



# Water Quality Standards Attainment & Monitoring (WQSAM) Outcome

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*Through the Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program has committed to...*



**Goal:** *Water Quality*

**Outcome:**

Continually improve the capacity to monitor and assess the effects of management actions being undertaken to implement the Bay TMDL and improve water quality. Use the monitoring results to report annually to the public on progress made in attaining established Bay water-quality standards and trends in reducing nutrients and sediment in the watershed.

*Through the Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program has committed to...*



**Goal:** *Water Quality*







**Outcome:**

Continually improve water quality and assess the effectiveness of actions by the Bay Program. The Bay Program will use the most current water quality. Use the monitoring results to report annually to the public on progress made in attaining established Bay water-quality standards and trends in reducing nutrients and sediment in the watershed.

**OUTLOOK  
OFF COURSE**



## What is our Outlook and Recent Progress?

	Capacity to Monitor	Attainment of Tidal Water Quality Standards	Watershed Response to 2025 WIP	Report Trend Results
Outlook	 <b>OUTLOOK OFF COURSE</b>	<b>OUTLOOK MIXED RESULTS</b>	<b>OUTLOOK MIXED RESULTS</b>	 <b>OUTLOOK ON COURSE</b>
Recent Progress	 <b>RECENT PROGRESS INCREASE</b>	 <b>RECENT PROGRESS DECREASE</b>	 <b>RECENT PROGRESS NO CHANGE</b>	 <b>RECENT PROGRESS INCREASE</b>



## What is our Outlook and Recent Progress?



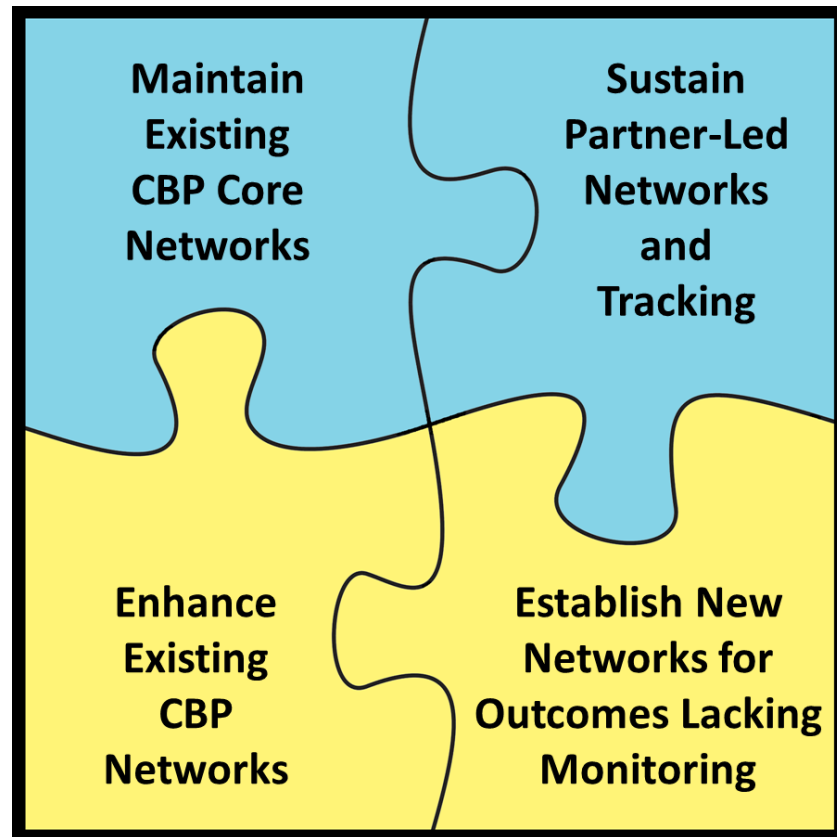
OUTLOOK  
**OFF COURSE**



RECENT PROGRESS  
**INCREASE**

- **Lacking capacity to meet all the monitoring requirements** to fully assess attainment and watershed outcomes
- Monitoring assessment completed and **some investments made**

