



Maryland
Department of
the Environment

Building a Phase III WIP for Wastewater, Stormwater & Septic Systems

*Agriculture Leadership Roundtable
Double Tree by Hilton, Annapolis
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Presentation topics

- Where are we now?
- Where are we going?

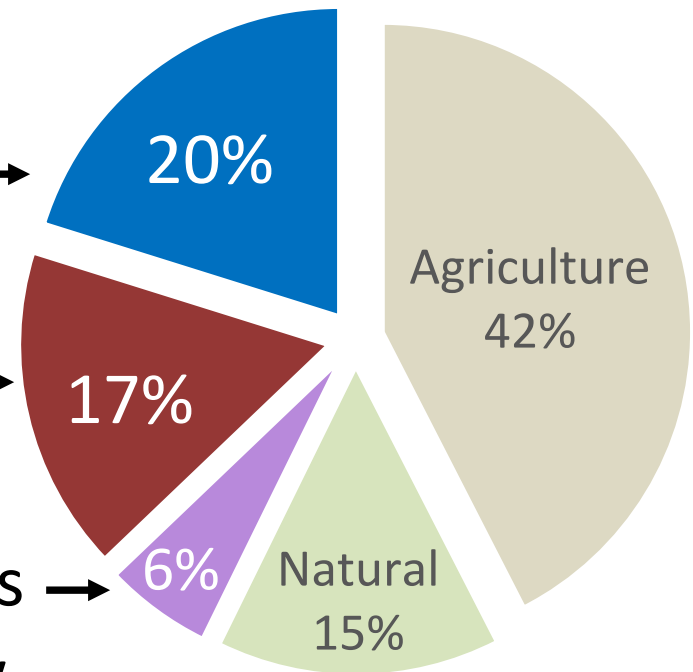
➔ 1. Wastewater →

➔ 2. Stormwater →

➔ 3. Septic Systems →

- Phase III WIP process overview

Maryland 2017 Nitrogen Contributions to Bay





Wastewater ... where we are today

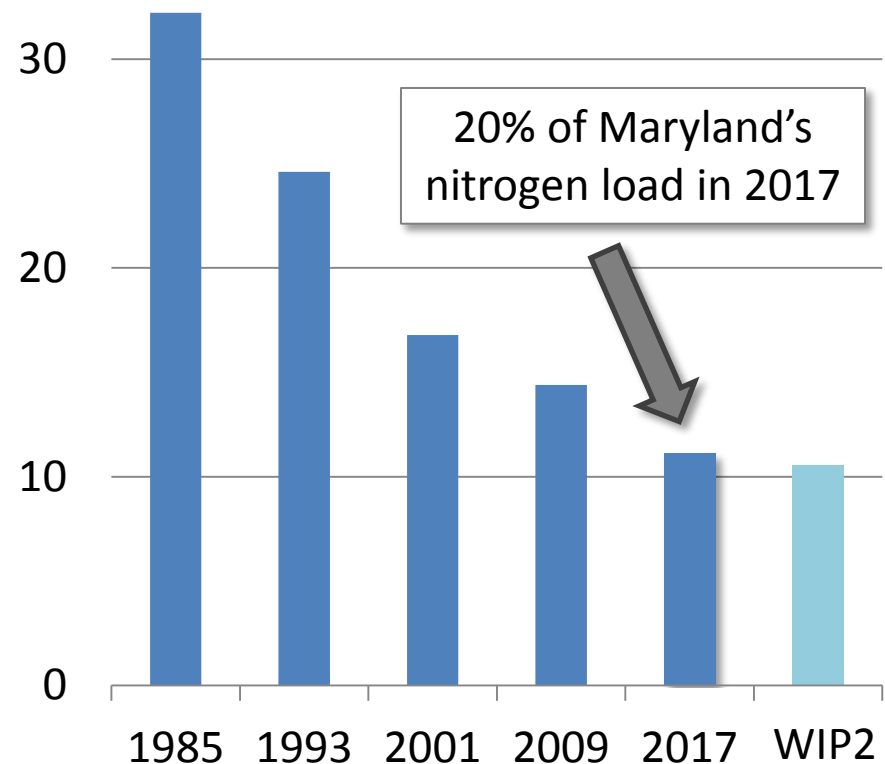
1980s & 90s

- Industrial re-tooling, treatment and closures
- Phosphorus controls

2000s

- Wastewater upgrades with Bay Restoration Fund (BRF)
 - Enhanced Nutrient Removal
 - By 2017 \$970M in BRF Wastewater Treatment Plant Fund
 - Over 95% of capacity will be upgraded

