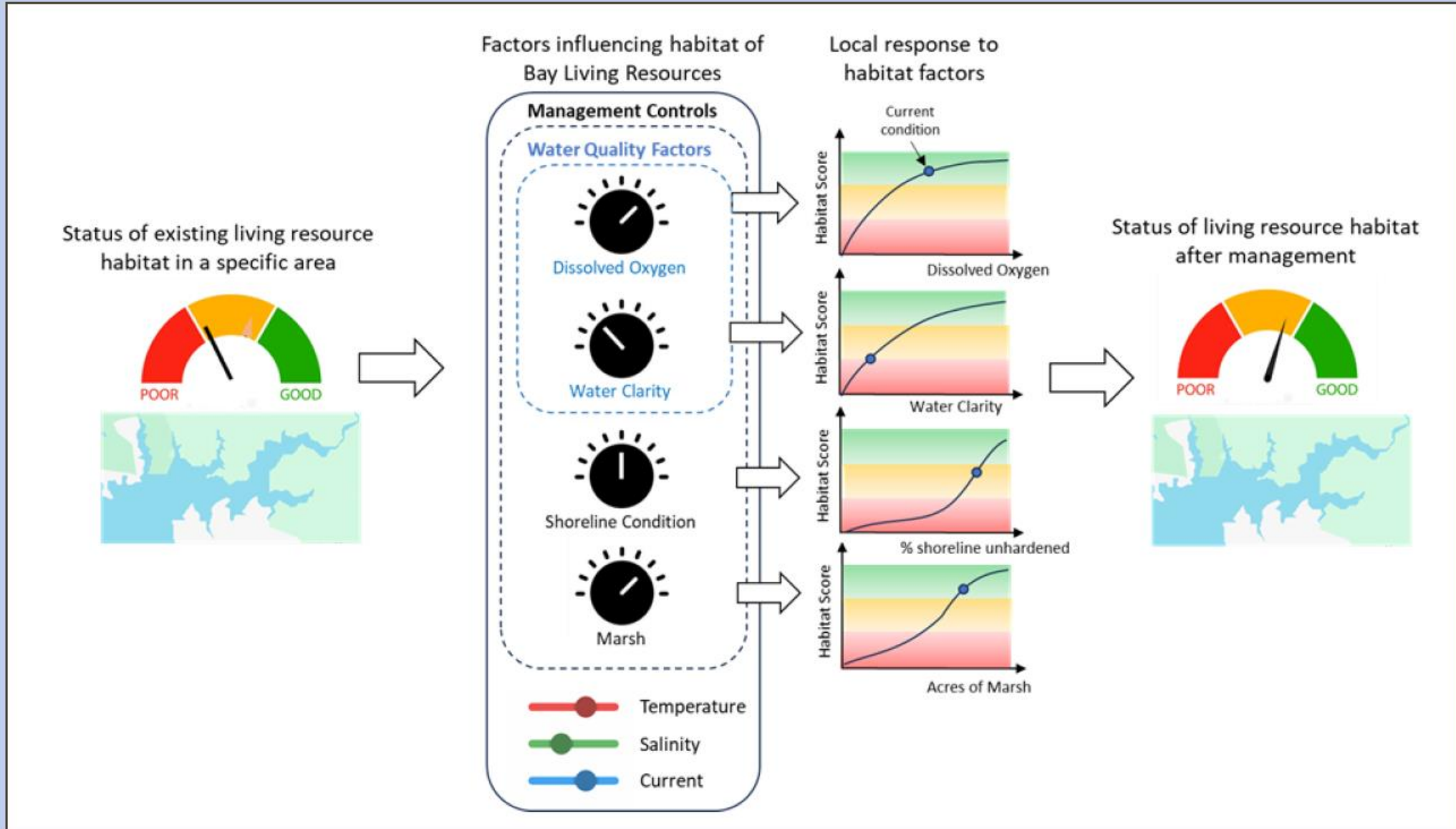# Living Resources Assessment: Update for STAC

