QUARTERLY PROGRESS MEETING – September 2022
Chesapeake Bay Program

Water Quality Standards Attainment & Monitoring Outcome

Breck Sullivan, USGS
STAR Coordinator
Peter Tango, USGS
CBP Monitoring Coordinator

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.

What is our Outlook and Recent Progress?

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

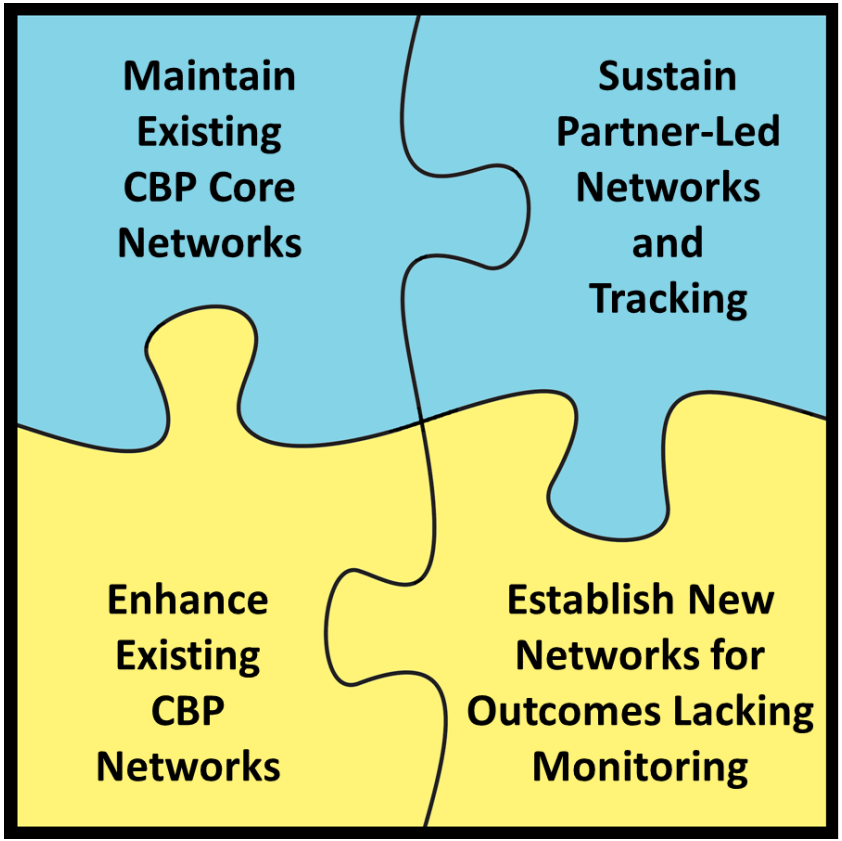
What is our Outlook and Recent Progress?

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
OFF COURSE

RECENT PROGRESS
DECREASE

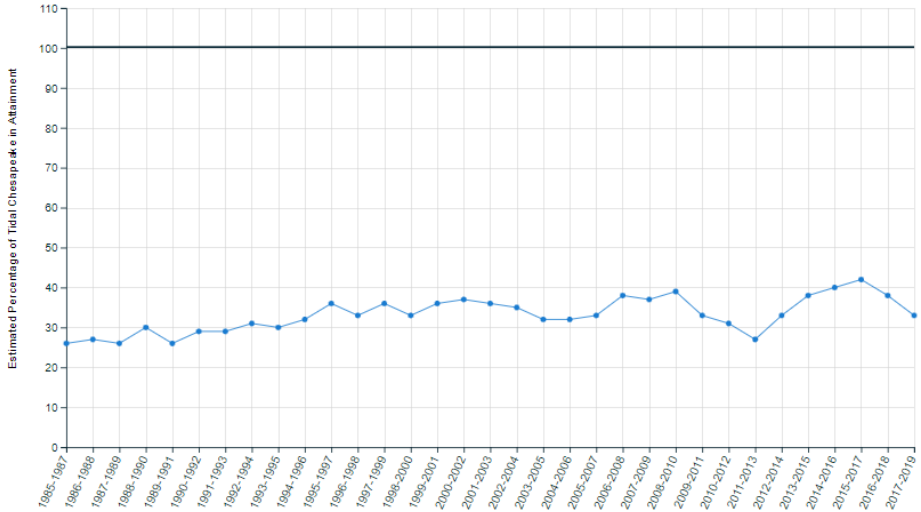
- 2017 – 2019: **33.1%** of the Chesapeake Bay and its tidal tributaries met water quality standards
- Two recent above-average flow years (2018 – 2019) likely played a role in decrease