## Capacity to Monitor





## What is our Outlook and Recent Progress?

### OUTLOOK

### MIXED RESULTS



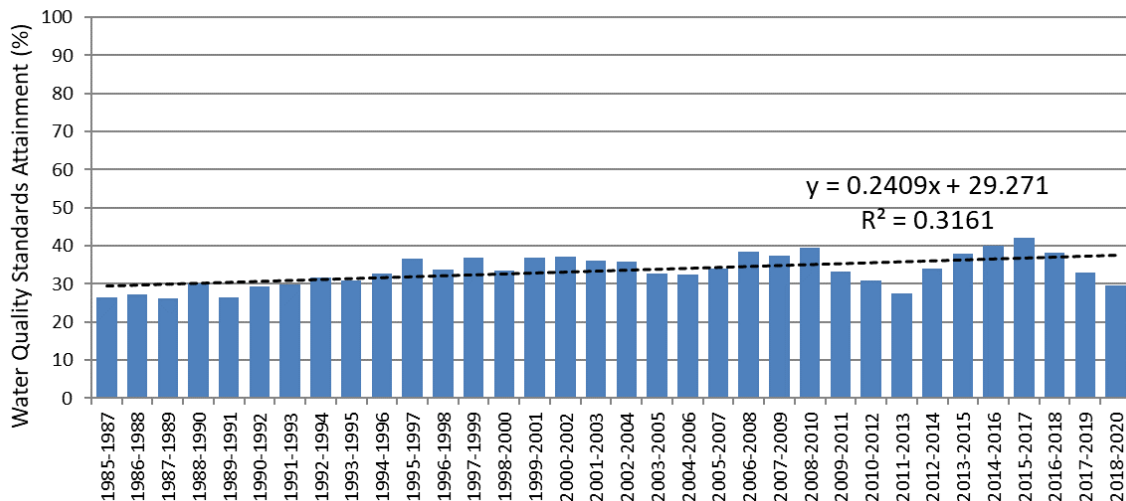
### RECENT PROGRESS

### DECREASE

- 2018 – 2020: **29.6%** of the Chesapeake Bay and its tidal tributaries met water quality standards
- Two recent above-average flow years (2018 – 2019) likely played a role in decrease

