Phase III Watershed Implementation Plan: Raising awareness of Chesapeake Bay Water Quality Issues
History of Water Quality Issues

1980's
- Multi-state program formed to address dead zones caused by excessive nutrients

2000
- EPA releases Total Daily Maximum Load (TMDL) for the Chesapeake Bay

2010
- NY signs MOU with other states to help restore the Bay

2014
- NY signs Chesapeake Bay Agreement

2025
- Implementation Deadline
Total Daily Maximum Load (TMDL)

- EPA assigned target loads for TN and TP at the basin scale (Susquehanna + Chemung = one basin)
- Jurisdictions responsible for developing their own watershed implementation plans (WIP)
  - Phase I WIP: 2010-2013
  - Phase II WIP: 2014-2017
  - Phase III WIP: 2018-2025
## Where is the load coming from?

<table>
<thead>
<tr>
<th>Source</th>
<th>Nitrogen (Mlb/yr)</th>
<th>Phosphorus (Mlb/yr)</th>
<th>Sediment (Mlb/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>6.60 (46%)</td>
<td>0.17 (27%)</td>
<td>141.572 (21%)</td>
</tr>
<tr>
<td>Urban Runoff</td>
<td>2.00 (14%)</td>
<td>0.07 (12%)</td>
<td>110.465 (17%)</td>
</tr>
<tr>
<td>Point Source (wastewater)</td>
<td>2.44 (17%)</td>
<td>0.14 (22%)</td>
<td>2.788 (0%)</td>
</tr>
<tr>
<td>Septic</td>
<td>0.18 (1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Forest</td>
<td>3.10 (22%)</td>
<td>0.25 (39%)</td>
<td>411.421 (62%)</td>
</tr>
<tr>
<td><strong>New York Totals</strong></td>
<td><strong>14.32</strong></td>
<td><strong>0.632</strong></td>
<td><strong>666.23</strong></td>
</tr>
</tbody>
</table>

Values are in million pounds per year. In parentheses is the percent of the total. Because both are largely uncontrollable load, the Forest category includes 282,985 pounds per year of nitrogen and 23,185 pounds per year of phosphorus attributed to Non-tidal Water Deposition. All 2017 values are delivered load outputs of the EPA Chesapeake Bay Watershed Model Version CAST-2017d and units are pounds per year.
Chesapeake Bay: TMDL Relative Allocation (%) & 2018 Oversight Status

<table>
<thead>
<tr>
<th></th>
<th>Nitrogen (186)</th>
<th>Phosphorus (12.5)</th>
<th>Sediment (6,450)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>1.6%</td>
<td>2.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Washington D.C.</td>
<td>1.2%</td>
<td>1.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Maryland</td>
<td>21.0%</td>
<td>21.7%</td>
<td>18.9%</td>
</tr>
<tr>
<td>New York</td>
<td>4.7%</td>
<td>4.5%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>39.8%</td>
<td>23.4%</td>
<td>30.7%</td>
</tr>
<tr>
<td>Virginia</td>
<td>28.7%</td>
<td>42.7%</td>
<td>40.0%</td>
</tr>
<tr>
<td>West Virginia</td>
<td>2.9%</td>
<td>4.7%</td>
<td>4.8%</td>
</tr>
</tbody>
</table>
Ambient Water Quality Monitoring
Models vs. Real World

Data and Model Inputs:
- Pollution Control Data
- Land Use Data
- Point Sources Data
- Septic Data
- U.S. Census Data
- Agricultural Data

Phase 6 Watershed Model/CAST
- Land Use Change Model
- Airshed Model
- Precipitation Data
- Meteorological Data
- Elevation Data
- Soil Data

Estuary Model

Model Outputs:
- Prediction of Impacts

BMP Implementation Results
- Sediment
- Water Quality
- NOx

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation
Benefits of Protecting the Chesapeake Bay

• Focus on co-benefits
• Take advantage of funding resources targeted to the watershed
• Avoid regulations that may be imposed by EPA
• Local implementation will protect and/or improve local water quality, increase resiliency, restore habitats
Strategies to Increase Engagement

- Increase support for technical assistance
- Increase availability of grant funding
- Increase reporting of BMPs
- Improve communication among local stakeholders
- Create new targeted programs
- Utilize existing tools developed by other states
Thank You

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DEC Chesapeake Bay Webpage:
http://www.dec.ny.gov/lands/33279.html