

# The Chesapeake Bay TMDL, Maryland's Watershed Implementation Plan & what they mean for Cecil County

Cecil Economic Development Commission  
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# Acronyms & Jargon!

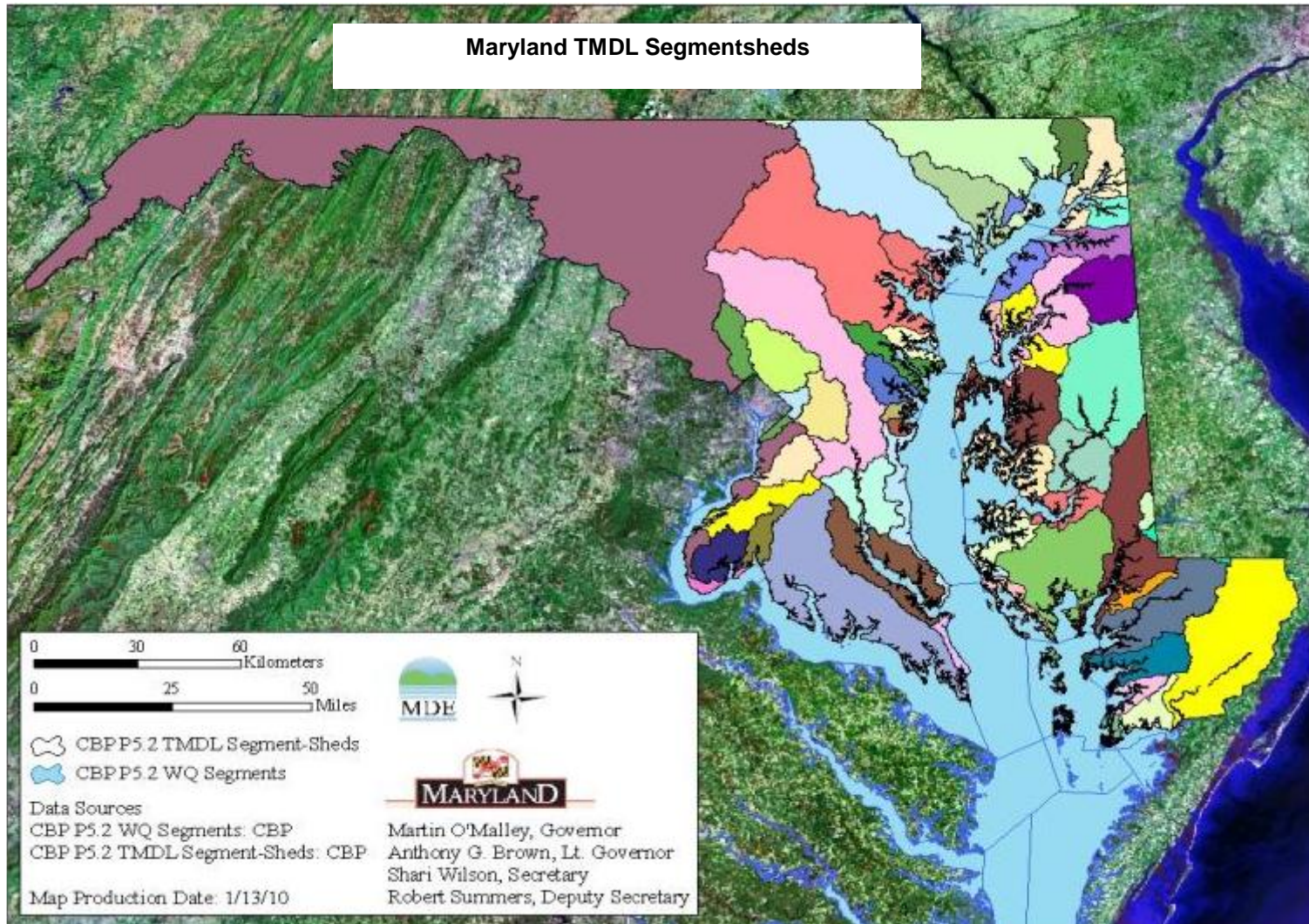
CWA:	Clean Water Act
TMDL:	Total Maximum Daily Load
WIP:	Watershed Implementation Plan
BAT:	Best Available Technology
BMP:	Best Management Practice
E3:	Everything, by Everyone, Everywhere
ENR:	Enhanced Nutrient Removal
SWM:	Stormwater Management

