State and Local Progress on Maryland’s Chesapeake Bay Nutrient and Sediment Reductions

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WIP Regional Workshop

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Overview

• Overall Progress
  – Pollution Loads
    • Tracked & Reported
    • Measured

• Urban Sector
  – Wastewater
  – Septic Systems
  – Stormwater
  – Programmatic Milestones
Overall Progress
## EPA Oversight Status

<table>
<thead>
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<th>Agriculture</th>
<th>Urban/Suburban</th>
<th>Wastewater</th>
<th>Trading/Offsets</th>
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Caution is warranted when interpreting the Phosphorus progress results. Based on monitoring and better understanding of phosphorus in soils on Maryland’s Eastern Shore, future estimates of phosphorus may be higher.
1985 – 2015 Reductions from Agriculture, Point Sources & Air Sources

Nitrogen
37 million pounds

- 28% Agriculture
- 61% Point Sources
- 11% Air Dep*

Phosphorus
2.5 million pounds

- 27% Agriculture
- 73% Point Sources

* About 4 million lbs of reductions from direct Bay deposition and land runoff in Maryland
River Nitrogen Loading Trends

- Results are Dominated by Susquehanna & Potomac Rivers
- Trend may be Confounded by Conowingo Sediment Infill
Potomac River Nitrogen Trend

Removes Issue of Conowingo Sediment Infill

Flow Normalized USGS RIM station at Chain Bridge
Maryland waters are improving:
Actions result in Nitrogen, Phosphorus & Sediment reductions

% Reductions at Maryland Sites (n=125)

Nitrogen (N): 38%
Phosphorus (P): 50%
Sediment (S): 16%
Urban Sector Progress

Graphic: Shutterstock.com
Urban Sector Progress

• Major Wastewater Plant Upgrades:
  – 49 Completed (19 Since 2009)
  – 14 Under Construction
  – 4 in Design

Notable:

Patapsco – 2017 Milestone
  • 2.6 million pound nitrogen reduction

Back River – 2017 Milestone
  • 1.85 million pound nitrogen reduction

• Minor Wastewater Plant Upgrades:
  – 4 Completed
  – 4 Under Construction
  – 10 in Design or Planning
Urban Sector Progress (Con’t)

• Septic System Progress 2009 - 2015:
  – 7,298 BAT Upgrades
  – 1,325 Septic Connections
  – Septic Smart Week: https://www.epa.gov/septic/septicsmart-week-2016

• Stormwater Progress 2009 - 2015:
  – 84,000 impervious acres restored
  – 1,850 acres of tree plantings and stream buffers
  – 85,000 linear feet of stream restoration
  – 636,000 acres of urban nutrient management
Programmatic Milestones

• BRF Legislation Amendments:
  – WWTP upgrades lead the way to 2017 & 2025 Targets
  – $50 million/year for cost-effective nutrient reductions
  – Annual pace of septic upgrades doubled
  – Cover crop planting more than doubled since 2009
  – Connections of failing septic plants outside of PFA

• Urban Phosphorus Controls:
  – Lawn fertilizer Law: About 25% P reduction from lawns
  – Patapsco WWTP Upgrade in 2017
Programmatic Milestones (Con’t)

• Transition to credit-based financing & accounting:
  – Chesapeake & Atlantic Bays Trust Fund Fully Funded
  – BRF & Trust Fund Targeting: More Performance Based
  – Stormwater TMDL Plans & Accounting Guidance
  – Stormwater Financial Assurance Plans
  – Aligning for Growth policy (Pending)
  – BRF Credit Purchase Amendment (Pending)
  – BMP Verification Policies & Procedures

• Stormwater Permits
  – Phase I MS4 Reporting via GIS Database (2017)
  – Draft Phase I MS4 Template to EPA (2017)
  – Phase II MS4 Final Determination (March 2017)
Maryland’s Blueprint for Bay Restoration

GOALS AND PROGRESS
★ Tracking Progress by All States
★ Two Year Milestones

EDUCATION AND OUTREACH
★ Bay Restoration News
★ Local Partner Engagement

RESOURCES
★ UMD Environmental Finance Center
★ Chesapeake & Atlantic Coastal Bays Trust Fund
★ State Revolving Loan Fund
★ 319 Nonpoint Source Fund
★ Bay Restoration Fund
★ Watershed Assistance Collaborative
★ Agricultural Cost-Share Program

THE BLUEPRINT
★ Phase I Watershed Implementation Plan
★ Phase II Watershed Implementation Plan
★ Local Blueprints

DATA AND TOOLS
★ MDE TMDL Data Center
★ Maryland Assessment and Scenario Tool (MAST)
★ ChesapeakeStat
★ DNR Eyes on the Bay

KEY INITIATIVES
★ Accounting for Growth
★ Clean Water Committments
★ Ocean and Coastal Systems
★ Urban Systems
★ Fisheries
★ Aquaculture

QUICK LINKS
★ The Chesapeake Bay Watershed Agreement
★ Baywide Assessment
★ Cyanobacteria
★ Deckhouse Program
★ MDE TMDL Data Center
★ Maryland Assessment and Scenario Tool (MAST)
★ ChesapeakeStat
★ DNR Eyes on the Bay
Agricultural Sector Progress
End

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