## Attainment of Tidal Water Quality Standards

Achievement of Chesapeake Bay Water Quality Standards  
1985-2020





## What is our Outlook and Recent Progress?

### OUTLOOK

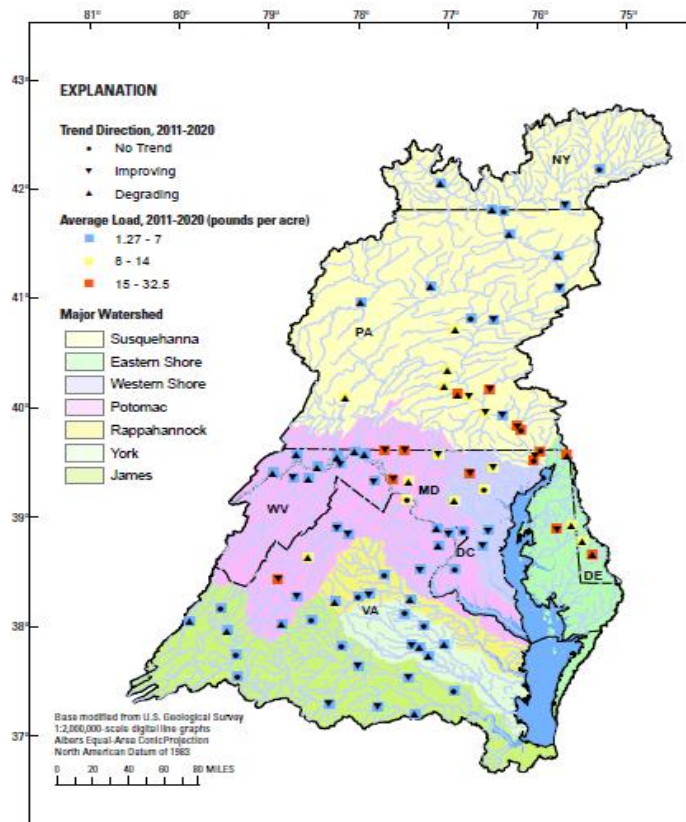
### MIXED RESULTS



### RECENT PROGRESS NO CHANGE

- 2011 – 2020: **mixed results**
- Nitrogen: 37% improving, 40% degrading
- Phosphorous: 44% improving, 23% degrading
- Sediment: 18% improving, 46% degrading

## Watershed Response to 2025 WIP





## What is our Outlook and Recent Progress?



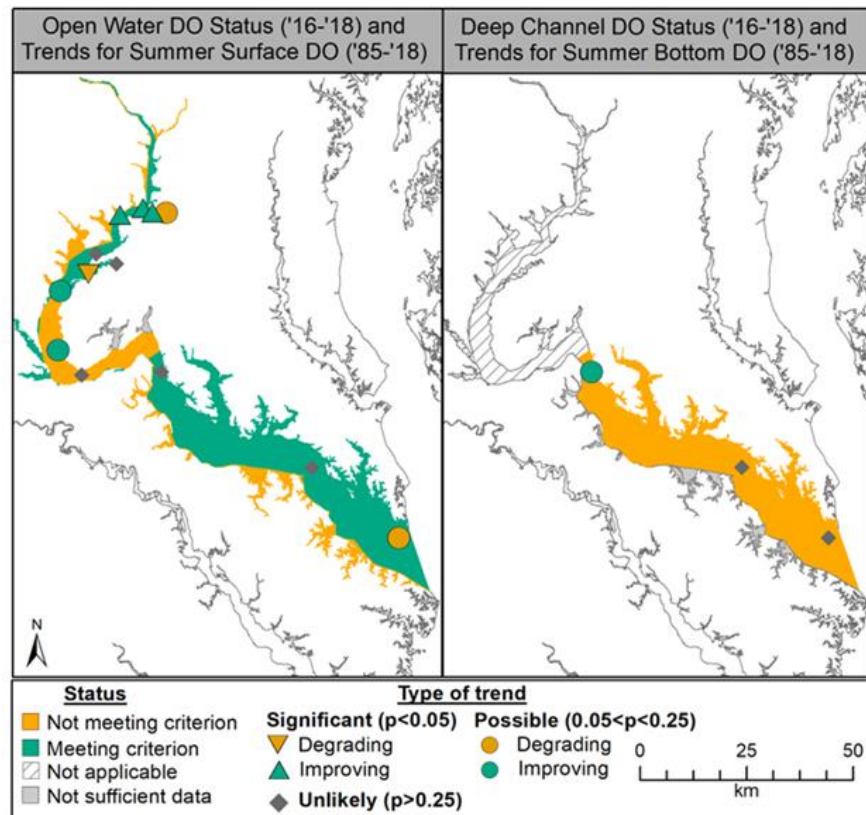
OUTLOOK  
**ON COURSE**



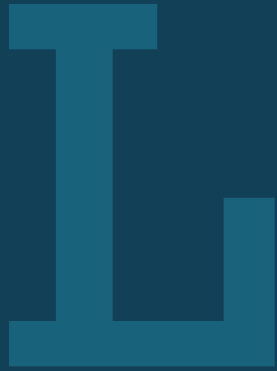
RECENT PROGRESS  
**INCREASE**

- Produced Tidal, nontidal, and RIM trends and reports
- Developed **12 Tributary Summaries**
- Reports on factors affecting watershed trends