# Acronyms & Jargon!

## Geographic Building Blocks:

- Bay Segments
- Major Basins (e.g. Susquehanna, Potomac)
- Tributary Basins (e.g. Upper Western Shore, Upper Eastern Shore)
- Segmentsheds (a watershed or cluster of watersheds)
- Watersheds (e.g. Octoraro Creek, North East Creek)
- States
- Counties

# Bay Segments & MD Segmentsheds



# Acronyms & Jargon!

## Source Sectors

- Point Sources (wastewater discharge permits):
  - Major Municipal (>500,000 gpd)
  - Minor Municipal
  - Major Industrial (>500,000 gpd)
  - Minor Industrial
- Non-point Sources:
  - Agriculture
  - Septics
  - Urban/Suburban Stormwater
  - Forest
  - Air Deposition (to freshwater streams)

# Why a Bay TMDL?

- Chesapeake Bay does not meet Water Quality Standards
- Clean Water Act requires Total Maximum Daily Load (TMDL) if Water Quality Standards are not met
- TMDL establishes a "pollution diet" to restore water quality
- Bay TMDL will set limits for nitrogen, phosphorus and sediment that meet dissolved oxygen, water clarity and submerged aquatic vegetation criteria in each of 92 Bay Segments (52 of the Bay Segments are in Maryland)
- Maximum Daily Loads for N, P & sediment will be allocated to the land areas that contribute pollutants to the Bay

# Why a Watershed Implementation Plan?

- Effort to address "Reasonable Assurance" of implementation per the Clean Water Act
- Allows States to develop equitable and transparent load and wasteload allocations
- Part of new federal "Accountability Framework" to Ensure Results:
  - Bay TMDLs
  - Watershed Implementation Plans (WIPs)
  - 2-Year Implementation Milestones
  - Tracking & Evaluating Progress
  - Federal "Consequences"

# Eight WIP Elements

1. Interim and Final Nutrient and Sediment Target Loads
2. Current Baseline Loading and Program Capacity
3. Account for Growth
4. Gap Analysis
5. Commitment & Strategy to Fill Gaps
6. Tracking and Reporting Protocols
7. Contingencies for Slow or Incomplete Implementation
8. Appendix with Detailed Targets and Schedule

# Phased Approach

- **Phase I Plans - 2010**
  - Interim and Final nutrient and sediment target loads by sector and impaired segment
  - Statewide response to 8 Elements
  - Mechanism for engaging local partners
- **Phase II Plans - 2011**
  - TMDL allocations may be modified in Phase II
    - More time to address technical issues
    - More time for stakeholder advice
  - Loads divided by smaller geographic areas (e.g., county)
  - Local contributions and responsibilities to reduce pollutant loads
  - Controls and practices to be implemented by 2017
- **Phase III Plans - 2017**
  - Possibly modify TMDL and allocations
  - Identify controls to meet final target loads

Interim milestones will be set for two year periods  
2012-13; 2014-15; 2016-2017

