Fish Habitat Spatial Data Tools

Compiled by the Chesapeake Bay Program's Fish Habitat Action Team

Blue Infrastructure

*Blue Infrastructure is an online mapping **tool**, which integrates important aquatic resources that have been compiled for the coastal zone of Virginia. This includes Anadromous spawning/nursery reaches and other fish/shellfish habitat related layers.*
http://cmap2.vims.edu/BlueInfraStructure/BlueInfraStructure.html

Chesapeake Bay Fish Passage Prioritization Tool

*The Nature Conservancy partnered with the National Oceanic and Atmospheric Administration and the states of Maryland and Virginia to develop a new **tool** to aid in the prioritization of barriers to fish passage in the Chesapeake Bay.*
http://maps.tnc.org/EROF_ChesapeakeFPP/

Chesapeake Bay United States Geological Survey Data

*United States Geological Survey **datasets** include land use and climate change layers, water quality and quantity, living resources and habitats, and other additional data resources.*
http://chesapeake.usgs.g http://ice.ecosheds.org/ov/data.html

Comprehensive Coastal Resource Management Portal

*The Shoreline Best Management practices comprehensive map viewer compiles **maps** from individual counties in the CCRMP Toolbox. A later version of the portal will include a Virginia-wide **tool**. Beginning in 2012, the Center for Coastal Resources Management (CCRM) started developing portals for each Tidewater locality. The portals are gateways to resources that address data gaps, shoreline best management practices, and sea level rise issues at the local level. Each portal links to comprehensive shoreline data, maps displaying shoreline management recommendations (e.g., identifies sites suitable for living shorelines), and decision support **tools**. This portal displays and provides access to the spatial habitat datasets: CCRM Shoreline and CCRM Tidal Marsh Inventories– these are VA-wide in coverage.*
http://ccrm.vims.edu/ccrmp/index.html

Eastern Brook Trout Joint Venture

*The EBTJV Integrated Spatial Data and **Tools** product is a GIS map featuring data layers relevant to the Eastern Brook Trout's status and habitat extent and tools to aid decision makers in their conservation in this species.*
http://easternbrooktrout.org/resources/brook-trout-conservation-decision-support-tools/eastern-brook-trout-joint-venture-data-tools

*The Interactive Catchment Explorer **tool** allows resource managers to explore catchment characteristics and environmental model predictions to identify spatial patterns related to ecological conditions and identify priority locations for restoration.*
http://ice.ecosheds.org/

*The EBTJV created a sub-watershed **dataset** to show the current population distributions of the Eastern Brook Troup and their stressors.*
https://nalcc.databasin.org/datasets/2b5fb8b75465437ba2526e8928ca263b

FishStats

*FishStats is a **toolbox** of public software for combining stock assessment, habitat, ecosystem and climate research. The index standardization and multispecies models of environmental drivers and fish intereactions can be applied to generated abundance trends and environmental impacts.*
http://www.fishstats.org/

Landscope

*A wide variety of **maps** pertaining to the Chesapeake Bay Watershed including conservation priority data sets, cultural data, environmental data and numerous other applications.*
http://www.landscope.org/chesapeake

- Conservation Priorities (Wildlife Action Plans), threats, etc.

Maryland Greenprint

*Maryland's Greenprint map identifies and **maps** targeted ecological areas, high priority lands and watersheds for conservation, land conservation programs. This map enables the user to visualize and prioritize conservation activities based on the characterization of land cover and other GIS data.*
http://greenprint.maryland.gov/
Fisheries, Protected Lands, Targeted Ecological Areas, Smart Growth, etc.

Maryland iMAP: Biota

*This website hosts a number of **maps** and **datasets** regarding Maryland wildlife including historical Chesapeake Bay SAV expanses and areas of different finfish spawning habitat.*
http://imap.maryland.opendata.arcgis.com/datasets?q=Biota&sort_by=relevance

Maryland Water Monitoring Site Mapper

*The Maryland Water Monitoring Council provides a **tool**, which provides users with a comprehensive map of Maryland waterway monitoring sites and allows users to map stations based on type of sampling (biological, chemical, physical, restoration related).*
http://maryland.maps.arcgis.com/apps/webappviewer/index.html?id=b788336339df416fbe1402a4c2f30720

North Atlantic Landscape Conservation Cooperative

*A multi-criteria decision support **tool** designed to assess aquatic habitats and threats in North Atlantic watersheds and estuaries which enables users to visualize and manipulate information to prioritize areas for conservation action.*
http://northatlanticlcc.org/projects/downstream-strategies-project/decision-support-tool-to-assess-aquatic-habitats-and-threats-in-north-atlantic-watersheds (winter flounder and brook trout)