September 16, 2025

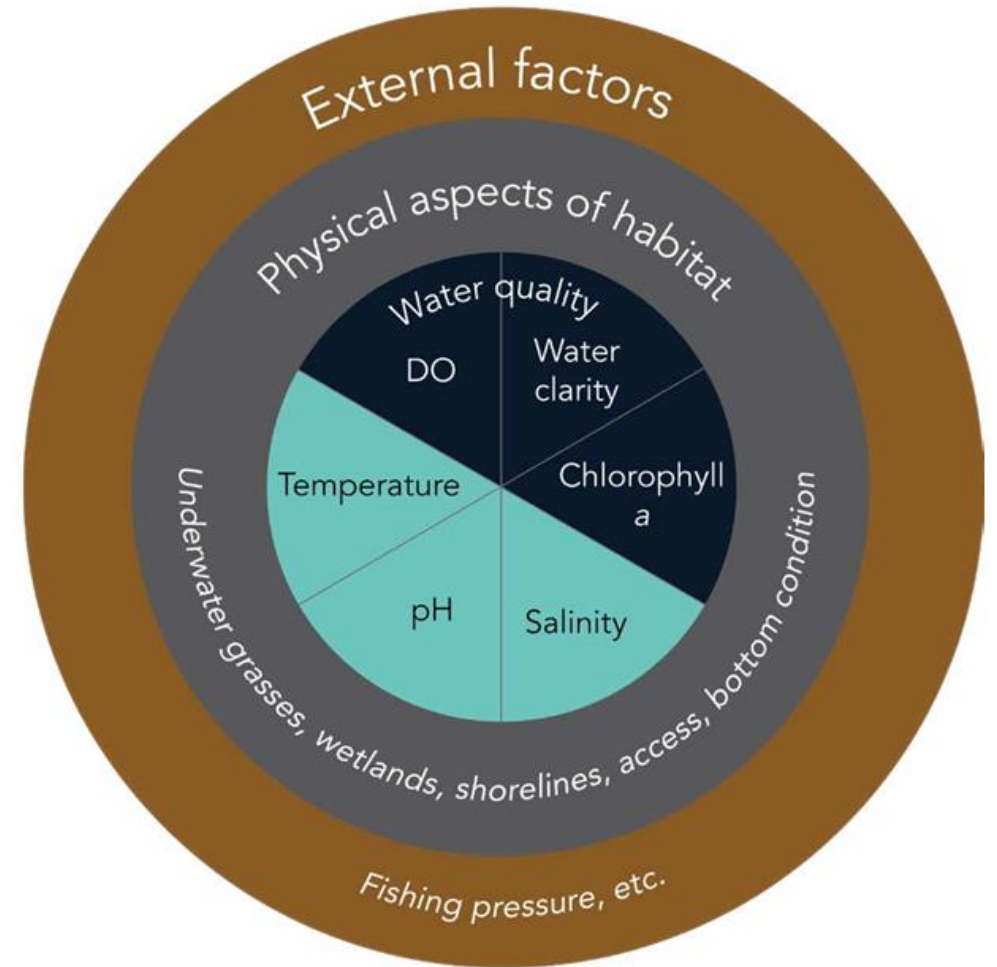# Assessing local water quality, stressor, and habitat conditions

From Concept to Implementation

1. Conduct habitat suitability analysis
2. Assess living resource habitat improvement potential of various segment/habitat combinations (dials) (local conditions to response to stressors reductions)
3. Identify relative contribution of upstream and estuarine N, P and sediment on segment-habitat nutrient levels
4. Set interim N, P, and S targets based on 1-3 (policy decision).
5. A future WIP planning process that includes consideration of other factors that impact living resource habitat and that includes incentives to adapt to observable outcomes (stressor-response)

Opportunity to Link

1. Water quality management decisions

2. Potential improvements in tidal living resource responses

Big Picture View

- Fast track to complete a habitat suitability index (HSI) for the 92 tidal segments of the Chesapeake Bay

- This project is a priority of the CBP

- Analysis is a step to:
    1. Implement recommendations of the CESR report

    2. Identify target areas for tiered implementation/targeting

    3. First step to implementing the Fish Habitat Outcome under the revised Bay Agreement

Motivation & Context

Priority Living Resource Habitat Area
-Identification/Quantification

-Task meant to drive a result, not just to improve understanding

-Tie to management priority, tie to water quality and improve living resource outcomes

