

Freshwater Fisheries Monthly Report – August 2024

Freshwater Fisheries - Stock Assessment

Deep Creek Lake – Western Region I staff assisted University of Maryland researchers in the collection of sediment and macroinvertebrate samples on Deep Creek Lake as part of an ongoing mercury study. In addition, tissue samples were taken from adult black bass and northern pike for mercury contamination in tissue; tissue “plugs” were taken to prevent the need to sacrifice fish.

Staff conducted annual seining efforts on Deep Creek Lake in order to assess gamefish and panfish recruitment and contribute to a long-term young-of-the-year (YOY) largemouth bass mercury study.



Seining Deep Creek Lake

Upper Potomac River Smallmouth Bass - Juvenile smallmouth bass seine surveys were completed on the upper Potomac River. The overall seine index score was 0.35 fish/seine haul. This is below the long-term average of 1.0 fish/seine haul. Juvenile smallmouth bass densities were higher in the upper sections of the river. Juvenile smallmouth bass were observed in a range of sizes, suggesting that multiple spawning events occurred during the spring. Fall boat electrofishing surveys will be conducted at many of these same stations to monitor adult bass numbers.

Brook Trout Survey – Western Region I staff began conducting brook trout surveys with the reprieve from hot weather. The summer months in western Maryland provide less than ideal sampling conditions with no break from above average temperatures and extreme low flow conditions in the region's coldwater streams. Given that conditions have improved, biologists have been back out in the field conducting surveys at long term monitoring sites to have them completed before the end of the sampling season.



Brook trout collected from Steyer Run, Garrett County, Maryland

Trout Surveys - Central Region staff conducted 20 brook trout and brown trout surveys during the month of August. Staff took advantage of the cooler weather to complete the vast majority of scheduled coldwater surveys for the year.

Cedarville Pond - Sampled Cedarville Pond before vegetation takes over. A surprising number of sunfish and largemouth bass were found. However, chain pickerel were not captured, though they had been in previous surveys. These fish generally live near woody debris and branches that are mostly submerged in the pond. It could be that they have moved even farther into the debris and could not be reached during this survey.

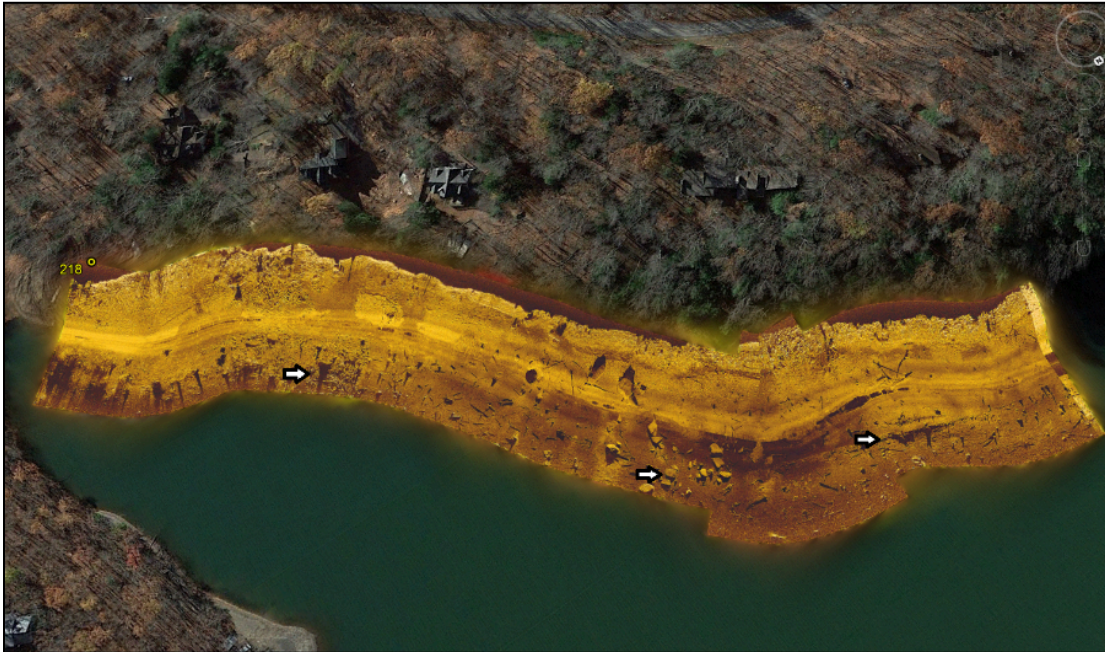
Freshwater Fisheries - Habitat and Water Quality

