



Chesapeake Bay Program
Science. Restoration. Partnership.

Tiered Implementation

August 24, 2026

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Goals for Today



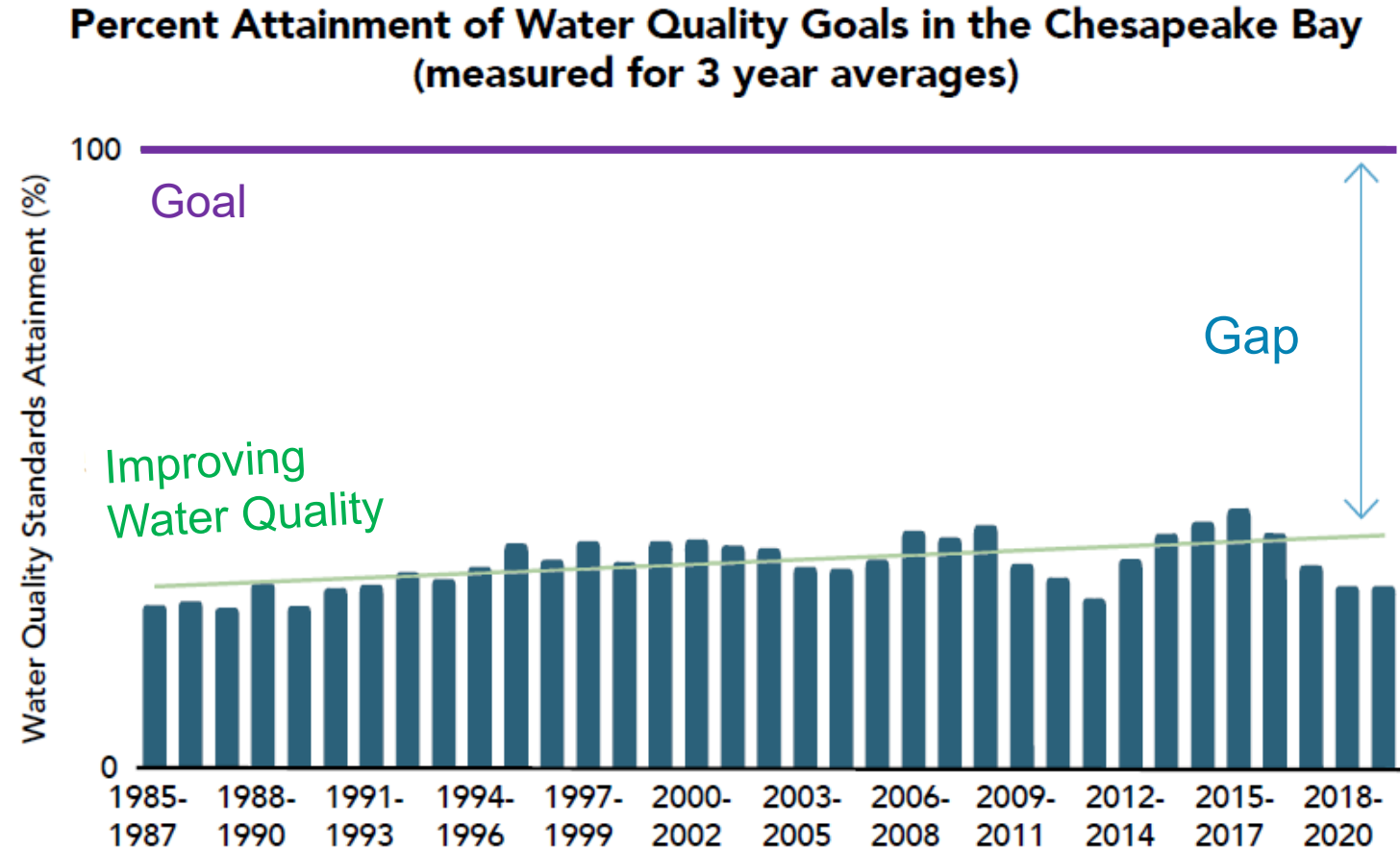
Photo by Will Parson/Chesapeake Bay Program

- Reframe our starting point for approaching tiered implementation
- Discuss tiered implementation definitions
- Preview a new tool*
- Planned tiered implementation discussion at the September CWGT Meeting



Motivation: The CESR Report

- 40+ years of restoration has led to progress but not full success in the Chesapeake Bay
- We need to understand the remaining gaps
- CESR helps identify what might be done differently going forward