Attainment of Tidal Water Quality Standards

Water Quality Standards Attainment (1985-2019)

Water quality is evaluated using three parameters: dissolved oxygen, water clarity or underwater grass abundance, and chlorophyll a (a measure of algae growth).

VIEW CHART VIEW TABLE



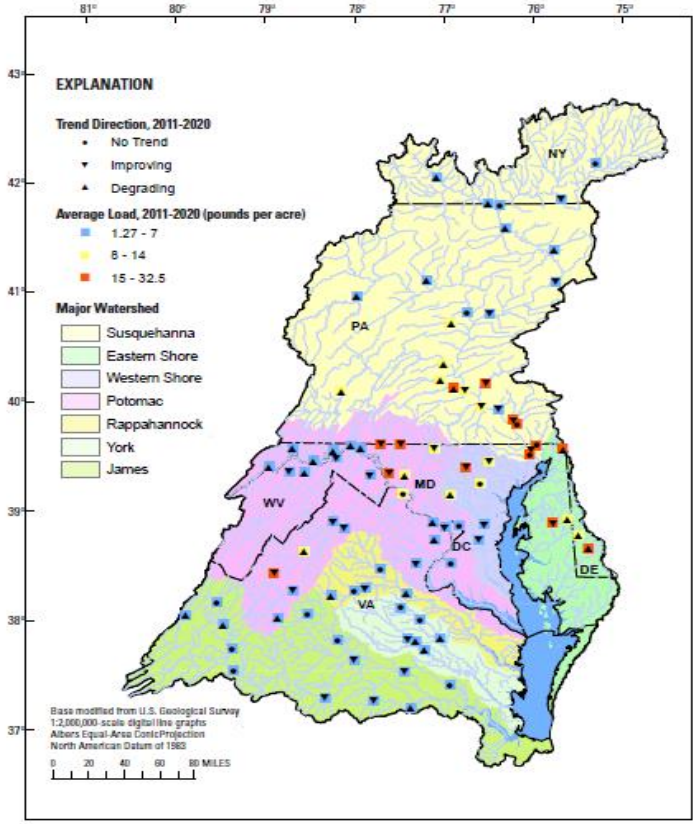
What is our Outlook and Recent Progress?

OUTLOOK
OFF COURSE

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 WIP 2025



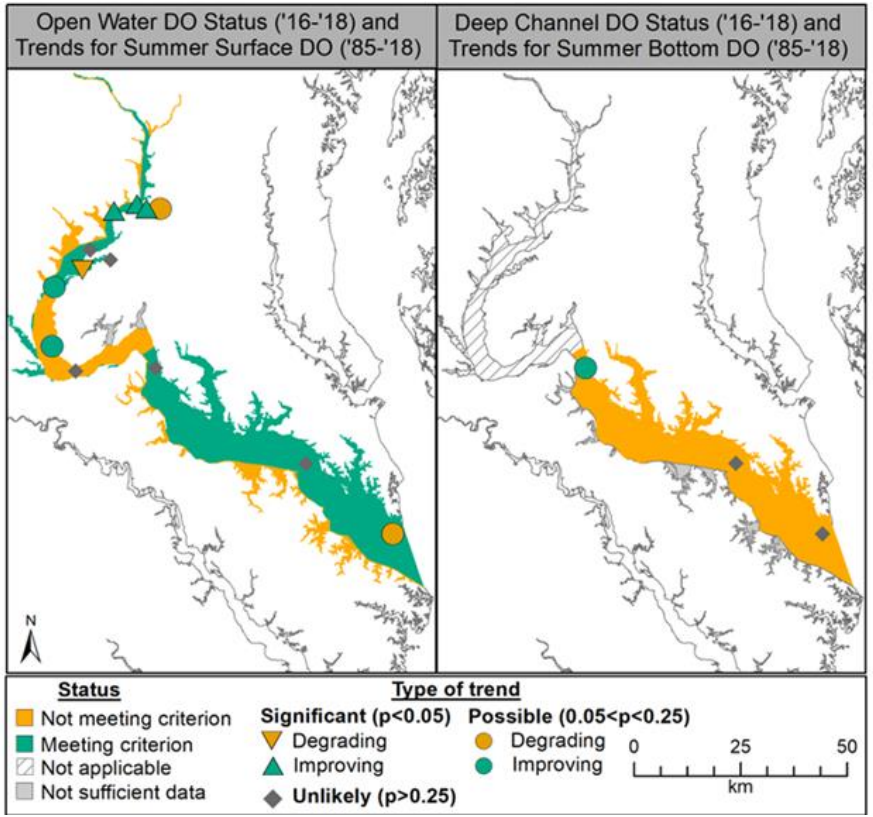
What is our Outlook and Recent Progress?

