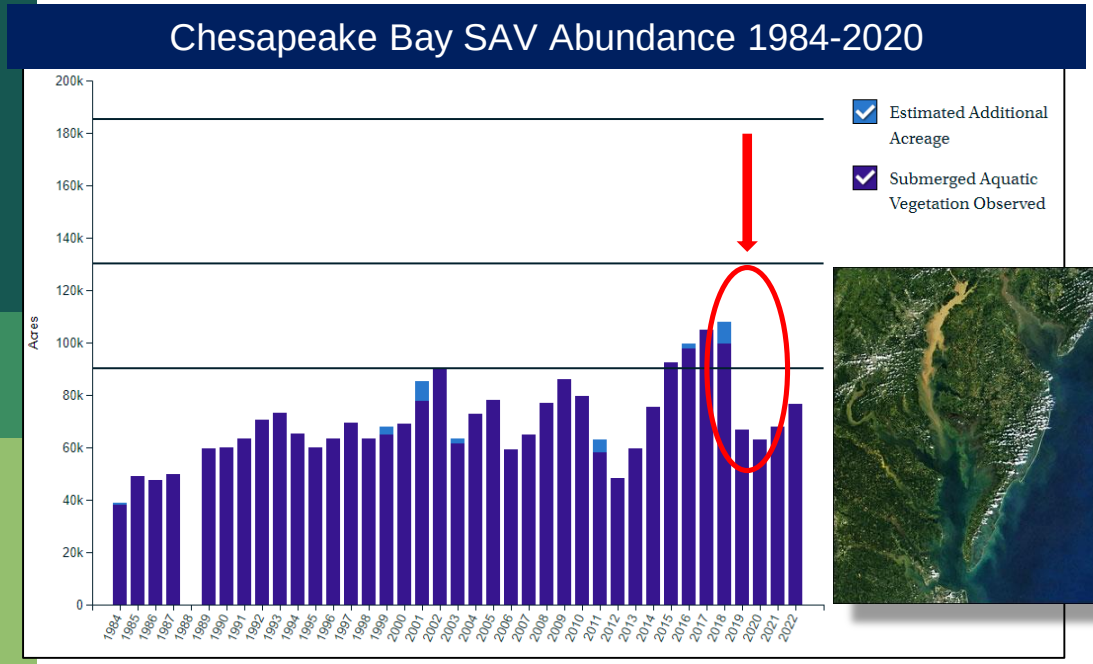
Climate Resilience Workgroup Meeting – Feb 15th, 2024

Chesapeake Bay Program

PROTECTING CHESAPEAKE BAY SAV GIVEN CHANGING HYDROLOGIC CONDITIONS: PRIORITY SAV AREA IDENTIFICATION AND SOLUTIONS DEVELOPMENT

Brooke Landry
Maryland DNR and
Chair, SAV Workgroup

Background



SRS

SAV Workgroup SRS Message to Management Board (in a nutshell):
"We're going to have to go above and beyond the current nutrient load reductions to mitigate impacts to SAV from high flow events associated with climate change. Consider adjusting TMDL accordingly after 2025 please and thank you."

Management Board Response (in a nutshell):
"Determine if there are specific BMPs that can mitigate high flow events and locally protect high priority SAV beds."

2023 GIT Funded Project

TETRA TECH

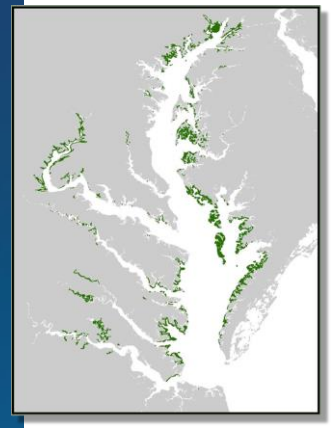
Protecting Chesapeake Bay SAV Given Changing Hydrologic Conditions: Priority SAV Area Identification and Solutions Development