What We (Still) Want to Achieve



Cleaner water across the
Chesapeake Bay



Healthier habitats for
fish, wildlife, and people



Better dissolved oxygen,
water clarity, and lower
pollutant levels



Demonstration of
progress across the 92
Chesapeake Bay
segments

Reframing Our Starting Point



Communications on tiered implementation started in the details rather than at a high-level, which may have led to some confusion



Taking time today to step back, re-focus, discuss the big picture as we explore and learn together

Incoming information and discussions will help us determine how to integrate tiered implementation into our current planning process for Phase 7



We have the opportunity to think differently about how we approach our work to accelerate progress towards water quality standards attainment

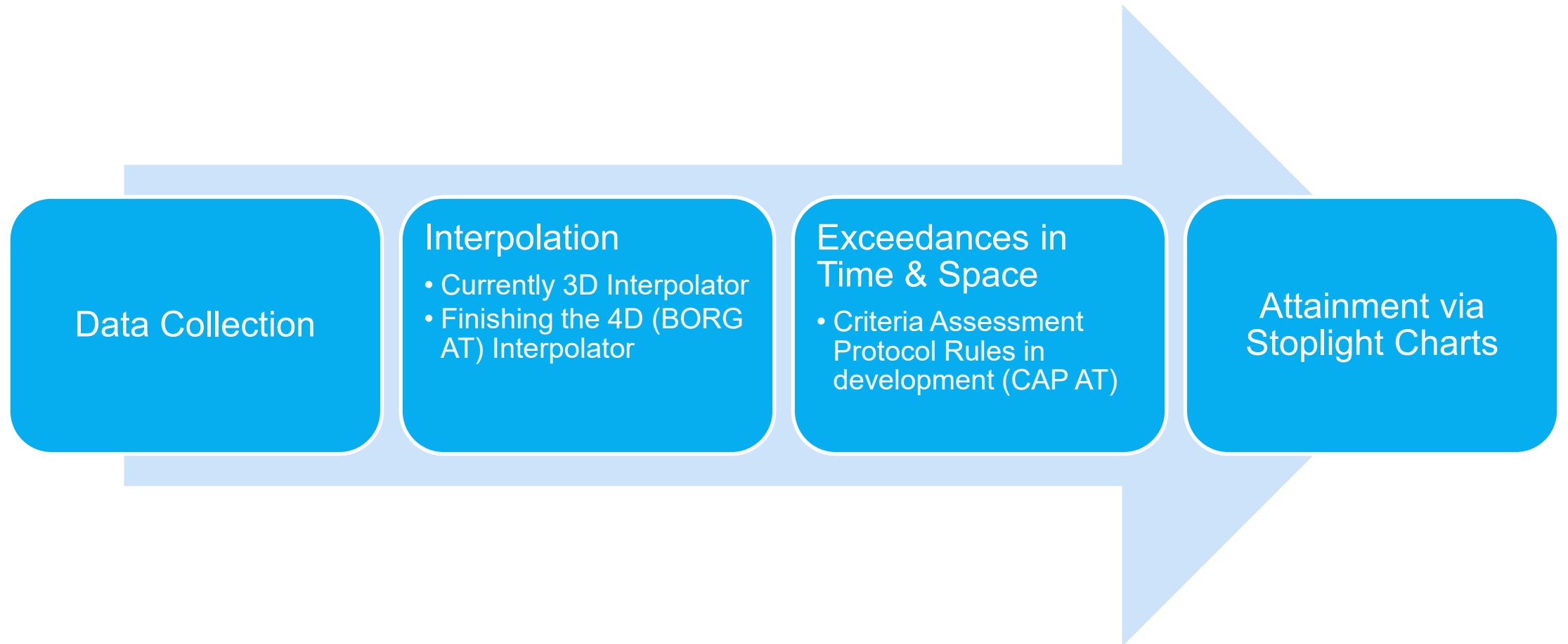
Expanded Data & Tools Give Us More Information than Ever Before

- Monitoring
 - Long-term datasets that enable load and trend calculations
 - Living resources datasets
 - 4D Interpolator (ingest all available data streams; provides data required for evaluating high-frequency DO criteria for the Bay); don't know what the results will show yet
 - *Water quality standards attainment*
 - *Attainment deficit (i.e., Stoplight Charts) by segment DO criteria for each designated use*
- Modeling
 - Inputs based on monitoring and reported information
 - Phase 7 Suite of Models to run scenarios that inform planning targets
 - Replicating *monitoring-based evaluations* with our models
 - Habitat suitability work
 - Connecting Watersheds to Water Quality Dashboard*



