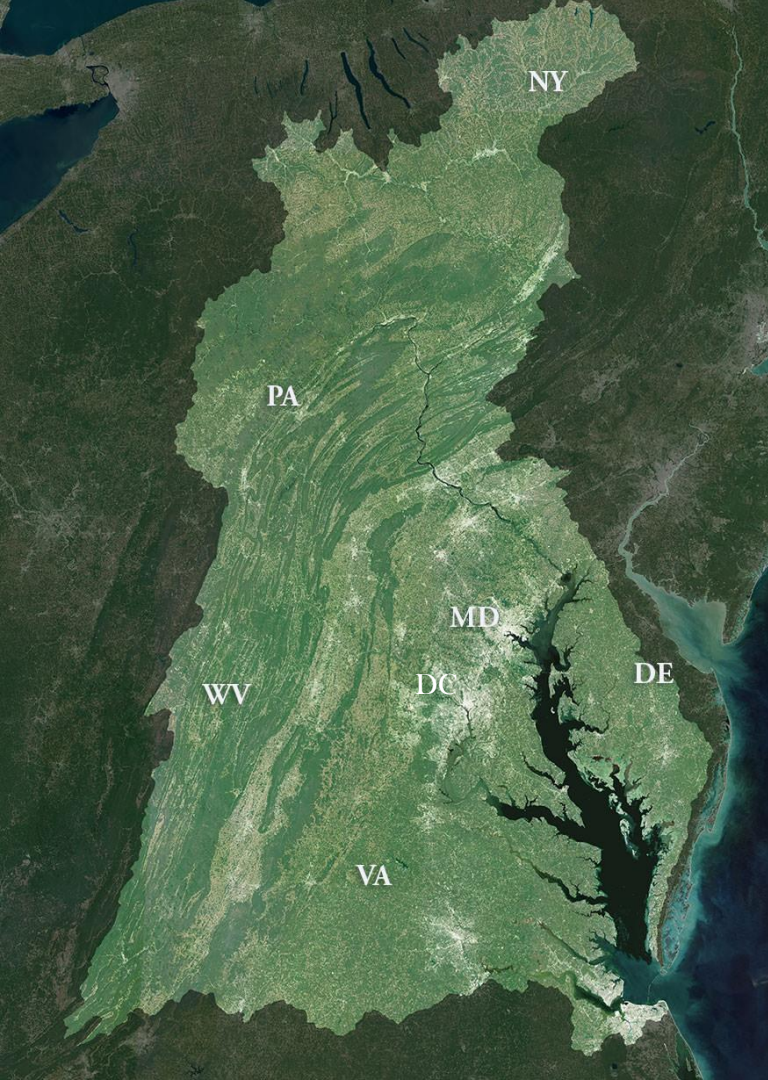


Scientific and Technical Advisory Committee
September 11, 2018

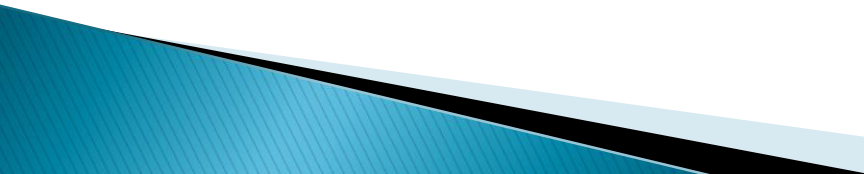
Chesapeake Bay Phase III WIP Planning

*Dinorah Dalmasy, MDE
WQGIT Co-Chair*



EPA 2017 Midpoint Assessment

Where we are today...