Bob Murphy, Brian Pickard, Cole Blasko, Paige Hobaugh

Tetra Tech, Center for Ecological Sciences

complex world | CLEAR SOLUTIONS™

Goals

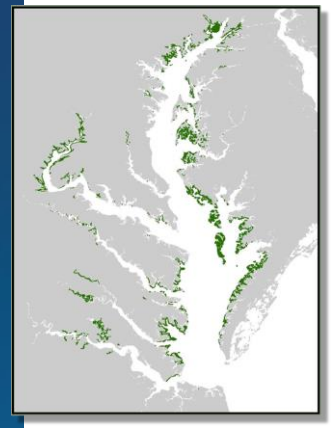


1. Utilizing an expanded set of criteria to evaluate and select high-priority SAV habitats

2. Data analyses to associate water quality, land use, possibly other environmental conditions, and existing best practice (BMP) effects to temporal and spatial responses of SAVs as a basis for recommending the most appropriate BMPs;

3. Assessment of the functioning and efficiency of various BMPs through both literature review and data analysis/modeling in order to link these to the conditions and needs of priority SAV areas.

Goals



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Priority SAV Bed Decision Tree

- A decision tree approach was utilized to account for eight different prioritization criteria.
- The first seven criteria (*Bed Size*, *Bed Maturity*, *Bed Density*, *Species Richness/Diversity*, *Rare/Sensitive Species*, *Habitat Value*, and *Representativeness*) are combined using a weighting system and composite index score.
- A threshold of 0.9 determines which beds are preliminarily prioritized. This threshold was chosen based on the distribution of the composite index and yielded 114 preliminary beds.
- These preliminary beds were then manually assessed under the final criteria of *Distribution*.
- Overall, weighting of each criterion relied on best professional judgement of the project team and input from the steering committee.