Million Pounds of Nitrogen to the Bay





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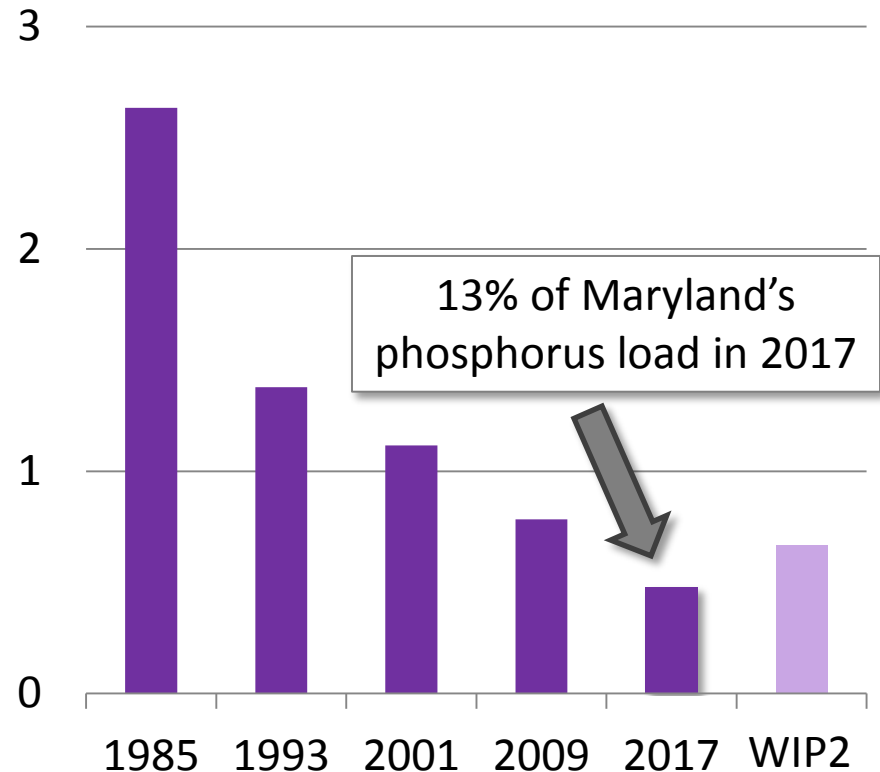
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Sewer Overflows

- Sanitary Sewer Overflows
 - Baltimore City Modified Consent Decree
 - Signed October 6, 2017
 - Eliminate 83% of SSO volume by January 1, 2021
 - Back River Wastewater Treatment Plant Headworks Project
 - \$430 Million
 - Complete rehabilitation by December 31, 2030
- Combined Sewer Overflows
 - Consent Orders
 - Address CSOs by 2023



