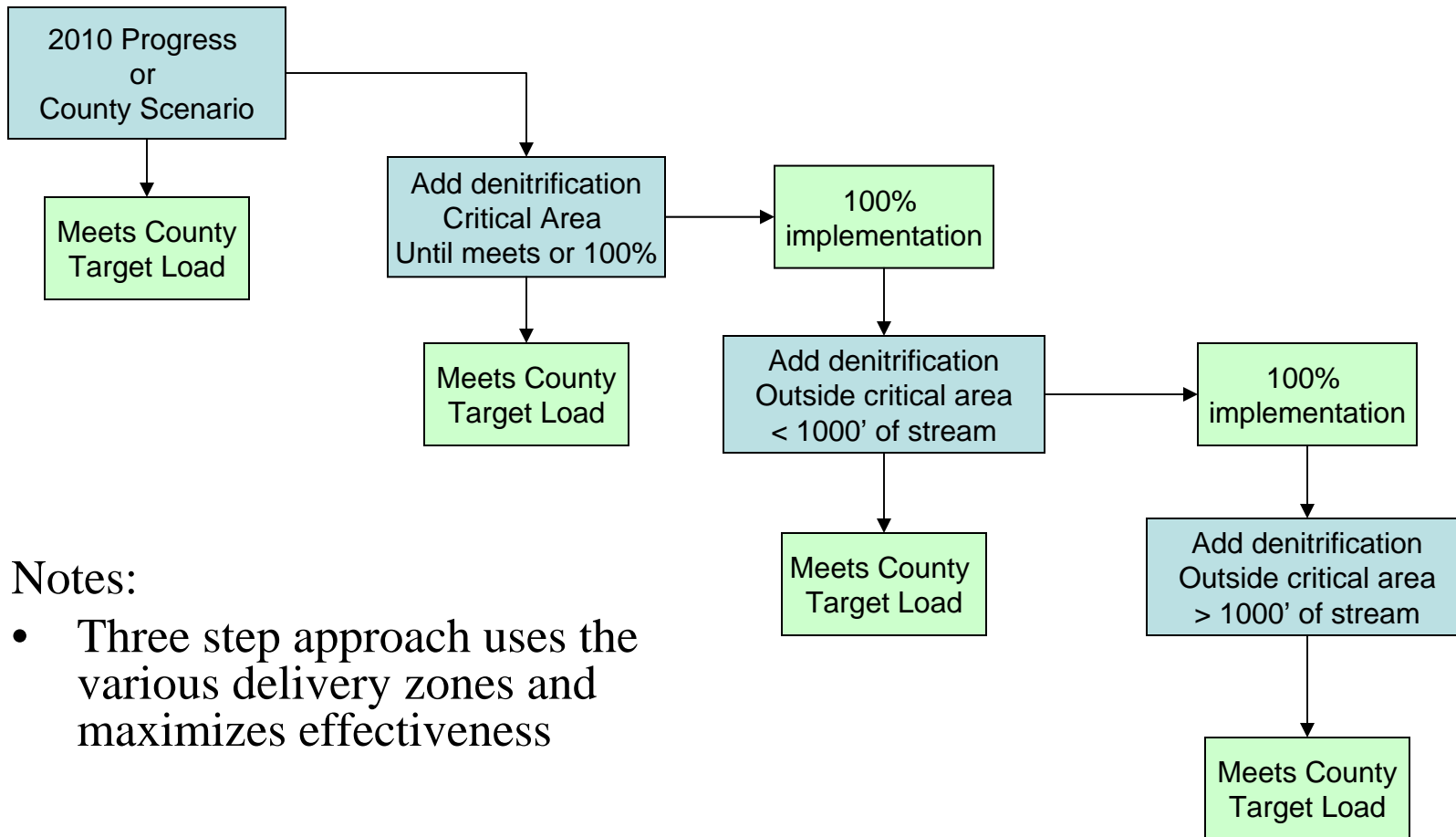
Septic System Strategy



Septic Strategy 2017

- If a county provided a 2017 septic strategy the scenario was used
- If a county did not submit a 2017 septic strategy then denitrification was applied to 60% of the critical area. This is based upon the assumption used in the Phase I WIP

Septic Strategy 2025




Notes:

- Three step approach uses the various delivery zones and maximizes effectiveness