## Report Trend Results







# Learn

*What have we learned in the last two years?*



## Successes and Challenges

### Scientific

- Extensive analysis, reporting, publishing of water quality status & trends
- Tributary Summaries and reports on factors affecting watershed trends
- Successful case study with 4D water quality interpolator
- Built database for Strategic Science and Research Framework (SSRF)
- Targeting portal for multiple outcomes

### Policy

- Engagement with jurisdictions on monitoring findings for policy implications

### Fiscal

- Completed Monitoring Report with funding needs
- Gained funding and additional partners to support capacity for parts of networks



## Successes and Challenges

### Scientific

- Data collection capacity less than requirements identified in Monitoring Report
- No tidal segment has been assessed for its full suite of WQ standards
- Incorporating ecosystem services based on water quality

### Policy

- Limited application of monitoring results to 2025 WIP Outcome

### Fiscal

- CBP (EPA) lacks resources to fund all monitoring requirements on its own
- Sustained funding plans with partners are not yet in place

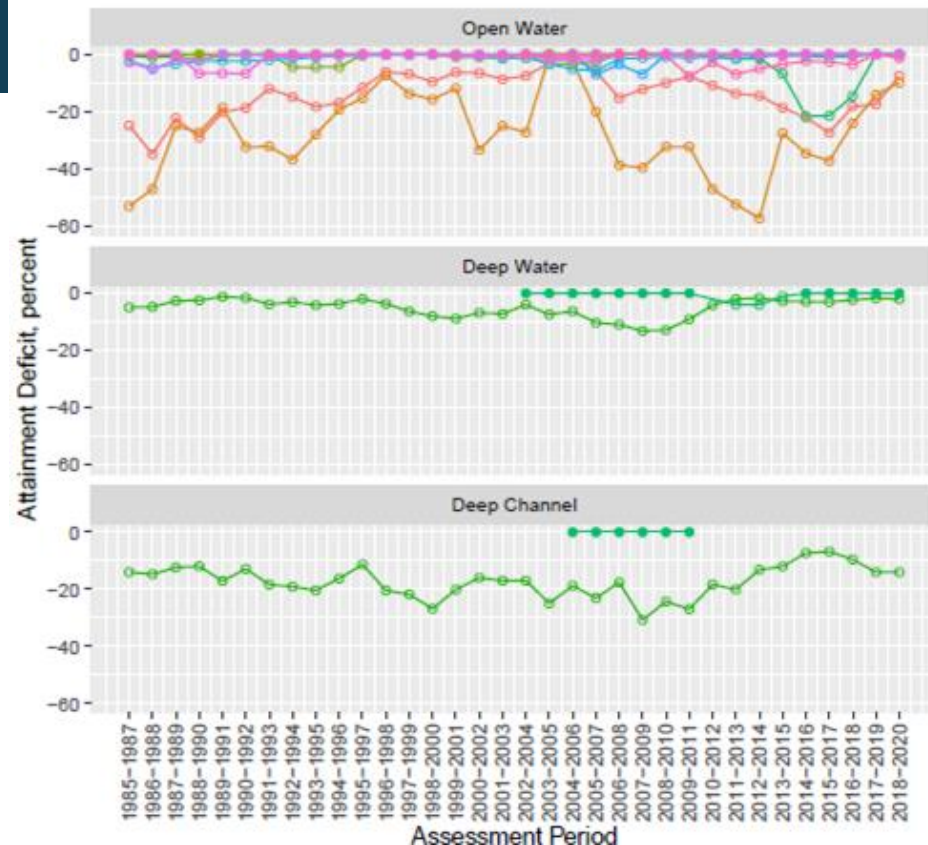
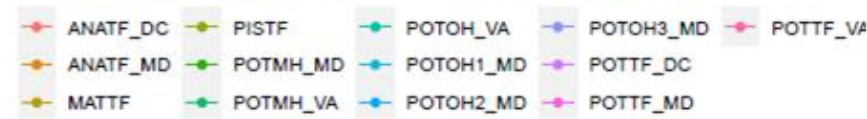


