

**Outcome: Fish Habitat**

**Goal:** Sustainable Fisheries

**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.

**Long term Target:** Improve spatial data and characterization of fish habitat and integrate information into management, strategic planning and decision-making.

**2 year Target:** Identify the most critical habitat areas and/or habitat requirements for a few priority species and identify shared priorities and collaborative actions across jurisdictions and partners.

**Management Approach 1: Identify and prioritize threats to fish habitat at the jurisdictional and Baywide scale and propose actions to manage the threats.**

<b>Key Action**</b> <i>Description of work/project. Define each major action step on its own row. Identify specific program that will be used to achieve action.</i>	<b>Performance Target(s)</b> <i>Identify incremental steps to achieve Key Action.</i>	<b>Participating Entity</b> <i>Identify responsible partner for each step.</i>	<b>Geographic Location</b>	<b>Timeline</b> <i>Identify completion date (month &amp; year) for each step)</i>	<b>Factors Influencing and/or Gap</b> <i>Identify related factor or gap in Management Strategy</i>
Continue to improve our understanding of specific habitat stressors, including temporal considerations to promote sound management strategies that can conserve and restore habitat for productive fisheries.	Review and utilize existing reports to identify priority species and seasonal natural habitat limitations.	Maryland DNR (lead) Delaware, Pennsylvania, Virginia, DC; PRFC, FHAT	Watershed wide	Jun-16	Management prioritization and commitment, funding and coordination, numerous management species, multiagency coordination, lack of public understanding of habitat loss, community opposition to land use regulations
	Work with TetraTech to compile and synthesize existing reports and data to develop summaries of key stressors and fisheries responses that can be used by resource managers.	TetraTech, FHAT	Watershed wide	Dec-15	
	Develop a matrix which categorizes key threats to priority species and their habitats by season.	Sustainable Fisheries GIT, Vital Habitats GIT	Watershed wide	Jun-16	
Work with Chesapeake Bay Program (CBP) partners and Goal Implementation Teams (GITs) to identify threats and understand how those threats are being addressed.	Share priority species habitat and stressors analysis with Goal Teams.	SF GIT, FHAT, Healthy Watershed GIT, Vital Habitat GIT, Water Quality GIT (including Toxics Workgroup), Trout Unlimited	Watershed wide	Sep-16	Information gaps on species
Develop thresholds and/or metrics for primary stressors and threats to characterize what aspects of habitat need to be maintained to support fish habitat functions.	Build on significant advances by Maryland DNR on how land use change is impacting tidal fish communities by developing and applying thresholds of impervious cover Baywide.	MD DNR (Fisheries), Trout Unlimited, FHAT	Tidal Watersheds in MD	Jun-16	Management prioritization and commitment, funding and coordination, numerous management species, multiagency coordination, lack of public understanding of habitat loss, community opposition to land use regulations
	Work with SERC multiple stressors of the land water interface PI's to consider how results of the study could be used to identify metrics for shoreline hardening that promote conservation of selected fish species.	MD DNR (TEA), SERC, Trout Unlimited, FHAT	Tidal Watersheds	Jun-17	

**Management Approach 2: Compile and identify available data on habitats, habitat vulnerabilities and fish utilization at different life stages to develop a set of criteria for identifying areas of high-value fish habitat.**

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Incorporate fish utilization information into a threat matrix	Use the priority species habitat stressor analysis from management approach 1 to identify healthy habitat criteria for species.	SF GIT, FHAT, STAR	Watershed wide	Jun-17	Lack of information on species in their habitats, research needs to identify habitat areas, need to integrate and synthesize existing data into decision support tools
	Delaware will continue to prioritize identification of spawning, nursery, and overwintering habitat to support Largemouth bass, American shad, and Atlantic sturgeon in the Nanticoke River drainage. Existing data could be used to identify these areas in general but additional research is needed to further refine specific habitat needs and determine where the most critical areas are located.	DE, FHAT	Nanticoke River Drainage	Late 2017	
Provide fish survey data for species of interest.	Complete fish surveys at select DoD installations to determine population and abundance of fish.	DoD	DoD installations where applicable	2016/2017	

**Management Approach 3: Map and target high-value fish habitat for improved conservation and restoration. Partners will work with the science and management community to develop spatial tools for priority habitats and species to inform management decisions.**

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Overlay spatial data on priority fish species seasonal ranges (by life stage) with high-value habitats.	Identify spatial tools and datasets that can be utilized to map the seasonal ranges of priority species habitats and stressors identified under management approaches 1 and 2.	FHAT, STAR, SF GIT, Vital Habitats GIT, NALLC, TNC	Watershed wide	Jun-17	GIS Capacity, Availability and applicability of integrative tools
	Maryland has developed a mapping approach to identify high priority habitat for anadromous spawning areas in Maryland and will continue to develop similar maps for all life stages of their target species. Target species include Striped Bass, White Perch, Yellow Perch, Blueback and Alewife Herring, American and Hickory Shad).	MD DNR (fisheries), FHAT, of interest to Fish Passage Workgroup	Tidal watersheds in MD	Apr-16	Pending future budgets, access for fish to spawning areas
	Complete development and testing of the Mid-Atlantic Telemetry Observing System (MATOS) Beta version and demonstrate successful operation.	NCBO	Tidal	Jan-16	Long-term funding and maintenance of telemetry arrays and MATOS database
Identify and where possible, fill spatial data gaps for specific species and/or tributary areas that lack sufficient data coverage.	Identify species and geographic areas (i.e. non-tidal warm) that need spatial data coverage and metric development.	FHAT, of interest to Stream Health and Non-Tidal Monitoring Network	Watershed wide	Dec-17	Data and monitoring gaps for non-tidal areas
	Convert existing fish and habitat survey data for priority species to spatial datasets where needed.	FHAT, STAR, NCBO, Connect with NALCC and/or ACFHP	Watershed wide	Dec-17	Data availability and need