Modeling, Moving Forward

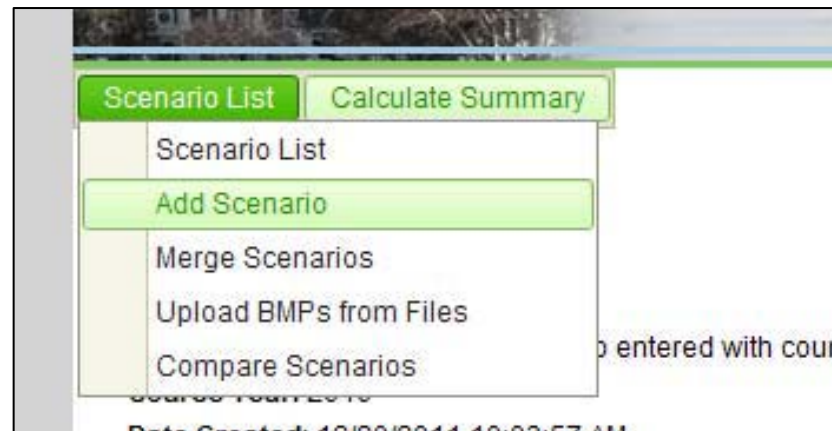
- What are we hearing from teams?
 - Landuse
 - Accounting
 - Understanding regional differences
- What are we doing?
 - Listening and
 - Working with the partnership to address these concerns
- Midpoint reevaluation
 - 2017
 - December 2015 - Fully calibrated and operational Watershed Model and Bay Model ready for analysis of Phase III WIPs.



March 30 WIP Technical Presentation Continued

Copying the WIP Strategies

- MAST Scenarios - “2025 Statewide WIP Scenario and 2017 Statewide WIP Scenario”
- In the MAST navigation menu select “Add Scenario”.



Copying (continued)

- Add New Scenario screen [screenshot on next slide]:
 - Enter a name and description for your new scenario.
 - Select 2010 as the landuse year.
 - Select a geographic scale and area (“State” to copy the entire Maryland WIP scenario, or “County” to capture a particular county).
 - Select the Wastewater strategy (“2017 Loads” for the 2017 WIP scenario; “Cap Load” for the 2025 WIP scenario)
 - Select option for “All BMPs, including Maryland specific”
 - Under “Please select the scenarios you would like to copy BMPs from:” choose from the drop-down the scenario to be copied (2025 Statewide WIP Scenario and 2017 Statewide WIP Scenario). Select this scenario for all BMP choices.

Add New Scenario

Scenario Name*:

Description*:

Year for Landuse, Animal and Septic Data*:

Geographic Scale*:

Geographic Area*: Cecil County, MD
 Talbot, MD
 Washington, MD
 Wicomico, MD
 Worcester, MD

Processed Water Strategy*:

- Chesapeake Bay Program approved BMPs only
 All BMPs, including Maryland specific

Please select the scenarios you would like to copy BMPs from:

Agricultural BMPs:
 Urban BMPs:
 Forest BMPs:
 Animal BMPs:
 Manure Transport:
 Septic BMPs:
 Processed Water BMPs:

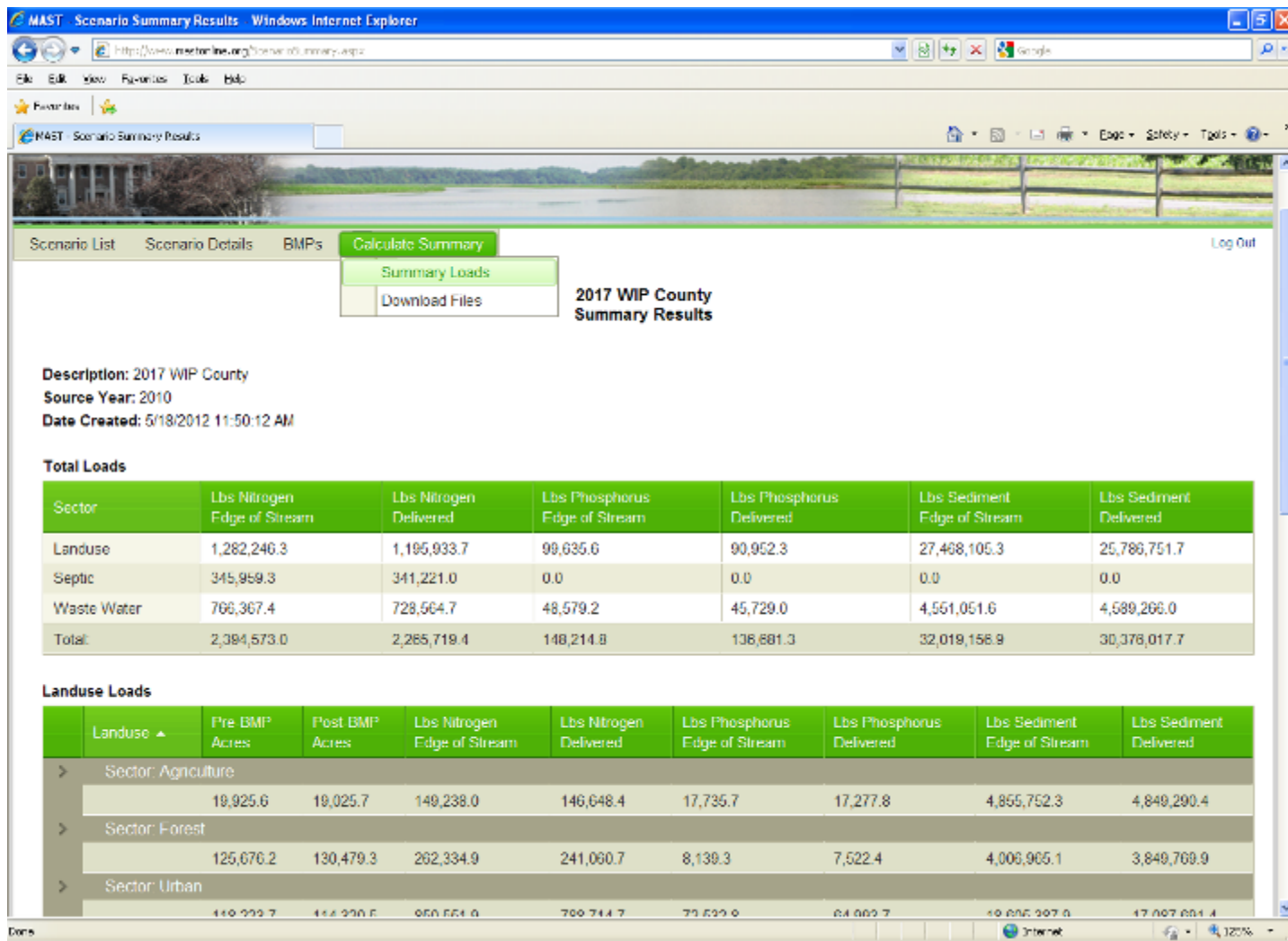
Share this scenario with: No Users All Users Selected Users

Copy Shared Users from this Scenario

Urban Page

Multi Edit Mode							
BMP ▲	Landuse ▲	Geography ▲	Unit	Amount	Notes		
Bioretention/raingardens	SHA Phase I/II MS4 Impervious	Maryland	percent	0.12	2011 capacity at 0.12% calculated over 33.62 AC over 26,988 AC.	Edit	Delete
Bioretention/raingardens	SHA Phase I/II MS4 Pervious	Maryland	percent	0.16	2011 capacity at 0.157% calculated 57.25 AC over 36,197 AC.	Edit	Delete
Bioswale	County Phase I/II MS4 Impervious	Anne Arundel (High) - Non-Federal	percent	5.16	This scenario applied to rooftops and roadway surfaces that meet the MDE disconnect criteria. Since no disconnect BMP was offered, the bio swale BMP was used in lieu.	Edit	Delete
Bioswale	County Phase I/II MS4 Pervious	Anne Arundel (High) - Non-Federal	percent	5.16	This scenario applied to rooftops and roadway surfaces that meet the MDE disconnect criteria. Since no disconnect BMP was offered, the bio swale BMP was used in lieu.	Edit	Delete
Bioswale	SHA Phase I/II MS4 Impervious	Maryland	percent	0.62	2013 - 109 AC. 2017 - 57 AC. Total 166 AC over 26,988 AC at 0.615%.	Edit	Delete
Bioswale	SHA Phase I/II MS4 Pervious	Maryland	percent	0.74	2013 - 183 AC. 2017 - 85 AC. Total 268 AC over 36,197 for 0.74%	Edit	Delete
Dry Detention Ponds and Hydrodynamic Structures	County Phase I/II MS4 Impervious	Anne Arundel (High) - Non-Federal	percent	10.8	Existing BMP from 2010 MS4 NPDES BMP database	Edit	Delete
Dry Detention Ponds and Hydrodynamic Structures	County Phase I/II MS4 Pervious	Anne Arundel (High) - Non-Federal	percent	10.8	Existing BMP from 2010 MS4 NPDES BMP database	Edit	Delete
Dry Detention Ponds and Hydrodynamic Structures	CSS impervious developed	Anne Arundel, MD	percent	4.72		Edit	Delete
Dry Detention Ponds and Hydrodynamic Structures	CSS pervious developed	Anne Arundel, MD	percent	4.72		Edit	Delete
Dry Detention Ponds and Hydrodynamic Structures	Federal Impervious	Anne Arundel, MD	percent	4.72		Edit	Delete
Dry Detention Ponds and Hydrodynamic Structures	Federal Pervious	Anne Arundel, MD	percent	4.72		Edit	Delete