*Summer 2026
Fish data are taking longer to compile than originally planned

Final delivery can still be early 2027 if STAC review can happen in Fall 2026

Priority Living Resource Habitat Area – identification/quantification

Field	Value
Group Assigned	Fisheries GIT
Task Description	Develop Priority Living Resource Habitat Areas for 92 segments of the Tidal Bay
Task Rationale	CESR report suggests that focus should be given to shallow waters/living resources in addition to meeting the goals of the Bay TMDL. This activity will identify priority living resource areas and give scoring metrics to assist in prioritization of restoration and conservations efforts.
Task Outcome/ "End" User	WIP/Milestone Developers - Will provide critical information to allow/support tiered implementation targets/focused restoration efforts
Assignment (Objective)	Develop a habitat suitability model that focuses on shallow water • Select species/life stages representative of Bay LR • Determine appropriate habitat variables to evaluate for the above • Water quality • Physical characteristics • Temperature • Etc. • Develop habitat rating/scoring for geographic area's of the bay (all 92 segments) • Develop GIS based data visualization of LR habitat suitability at the highest resolution available.
MB Champion:	VA/MD/DC should have oversight
Coordination Requirements (MB check-in frequency)	• January 1, 2026 – draft habitat suitability model complete • July 1, 2026 – habitat suitability scoring matrix complete • January 1, 2027 - data visualization tool to utilize suitability model and scoring matrix complete • Should be reported on with Tiered Implementation Targets • Should be reported on with Priority Living Resource Scoring Matrix
Delivery Date (Month or Quarter / Year)	January 1, 2027
CBPO Support	GIS Team, Modeling Team, LR data manager

Remember:

Outcomes need to have the most potential for CBP partnership implementation *and be feasible*

Ability to meet management objectives, resources required, data availability, achievable within timeline, reproducible to track changes over time, includes factors CBP can control

May 2025 Charette:
Formed Teams and Workplan

Project Management

 Bruce Vogt (NOAA), Kaylyn Gootman (EPA)

Teams

 1) Management Relevancy Team (NOAA, EPA)

 2) Analysis Team (VIMS, UMCES, NOAA, EPA)

Workplan

 Gantt chart in upcoming slides

Objective

Determine the approach to target and track linked responses of living resources, structural habitat, and water quality while considering known constraints, including ability of approach to meet objectives at zero cost, and generate a workplan, including a timeline and who is contributing to this effort.

Project Support

Chespaeake Bay Program
- Members on the Project Oversight Committee

Scientific and Technical Advisory Committee (STAC)
- Members on the Project Analysis and Implementation Team and Prjoect Oversight Committee
- Members coordinate external review

Virginia Institute of Marine Science (VIMS)
- Project Analysis and Implementation Team
- Disseration Committee will review Colin's work

Chesapeake Research Consortium (CRC)
- Coordinate the merit review
- Help with communications
- Coordinate the hybrid meeting of the do-ers (October or November 2025)
- Technical editing of merit review
- Potential infographics support via Greenfin

Chesapeake Bay Program Data Center
- As needed consult

Chesapeake Bay Program Geospatial Analysis Team (GSAT)
- Public facing viewer/tool
- Potential Plan B doers
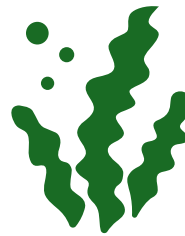
Chesapeake Bay Program Communications Team
- Develop communication pieces, webinars
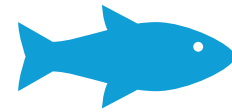
Data Sets

Water Quality Data

Initially from Fish Data

Then, VIMS model

(Later, Phase 7)