- ▶ Jurisdictions have made significant progress in reducing pollution.
 - ▶ TP and TSS have exceeded the 60% 2017 Goal; TN is lagging.
 - ▶ Wastewater reductions have been highly successful.
 - ▶ Agriculture and urban storm water still have work to do.
- 

2017 Midpoint Assessment

2018 Oversight Status

■ Ongoing ■ Enhanced ■ Backstop

	<i>Agriculture</i>	<i>Urban/Suburban</i>	<i>Wastewater</i>	<i>Trading/Offsets</i>
<i>Delaware</i>	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
<i>District of Columbia</i>	Not Applicable	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
<i>Maryland</i>	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight
<i>New York</i>	Ongoing Oversight	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight
<i>Pennsylvania</i>	Backstop Action Levels	Backstop Action Levels	Ongoing Oversight	Enhanced Oversight
<i>Virginia</i>	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
<i>West Virginia</i>	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight

Phase III WIP Nitrogen Planning Targets

2017 TN Edge of Tide Progress Towards 2025 Planning Target (Million Lbs. N/Year)

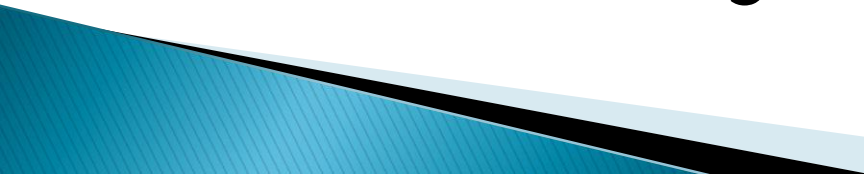
Jurisdiction	2017 Progress	2025 PT	Remaining
Delaware	6.5	4.55	1.91
District of Columbia	1.5	2.42	0.00
Maryland	54.2	45.78	8.44
New York	14.3	11.53	2.79
Pennsylvania	107.3	73.18	34.13
Virginia	58.2	55.73	2.43
West Virginia	7.8	8.22	0.00
Total	249.8	201.41	49.70

Phase III WIP Phosphorus Planning Targets

2017 TP Edge of Tide Progress Towards 2025 Planning Target (Million Lbs. P/Year)

Jurisdiction	2017 Progress	2025 PT	Remaining
Delaware	0.12	0.11	0.01
District of Columbia	0.08	0.13	0.00
Maryland	3.67	3.68	0.00
New York	0.63	0.59	0.05
Pennsylvania	3.80	3.04	0.76
Virginia	6.12	6.19	0.00
West Virginia	0.43	0.43	0.00
Total	14.84	14.17	0.81

EPA Expectations

- ▶ Released on June 20, 2018
 - ▶ Factors in new science and information resulting from the MPA
 - ▶ Reflect Partnership Priorities and PSC decisions
 - ▶ Partnership reaffirmed commitments to meet 2025 Targets
- 

EPA Expectations: General

- ▶ **Build off Jurisdictions earlier WIP strategies to:**
 - Further optimize selection of practices
 - Incorporate lessons learned (MPA)
 - Develop local and federal engagement strategies
 - Account for growth
 - Account for climate change
 - Build and sustain funding capacity to achieve 2025 goals

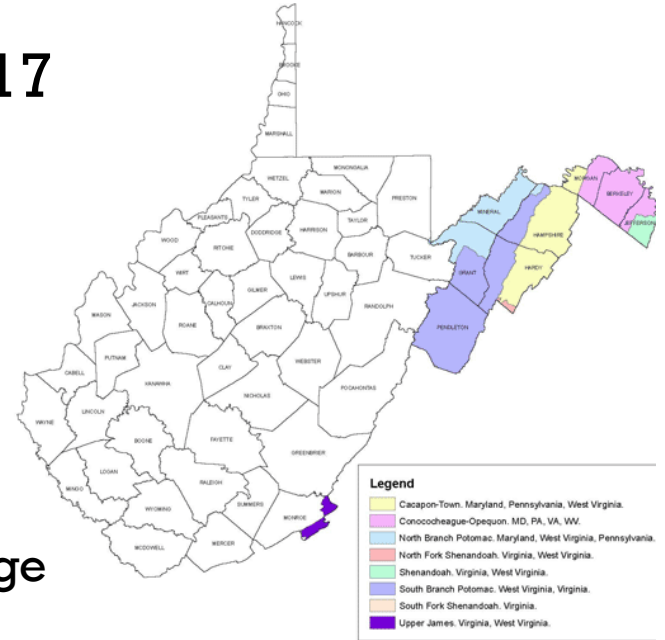
EPA Expectations: New

- ▶ **Develop and implement Local Planning Goal***
- ▶ **Use 2025 forecasted conditions to account for growth***
- ▶ **Address Conowingo infill conditions in a collaborative fashion***
 - **Separate WIP**
- ▶ **Address Climate Change impacts in two phases***
- ▶ **Consider Co-Benefits**
- ▶ **Address Segmentsheds significantly out of WQS attainment**
- ▶ **EPA developed a specific Phase III WIP expectations for PA**
- ▶ **EPA issued federal agencies expectations**