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



L

Learn

What have we learned in the last two years?

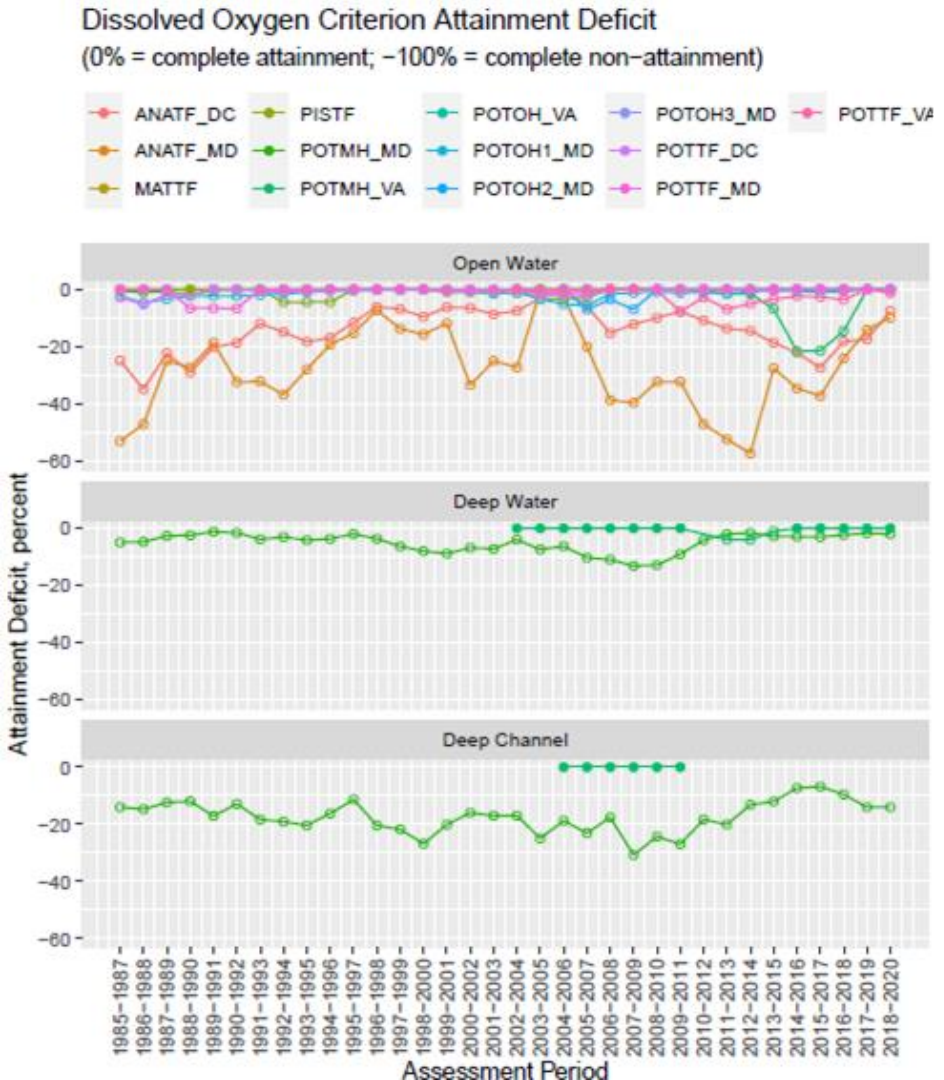
On the Horizon

Scientific

- Developing metrics to show incremental progress towards attainment
- Promoting new monitoring innovations and data streams

