



NONTIDAL FISH HABITAT HABITAT GOAL TEAM/ #2

DRAFT OF PROPOSED OUTCOME LANGUAGE

NONTIDAL FISH HABITAT OUTCOME:

The current Fish Habitat Workgroup has not discussed or reviewed any nontidal fish habitat outcome language. These are some potential draft outcomes or output statements:

- Improve fish habitat condition through the understanding of land use and habitat function under changing conditions.
- Maintain fish habitat through focused water quality, conservation and restoration improvements informed by a synthesis of living resource data and habitat assessments

The outcome could be measured with Nontidal fish habitat outputs (examples):

- Use the Nontidal Fish Habitat Assessment as output for fish habitat condition. This can be measured as a % improvement from xxxx baseline.
- Acid Mine Drainage (share output with Brook Trout)
- Mussel abundance or occupancy. Freshwater mussels are very long-lived organisms (decades) and healthy populations can positively impact inland water quality, and can provide insight into current and long-term influences.

VITAL HABITATS GOAL:

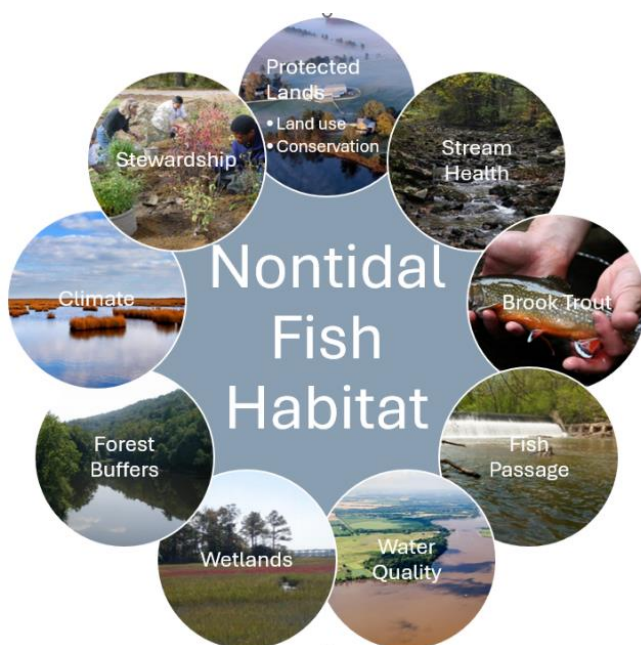
Restore, enhance and protect a network of land and water habitats to support fish and wildlife and to afford other public benefits, including water quality, recreational uses and scenic value across the watershed.

OUTCOME DISPOSITION ADVICE TO MANAGEMENT BOARD: **ADD**

It remains crucial to assess the status and change in **habitat condition** in the watershed. Evaluating habitat condition goes beyond water quality and requires a focus on **biological endpoints** (ie. fish and shellfish). Fish habitat in nontidal waters does not fit well with the Fish goal, as the species of concern, are not commercial fish species. There is little room in a joint workgroup to discuss resident fish and shellfish in the non-tidal portions of the watershed with the nontidal experts. The Fish Habitat outcome has been conducting fish habitat assessments in [tidal and nontidal systems](#)¹. However, the factors, data availability, and technical experts are different for the tidal (marine biologist) and nontidal systems (limnologists); therefore, we are requesting that the outcome is split into two outcomes (much like wetlands tidal and nontidal outcome request).

This outcome would include a measure to identify the condition and primary drivers of fish habitat change that could be used to better guide conservation and restoration planning and investments and evaluate the effectiveness of efforts to conserve and restore fish habitat over time. [A nontidal assessment of biological condition](#)² can be used to provide multiple views of condition and address multiple management needs. Assessing fish habitat condition provides and understanding of where “good” and “poor” conditions occur and provide insight into landscape contexts supporting such conditions. These regional measures provide more of a connection to local management conservation and restoration. This measure is similar to the proposed measure in tidal waters to develop a living resource habitat assessment to score habitat suitability in the 92 tidal segments. Both

assessments look to connect living resources to land use and identify areas for improvements, conservation priorities, and habitat restoration strategies based on identified stressor.



The Beyond 25 report recommended that the revisions to the agreement “**leverage action across multiple goals and outcomes of the Chesapeake Bay Watershed Agreement.**” That is inherent to a nontidal fish habitat outcome because it is impacted or related to the work of many Bay Program Outcomes. The significance or degree of the impact is complex and varies. This is a network of outcomes that often overlap in actions or factors, but not in their objective. These outcomes contribute to the health and sustainability of nontidal fish habitats by addressing key factors that influence water quality, habitat availability, and ecosystem health.

It is expected that a nontidal fish habitat workgroup would include a community of

outcome experts to assess the [habitat conditions to support freshwater fisheries in the Chesapeake Watershed](#). Alternatively, nontidal fish habitat could be an output as long as a nontidal fish habitat team was created and continued working to connect living resources and land use impacts to assess habitat condition. We acknowledge that due to the relationship to so many outcomes it would be a challenge to pick one existing outcome to nest this output or team. While the structure details are not needed now, a nontidal fish habitat output could be applied to several of these outcomes and the workgroup would reflect the community of experts. Therefore, given the uncertainty of the resources and workgroup status for an output; an outcome is requested.

References –

¹ Nisonson, H., Kiser, A. H., Gressler, B. P., Leight, A., & Young, J. A. (2024). *Pilot framework for fish habitat assessments across tidal and non-tidal waters in the Patuxent River Basin* (NOAA Technical Memorandum NOS NCCOS 332). U.S. Geological Survey. <https://doi.org/10.25923/4jqw-mw29>

² Kelly O. Maloney, Kevin P. Krause, Matthew J. Cashman, Wesley M. Daniel, Benjamin P. Gressler, Daniel J. Wieferich, John A. Young. *Using fish community and population indicators to assess the biological condition of streams and rivers of the Chesapeake Bay watershed, USA*, Ecological Indicators, Volume 134, 2022, 108488, ISSN 1470-160X,