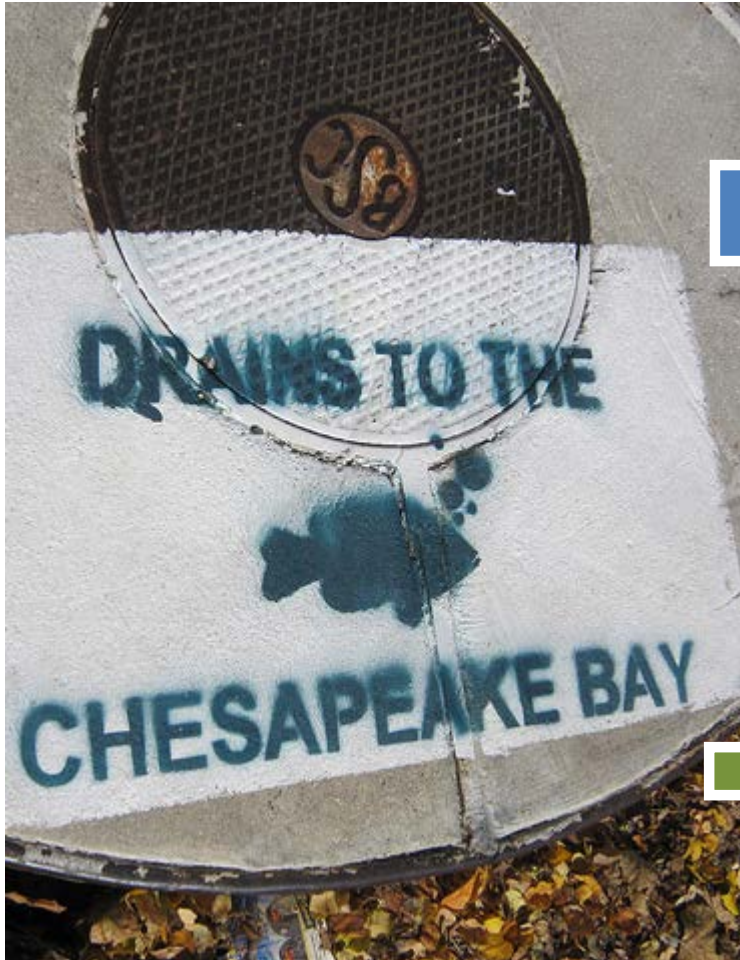
Wastewater ... Phase III WIP

- Participating in the Phase III WIP
 - Local WIP Inventory
 - Performance incentives
 - Water Quality Trading Program
 - Clean Water Commerce Act
 - BRF O&M Grants for Performance
 - Capital improvements
 - Minor Municipal Upgrades
 - Sewer Projects & Septic Connections
 - Consider new technologies
 - Treatment
 - Water reuse
- Key Planning Documents
 - Wastewater Permits
 - County WIPs and Milestone Plans
 - Bay Restoration Fund Annual Report
 - County Water and Sewer Plans





Stormwater treatment





Stormwater ... where we are today

1980s

- Early stormwater controls:
 - dry ponds, wet ponds, etc.