Fiscal

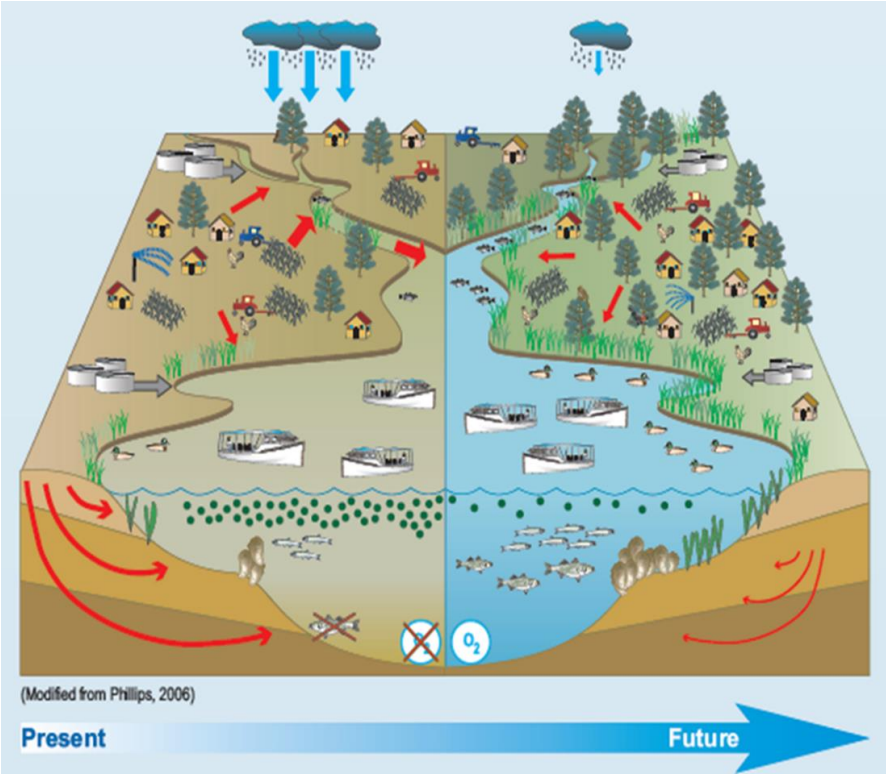
- Lack of funding to sustain or enhance monitoring
- A partnership approach is needed to address the vast scope of needs to build monitoring capacity



On the Horizon

Policy

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



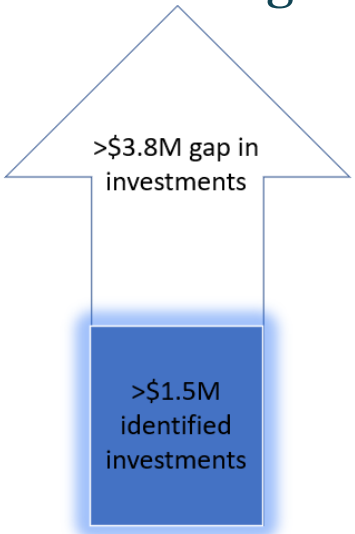
A

Adapt

How does all of this impact our work?

Based on what we learned, we plan to …

- Coordinate partnership meetings derived from Monitoring Report to support monitoring investment