West Virginia

West Virginia Watersheds Contributing to Chesapeake Bay

- ▶ **Special Case. Meeting targets with 2017 Progress**
- ▶ **Phase III WIP will achieve additional reductions beyond 2025 targets**
 - Additional reductions of 0.9 ~ 1 M lbs TN;
 - 0.05 M lbs TP
- ▶ **Phase III WIP will accommodate:**
 - Additional responsibilities due to Climate Change
 - Changes to BMP efficiencies
 - Changes due to BMP verification



West Virginia

▶ Emphasis on WV local waters and other Partnership Goals/Outcomes

- Livestock exclusion
- Forest buffers
- Non-Urban stream restoration for Brook Trout and Fish Habitat Goals
- Cacapon River – nuisance algae impairment
- Source water protection

▶ Local Area Planning Targets

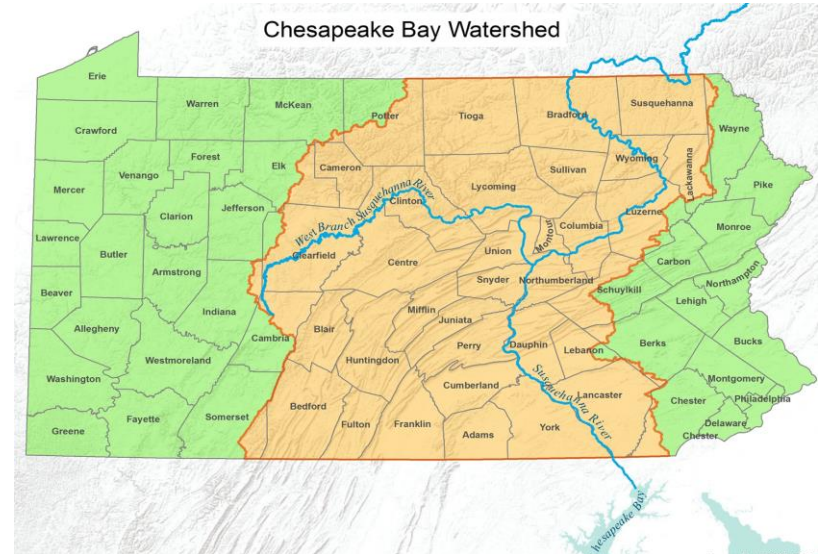
- 2 Conservation Districts in the Potomac watershed
- Feasibility Approach