# TMDL Nutrient & Sediment Target Loads

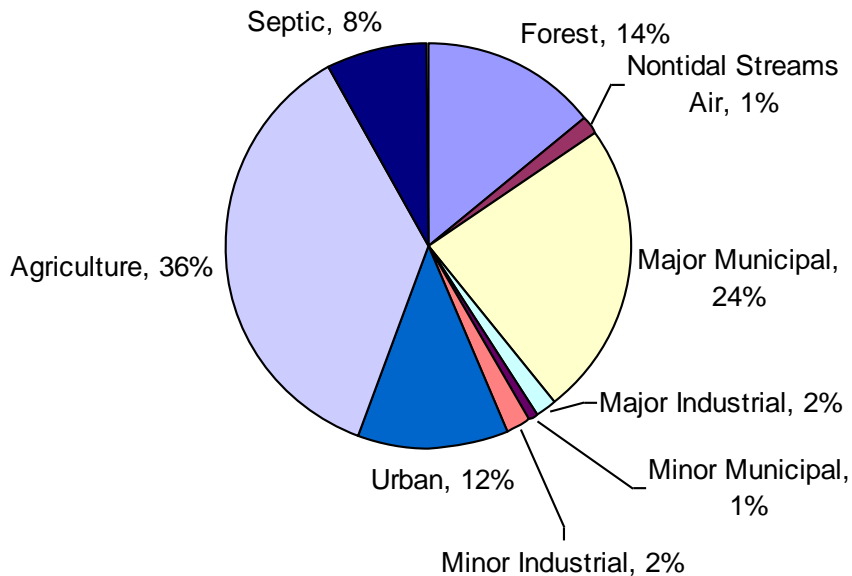
- July 1, 2010 & Aug 13, 2010: EPA announces Baywide and Major Basin Target Loads of Nutrients & Sediment for Bay Watershed States/DC
  - Baywide: 187.4 million lbs/yr TN, 12.5 million lbs/yr TP, 6,066-6,673 million lbs/yr Sediment
  - Maryland: 39.1 million lbs/yr TN, 2.7 million lbs/yr TP, 1,116-1,228 million lbs/yr Sediment

MAJOR BASIN	TN	TP	Sediment
	Mill lbs	Mill lbs	Mill lbs
MD Potomac	15.7	0.9	654-719
MD Western Shore	9.74	0.46	155-170
MD Susquehanna	1.08	0.05	60-66
MD Patuxent	2.85	0.21	82-90
MD Eastern Shore	9.71	1.09	166-182
MD Total	39.09	2.72	1,116-1,228

# Where We Are Today...

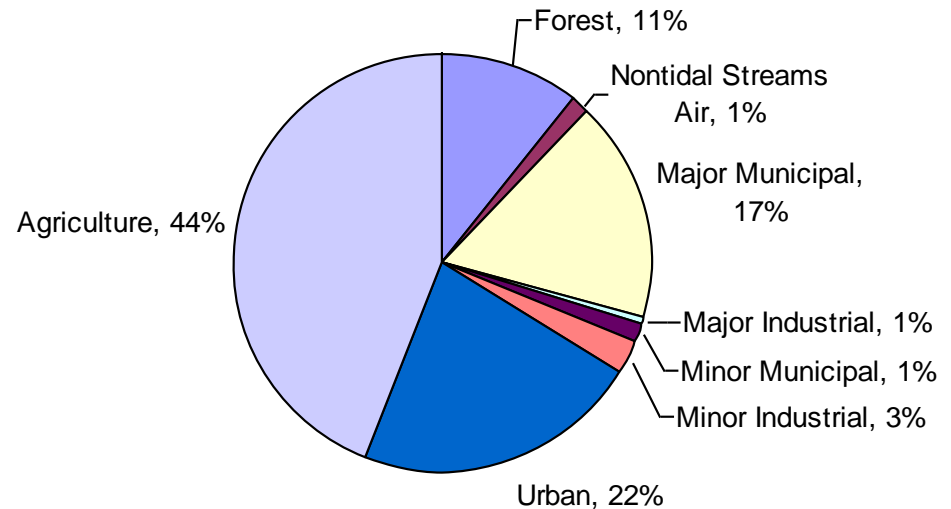
## Maryland 2009 Loads

Current TN, by Source Sector



49.53 M lbs/yr N

Current TP, by Source Sector



3.10 M lbs/yr P

1,387 M lbs/yr Sediment

# Where We Are Today... and Where We Will Need to Get To

MD 2009:	49.53 M lbs/yr N	3.10 M lbs/yr P	1,387 M lbs/yr Sed
MD 2020:	39.09 M lbs/yr N	2.72 M lbs/yr P	1,218 M lbs/yr Sed
	-10.44 M lbs/yr N	-0.38 M lbs/yr P	-169 M lbs/yr Sed

We will get our allocations by Sector at the County and  
Segmentshed level in March 2011