Summary Loads Page



2017 WIP County Summary Results

Description: 2017 WIP County
Source Year: 2010
Date Created: 5/18/2012 11:50:12 AM

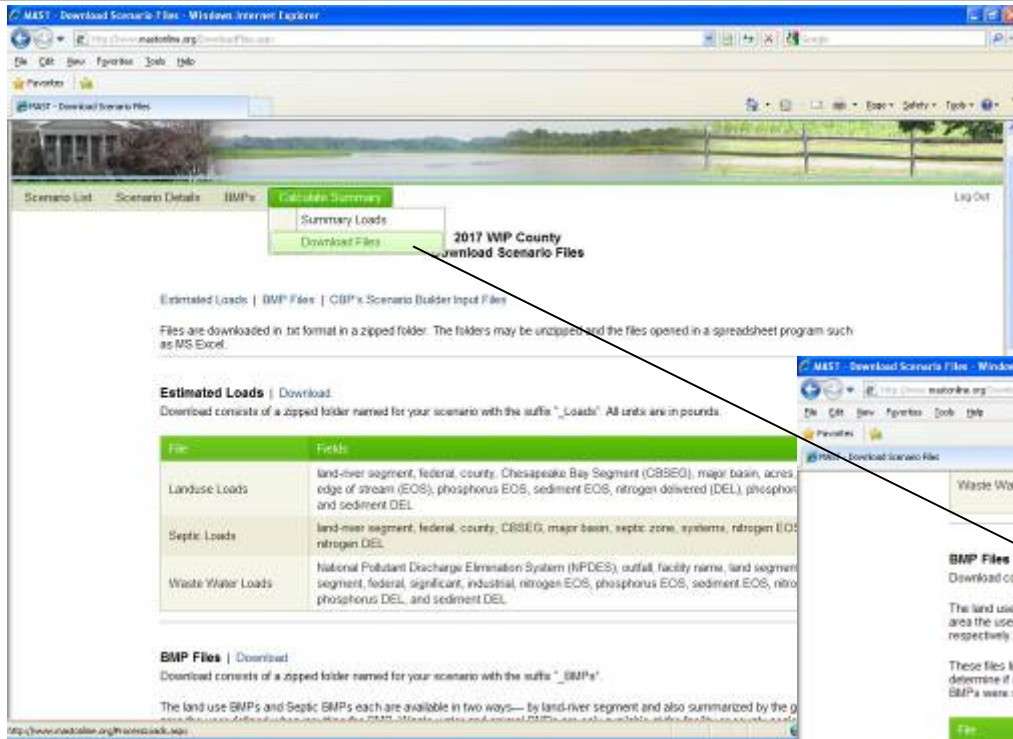
Total Loads

Sector	Lbs Nitrogen Edge of Stream	Lbs Nitrogen Delivered	Lbs Phosphorus Edge of Stream	Lbs Phosphorus Delivered	Lbs Sediment Edge of Stream	Lbs Sediment Delivered
Landuse	1,282,246.3	1,195,933.7	99,635.6	90,952.3	27,468,105.3	25,786,751.7
Septic	345,959.3	341,221.0	0.0	0.0	0.0	0.0
Waste Water	766,367.4	728,564.7	48,579.2	45,729.0	4,551,051.6	4,589,266.0
Total:	2,394,573.0	2,265,719.4	148,214.8	136,681.3	32,019,156.9	30,376,017.7