▶ Accounting for Growth – using 2025 projections



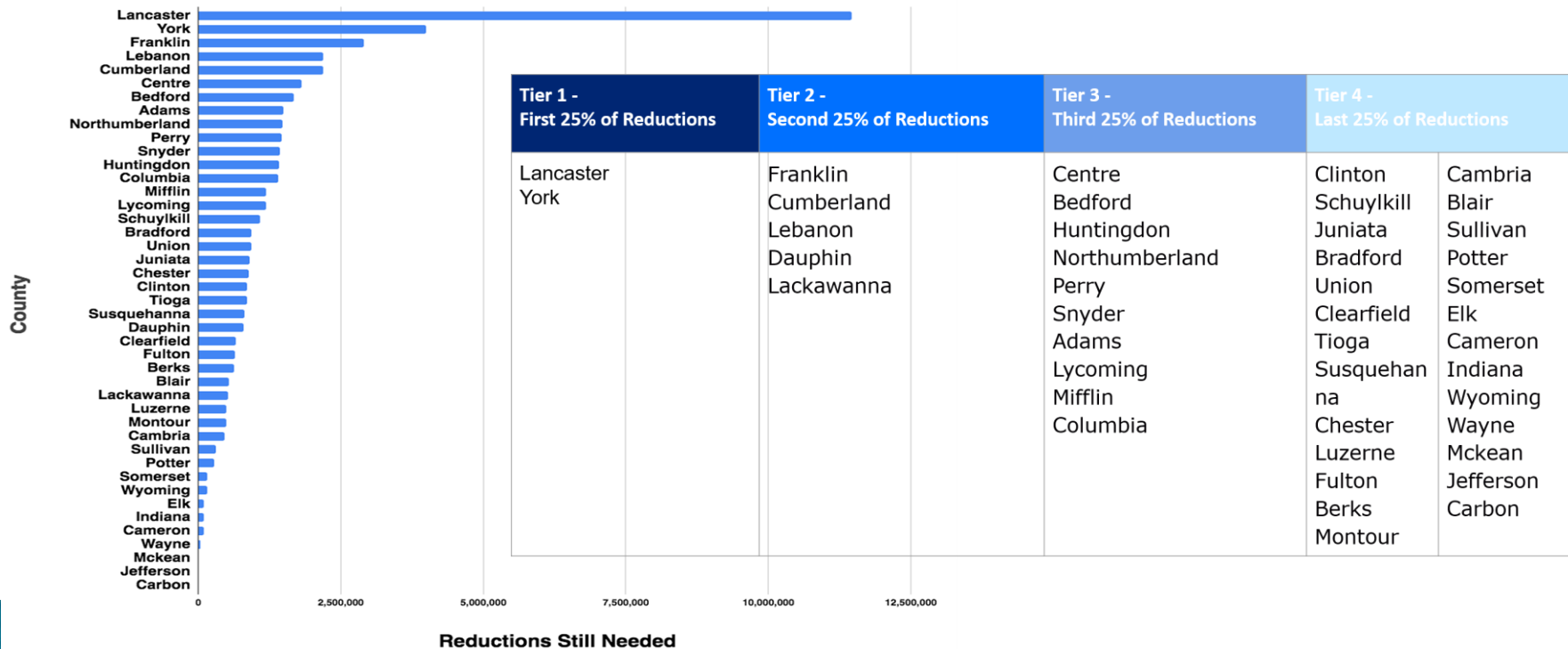
Pennsylvania

- ▶ 43 County Action Plans
- ▶ 4 County Pilots
- ▶ Regional Plans
- ▶ State Programs for Source Sectors
- ▶ Local Programs for County Goals
- ▶ Combine to close Gap