## On the Horizon

### Scientific

- Developing metrics to show incremental progress towards attainment
- Promoting new monitoring innovations and data streams
- Continuing to understand factors affecting changes
- Advance understanding of multiple benefits with water quality

Dissolved Oxygen Criterion Attainment Deficit  
(0% = complete attainment; -100% = complete non-attainment)

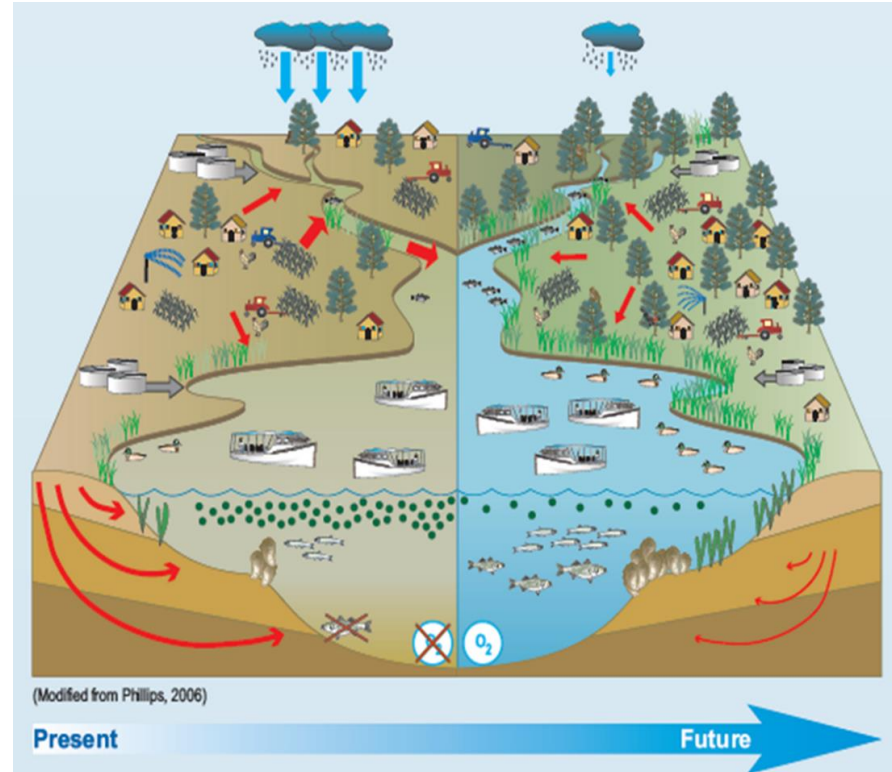




## On the Horizon

### Policy

- Use monitoring and assessment to inform progress toward 2025 WIP outcome
  - Implementing practices by 2025
  - Achieving attainment of water-quality standards
    - DO, Water clarity/SAV, Chlorophyll a
    - More focus on living resources





## On the Horizon

### Fiscal

- Lack of funding to address shortfalls or enhance monitoring
- A partnership approach is needed to address the vast scope of needs to build monitoring capacity
- PSC Monitoring Report lays out the priority monitoring needs





# Adapt

*How does all of this impact our work?*



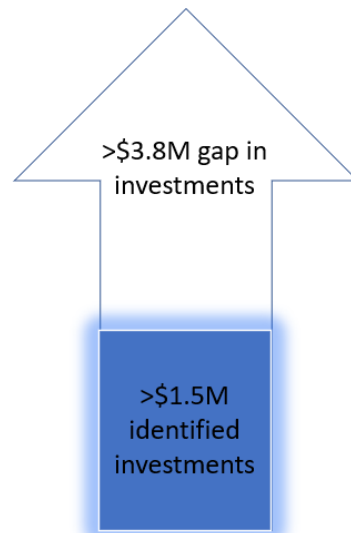
**Based on what we  
learned, we plan to ...**