Habitat Data

Substrate

Tidal Wetlands
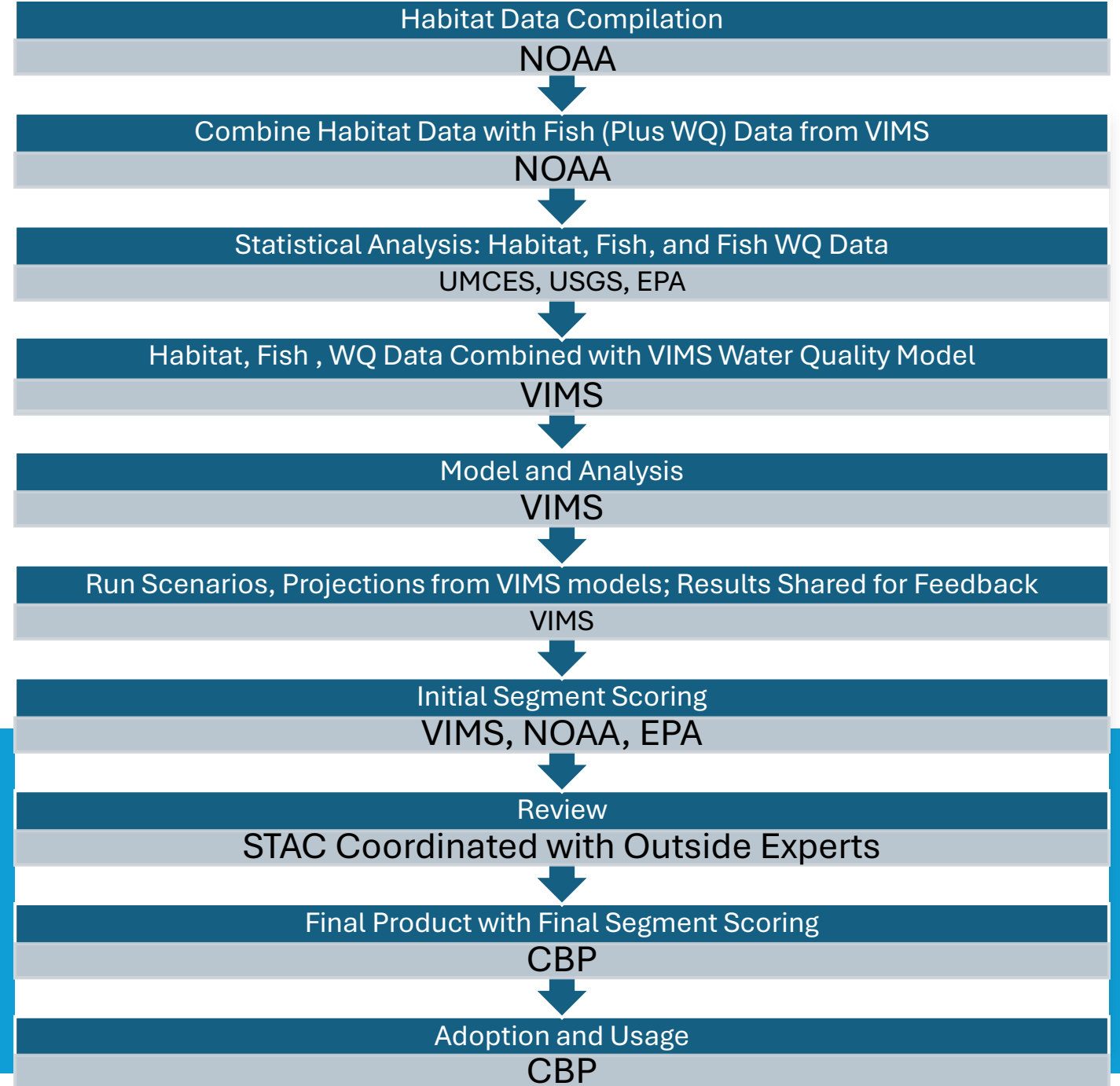
SAV

Bathymetry

Oysters

Shoreline

Others

Fish Data

Juvenile Striped Bass

Bay Anchovy

Croaker

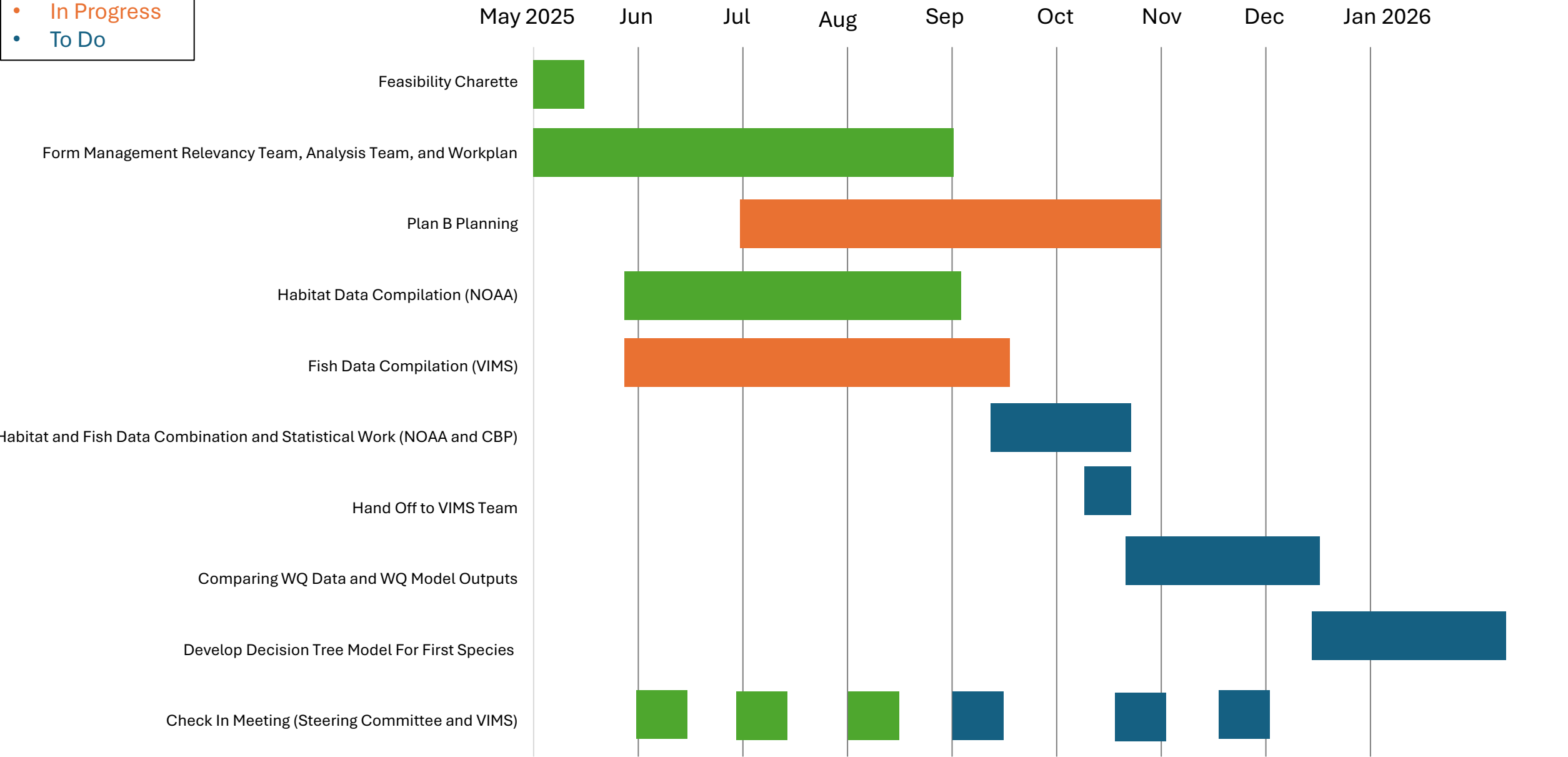MD fish data are ready

Delay in VA fish data

Workflow

Habitat Data Compilation
NOAA

↓

Combine Habitat Data with Fish (Plus WQ) Data from VIMS
NOAA

↓

Statistical Analysis: Habitat, Fish, and Fish WQ Data
UMCES, USGS, EPA

↓

Habitat, Fish , WQ Data Combined with VIMS Water Quality Model