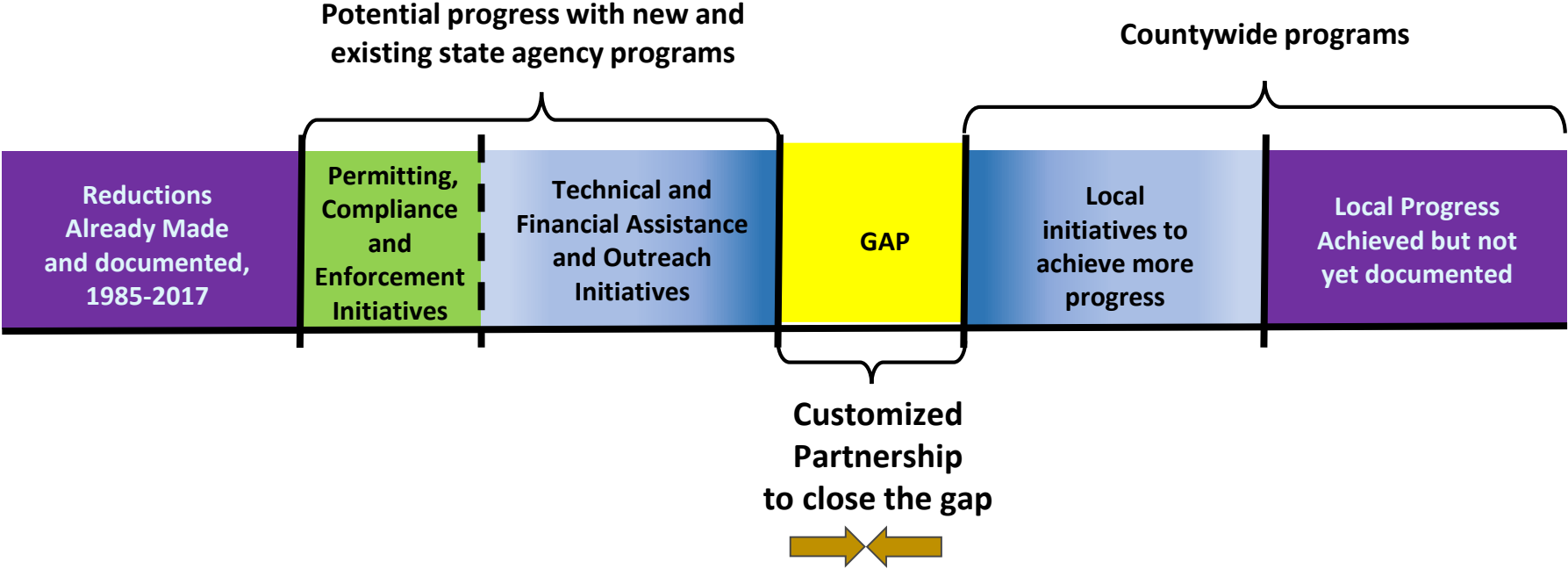


Pennsylvania

Nitrogen Reductions Needed, 2018 to 2025

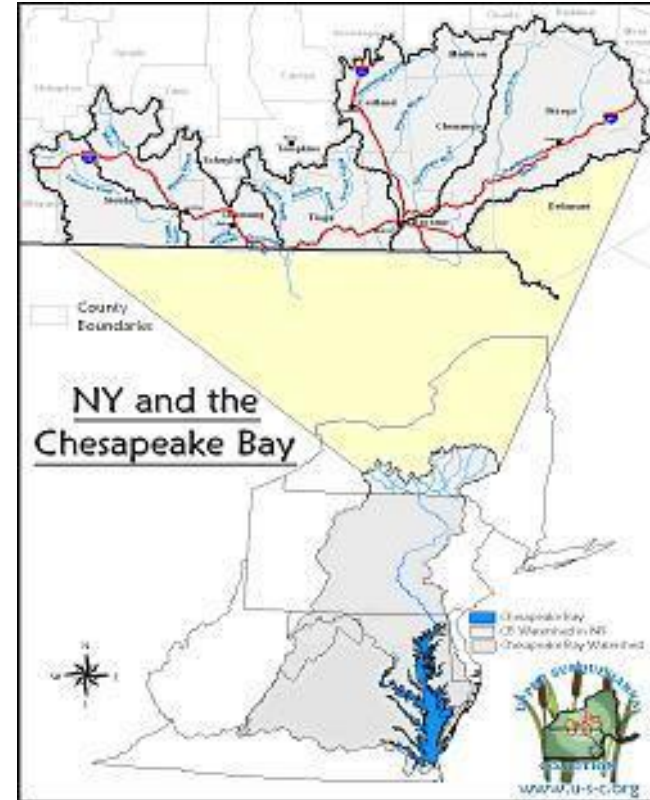


Pennsylvania Two-track Approach

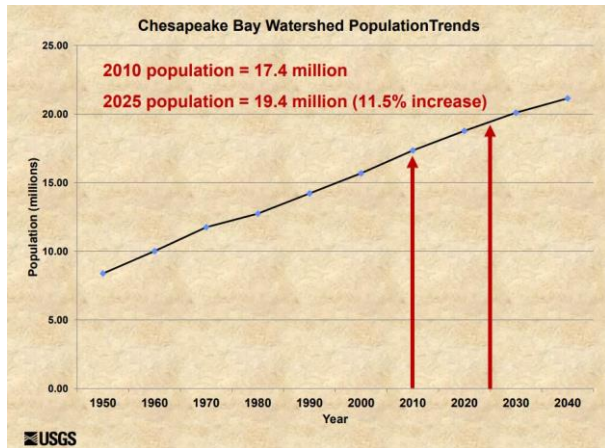


New York

- ▶ Build off Phase II WIP
- ▶ One State Basin - Upper Susquehanna River – NY Basin
- ▶ County Goals for WW and NPS
- ▶ Targeting areas with high N,P loads
- ▶ Working on the WW now: 30+ major WWTPs with Individual WLAs
- ▶ October 2018 – working with NY Upper Suquehanna River Coalition of Conservation Districts – Dept of Ag and Markets
 - Similar to Phase II WIP Process
- ▶ SW – 2 SW Coalitions covering 21 municipalities
- ▶ Very small septic contribution