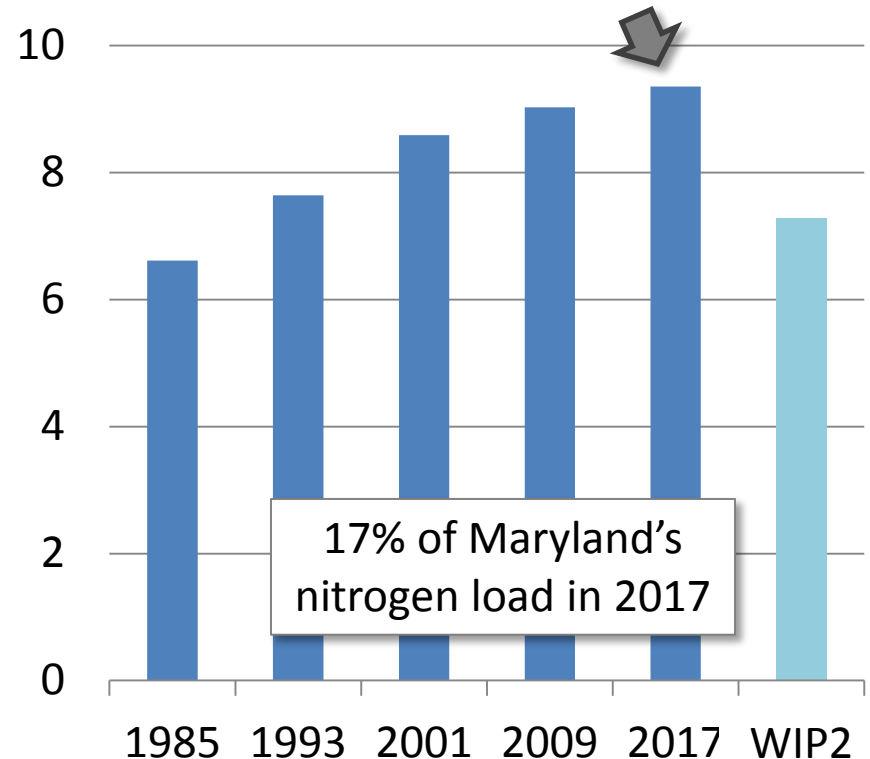
2000s

- 2000 Maryland Stormwater Design Manual Issued
- 2007 Stormwater Management Act

Now

- MS4 retrofits of pre-2000 development

Million Pounds of Nitrogen to the Bay





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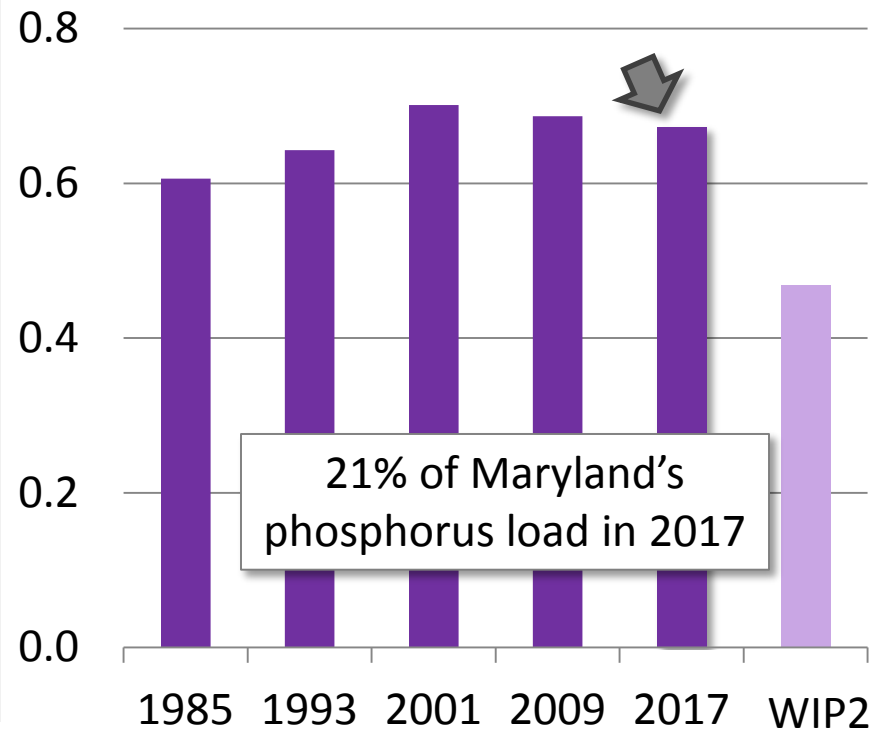
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Million Pounds of Phosphorus to the Bay





Stormwater on new development & redevelopment

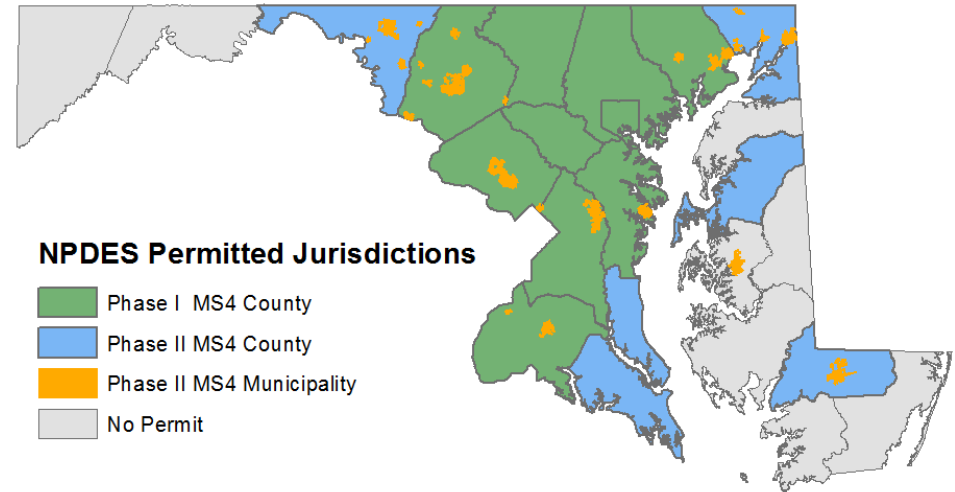
- Stormwater Management
 - Environmental Site Design
 - “woods in good condition”*
- Conservation
 - Forest conservation
 - Critical area protection
 - Wetland protection