# How We Get There!

## Some examples from the original draft list of 75!

- Implement some or all of a suite of recommended Best Management Practices across the various sectors:
- Point Sources (wastewater discharge permits):
  - Major Municipal (>500,000 gpd) - **Upgrade to ENR**
  - Minor Municipal - **Upgrade to ENR; Retire**
  - Major Industrial (>500,000 gpd) - **Retrofit & Optimize**
  - Minor Industrial - **Retrofit & Optimize**
- Non-point Sources:
  - Agriculture - **plant 500,000 acres Cover crops; Plant Grass & Forest Buffers**
  - Septics - **Upgrade to BAT in Critical Area or within 1000 ft of streams; Retire & connect to ENR Facilities**
  - Urban/Suburban Stormwater- **Retrofit & Restore SWM; Regulate Fertilizer application**
  - Forest - **No Net Loss of Forest; Increase Urban Tree Canopy**
  - Air Deposition (to freshwater streams) - **Expand Diesel Engine Retrofit Program**

# Excerpt From MD Draft Phase I WIP Table of Actions

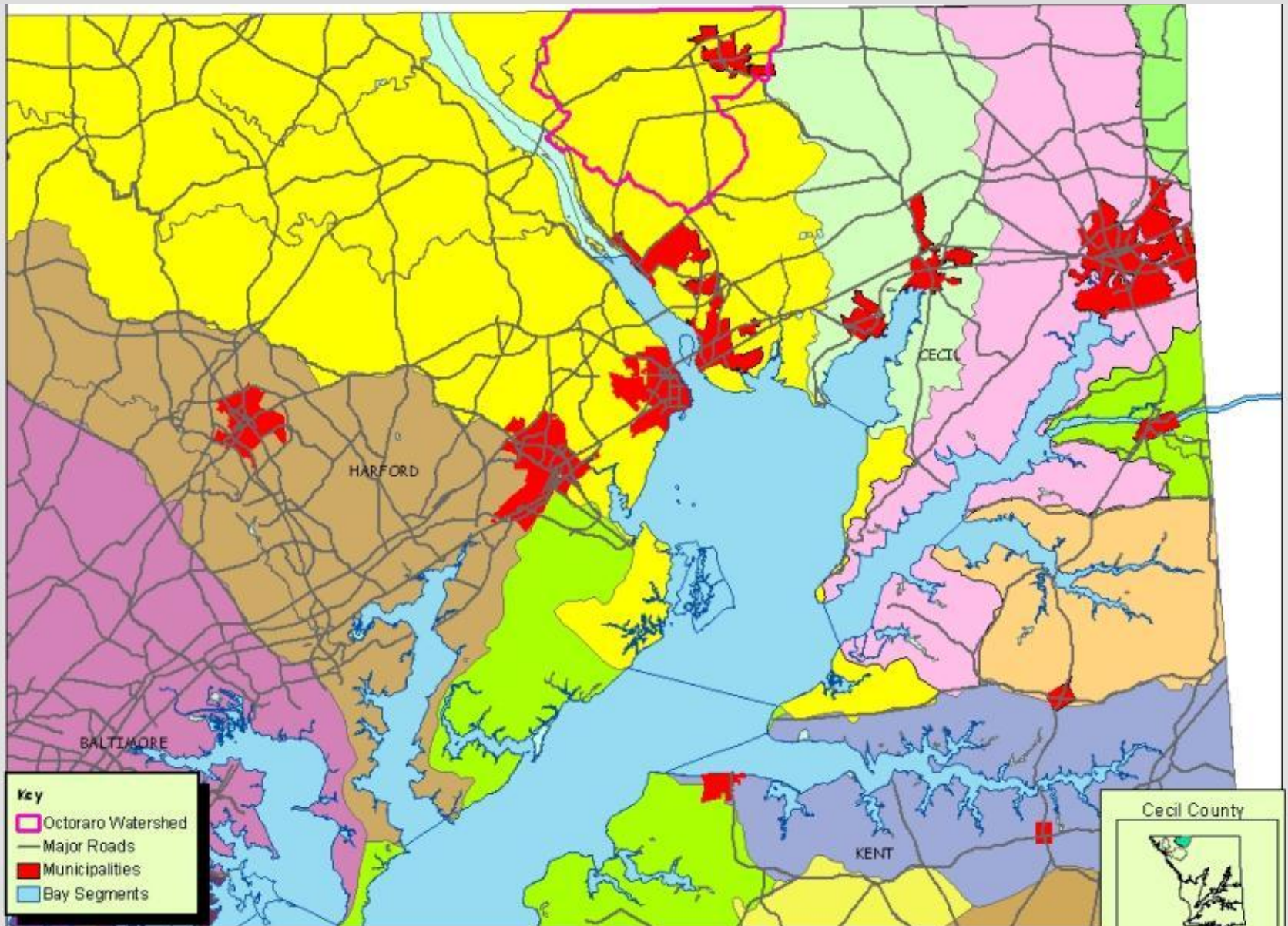
Planned Activity	Description
Eliminate Sewer Overflows	Older combined sewer systems designed to collect and transport sewage to treatment plants during dry weather also serve as stormwater drains during rain events. Once combined sewers are full, the blended effluent is discharged to waterways resulting in Combined Sewer Overflows. Sanitary sewer overflows occur when pipes or pumping stations fail and let sewage spill into waterways. These overflows are being addressed by regulatory requirements for reporting, consent orders requiring system repair and upgrades and penalties assessed when failures occur. Long-term control plans are in place.
<b>Urban Stormwater</b>	
Option 1: MS4 Phase I – including State Highways Administration (SHA) in those counties	Require 30% retrofit/restoration for MD's largest counties and the State Highways Administration subject to Phase I Municipal Separate Storm Sewer System (MS4) Permits.  <b>In Final</b>
Option 2: Increase MS4 Phase I permit implementation to 40%	Increase MS4 permit requirement for MD's largest counties and the State Highways Administration to require installation of stormwater controls on 40% of their impervious surface in their jurisdictions that do not already have stormwater controls.
Option 3: Increase MS4 Phase I permit implementation to 50%	Increase MS4 permit requirement for MD's largest counties and the State Highways Administration to require installation of stormwater controls on 50% of their impervious surface in their jurisdictions that do not already have stormwater controls.
<b>MS4 Phase II (CE and WA Co and SHA in those counties), larger municipalities, federal facilities)</b>	Require 20% restoration/retrofit of the impervious surface that does not already have stormwater controls in smaller jurisdictions (less populated counties and municipalities) subject to Phase II MS4 permits.
Non-MS4 areas	Extend MS4 type permits to smaller urban areas and to retrofit/restore 20% of the impervious surface that does not already have stormwater controls.