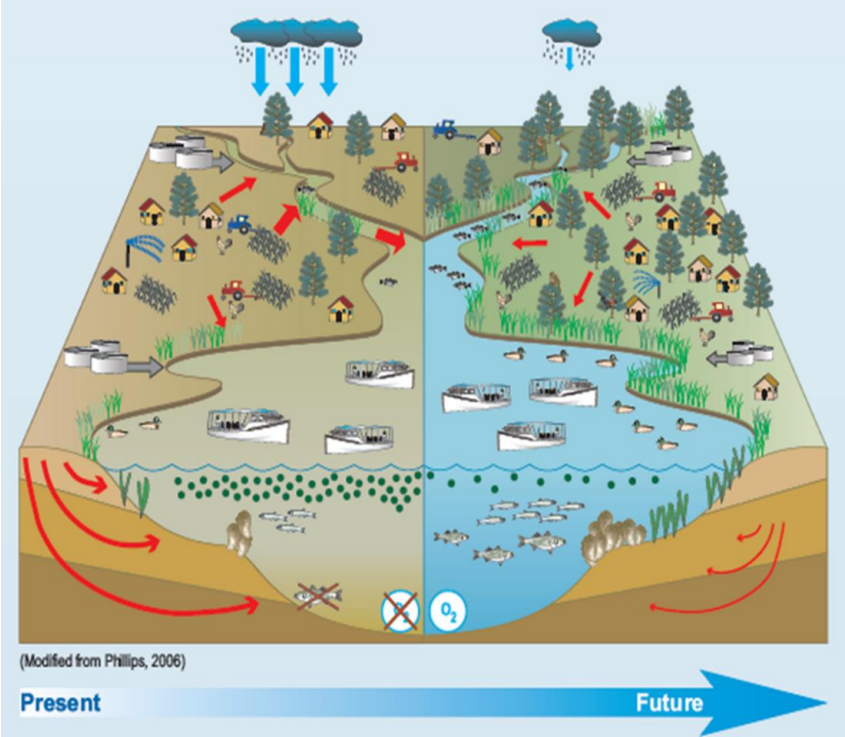
Capacity to Monitor

- Increase capacity for monitoring based on menu of recommendations

Based on what we learned, we plan to …

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

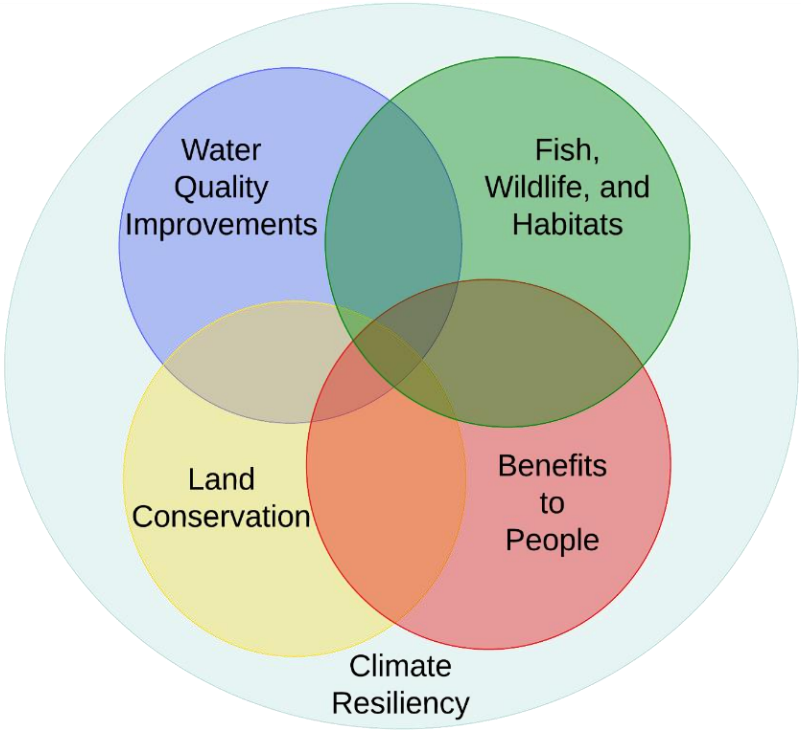
Attainment of Tidal Water Quality Standards



