

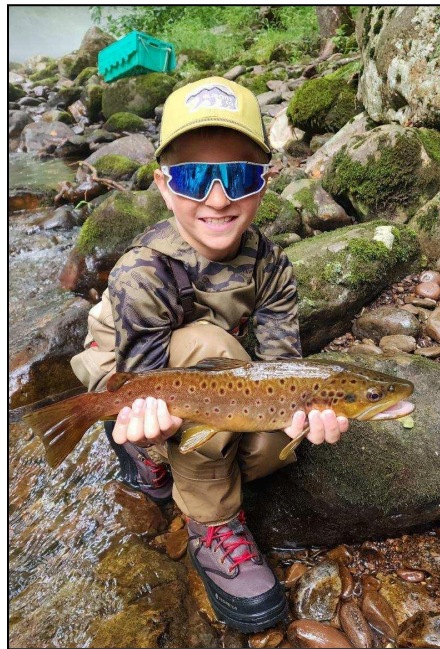
Freshwater Fisheries Report – July 2024

Freshwater Fisheries - Stock Assessment

Deep Creek Lake - Prepared otoliths collected from bluegill, smallmouth bass, and yellow perch from Deep Creek Lake. The age at length information was used to build a key to assign ages to future fish based on their length. Data were also used to estimate mortality of the different species.

Western region I staff collected eDNA samples from Deep Creek Lake in order to investigate whether Alabama bass are present in the lake. Results are forthcoming.

Lower Savage River - Staff conducted the bi-annual survey of the lower Savage River tailwater trout fishery. The river provides a great opportunity to catch wild brown trout. Both abundance and size distribution of the brown trout population are indicative of a quality fishery.



Lower Savage River Brown Trout

Trout Surveys - Central Region staff conducted 26 brook trout and brown trout surveys during the summer index period. Trout sampling has been temporarily put on hold due to low water levels and high temperatures.

Western Region I staff have suspended summer trout monitoring efforts in freestone streams due to unseasonably hot and dry weather conditions.

Upper Potomac River - The annual upper Potomac River juvenile smallmouth bass survey has started on the river. Numerous seine surveys are conducted at stations from Seneca upstream to Cumberland. A 30-ft seine is used to collect a sample of the fish community along the shoreline. The number of smallmouth bass juveniles per seine haul

is used to help monitor spawning success for a given year. For 2024, it appears that smallmouth bass were able to successfully spawn in some sections of river, but overall recruitment was below average. A few juvenile smallmouth bass were observed with visible lesions/sores. These fish were preserved and will be provided to the United States Geological Survey (USGS) Leetown Science Center for health testing.

Cedarville Pond - Completed an electrofishing survey of Cedarville Pond at the request of Cedarville State Park. The pond does not have a boat launch, so a lightweight small jon boat in conjunction with a portable electrofishing unit was used to complete the survey. The uniqueness of the swampy landscape at Cedarville Pond provides habitat to a rare species, the flier and two individuals were collected. Other species found were American eel, bluespotted sunfish, bluegill, brown bullhead, golden shiner, largemouth bass, redear sunfish, and warmouth.



Cedarville Pond Flier 2024



Cedarville Pond Warmouth 2024

Freshwater Fisheries - Habitat and Water Quality

Environmental Review - Provided aquatic resource information for the following environmental review projects:

- Multiple Columbia Gas utility replacement projects. Comments were provided for minimal disturbance and site restoration at the completion of the projects.
- A culvert replacement project located at the entrance of Swallow Falls State Park. Comments were provided for BMPs for sediment and erosion control, pump around procedures, time of year restrictions and material and equipment storage.
- Reviewed the Potomac Garrett State Forest annual work plan for FY26.
- Attended a field visit with representatives from Ecotone and Chesapeake and Coastal Services to assess failed instream beaver dam analogs in Carroll Branch in Baltimore County.
- Existing Use Determination drafts for five streams that will be redesignated to Use Class III (coldwater) or Use Class IV (recreation trout water), or will receive an existing use determination by Maryland Department of the Environment. The redesignations and determinations were supported with data collected and submitted by Fishing and Boating Services. The department's comments supported and strengthened the reclass justifications and included recommendations for improved thermal protection. This review process is the continuation of a sizable data submission from Fishing and Boating Services to Maryland Department of the Environment. The agencies are collaborating to ensure that Maryland's coldwater fisheries resources receive appropriate water quality protection.