- Coordinate partnership meetings to implement PSC monitoring report: options to address monitoring shortfalls and recommendations



## Capacity to Monitor

- Identify funding opportunities for recommendations



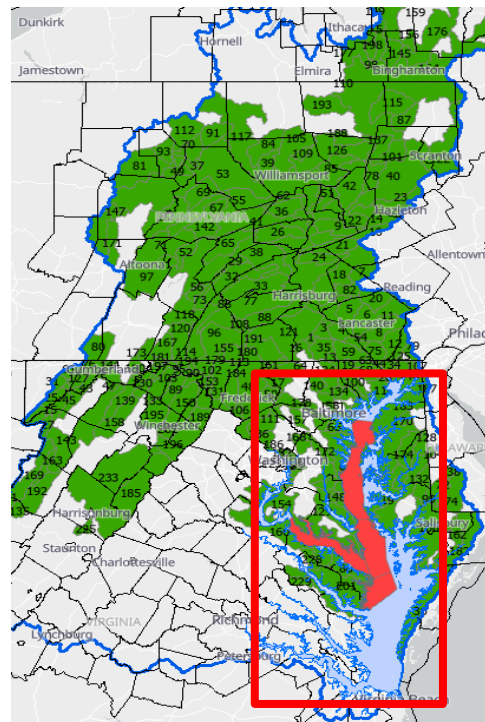




Based on what we  
learned, we plan to ...

- Inform options to accelerate progress for 2025 WIP Outcome
- More focus on attainment in tidal waters important for living resources
  - In shallow waters
  - Implications for Most Effective Basins
- 4D interpolator tool development
- New data collections put into use for assessments

## Attainment of Tidal Water Quality Standards

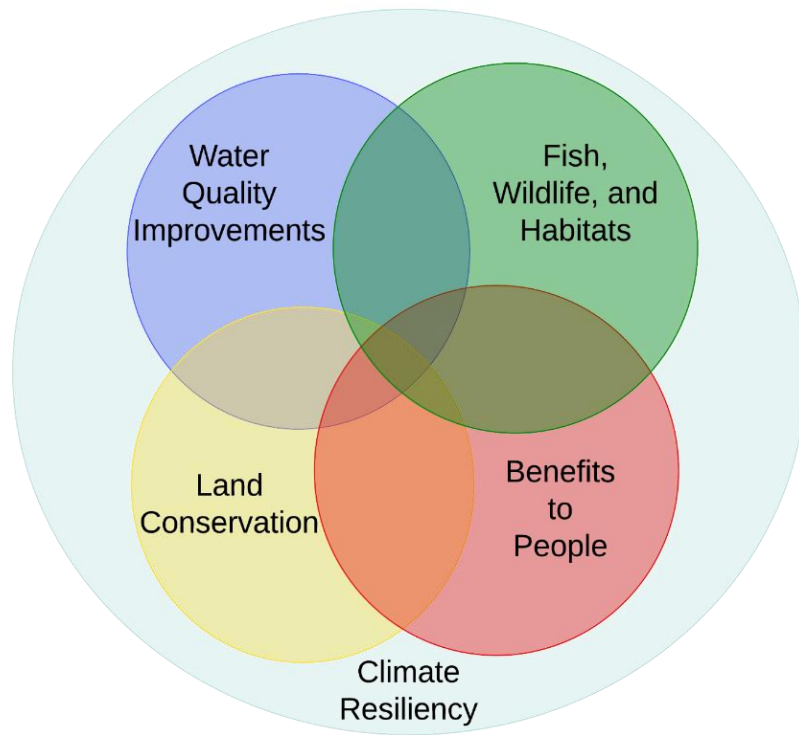




Based on what we learned, we plan to ...