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 WIP2025

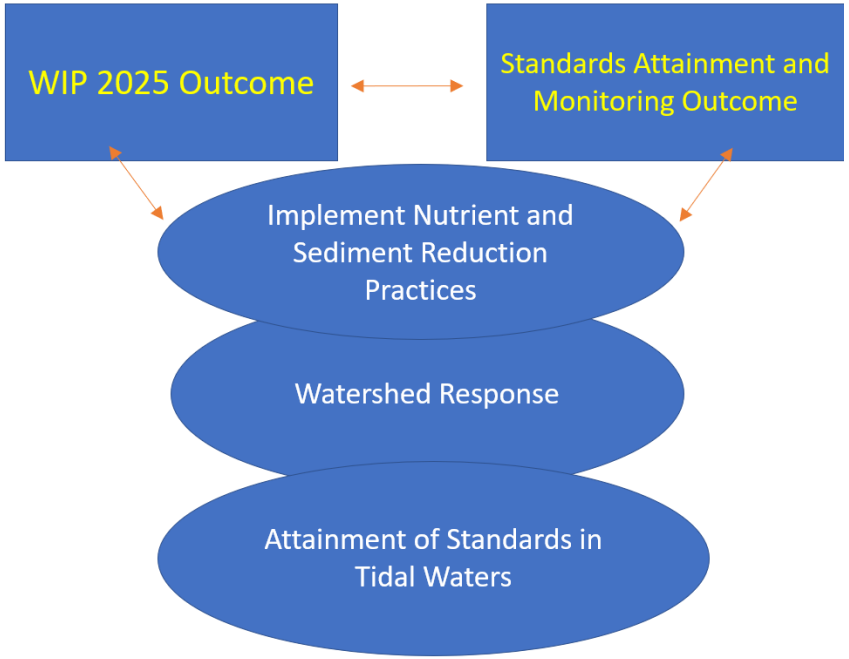


Based on what we learned, we plan to …

- Increase collaborations between WQSAM Outcome and WIP 2025 Outcome

- Reporting monitoring results to inform implementation of practices and attainment

Report Trend Results



Fill the Gap

How can the Management Board help achieve the Outcome?

Filling the Gap

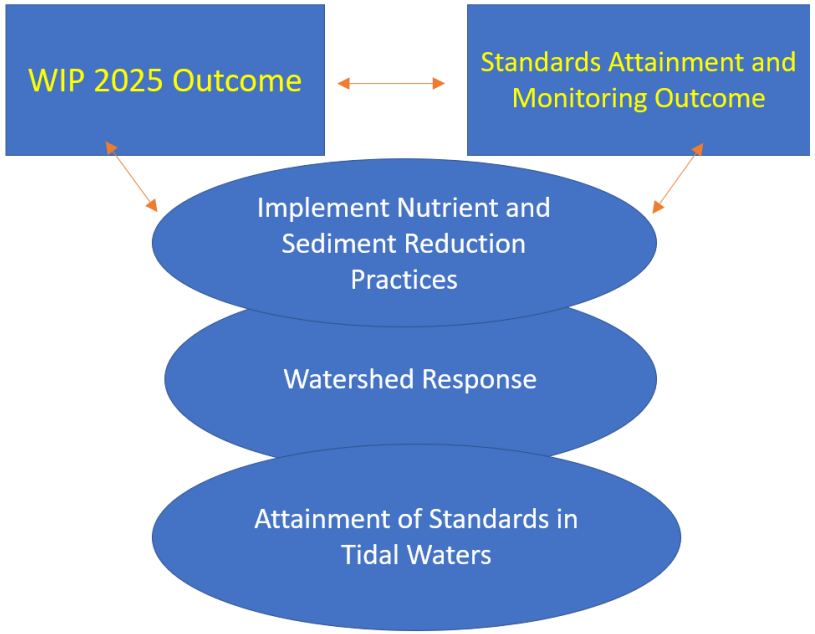
- Scientific support –
  - Use SSRF to guide jurisdictional grants, proposals, and strategic planning
  - Support for more in-depth analyses of attainment of standards and factors affecting trends.

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 WIP 2025
  - WQ GIT
  - MB
  - 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 WIP2025 and WQSAM outcomes?
- What are the best opportunities to expand monitoring capacity in your jurisdiction or agency?

Questions

ChesapeakeProgress Icons

RECENT PROGRESS
INCREASE

RECENT PROGRESS
DECREASE

RECENT PROGRESS
NO CHANGE

RECENT PROGRESS
COMPLETED

OUTLOOK
ON COURSE

OUTLOOK
OFF COURSE

OUTLOOK
UNCERTAIN

OUTLOOK
COMPLETED

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)

Fiscal

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

Policy

- Engagement with jurisdictions on monitoring findings for policy implications

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 criteria across all seasons and designated uses
- Incorporating ecosystem services based on water quality

Fiscal

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

Policy

- Limited application of monitoring results to WIP 2025 Outcome

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