# Schedule

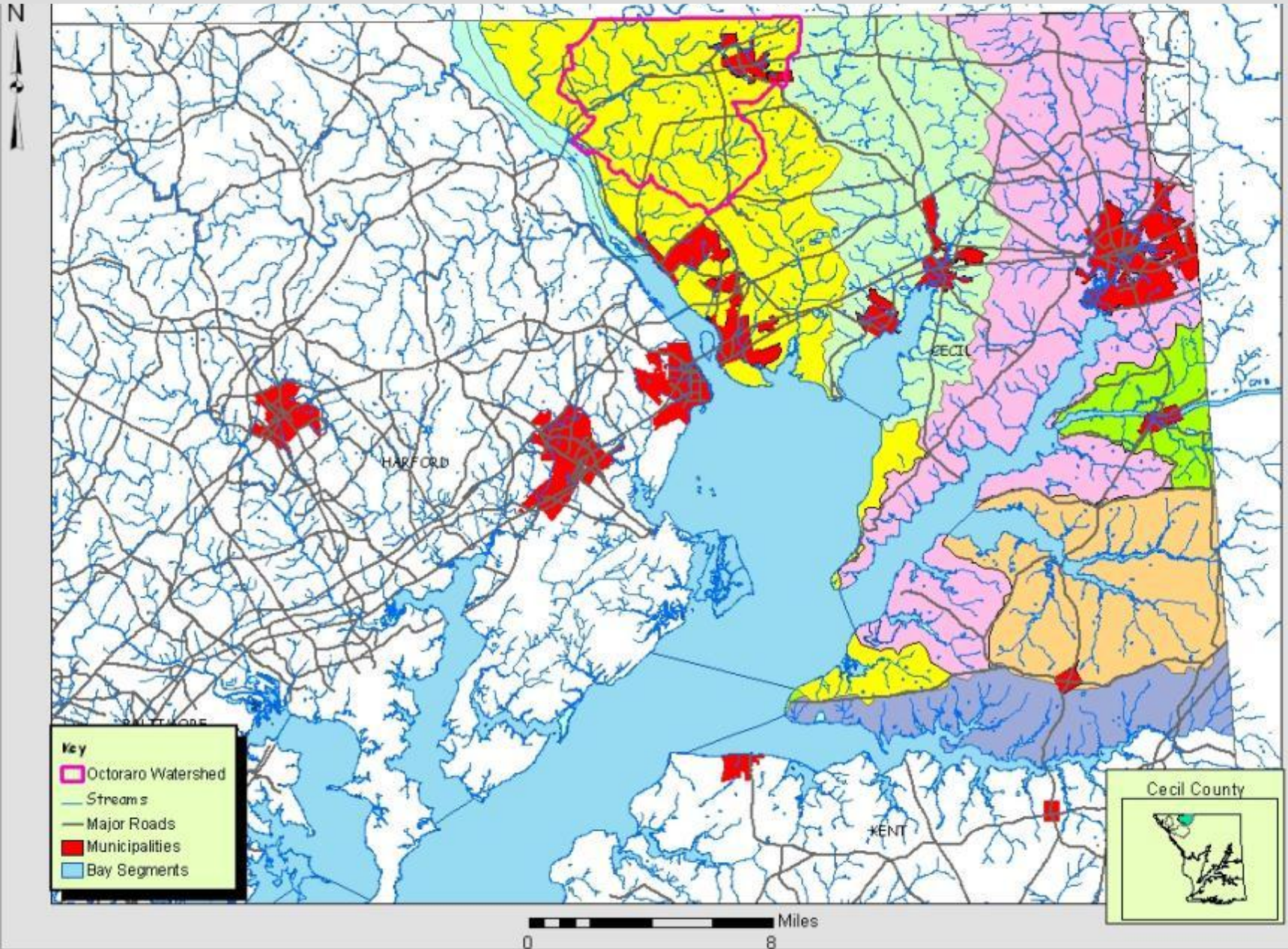
- September 1, 2010 ✓ Draft Phase I Plan due to EPA
- September 24 – November 8, 2010 ✓ Public Comment Period for Final Draft TMDL (EPA) & Draft Phase I WIP
- December 31, 2010 ⌚ Final TMDL and Phase I Plans Approved and Published
- June 2011 ⌚ Draft Phase II Plans submitted to EPA
- November 2011 ⌚ Final Phase II Plans submitted to EPA
- January 2017 ⌚ Plan updates with detailed 2018 - 2025 (2020) actions and controls

State has asked EPA to extend the Draft Phase II Plan submission date until December 2011. Will hear EPA decision in January.

# TMDL - Bay Segments & Segmentsheds



# TMDL - Cecil Segmentsheds w. Streams



# Lessons Learned: Caroline County (adapted)

- Who needs to be included
  - County administrator or commissioner
  - County planning department
  - County public works/roads department
  - County water and wastewater operators or departments
  - County NRCS office
  - County Soil Conservation District
  - Municipal (Town) manager or commissioner
  - Municipal planning department
  - Municipal public works/roads department
  - Municipal water and wastewater operators or departments
  - Local office of State health and environmental health departments
  - U of MD Cooperative Extension Service
  - Local/Regional USDA Rural Development Office
  - Local Farm Service Agency
  - State Highway Administration (State roads)
  - Federal Lands (Perry Point, C&D Canal)