New data and tools
may create (for now)
“known unknowns”

Monitoring-Based Analyses → Evaluate Water Quality Standards Attainment



Model-Based Analyses → Scenarios That Help Set Planning Targets

Estuarine Model Outputs

- Sampled at the same spatial and temporal frequency as the monitoring-based analysis to create scenarios

Interpolation

- 4D Interpolator

Exceedances in Time & Space

- Final rules from CAP AT

Attainment via
Stoplight Charts

Opportunities

- We have the opportunity to think differently about how we approach our work to accelerate progress towards water quality standards attainment
- We have more tools and information than ever before to tell a more complete story and help answer questions such as:
 - Where do we target?
 - Where should we invest in implementation to meet our goals more quickly?

Tiered Implementation Definitions

- Thank you those that submitted definitions:
 - Suzanne Trevena (EPA)
 - Amanda Shaver (VA DEQ)
 - Scott Heidel (PA DEP)
 - Dave Montali (WV DEP/Tetra Tech)
 - Marel King (CBC)
 - KC Filippino (HRPDC)
 - Joe Wood (CBF)
 - Sarah Lane (MD DNR) and Greg Sandi (MDE)

Similarities Across Responses

Prioritization is central.

- Everyone described tiered implementation as a way to prioritize actions, segments, habitats, or milestones rather than trying to achieve full Bay-wide attainment at once.

Incremental wins matter.

- Every response recognizes the importance of setting intermediate goals or demonstrating incremental improvements before final water quality standards attainment to maintain momentum and keep the public engaged.

Heterogeneous Bay responses.

- Several responses (EPA, CBC, CBF, WV) highlight that different Bay segments respond differently to nutrient reductions—therefore targeted, spatially nuanced approaches are needed.

Monitoring, data, and modeling are foundational.

- All emphasize that tiered implementation requires monitoring, assessment, or modeling to track effectiveness and guide decisions.

Maintains final goals and living resources connections.

- Every response is clear that tiered implementation does not replace or weaken the final load allocations and water quality standards—it changes the sequence of implementation, not the end requirements, while making clear connection to living resources.

Putting It All Together

- Overall, the responses agree tiered implementation is about ***targeted, staged***, and ***data-driven implementation*** that ***accelerates progress*** towards ***water quality goals*** and ***further ecological benefits***
- Where they differ is in how to operationalize tiered implementation:
 - EPA, CBC, CBF: Segment/habitat prioritization
 - Virginia: Stepped exceedance frequencies of key criteria
 - PA: Upstream restoration targeting using GIS tools
 - WV: Temporal milestone tiering and communication
 - HRPDC: Conceptual spatial/temporal framework needing visualization
 - MD: Emphasis on all land-water interfaces

Reframing Our Definitions

- How can/would you apply your definition for where we want to go, which is accelerating progress our goals (i.e., clean water, healthier habitats, WQSA?)
 - How about for your jurisdiction, agency, or organization?
- How does your perspective on tiered implementation help us get to our goals more quickly?

High-Level View: A Tiered Approach to Targeting

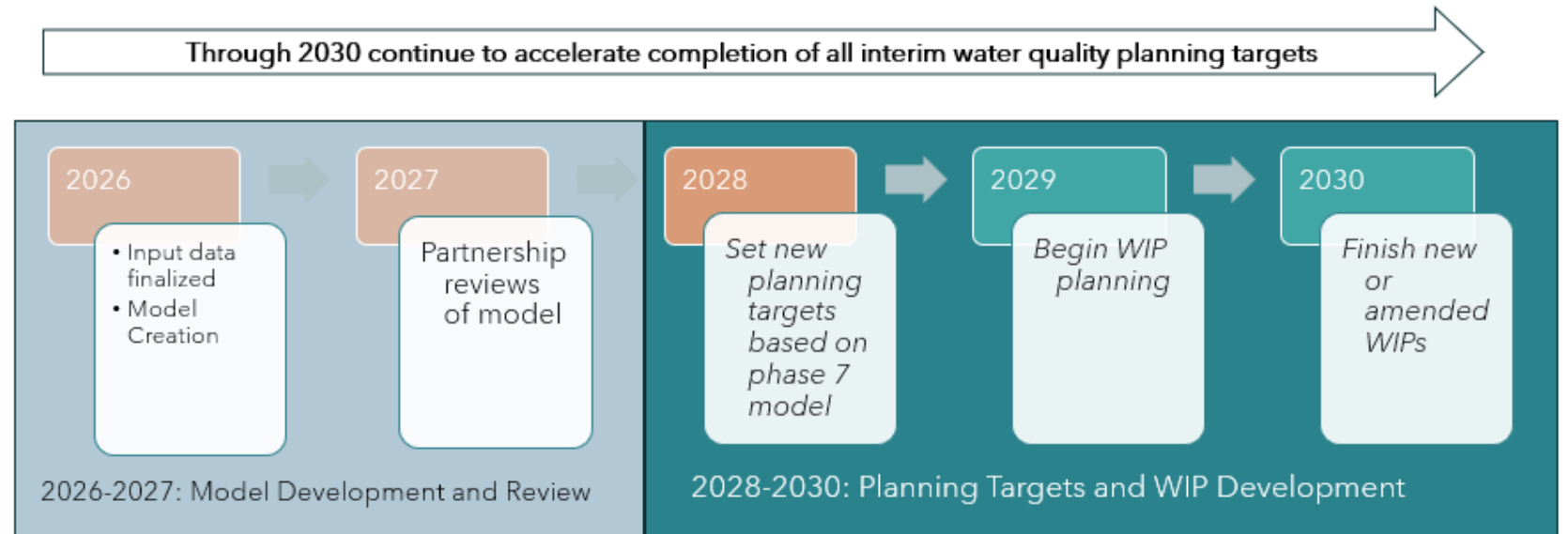
Take actions that make the biggest difference sooner