Stormwater on existing development

- MS4s: Municipal Separate Storm Sewer System Permits
 - Restoration requirements
 - Retrofit untreated acres
 - Impervious Acre Equivalentents
 - Bay Restoration
 - Phase I MS4s
 - Population over 100K
 - Permits Issued 2013-14
 - Annual restoration budgets exceed \$300M
 - Phase II MS4s
 - Issued 2018





Stormwater ... Phase III WIP

- Participating in the Phase III WIP
 - Local WIP Inventory
 - MS4 Restoration Requirement
 - Restoration plans
 - Impervious acre retrofits
 - Bay restoration
 - Non-MS4s
 - Water Quality Trading Program
 - Grant programs
 - Plans for projects with nutrient benefits
 - Watershed Restoration Specialists
- Key Planning Documents
 - MS4 Restoration Plans
 - MS4 Financial Assurance Plans
 - County WIPs and Milestone Plans
 - Annual reporting of BMP implementation
- Emphasize benefits beyond nutrients

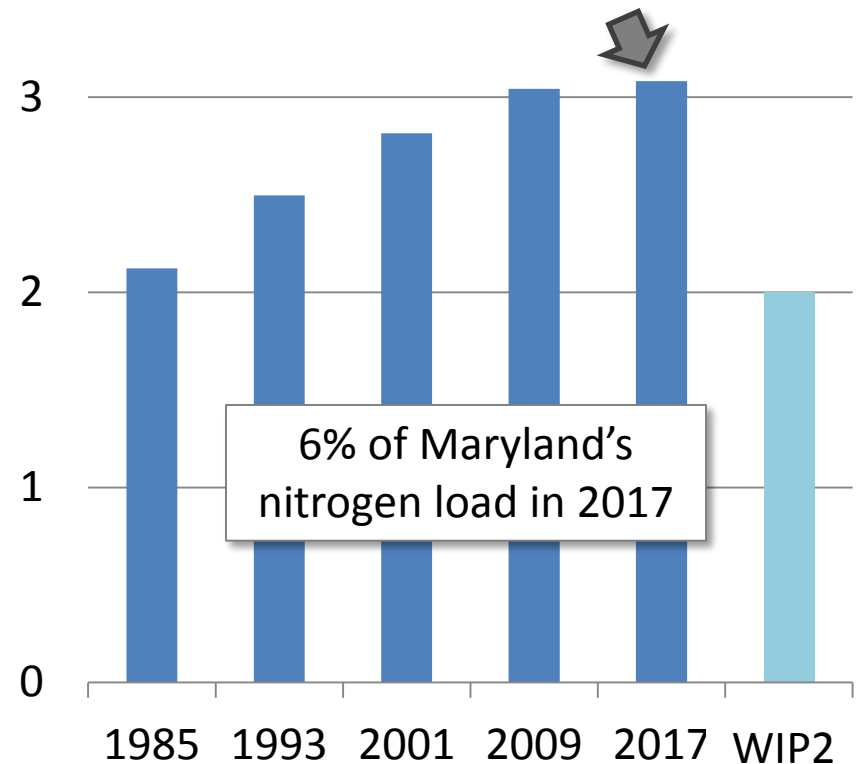




Septics ... where we are today

- Management actions
 - Connections
 - Upgrades
 - Pumpouts
- Bay Restoration Fund
 - \$122M in septic Grants awarded
- Three Rs
 - Regulatory reform
 - Retool inspection and enforcement efforts
 - Rethink septic vs. sewers