New York



- ▶ AfG – Anticipating negative growth
 - Use of CBP’s 2025 projections to account for growth

- ▶ Co-benefits:
 - Brook Trout
 - Flooding



Maryland

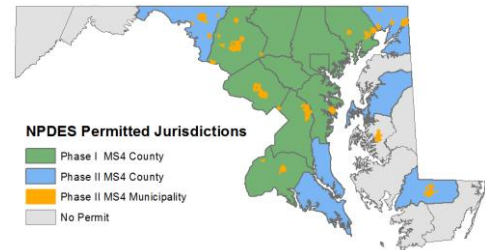
- ▶ Maryland Phase III WIP target is more difficult than Phase II
- ▶ Vision for Phase III WIP
 - Think “One Water” – Healthy Streams, River and Bay
 - Develop robust partnerships
 - Include local priorities
 - Ensure climate resiliency and mitigation
 - Promote innovation
 - Foster economic growth



Maryland
Energy
Administration



Maryland



Agriculture

- MACS
 - Maryland Agricultural Water Quality Cost-Share
- Nutrient Management
- Phosphorus Management Tool
- Cover Crops
- CREP
 - Conservation Reserve Enhancement Program
- County SCD Plans

On-site sewage

- Upgrades and connections
- Septic Stewardship Plans

Stormwater

- Restoration Requirements
 - 90% of MD's impervious surface
- Phase I and Phase II MS4 Permits
- Non-MS4s
 - WQ Trading & CWCA
 - Investigate other funding mechanisms



Wastewater

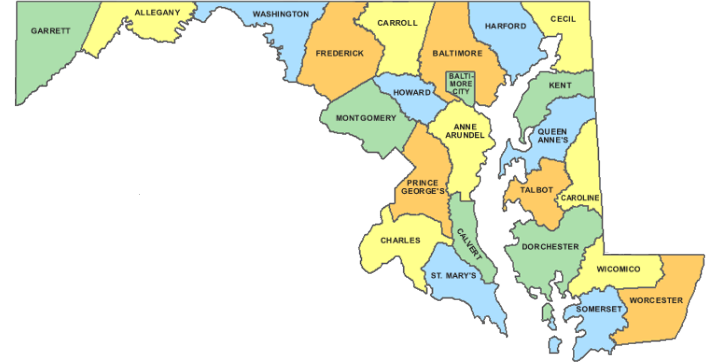
- ENR upgrades to largest POTWs
 - Over 95% of state capacity
- Performance incentives
 - WQ Trading & CWCA
 - O&M Grants



Maryland

▶ Local WIP Inventories for each Sector

- Soil Conservation Districts
- Meetings with county officials on stormwater and septics
- MS4 restoration plans



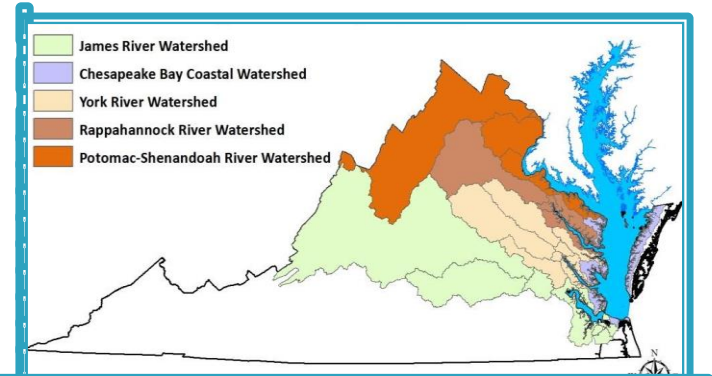
▶ Local Government

- Public Works
- Health
- Planning

▶ Soil Conservation Districts

Virginia

- ▶ Phase II WIP LOE > Phase III WIP LOE
- ▶ Local Area Planning Goals
 - Developed Sector
 - 15 Regional Planning District Commissions
 - Agricultural Sector
 - 32 Soil and Water Conservation District
- ▶ LAPGs based on Phase II WIP LOE
 - 2025 Forecasted conditions to account for growth