Stream temperature loggers were installed into the first sediment basin for the new I-95 exit at Belvidere Road in Cecil County. The infrastructure project is located within a Use III (coldwater) stream. MDTA and the project design and construction team agreed to integrate deep rock trenches into their stormwater design to provide cooling to the discharge water leaving the sediment basins. Such a design has not been used or studied before, and the Freshwater Fisheries Program is excited to collect the data to determine its effectiveness. Loggers were deployed into the basin's piping at several locations using steel rods and cable.



Installing temperature loggers

Smithville Lake - Freshwater Fisheries staff along with DNR's Engineering and Construction staff continue to work with the contractor and Department of General Services to complete water control structure replacement for the Smithville Lake Fishery Management Area. The valve began leaking recently, causing the lake level to drop. The contractor responded promptly by installing an inflatable bladder into the pipe to stop the leak until a permanent repair can be made. We are hoping the valve repair and all other work will be completed by the end of August.



Valve repair at Smithville Lake.



Foxhill Pond, 2024

Foxhill Pond - Checked water quality at Foxhill Pond in Bowie after receiving a complaint that the pond was especially cloudy. The oxygen level was low but fish were observed around the pond and seemed to be in good condition. Foxhill has had a history of different algae blooms and is moving closer to becoming a wetland. Water depth rarely exceeds six inches throughout much its length and geese use the pond quite frequently, adding extra nutrients that encourage blooms. Dredging the pond to its original depth would be the best solution for improving the fish population and restoring lost habitat.

Tucker Pond Fish Kill - Tucker pond experienced a fish kill the weekend of July 13. Prior to this event, air temperatures were consistently in the 90s with drought like conditions throughout much of the area. Lots of sunlight with little to no rain, followed by several cloudy days with lots of rain, can cause a fatal drop

in dissolved oxygen. A surprising amount of largemouth bass, bluegill, and gizzard shad were found floating dead in the pond.

Lake Arbor Ponds - A pond check of Lake Arbor ponds was completed using a seine and water quality equipment. A suspected sewage leak into the second of two ponds was discovered and photographed and the owners, Maryland National Capital Parks and Planning Commission, were alerted to the problem. Fish species collected included bluegill and largemouth bass and the dissolved oxygen was at the low range of acceptable levels.

Big Hunting Creek - Staff assisted with the installation of a trail camera to test the possibility of remotely monitoring flow conditions on Big Hunting Creek in Frederick County. The trail camera was positioned to take photos of an existing USGS staff plate in the stream. The photos can be viewed on a computer or phone. Using a simple chart the staff plate measurements can then be converted into flow (cubic feet per second). A few details need to be figured out, but it looks like a good solution to getting daily flow measurements from this stream.

Water Quality - Assisted the Potomac/Patuxent chapter of Trout Unlimited with the setup and monitoring of water quality in the Patuxent tailwater downstream of Brighton Dam.

Freshwater Fisheries - Stocking and Population Management

Largemouth Bass - Stocked approximately 25,000 largemouth bass juveniles into several tidal-freshwater tributaries of the Potomac River. The bass were 1 to 3 inches in length and fat.



Stocking largemouth bass in tidal Potomac River tributaries

Eastern Regional Freshwater Fisheries staff stocked approximately 6500 largemouth bass raised at the Joseph Manning Hatchery into Marshyhope Creek. The bass were transported and stocked by boat into ideal bass habitat, which should improve survival



(photos below).