*The Northwest Atlantic Marine Ecoregional Assessment includes **data** such as seabed form, bathymetry, sediment, benthic habitats and physical oceanography.*
http://nalcc.databasin.org/maps/01e1d5b8954b40d98dbf05a4b0595c02

National Fish Habitat Partnership Data System

*The data system provides **data** access and visualization **tools** including inland stream and coastal assessments, Fish Habitat Partnership habitat condition index scores and Human Disturbance data, and additional datasets from cooperators. Includes risk of current Habitat degradation for stream and*

coastal fish habitats (assessment results), OBIS Fish Data, OBIS Bivalve Data, MARIS Fish Sampling Dataset, NFHP Community Data
http://www.fishhabitat.org/content/nfhp-data-system

North Atlantic Aquatic Connectivity Collective

*This **tool** prioritizes sub-watersheds that may be of high priority for field survey based on species present and connectivity to larger networks.*
https://streamcontinuity.org/assessing_crossing_structures/prioritizing_crossings.htm

North Atlantic Landscape Conservation Cooperation

*The NALCC created Fish Habitat Decision Support **Tool** to grant access to spatial data and results from multiple fish habitat assessments and provides users three tools (visualization, ranking, and futuring) to analyze such data. (Includes the Chesapeake Bay Brook Trout Assessment)*
http://www.fishhabitattool.org/

Nature's Network is a collaborative effort between several U.S. States, federal, academic, and NGO partners to identify the best opportunities for conserving and connecting intact, resilient ecosystems capable of supporting rare and imperiled species in the northeastern U.S. Datasets include terrestrial and wetland core-connector network, aquatic core network, terrestrial connectivity and marsh migration, and imperiled species habitat in addition to a prioritization tool.
http://naturesnetwork.org/data-tools/

The Nature Conservancy

*This **dataset** indicates the estimated resiliency of freshwater streams and stream networks under the stressors of future climate change*
https://nalcc.databasin.org/datasets/666a31750bce4d268734bf5402f24efc

*The Nature Conservancy along with UMASS and other fish ecologists created a **map** to show important habitats that support biodiversity and rare and endangered aquatic species.*
https://nalcc.databasin.org/datasets/112673f3722c46faba2d0553da8e270e

The Nature Conservancy Habitat Prioritization Tool

*The Nature Conservancy has developed a library of **maps and spatial data** to provide meaningful contributions to conservation. This includes terrestrial, freshwater, and marine datasets, which are accessible at the following link.*
https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/marine/cby/Pages/default.aspx

Shoreline Managers Assessment Mapper

*The Shoreline Managers Assessment **Mapper** (SAM) is provided as a data resource to assist local and state government staff as they review shoreline conditions and make recommendations regarding proposed permit actions*
http://cmap2.vims.edu/SAM/ShorelineAssessmentMapper.html

Virginia Coastal Geospatial and Educational Mapping System (GEMS)

*Virginia's Coastal Zone Management Program provides an expansive **mapping** inventory of land and water based natural resources, conservation planning, coastal laws and policies, information on coastal resource values, and planning examples designed to promote stewardship and environmental education.*

http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CoastalGEMSGeospatialData.aspx

Virginia DCR Conservation Lands Database

*Virginia's Managed Conservation Lands Map uses digital surveys and other **data** sources to track Virginia's progress towards land conservation goals.*
http://www.dcr.virginia.gov/natural_heritage/clinfo.shtml#dev

Virginia Department of Environmental Quality GIS Database

*The Virginia Environmental Geographic Information Systems viewer provides that viewer with **geographical data** on impaired waters, petroleum release sites, solid waste facilities, water quality monitoring stations and additional data.*
http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

Virginia Department of Game and Inland Fisheries Database

*The Virginia Department of Game and Inland Fisheries GIS database provides **data** to users regarding public features, HUC10s, trout fishing and wildlife management areas.*
http://dgif-virginia.maps.arcgis.com/home/webmap/viewer.html?useExisting=1

United States Geological Survey

*This **tool** provides current and historic stream temperature data to aid resource managers in their decision making*
https://ccviewer.wim.usgs.gov/noreast/

University of Massachusetts

*This **map** shows the Mean Minimum Winter Temperature projected for 2030 under predicted climate change conditions*
https://nalcc.databasin.org/datasets/c8bd21e030e34dd790565983910643a7

*This **map** shows the Mean Maximum Summer Temperature projected for 2030 under predicted climate change conditions*
https://nalcc.databasin.org/datasets/0d378cf961c64a0c957e7cc97f298512