- Explain factors affecting watershed response to focus practices.
- Implications for targeting practices for multiple outcomes

## Watershed response to 2025 WIP

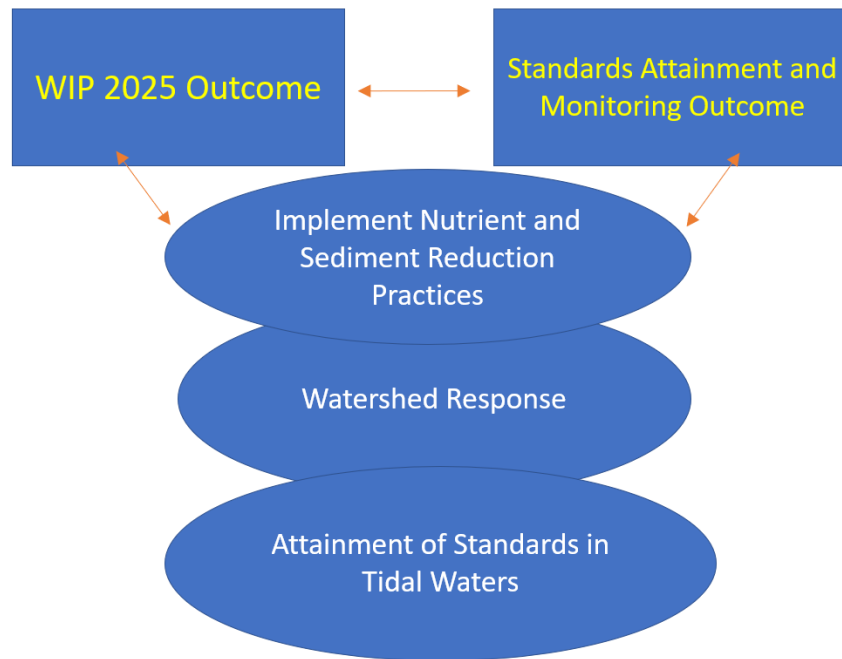




Based on what we  
learned, we plan to ...

- Increase collaborations between WQSAM Outcome and 2025 WIP Outcome
- Reporting monitoring results to inform implementation of practices and attainment

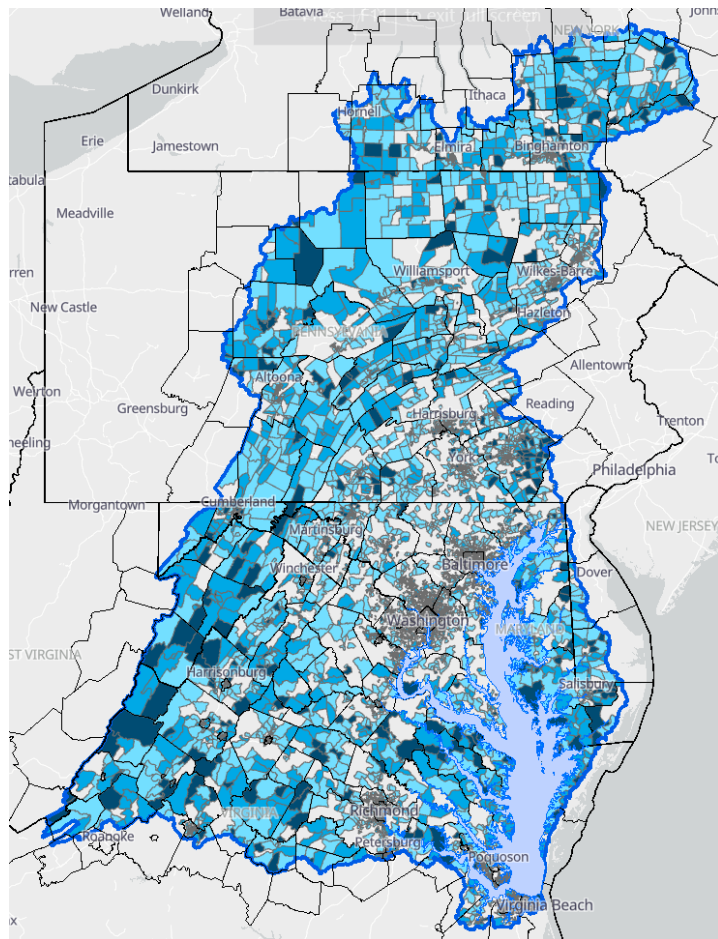
## Report Trend Results





## Equitable and inclusive restoration ...

- Continue to engage a larger breath of science providers
- Inform targeting of practices for underrepresented communities
- Build capacity by increasing opportunities for disadvantaged communities to participate in monitoring
  - Community Science network