Freshwater Fisheries - Outreach

Provided customer service information for inquiries regarding:

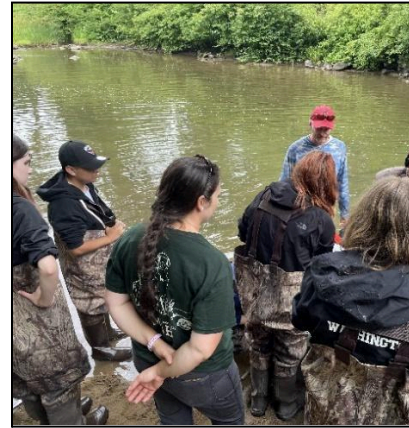
- Trout fishing information
- Fishing the Youghiogheny River
- Pond stocking information
- Obtaining a Maryland fishing license
- Fishing on the North Branch Potomac River
- Fishing Deep Creek Lake
- Registering a vessel in Maryland
- Trout fishing regulations

Women in the Outdoors (WITO) – Provided the Mobile Fishing Trailer and a Basic Fishing Station for the WITO Workshop. This was a free event hosted by the National Wild Turkey Federation and Maryland Department of Natural Resources. The workshop was held at the Thurmont Conservation and Sportsman's Club and attended by 60 participants. Participants got hands-on experience at angling, archery, firearm safety and shotgun shooting, and butchering/cooking along with scent tracking dog demonstrations. Despite the extreme heat, fish were caught, not big ones, but a fish is a fish.



All smiles - her first fish!

Natural Resources Careers Camp - Provided a fisheries biology demonstration for participants in the Natural Resources Careers Camp at the Hickory Environmental Education Center. Campers were informed about stream ecology, the benthic macroinvertebrates and fish that inhabit streams, and the importance of monitoring these organisms for natural resources management. Campers were also given the opportunity to see and hold live fish and look for benthic macroinvertebrates in a stream.



Fisheries biology demonstration for participants at Natural Resources Careers Camp

Freshwater Fisheries – Fish Health

Assisted the Invasive Fishes Program Manager and U.S. Geological Survey with collecting blue catfish over two days on the Patuxent River. During this cooperative project, tissue and blood samples were taken and otoliths were removed as well as the length and weights of each fish recorded. The samples, taken from widely separated areas along the river, were to be tested for per- and polyfluoroalkyl (PFAS) chemicals in addition to the other usual analysis by the federal agency.

Freshwater Fisheries - Invasive Fishes Program

The department continues to work with partners at USGS Eastern Ecological Science Center, Coastal Conservation Association Maryland, and National Harbor to plan an event for Congressional staff members and USGS officials on the Potomac River to highlight the issue of invasive catfishes and the need for congressional funding towards research and control efforts. The event will be held in late-August 2024.

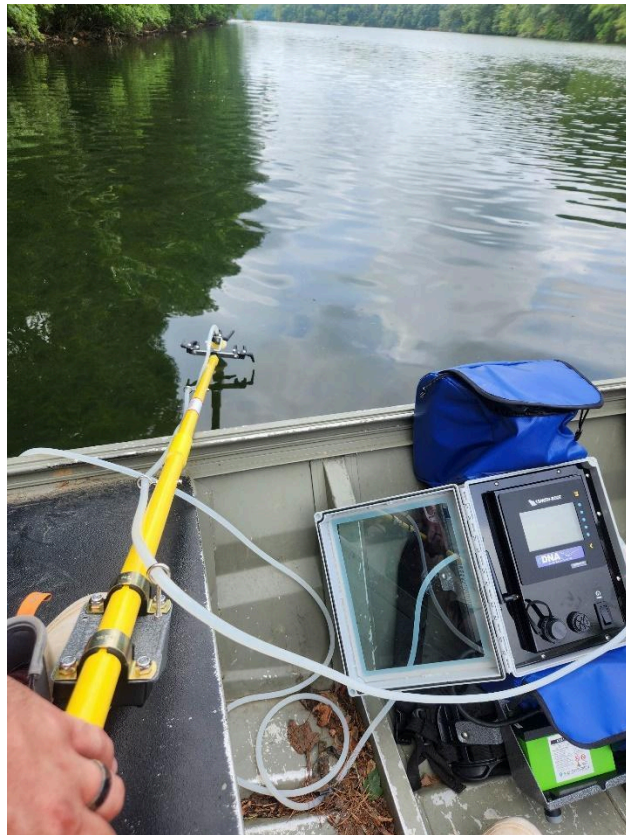
The inaugural Invasive Catfish Advisory Committee (ICAC) meeting was held virtually on July 10. Fishing and Boating Services Director Lynn Fegley and Invasive Fishes Program Manager Branson Williams gave introductory remarks. Staff reviewed the operating guidelines and set the expectations of the ICAC members. ICAC members all gave brief introductions and provided staff with future agenda items. The next ICAC meeting will be on October 9, 2024. Agenda items will include Chair/Vice Chairperson voting and potential pilot program and regulatory changes.