- 5 Major Basins
- 15 Planning District Com
- 32 SWCDs
- 96 Localities



Virginia

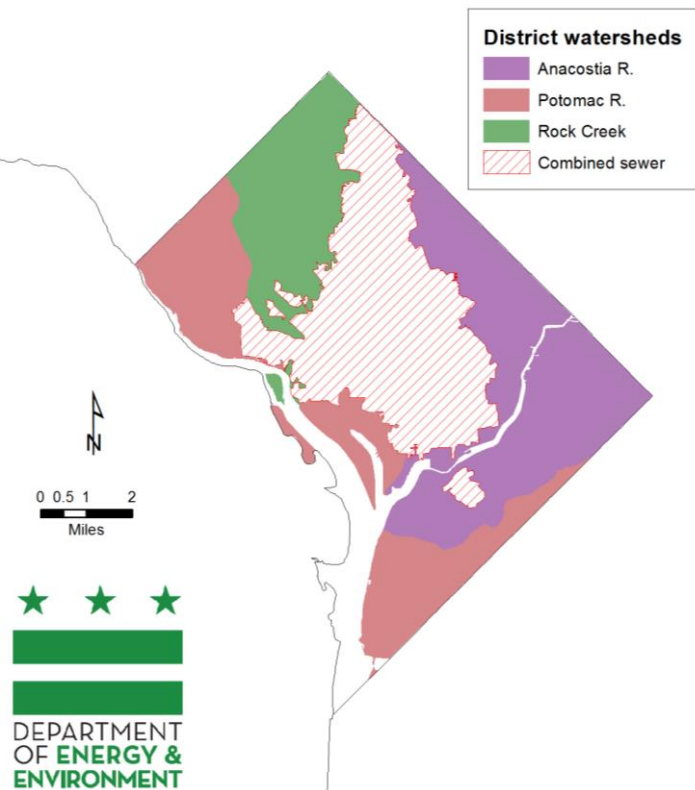
Our Rivers, Our Bay:

Virginia's Path to Clean Water

▶ Local Engagement

- Contract with Planning District Commissions
 - Meetings with developed sector (SW and Septic)
- Department of Conservation and Recreation
 - Leading engagement with the Soil and Water Conservation Districts

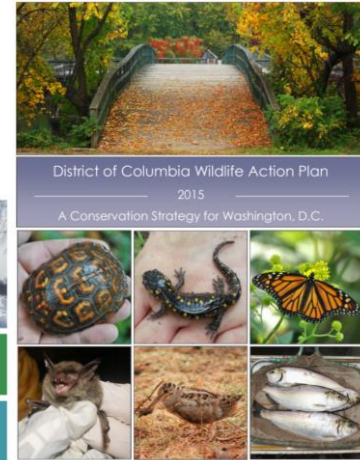
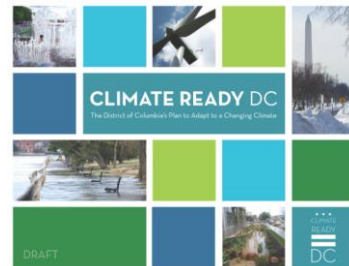
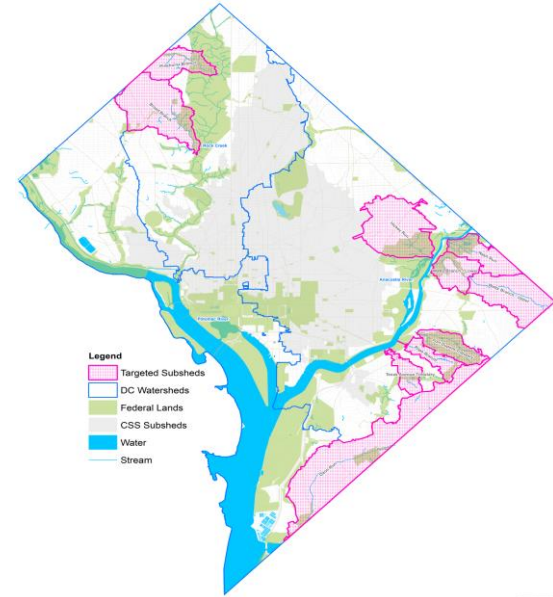
District of Columbia