Landuse Loads

Landuse	Pre BMP Acres	Post BMP Acres	Lbs Nitrogen Edge of Stream	Lbs Nitrogen Delivered	Lbs Phosphorus Edge of Stream	Lbs Phosphorus Delivered	Lbs Sediment Edge of Stream	Lbs Sediment Delivered
> Sector: Agriculture	19,925.6	19,025.7	149,238.0	146,648.4	17,735.7	17,277.8	4,855,752.3	4,849,290.4
> Sector: Forest	125,676.2	130,479.3	262,334.9	241,060.7	8,139.3	7,522.4	4,006,965.1	3,849,769.9
> Sector: Urban	449,299.7	446,290.6	950,554.0	799,714.7	73,529.9	64,002.7	10,607,207.0	17,607,694.4

Download Files



MAST - Download Scenario Files - Windows Internet Explorer

Scenario List | Scenario Details | BMPs | **Calculate Summary** | Summary Loads | **Download Files** | Log Out

2017 WIP County Download Scenario Files

Estimated Loads | BMP Files | CBP's Scenario Builder Input Files

Files are downloaded in .txt format in a zipped folder. The folders may be unzipped and the files opened in a spreadsheet program such as MS Excel.

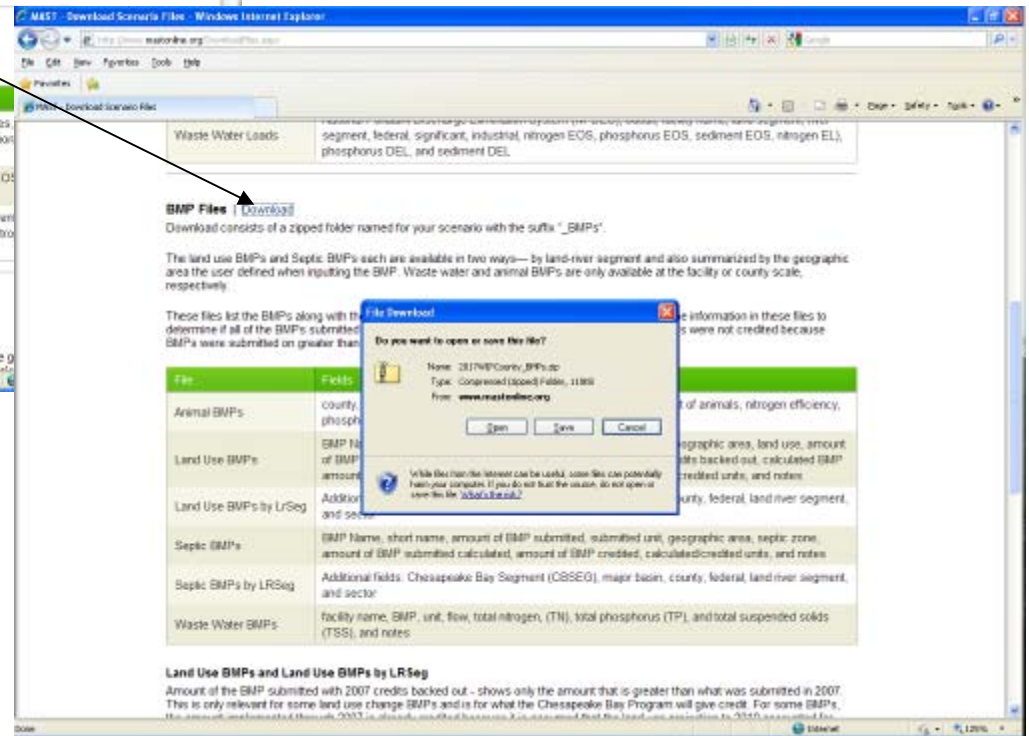
Estimated Loads | Download
Download consists of a zipped folder named for your scenario with the suffix "_Loads". All units are in pounds.

File	Fields
Landuse Loads	land-river segment, federal, county, Chesapeake Bay Segment (CBSEG), major basin, acres, edge of stream (EOS), phosphorus EOS, sediment EOS, nitrogen delivered (DEL), phosphorus and sediment DEL
Septic Loads	land-river segment, federal, county, CBSEG, major basin, septic zone, systems, nitrogen EOS, nitrogen DEL
Waste Water Loads	National Pollutant Discharge Elimination System (NPDES), outfall facility name, land segment, segment, federal, significant, industrial, nitrogen EOS, phosphorus EOS, sediment EOS, nitrogen phosphorus DEL, and sediment DEL

BMP Files | Download
Download consists of a zipped folder named for your scenario with the suffix "_BMPs".

