

Indicator Development for Fish Habitat

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April, 2021

Why this discussion?

- The Chesapeake Bay Program's Status and Trends Workgroup has been prioritizing discussions surrounding indicator development for outcomes that lack quantifiable tracking goals.
- Fish Habitat Outcome: Continually improve effectiveness of fish habitat conservation and restoration efforts by identifying and characterizing critical spawning, nursery and foraging areas within the Bay and tributaries for important fish and shellfish, and use existing and new tools to integrate information and conduct assessments to inform restoration and conservation efforts.

Comparable Example: Forage Outcome

2014: STAC Workshop

2015-2016: GIT-funded studies

2017-2019: NCBO-funded studies

PERIOD OF UNCERTAINTY

2020: Prioritized suite of initial indicators leading to the Forage Indicator Development Plan

Forage Indicator Development Plan

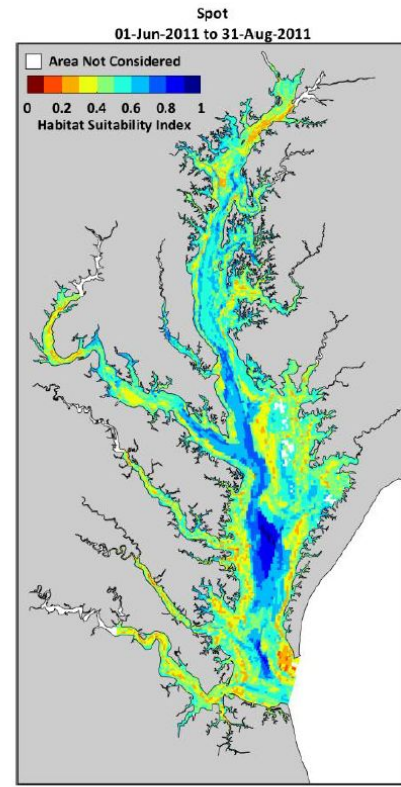
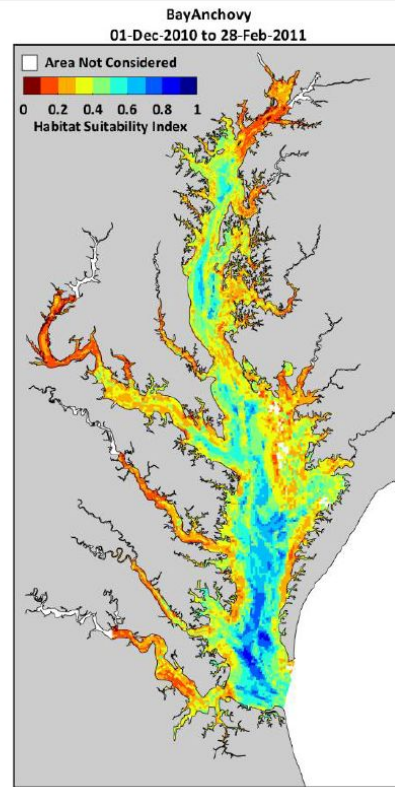
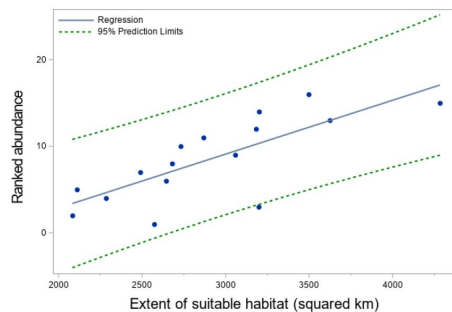
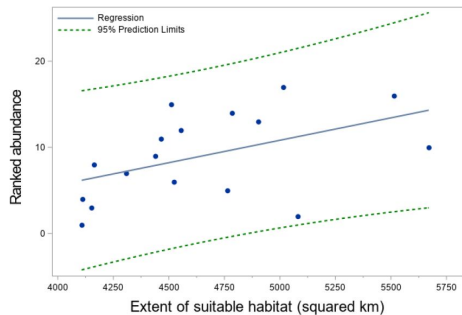
Tier 1: Abundance		Species of Interest
	Benthic Invertebrates	Polychaetes
	Demersal Finfishes	Atlantic croaker
	Pelagic Finfishes	Bay anchovy Atlantic menhaden
Tier 2: Habitat and Environmental Factors		Species of Interest
	Springtime Warming	Bay anchovy Polychaetes
	Habitat Suitability Index	Bay anchovy
	Hardened Shorelines	Juvenile blue crabs
Tier 3: Predator Consumption		Species of Interest
	Diet Profiles	Striped bass

Ongoing Work Connected to Fish Habitat: Potential Indicators?

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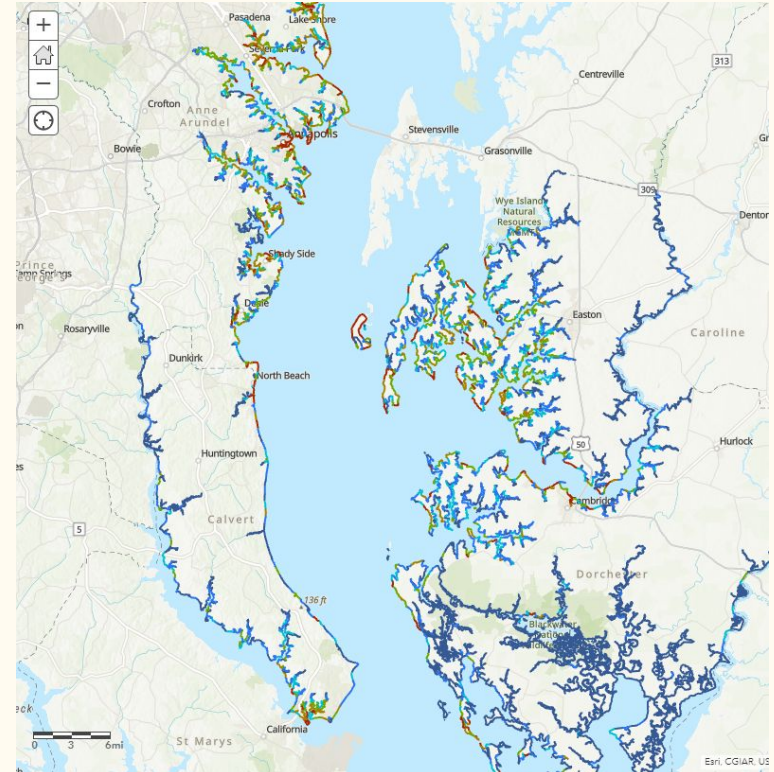
Habitat Suitability Index

- NCBO-funded research conducted by VIMS and AnchorQEA
- Assessed the extent of suitable habitat for 4 key forage species
 - Fisheries survey data
 - Modeled environmental conditions (water temperature, salinity, DO)



Shoreline Hardening Threshold Maps

- Resulted from VIMS GIT-funded study finding shoreline hardening of 10-30% (17% mean) as a threshold for species decline
- These maps were listed action as part of the Forage and Fish Habitat logic and action plans
- GIS team used to shoreline inventory data from VIMS to develop GIS tools for VA and MD
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Other Work Mentioned Today

- Fish Habitat Assessment: Establishing baseline conditions/criteria as we track change
- Work surrounding species-specific habitat utilization: Striped bass, summer flounder

Next Steps

- Consider potential indicators as we enter into the SRS process