- ▶ Meeting Targets with 2017 Progress
- ▶ Anticipating population growth and economic development
 - WW loads to increase in the coming decade
 - Need additional reductions in the Urban Sector
- ▶ 30% of DC land is federal
 - Challenging for meeting Urban reductions

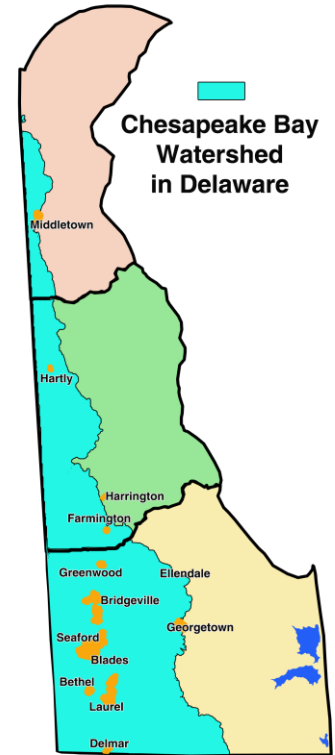
District of Columbia

- ▶ Will address Climate Impacts by 2025
 - Leveraging other efforts such as “Climate Ready DC”
- ▶ Targeting areas to address local water quality impairments
 - Targeting based on **co-benefits**



Delaware

- ▶ DE has to do more compared to their Phase II WIP
- ▶ Condensed Phase II WIP sectors in two groups:
Developed & Agriculture
- ▶ Same methodology used in the TMDL for LAPGs
 - 3 counties/2 sectors
 - AfG: Use 2025 projected growth
- ▶ 1 MS4 county/2 non-MS4s
 - Voluntary implementation/volunteers staff
 - challenging to get local governments involved
 - very rural and small areas
 - counties easier to work with



Common Themes

- ▶ **LAPGs**
 - Some based on TMDL method; equity/relative effectiveness
 - Some based on feasibility/achievability
- ▶ All jurisdictions interested in addressing other Partnership goals e.g. Brook Trout/Fish Habitat
- ▶ Importance of looking at co-benefits
- ▶ Accounting for Growth: Using 2025 forecasted growth
- ▶ Use of State and Local Programs to meet Targets/Gaps
- ▶ Understanding the need for strong local/state/federal engagement
- ▶ Addressing Climate Change. Flooding is a major concern

Challenges

▶ Addressing Climate Change

- Jurisdictions need help with science of CC
 - Big science gap, who is responsible?
 - Do we need to modify existing BMPs?
 - Which BMPs and where to put them? How to design BMPs to better withstand impacts of a changing climate

▶ BMP verification:

- This is drowning some jurisdictions; larger States
- Need to streamline verification process or identify tools; can STAC help?
- Does the Partnership want jurisdictions to put BMPs on the ground? Use resources to meet targets or to find BMPs that they have put on the ground?

Challenges

- ▶ **Co-benefits**
 - Additional work needed understanding how BMPs can help address other pollutant of concerns.
- ▶ **Optimization System**
 - Optimization tool under development but not ready yet
 - Asking to be completed to help with Adaptive Management
 - Is there a way to automate constraints in the tool based on what is measured or modeled to date
- ▶ **Phase III WIP Process to inform future version of CB Watershed Model**
 - Challenges, lessons learned to inform future version of CBWM

Some requests for STAC...

- ▶ Synthesized Previous Workshops Information
- ▶ Tidal Jurisdictions: Bay Goals vs. Tidal Tributaries Goals
- ▶ CBF requests:
 - Potential Water Quality Benefits of Freshwater Mussel Restoration in the Chesapeake Bay Watershed
 - Synthesize potential to improve WQ in uplands areas
 - Identify important remaining research needs
 - Consider living resources goals for FWM
 - FWM restoration as engagement tool in parts of the watershed.
 - Science review of differential credit for BMPs that are using “Precision Conservation” techniques

Discussion

Thanks!

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