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# Fill the Gap

*How can the Management Board  
help achieve the Outcome?*



## Filling the Gap

- **Scientific support** –
- Use SSRF to guide jurisdictional grants, proposals, and strategic planning
- Support for more in-depth analyses of attainment of standards and factors affecting trends.



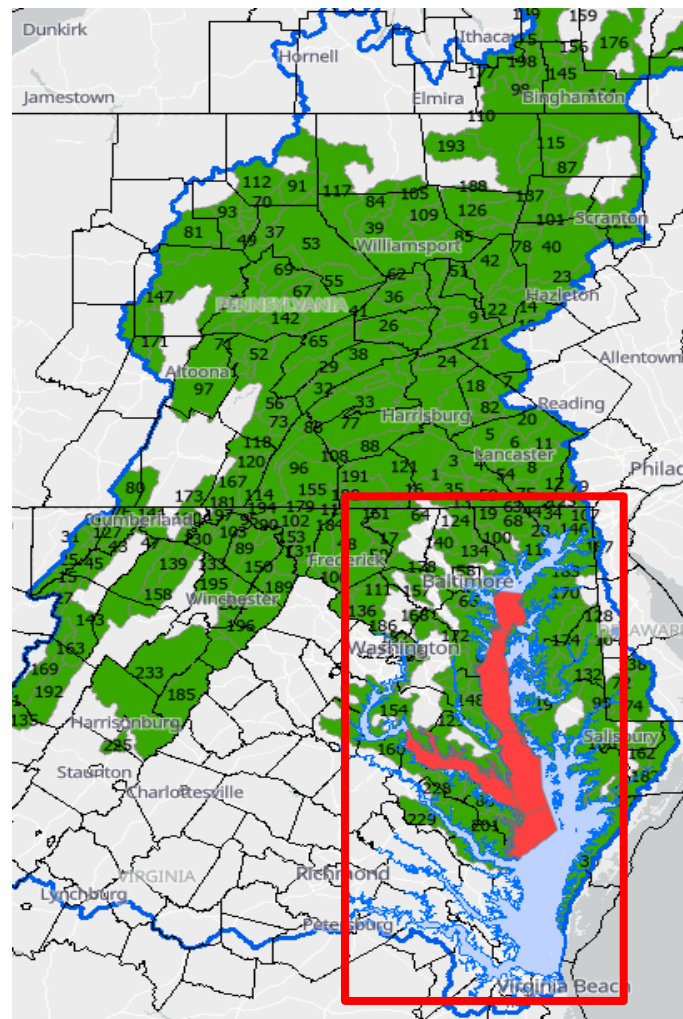
## Filling the Gap

- **Fiscal Support –**
- Address remaining funding gaps for priority needs from the PSC Monitoring Review
  - Commit staff to attending to Monitoring Report “Kick off” meeting in October and subsequent discussions
  - Identify potential resources



## Filling the Gap

- **Policy support –**
- Apply monitoring results to accelerate progress in 2025 WIP
  - More focus on living resources in shallow waters
  - Most Effective Basins
  - Interaction with WQ GIT, MB, and PSC







## Discussion

- How can we best help the WQ GIT and MB apply monitoring results to accelerate progress in WIP 2025?
- What actions do you want reflected in the updated Logic and Action Plans for 2025 WIP and WQSAM outcomes?
- What are the best opportunities to address monitoring shortfalls?



# Questions