**Management Approach 4: Communicate importance of fish habitat to the general public and local community leaders by engaging in a conversation about the tradeoffs associated with competing uses of land and water.**

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Engage and communicate fish habitat needs with CBP partners and local communities.	Request input from local groups (including LGAC and CAC) to assess fish habitat information needs. Utilize the information needs to guide data acquisition and compilation. Package and deliver requested information to these local groups.	LGAC, CAC, MD DNR, VMRC, DE, PA, DC, FHAT	Watershed wide	Dec-16	Management prioritization and commitment, funding and coordination, multiagency coordination  Permits and ordinances, process of permitting
	Support Maryland's Fish Habitat Workgroup focused on sustaining and restoring viable fish habitats in Maryland in developing strategies to connect with rural communities to increase their commitment to maintain the rural character of their watersheds.	MD DNR, FHAT, Stewardship GIT, Communications GIT	MD-wide	Jun-16	
	Delaware will collaborate with state planning staff and environmental review coordinators to aid with protection of habitat through the regulatory process and initiative that can be incorporated into local comprehensive land-use plans and master plans.	DE, Environmental Review Coordinators	DE	Ongoing	

**Management Approach 5: Evaluate ways to enhance fish habitat protection by reviewing examples from other regions (e.g., the Puget Sound Partnership) and actively engaging with the Atlantic Coast Fish Habitat Partnership.**

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Engage local planners and restoration practitioners to communicate the value of habitat to people (including ecosystem services).	Initiate regular engagement with LGAC.	SF GIT, LGAC	Watershed wide	Sep-16	Funding and coordination, lack of public understanding of habitat loss, community opposition to land use regulations
	The Chesapeake Bay Commission will work collaboratively with the Bay Program partners to identify legislative, budgetary and policy needs to advance the goals of the Chesapeake Watershed Agreement. We will, in turn, pursue action within our member state General Assemblies and the United States Congress. See CBC Resolution #14-1 for additional information on the CBC's participation in the management strategies.	CBC, SF GIT	Watershed wide	Ongoing	
Work with partners who are implementing fish habitat conservation projects.	Initiate regular engagement with regional partnerships also working on habitat issues (i.e. NALCC).	SF GIT, NALCC and Appalachian LCC	Watershed wide	Sep-16	Coordination between agencies, numerous management species
	Work with ACFHP to ensure Chesapeake Bay habitats are included in their efforts.	FHAT, ACFHP	Watershed wide	early to mid 2016	
Complete a review and analysis of fish habitat conservation efforts from other regions of the country.	Engage with TNC to understand their projects for anadromous fish on the East Coast and salmon efforts on the West Coast to identify potential application to the Chesapeake Bay.	TNC, SF GIT	N/A	Ongoing	Multiagency coordination, understanding of habitat value and integration of existing data
	Work with the National Fish Habitat Partnership Science and Data Committee to identify how the 2015 inland assessment may be used to characterize the primary stressors to freshwater habitats in the region.	National Fish Habitat Partnership Science and Data Committee, FHAT	N/A	Ongoing	Multiagency coordination, understanding of habitat value and integration of existing data
	Contact Midwest organizations to learn about tools developed for freshwater mussels in that region.	FHAT	N/A	Ongoing	Numerous management species, multiagency coordination
Explore avenues to develop a review of policies and cultural views that may limit promotion of habitat conservation.	Utilize outreach efforts and previous literature and surveys to determine how cultural views contribute or counteract the promotion of fish habitat conservation.	Communications GIT, Stewardship GIT, Partnering and Leadership Workgroup, FHAT, of interest to CBF, CBC	Watershed wide	Ongoing	Lack of public understanding of habitat loss, community opposition to land use regulations

**ACFHP** - Atlantic Coast Fish Habitat Partnership

**Appalachian LCC** - Appalachian Landscape Conservation Cooperative

**CAC** - Citizens Advisory Committee

**CBC** - Chesapeake Bay Commission

**CBF** - Chesapeake Bay Foundation

**CBP** - Chesapeake Bay Program

**DC** - District of Columbia

**DE** - Delaware

**EPA** - Environmental Protection Agency

**Ex Comm** - Executive Committee of the SF GIT

**FHAT** - Fish Habitat Action Team

**GIT** - Goal Implementation Team

**LGAC** - Local Government Advisory Committee

**MATOS** - Mid-Atlantic Telemetry Observing System

**MD** - Maryland

**MD DNR** - Maryland Department of Natural Resources

**NALCC** - North Atlantic Landscape Conservation Cooperative

**NCBO** - NOAA Chesapeake Bay Office

**NOAA** - National Oceanic and Atmospheric Administration

**PA** - Pennsylvania

**PRFC** - Potomac River Fisheries Commission

**SERC** - Smithsonian Environmental Research Center

**STAR** - Scientific and Technical Assessment and Reporting

**SF GIT** - Sustainable Fisheries GIT

**TEA** - Tidewater Ecosystem Assessment Division of MD DNR

**TNC** - The Nature Conservancy