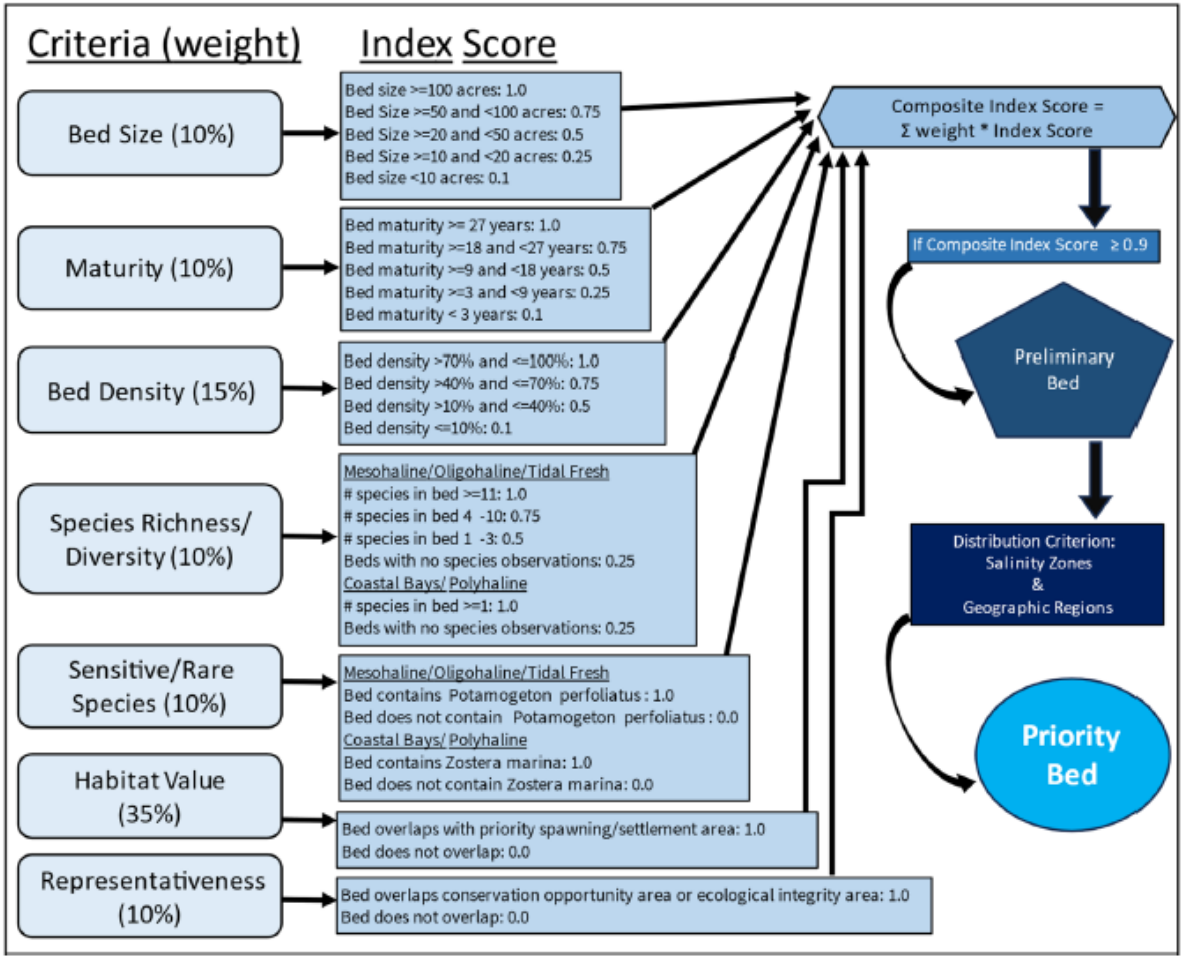
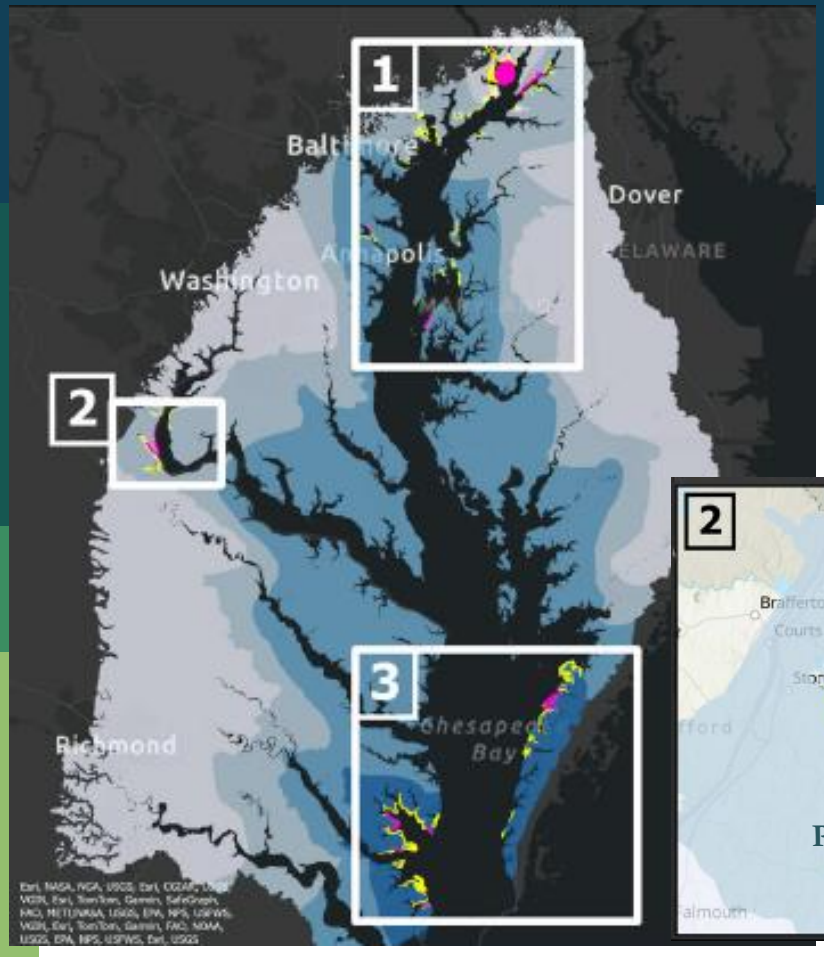
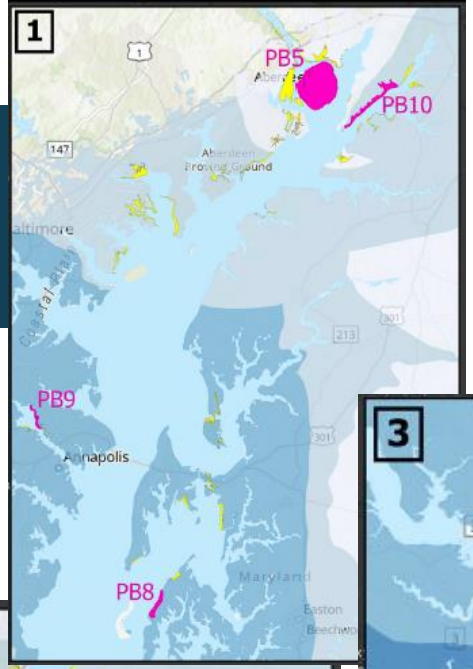