Prioritize areas with the greatest habitat improvement potential

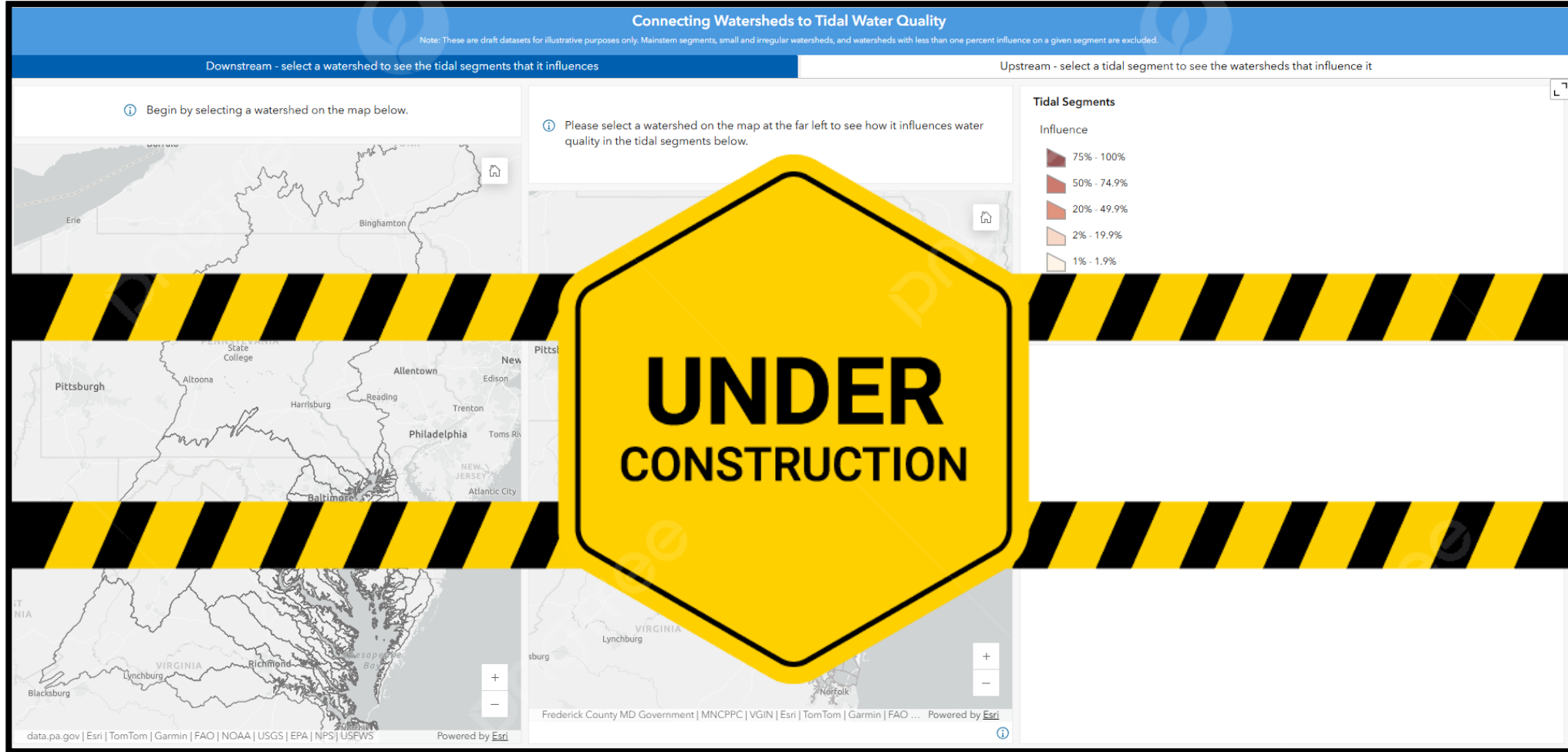
Keep current clean-water goals in place

Applying Tiered Implementation to Planning Targets

- 2027 : Taking in new information, including habitat suitability work, and figuring out how to build in optional pieces for prioritization via tiered implementation in the planning target process
- 2028: Detailed decisions on planning targets are not expected until 2028



New Tool Preview: Alex Gunnerson



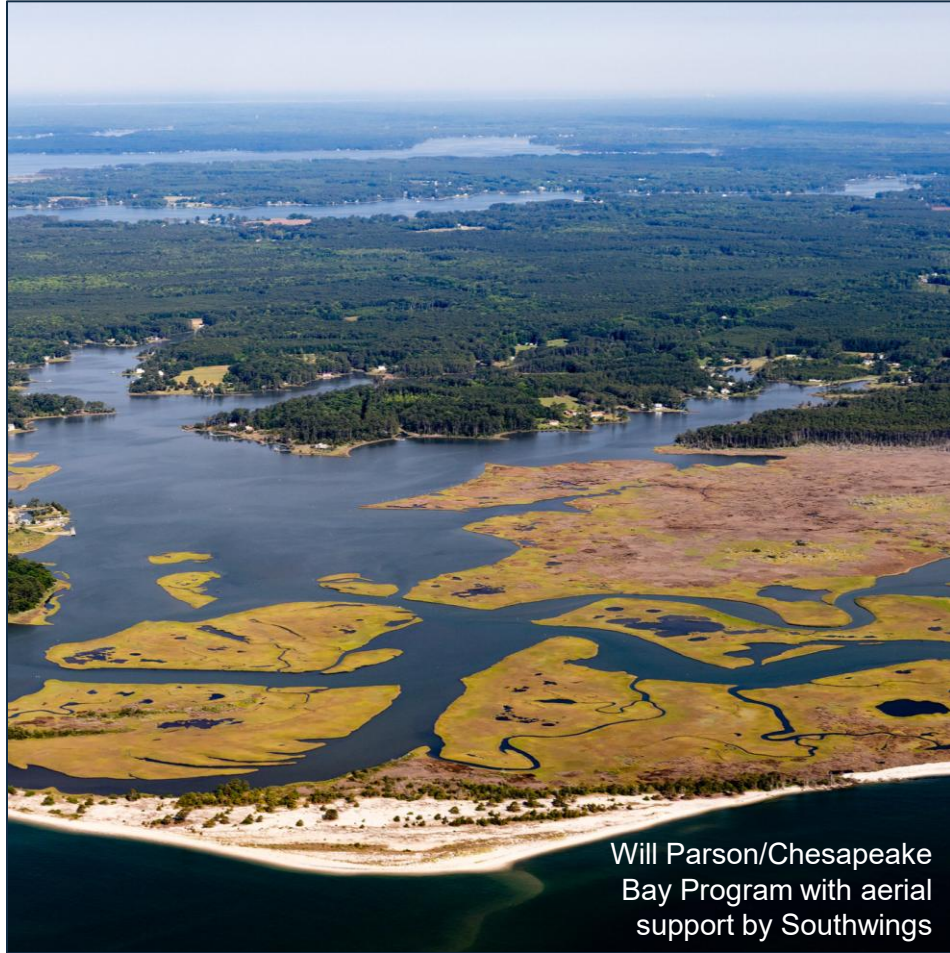
On Deck for the September CWGT Meeting (Day 2)

Deeper dive into how CBP could build and integrate tiered implementation into the planning target as outlined in the STAC prospectus

Overview of an example workflow/process from partners

Full walkthrough of “Connecting Watersheds to Tidal Water Quality” Tool (Alex Gunnerson)

What would you like to discuss about tiered implementation?



Will Parson/Chesapeake
Bay Program with aerial
support by Southwings

Thank You!

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