

Fish Habitat Outcome Sub-Chapter

Fish Habitat Outcome

Achieve and maintain suitable shallow water fish habitat in tidal and nontidal areas for key species through focused water quality conservation and restoration improvements informed by assessments of habitat and fisheries information.

- Improve the quantity and quality of tidal shallow water fish habitat above baseline conditions (2026 Bay-wide assessment).
- Increase the consideration of forage species in fishery management decision-making by developing annual reports of prey status (e.g., good, uncertain, or poor).
- Improve nontidal fish habitat condition and suitability through effective restoration and planning.
- Improve 270 stream miles of waters impaired by acid mine drainage (AMD) by 2040.
- Develop and implement freshwater mussel conservation plans for 10 tributaries by 2040.

Baseline and Current Condition

Tidal Shallow Water Habitat

Current Condition: The Bay-wide assessment will provide the quantitative baseline for tidal shallow water fish habitat, utilizing the Habitat Suitability Index (HSI) to score 92 tidal segments. The model will be integrating substrate, wetlands, SAV, bathymetry, shoreline armoring, and WQ data along with fish survey data for three species (croaker, juvenile striped bass and bay anchovy).

Nontidal Fish Habitat

- **Current Condition:** Baseline assessments are ongoing to identify healthy communities and target restoration.

Acid Mine Drainage (AMD) Impact

- **Current Condition:** Baseline mileage established; progress measured from the 2027 reporting cycle.

Freshwater Mussels

-

Monitoring Progress and Indicators

- **Indicator: Tidal Fish Habitat Assessment**
 - Use of the Habitat Suitability Index (HSI) scores across 92 tidal segments to prioritize water quality improvements and habitat restoration opportunities.
- **Indicator: Forage Status Reports**
 - Potential suite of forage metrics: (1) Relative prey abundance/biomass, (2) Diet-based indices, (3) Prey-Predator Ratios (PPR), (4) Consumption-Prey Ratios (CPR), (5) Other (e.g., predator condition) tracking 14 dominant forage groups that also assess when status is good, marginal or poor.
- **Indicator: Nontidal Habitat Suitability**
 - Refinement of assessment tools for watershed conditions.
- **Indicator: AMD Remediation Progress**
 - Stream miles restored per reporting cycle.
- **Indicator: Freshwater Mussel Plan Implementation**
 - Number of prioritized tributaries with completed conservation plans.

Fish Habitat Outcome Situation Analysis

The following table identifies critical challenges impacting progress toward the Fish Habitat Outcome. Challenges in bold are identified as priorities for the Fish Habitat Workgroup to address through Management Approaches within the current six-year cycle. Challenges associated with Changing Environmental Conditions are denoted with an asterisk (*).

Challenges	CBP Within Sphere of Influence	CBP Outside Sphere of Influence
Forage		
Data Gaps in Forage Monitoring	X	
Variable Habitat Requirements by Species	X	
Environmental Drivers		
Climate Change/Environmental Drivers of Recruitment		X
Regulatory/Fiscal Constraints on AMD Restoration	X	
Differences in management strategies across jurisdictions		
Freshwater Mussels		
Data sharing across jurisdictions		

Management Approaches

Management Approach 1: Conduct 2026 Baseline Assessment for Tidal Fish Habitat and Utilize Results for Water Quality Prioritization

This approach executes a Bay-wide HSI analysis. Workflow includes habitat data compilation (NOAA), statistical analysis (UMCES/USGS/EPA), modeling (VIMS), and segment scoring/review (CBP). Tiered targeting will identify "hot spots" for restoration based on HSI scores. The HSI outputs will be shared through a coordinated process between THFW GT and Clean GT to utilize the results in identifying priority areas for water quality improvements that can be integrated into WIPs and to identify synergies with other outcomes where joint restoration initiatives could occur. Updated tidal fish habitat assessments will be planned and implemented to track changes through 2040.

Management Approach 2: Integrate Forage Species into Fisheries Management

Development of annual forage status reports to inform predator-prey dynamics. Monitor 14 forage groups (e.g., Menhaden, Anchovy, Mysids, Polychaetes). Utilize gastric evacuation models to quantify predatory demand by six biomass-dominant predator fishes (Striped bass, summer flounder, weakfish, Atlantic croaker, white perch, spot).

Management Approach 3: Continuous Assessment of Nontidal Habitat Quality

Refinement of assessment tools to monitor habitat suitability, supporting informed land management and planning.

Management Approach 4: Prioritize Acid Mine Drainage (AMD) Restoration Sites

Identify and prioritize watersheds heavily impacted by AMD to achieve the 2040 target of 270 improved stream miles.

Management Approach 5: Develop and Implement Freshwater Mussel Conservation Plans

Coordinate the development of conservation plans for 10 prioritized tributaries, with implementation of key recommendations from at least five plans by 2040.

Participating Partners

- **Signatory Partners:** NOAA, EPA, UMCES, USGS.
- **Workgroup Members:** VIMS, STAC, Chesapeake Research Consortium.

Appendix 1. Signatory Statutory Authorities Driving Outcome Attainment

⌵ Person

(Placeholder for signatory-specific authorities relevant to the 2025 Watershed Agreement).

DRAFT