The land use BMPs and Septic BMPs each are available in two ways—by land-river segment and also summarized by the geographic area defined when inputting the BMP. Waste water and animal BMPs are only available at the facility or county scale, respectively.

These files list the BMPs along with the amount of BMP submitted, submitted unit, geographic area, and notes. BMPs were submitted on greater than 2007 credits backed out - shows only the amount that is greater than what was submitted in 2007. This is only relevant for some land use change BMPs and is for what the Chesapeake Bay Program will give credit. For some BMPs, the amount of credits backed out through 2007 is also included in the notes. It is important to note that the total credits available is 2010, and the amount of credits backed out through 2007 is also included in the notes. It is important to note that the total credits available is 2010, and the amount of credits backed out through 2007 is also included in the notes.



MAST - Download Scenario Files - Windows Internet Explorer

Waste Water Loads | segment, federal, significant, industrial, nitrogen EOS, phosphorus EOS, sediment EOS, nitrogen EL, phosphorus DEL, and sediment DEL

BMP Files | Download
Download consists of a zipped folder named for your scenario with the suffix "_BMPs".

The land use BMPs and Septic BMPs each are available in two ways—by land-river segment and also summarized by the geographic area defined when inputting the BMP. Waste water and animal BMPs are only available at the facility or county scale, respectively.

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File Download
Do you want to open or save this file?
Name: 2017WIPCounty_BMPs.zip
Type: Compressed (zipped) Folder, 118KB
From: www.mastonline.org

File	Fields
Animal BMPs	county, phosphorus, nitrogen, and sediment DEL
Land Use BMPs	BMP Name, short name, amount of BMP submitted, submitted unit, geographic area, land use, amount of BMP submitted, calculated, calculated/credited units, and notes
Land Use BMPs by LRSeg	Additional fields: Chesapeake Bay Segment (CBSEG), major basin, county, federal, land river segment, and sector
Septic BMPs	BMP Name, short name, amount of BMP submitted, submitted unit, geographic area, septic zone, amount of BMP submitted, calculated, calculated/credited units, and notes
Septic BMPs by LRSeg	Additional fields: Chesapeake Bay Segment (CBSEG), major basin, county, federal, land river segment, and sector
Waste Water BMPs	facility name, BMP, unit, flow, total nitrogen, (TN), total phosphorus (TP), and total suspended solids (TSS), and notes

Land Use BMPs and Land Use BMPs by LRSeg
Amount of the BMP submitted with 2007 credits backed out - shows only the amount that is greater than what was submitted in 2007. This is only relevant for some land use change BMPs and is for what the Chesapeake Bay Program will give credit. For some BMPs, the amount of credits backed out through 2007 is also included in the notes. It is important to note that the total credits available is 2010, and the amount of credits backed out through 2007 is also included in the notes.