# Lessons Learned: Caroline County (adapted)

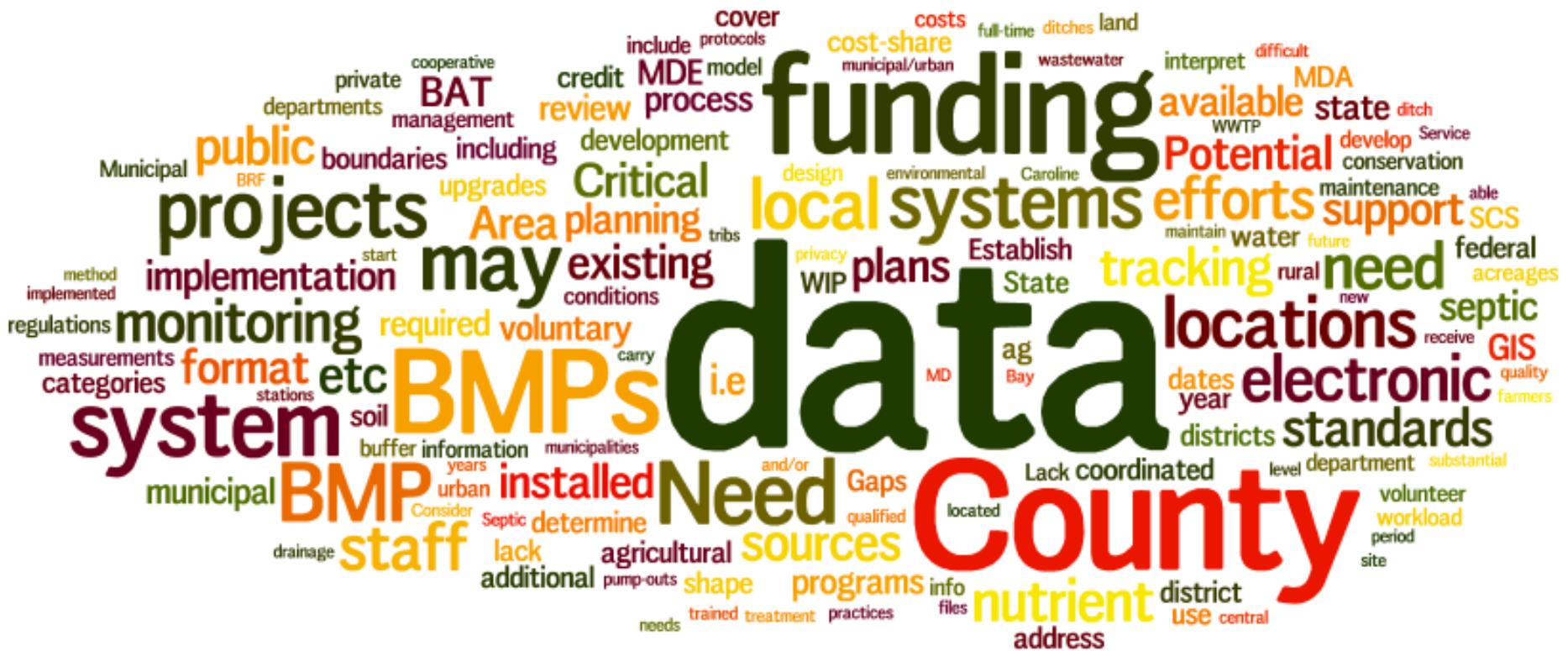
- Other Stakeholders to Consider
  - Public Drainage Associations
  - Residents
  - Farmers
  - Businesses
  - Watershed Associations
  - Community-based organizations
  - Congressional and Senate representatives - State/Federal

# Lessons Learned: Caroline County, cont'd

- Substantial level of effort will be required from:
  - County and municipal government staffs and local Soil Conservation District staff to:
    - assemble and review all relevant data to determine existing conditions
    - oversee prioritization, planning, implementation, and tracking of BMPs
    - develop and manage public outreach programs
    - develop budgets, funding plans and schedules
- Consistent level of effort will be required from:
  - Residents/farmers/businesses/local organizations to assist with:
    - public outreach and volunteer coordination
    - funding efforts (particularly foundation and other private-sector sources)
    - monitoring and maintenance of BMPs

# Caroline County Lessons Learned

## Word Count: Top 150



# Next Steps - State Agency View

- Introduction at MACO - Cambridge Hyatt
  - 7<sup>th</sup> January, 11:30 - 12:30
- Regional Meeting in late January or early February
  - Cecil, Kent, Queen Anne's, Caroline & Talbot
  - Date TBD (19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup> January or 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> February)
  - Venue TBD: Washington College?
  - Morning session for County & Municipal Electeds
  - Afternoon session will include County-level break-outs with designated State liaison
- Handbook materials to include:
  - Guidance
  - Templates
  - Maps
  - Scenario Builder Spreadsheets
  - Contact Info
  - Schedule for Deliverables

# Next Steps - State Agency View

- What to do in the interim
  - Get familiar with the Phase I WIP and objectives
  - Review Water Resources Element
  - Start collecting data (See Caroline County Lessons Learned)

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