Million Pounds of Nitrogen to the Bay





Septics ... looking to 2025

- 420,000 systems
 - 6% of Maryland's nitrogen
 - Minimal phosphorus
- Focus on benefits to public health
 - Drinking water
 - Shellfish harvesting
 - Concentrated problem areas
- Septic Stewardship Plans
 - Target use of state funds
 - Address county-specific water quality concerns





Septics ... Phase III WIP

- Participating in the Phase III WIP
 - Local WIP Inventory
 - Capital improvements using BRF
 - Septic Upgrades
 - Septic Connections
 - Credit through permits
 - MS4 restoration credit
 - Wastewater capacity
 - Septic Stewardship Plans
 - Complete in 2021
- Key Planning Documents
 - County WIPs and Milestone Plans
 - NPDES permits
 - County Water and Sewer Plans
 - Septic Stewardship Plans





2017 Midpoint Assessment

- Phase II WIP
 - 60% toward our 2025 goal by 2017
 - Phosphorus and sediment met this with room to spare
 - Nitrogen is there as well, but is not accounted for in the 2017 modeling








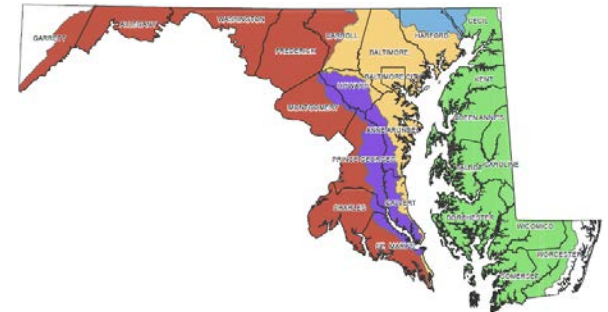


EPA Phase III WIP Expectations

- Implementation commitments from 2018 to 2025 to meet WIP Planning Targets
 - Developed at a scale finer than the basin
 - Identify:
 - Specific funding and financing
 - Cost-share & technical assistance
 - Voluntary actions & incentives
 - Policy, legislative & regulatory actions
- Engagement of local, regional and federal partners
- Account for climate change, Conowingo infill and growth

Major Basin

-  Eastern Shore of Chesapeake Bay
-  Patuxent River Basin
-  Potomac River Basin
-  Susquehanna River Basin
-  Western Shore of Chesapeake Bay





Bay Cabinet: Maryland's Bay Restoration Framework

- 2016 Historical and Projected Chesapeake Bay Spending Report
 1. Use wastewater growth allocations wisely ...
 - preserve future options for local growth
 - build capacity back into the system.
 2. Mitigate the future impact of growth
 - ...
 6. Plan for 2025 and beyond



Compiling our Phase III WIP



- Local WIP Inventories
 - Current practices
 - Proposed practices by 2025
 - For each sector
 - For each county
- MDE to work directly with local practitioners
- MDE to compile:
 - At a county level
 - For the entire state



Phase III WIP Schedule

- **July 9, 2018:** States receive III Planning Targets
- **July/August 2018:** Begin meeting with counties for local WIP inventories
- **July/August 2018:** Soil Conservation District Meetings
- **September – December 2018:** Develop WIP Report
- **November/December 2018:**
 - Regional meetings
 - Finalize Local WIP Inventories
 - Develop approaches for aligning state strategies
- **April 12, 2019:** Draft Phase III WIPs released for public review
- **June 7, 2019:** End of public review period
- **August 9, 2019:** Final Phase III WIPs



Conclusions

- Water quality in the bay is improving
... but our job is not getting easier
- Focus on capacity for 2025 and beyond
- Emphasize benefits beyond nutrient reductions
- Outreach to practitioners and stakeholders:
 - Ongoing since Phase I WIP
 - Through spring 2019 for WIP development
 - To continue through 2025 implementation and milestones
 - To develop Local WIP Inventories
 - To ensure that Maryland's WIP is comprehensive