Chesapeake Bay Program
Science. Restoration. Partnership.

Fish Habitat Management Strategy

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Fish Habitat Outcome:

Continually improve effectiveness of fish habitat conservation and restoration efforts by identifying and characterizing critical spawning, nursery and forage 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.

Photo credit: Claude Nozeres-World Register of Marine Species

Fisheries GIT + Habitat GIT

Maryland DNR	Pennsylvania FBC	Delaware DNREC
Virginia MRC and DGIF	District of Columbia DDOE	New York DEC
Chesapeake Bay Commission	Virginia Institute of Marine Science	Mason Springs Conservancy
Smithsonian Environmental Research Center	Interstate Commission on the Potomac River Basin	Atlantic Coast Fish Habitat Partnership/ASMFC
USGS	USFWS	NOAA

Photo credit: Eric Engbretson-USFWS

What should the objectives be for this outcome?

Existing data and information for the Chesapeake?

Focus species or habitat types?

-Species of interest range from the tidal portions to nontidal, freshwater portions to the headwaters.

-Data do exist, but need for more comprehensive, compiled information. Gaps for nontidal habitats and juvenile habitat utilization.

-Prioritization is essential to guide management.

Photo credit: Bemep/Flickr

Draft Objectives:

1. Identify threats to fish habitat (both manageable and unmanageable). Consider Baywide vs. local/regional threats.
2. Compile and identify available data on habitats and fish utilization at different life stages.
3. Prioritize for protection/restoration, management, decision-making. Different priorities depending on species, location, etc. Improve awareness.

Photo credit: Chris Guy-USFWS

Existing Resources:

How have habitat types and species utilization been characterized in existing documents or data tools?

- Spatial data tools for habitat and/or fish distributions (states, federal agencies, partnerships)
- Historical literature
- Summary reports or plans

Photo credit: Claude Nozeres-World Register of Marine Species

Existing Resources:

Atlantic Coastal Fish Habitat Partnership

Species-Habitat Matrix Project Summary Report

Eggs-Larvae	Juv/YOY	Adults	Spawning adults

Habitat Category	Habitat Type
Marine and estuarine shellfish beds	Oyster reef
	Scallop beds
	Hard clam beds
	Dead shell accumulations
Other sessile fauna	Primary coral reef architecture
	Patch reef, soft corals or anemones amidst soft sediment
	Live rock
Macroalgae	*Fucus* sp., *Laminaria* sp., *Ulva lactuca* mats, *Sargassum* sp., and other drift algae
SAV	Tidal fresh and oligohaline *spp.*
	Mesohaline and polyhaline *spp.*
Tidal vegetation	Saltwater marsh
	Brackish marsh
	Tidal freshwater marshes
	Mangrove
Coastal inert substrate	Loose fine bottom
	Loose coarse bottom
	Firm hard bottom
	Structured sand habitat
Riverine	Higher gradient headwater tributaries
	Lower gradient tributaries
	Higher gradient large mainstem river
	Lower gradient large mainstem river
	Low order coastal streams
	Non-tidal freshwater mussel beds
	Coastal headwater ponds
	Non-tidal freshwater marshes

Photo credit: Claude Nozeres-World Register of Marine Species

Existing Resources:

Executive Order Critical Living Resources and Priority Habitats

Region	Priority Habitats	Critical Living Resources*		Stressors
Coastal Plain (Tidal waters)	Estuarine • Tidal wetlands (including emergent tidal freshwater marsh and forest) • Riparian forest buffers • Submerged Aquatic Vegetation (SAV) • Open water •Benthos • Oyster reefs • Beach and dunes • Working/agricultural lands • Grass/shrub lands • Islands •Suburban and Urban	• Blue Crab • Menhaden • Striped Bass • Oysters • Eelgrass • Widgeon Grass • Black Duck • Scoters • Saltmarsh Sharp-tailed Sparrow • Canvasback • Wood Thrush • Prairie Warbler • Prothonotary Warbler	• Atlantic Sturgeon • Northern Diamond-backed Terrapin • Horseshoe Crab • American Eel • Soft Shell and Surf Clams • Delmarva Fox Squirrel • Bald Eagle • Bay Anchovy • Wild Rice •Tiger Beetle	• Poor water quality • Eutrophication • Invasive species • Contaminants • Development/ habitat loss and fragmentation • Climate change • Overharvesting • Sea level rise • Storm and drought • Saltwater intrusion • Altered freshwater • Dredging

Photo credit: Claude Nozeres-World Register of Marine Species

Existing Resources:

Executive Order Critical Living Resources and Priority Habitats

Piedmont (Non-tidal, strictly freshwater)	Riverine • Forested wetlands • Riparian forest buffers • In-stream habitat • Freshwater marshes Uplands • Working/agricultural lands • Grass/shrub lands	• American Eel • River Herring • Shad • Smallmouth Bass • Yellow Perch • Bog Turtle • Amphibian • Prothonotary Warbler • Louisiana Waterthrush • Prairie Warbler • American Woodcock • Grasshopper Sparrow • Green Heron • Bald Eagle • Delmarva Fox Squirrel	• Poor water quality • Eutrophication • Invasive species • Contaminants • Development/habitat loss and fragmentation • Climate change • Overharvesting • Poorly managed forestry • Mining • Hydropower • Dams/ fish blockages • Dredging

Photo credit: Claude Nozeres-World Register of Marine Species

Existing Resources:

Executive Order Critical Living Resources and Priority Habitats

Appalachia (Uplands)	Terrestrial • Old growth forest • Isolated wetlands • In-stream habitat • Cold water streams	• Freshwater Mussels • Brook Trout • Cerulean Warbler • Eastern Hellbender • Louisiana Waterthrush • Golden-winged Warbler • Worm-eating Warbler • American Eel • Indiana Bat	• Poor water quality • Invasive species • Contaminants • Development/habitat loss and fragmentation • Climate change • Overharvesting • Dams/ fish blockages • Mining • Poorly managed forestry

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Next Steps

- January 2015
  - Webinar to review multiple existing resources and discuss focus species/habitats
  - Workshop to discuss how to achieve the outcomes and objectives (compile data, address threats, prioritize habitats)

- February-March 2015
  - Develop and draft strategy

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