BMP Text Files

Microsoft Excel - LanduseBmps

File Edit View Insert Format Tools Data Window Help Adobe PDF

Type a question for help

85%

Arial 10

Geographic Area

	A	E	F	G	H	I	J	K	L	M
1	BMP Name	Geographic Area	Landuse	Amount of BMP Submitted Calculated	Amount of BMP Submitted with 2007 Credits Backed Out	Calculated BMP Amount for CBP Model Input	Amount of BMP Not Credited	Calculated/Credited Unit	Notes	
123	Urban Infiltration Practices - no sand/veg no underdrain	Maryland	SHA Phase III MS4 Impervious	53.31	53.31	53.31	0 acres		Baseline 1.20% calculated 323.03 AC in MDE 2009 Scenario	
124	Urban Infiltration Practices - no sand/veg no underdrain	Maryland	SHA Phase III MS4 Pervious	69.93	69.93	69.93	0 acres		Baseline 499.69 AC in MDE 2009 Scenario. 2011 ca	
127	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	Federal Impervious	64.64	64.64	64.64	0 acres			
128	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	Federal Pervious	181.03	181.03	181.03	0 acres			
129	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	Municipal Phase II MS4 Impervious	75.28	75.28	75.28	0 acres			
130	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	Municipal Phase II MS4 Pervious	100.54	100.54	100.54	0 acres			
131	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	nonregulated impervious developed	30.44	30.44	30.44	0 acres			
132	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	nonregulated pervious developed	244.47	244.47	244.47	0 acres			
133	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	Regulated Industrial Facility Impervious	19.41	19.41	19.41	0 acres			
134	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	Regulated Industrial Facility Pervious	26.63	26.63	26.63	0 acres			
135	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	State Phase II MS4 Impervious	142.26	142.26	142.26	0 acres			
136	Urban Infiltration Practices - no sand/veg no underdrain	County, MD	State Phase II MS4 Pervious	191.56	191.56	191.56	0 acres			
137	Urban Infiltration Practices - no sand/veg no underdrain	County (High) - I	County Phase III MS4 Impervious	1493.6	1493.6	1493.6	0 acres		Existing BMP from 2010 MS4 NPDES BMP database	
138	Urban Infiltration Practices - no sand/veg no underdrain	County (High) - I	County Phase III MS4 Pervious	3412.48	3412.48	3412.48	0 acres		Existing BMP from 2010 MS4 NPDES BMP database	
139	Urban Infiltration Practices - with sand/veg no underdrain	Maryland	SHA Phase III MS4 Impervious	4.23	4.23	4.23	0 acres		2017 - 36 AC over 26,988 AC for 0.13%.	
140	Urban Infiltration Practices - with sand/veg no underdrain	Maryland	SHA Phase III MS4 Pervious	6.16	6.16	6.16	0 acres		2017 - 62 AC over 36,197 AC at 0.17%.	
179	MS4 Permit-Required Stormwater Retrofit	County, MD	County Phase III MS4 Impervious	947.19	947.19	947.19	0 acres			
180	MS4 Permit-Required Stormwater Retrofit	County, MD	County Phase III MS4 Pervious	2220.16	2220.16	2220.16	0 acres			
181	MS4 Permit-Required Stormwater Retrofit	County, MD	CSS impervious developed	41.23	41.23	41.23	0 acres			
182	MS4 Permit-Required Stormwater Retrofit	County, MD	CSS pervious developed	78.14	78.14	78.14	0 acres			
183	MS4 Permit-Required Stormwater Retrofit	County, MD	Federal Impervious	59.74	59.74	59.74	0 acres			
184	MS4 Permit-Required Stormwater Retrofit	County, MD	Federal Pervious	167.32	167.32	167.32	0 acres			
185	MS4 Permit-Required Stormwater Retrofit	County, MD	Municipal Phase II MS4 Impervious	69.58	69.58	69.58	0 acres			
186	MS4 Permit-Required Stormwater Retrofit	County, MD	Municipal Phase II MS4 Pervious	92.93	92.93	92.93	0 acres			

Ready



Future Steps



Continued Local Engagement

- See Section 4 of Phase II WIP: “Future Steps”
- Quarterly Contact (EPA/State and State/Local)
 - Webinars
 - Face-to-Face Meetings
 - Annual Regional Meetings
- Promote continual implementation progress
 - Monitor Progress & Challenges on Local Milestones
 - Programmatic Capacity Building key for 2013 Evaluation
 - Assistance: Help Maintain Progress
 - Answer Questions, Provide Guidance
 - Joint Problem Solving
 - Creative paths to success, Near-term & Long-term
 - Watershed Assistance Collaborative (Technical & Funding)

Continued Local Engagement

- Tracking, Reporting and Verification
 - Accounting is Critical to Demonstrating Progress
 - Local & State Processes are being Refined
 - EPA Initiative on Verification
 - Near-Term: Focus on 2013 Milestones
- State Initiatives:
 - Offsetting Growth in Loads
 - Evaluate Max Feasible Implementation (E3) & Implications for Pace of Implementation
 - Rural Residential Reforestation
 - Urban Nutrient Management

- Offsetting Growth in Loads
 - Fully implementable growth offset program by the end of 2013
 - Offset Stormwater and Septic Loads
 - Draft Offset Policy Review Process:
 - Draft Policy is Undergoing State Interagency Review
 - Present to BayStat on May 29
 - Present to the WIP Workgroup of the Maryland Sustainable Growth Commission (Date TBD)
 - Extensive outreach with stakeholders

- Model & Data Refinements
 - Addressed in Previous Presentation
- 2015 Milestones
 - Begin development in beginning of 2013
 - Due to EPA at end of 2013