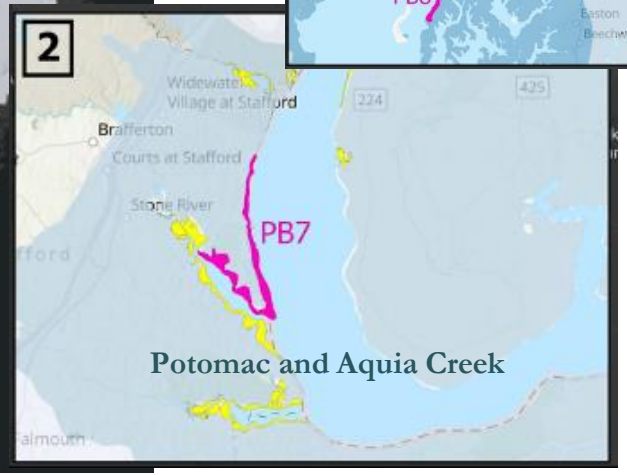
Figure 2. Decision tree schematic

Priority SAV Bed Locations

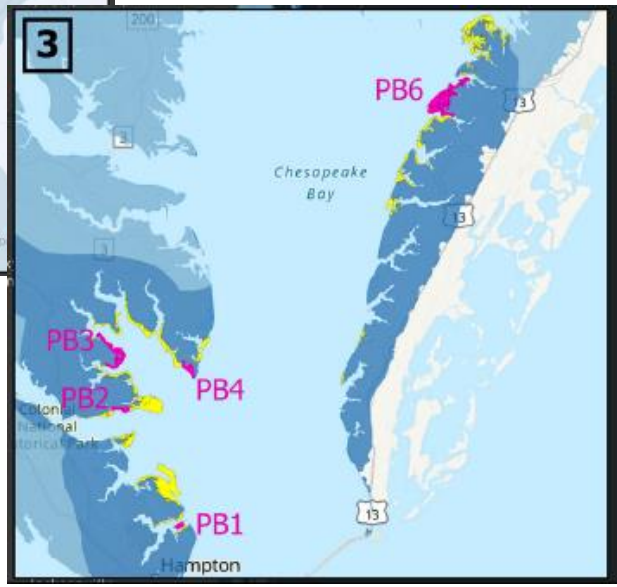




Susquehanna Flats and Elk River



Potomac and Aquia Creek



Onancock and Pungoteague Creeks

Mobjack Bay and the mouth of the York

TETRA TECH

Goals

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Next up

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Questions?