The department continues to work with researchers at Virginia Commonwealth University and USGS Eastern Ecological Science Center to design a monitoring program

for catfishes on the Patuxent River. The survey will use low-frequency electrofishing and chase boats to develop abundance indices, assess population structure, and employ drone and biosonic technologies to explore catchability associated with electrofishing, as well as the efficacy of drones to count and measure fishes.

Blue catfish were collected with electrofishing gear from both the Potomac River and the Patuxent River for a University of Maryland nutritional analysis study. Unlike most other studies on blue catfish, only tissue samples were needed this time, providing our lab freezer a much-needed break.

Central Region Staff completed northern snakehead eDNA (or environmental DNA) sampling on Liberty Reservoir and Prettyboy Reservoir. In the last year, over 100 eDNA samples have been collected from impoundments in the Central Region. Samples have been sent to the U.S. Fish and Wildlife Service for processing.



Using equipment to sample water for eDNA testing

Freshwater Fisheries - Coldwater Program

Continued to conduct qualitative trout surveys to determine coldwater resource occupancy and potential or to monitor low density populations. Quantitative surveys were initiated at sites in the annual brook trout monitoring network, but survey activities were suspended when temperatures became too stressful for the resource. Survey activities were resumed when overnight temperatures cooled.

North Branch Potomac River benthic sample specimens were identified and counted for community analysis. The results of the analysis will be compiled with trout population surveys and temperature data and will provide guidance for ongoing management activities.

Organized and convened the July meeting of the Coldwater Fisheries Advisory Committee (CFAC). The department presented information about the non-tidal Freshwater Fisheries budget projections to members of CFAC and stressed the need to address anticipated shortfalls. Two committee members volunteered to participate on an inter-committee work group that will work with the department on fee adjustment recommendations. Additionally, members selected committee officers for the next two years.

Met with regional fisheries staff to discuss fisheries management strategies and actions that will be included in a Coldwater Fisheries Management Plan. This new fisheries management plan will build on the existing Brook Trout Fisheries Management Plan to develop a framework for the management of coldwater fisheries resources throughout the state. Agenda items included coldwater habitat protection and enhancement, stocking strategies and policies, and resource monitoring schedules.

Met with staff from Eastern Brook Trout Joint Venture (EBTJV) and Trout Unlimited to discuss brook trout data submitted to the EBTJV rangewide occupancy map. Meeting participants discussed the spatial data and methods for determining resource gains and losses throughout the Chesapeake Bay watershed. A follow up meeting was held with each state in the Chesapeake Bay watershed to review the analysis and confirm resource gains.

Met with staff from Maryland Department of the Environment, Bureau of Mines to discuss acid mine drainage impairment in the Laurel Run watershed near Kempton. Despite cold stream temperatures, many of the tributaries do not support the diverse aquatic community that would be expected in these streams. Impacts from active and legacy mining activities were considered. Fishing and Boating Services will follow up with staff from the Abandoned Mine Lands Division to identify tributaries where limestone sand treatments may improve water quality and create opportunities for brook trout reintroductions.

Freshwater Fisheries - Tidal Bass Program

Worked the Virginia Elite Series tournament to identify tagged largemouth bass as part of an intercooperative agency effort to monitor the fishery, as well as collect mortalities for biological data.

Attended the Middle River Bass Club Thursday night tournament.

Dissected 131 largemouth bass that were previous tournament mortalities for age, growth, and diet analyses.

Stocked 12,500 juvenile largemouth bass throughout the Potomac River and 6,500 fingerlings in Marshyhope Creek from the Joseph Manning Hatchery.

Hosted the July meeting of the Black Bass Advisory Committee. Agenda topics included licensing fees, haul seining, environmental impact reports and the use of the black bass conservation fund.