VIMS

↓

Model and Analysis
VIMS

↓

Run Scenarios, Projections from VIMS models; Results Shared for Feedback
VIMS

↓

Initial Segment Scoring
VIMS, NOAA, EPA

↓

Review
STAC Coordinated with Outside Experts

↓

Final Product with Final Segment Scoring
CBP

↓

Adoption and Usage
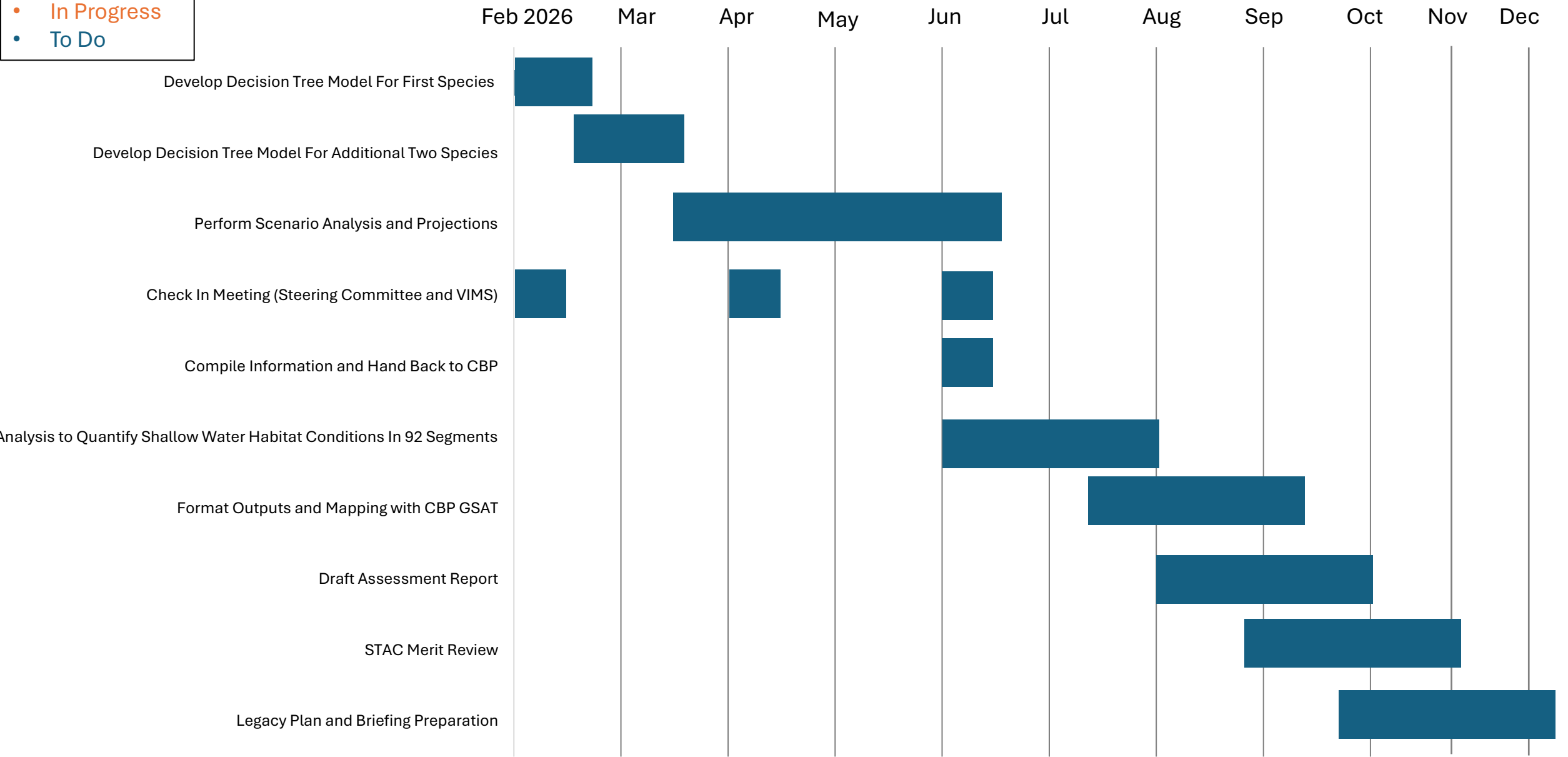CBP

Back Up Planning

We are hopeful that this approach to score 92 tidal segments will work

- Uncertainty with it working with the fish data, as there will be many places with zeros/no data/no fish information

However, we must meet our objective

- Objective: places to target for tiered targeting

Potential Plan B

- Segment scoring based on habitat requirements
- Derived from geospatial habitat requirements and water quality data
- Composite score based on criteria weighting
- Provides a common, transparent, and scientifically-backed framework that allows all partners to work from a shared understanding of the Bay's healh