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

- A stone revetment to be constructed on the shoreline of Deep Creek Lake. Comments were provided for material and equipment storage areas, time of year restrictions, on-site material use, and proper inspections take place throughout the construction process.
- Reviewed the Potomac Garrett State Forest annual work plan. No special concerns were noticed after reviewing the plan.
- A roadway rehabilitation project in Garrett County that consisted of removing and adding a new stone roadway surface. Comments provided were geared toward strict sediment and erosion control measures.
- Assisted in reviewing a culvert replacement project on Dan's Mountain Wildlife Management Area. Comments were made to provide strict sediment and erosion control as well as encourage a bottomless culvert design to encourage aquatic organism passage.
- Two Project Open Space properties in Garrett County were reviewed for aquatic resource protection and potential fishing access.
- A culvert replacement on Beaver Creek. Comments were made for strict sediment and erosion control as well as avoiding impacts to surrounding wetlands and riparian buffers during construction.
- Staff attended a site visit with Maryland Department of the Environment (MDE), representatives from Williams Pipeline, and Maryland Department of Agriculture to Spooners Creek in the Deer Creek watershed (Harford County) to evaluate non-permitted instream work on a local brook trout stream. Approximately 200 – 300 meters of riparian

buffer clearing and in-stream work caused considerable impacts to the stream and the biological community it supports. Attendees at the site visit discussed the impacts to the stream and the most effective ways to stabilize the system, re-establish the riparian buffer, and restore in-stream habitat.

Side Sonar Scans – Staff collected and prepared side scan sonar recordings from Deep Creek Lake and Broadford Lake for habitat analysis from this year’s electrofishing sampling locations. Data from these recordings can be used for comparing available habitat with species assemblage at each sampling location giving biologists the ability to determine what species should be located in a given area with the available habitat. It also provides information for anglers on what to be looking for when fishing for their target species.



Side scan from Deep Creek Lake showing station number 218, rock rubble, large boulders and possible old roadbed

Water Quality - Central Region staff continues to assist the Potomac/Patuxent chapter of Trout Unlimited (TU) with monitoring water quality in the Patuxent Tailwater downstream of Brighton Dam.

Freshwater Fisheries - Stocking and Population Management

Rainbow Trout - Staff assisted Bear Creek Hatchery in the pickup and stocking of approximately 2,000 rainbow trout juveniles from the White Sulphur Springs fish hatchery in West Virginia. These fish were stocked into the North Branch Potomac River downstream of Westernport.

Western Region I staff met with MD DNR’s new coldwater production manager on a tour of the trout rearing facilities in the region. In addition, staff met with U.S. Army Corp of Engineers (USACE) employees to discuss the potential development of a coldwater rearing facility near the outfall of Jennings Randolph Reservoir. USACE staff are optimistic that a coldwater rearing

facility could be done in conjunction with planned modifications to generate hydroelectric power.

Freshwater Fisheries - Outreach

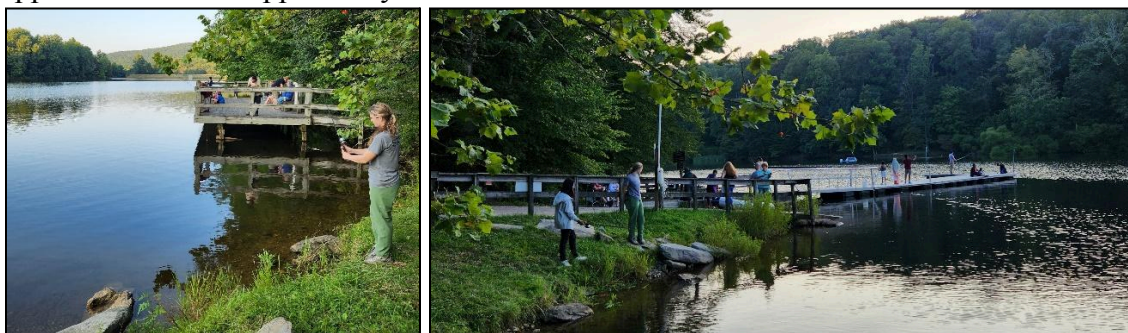
Customer Service - Provided customer service information for inquiries regarding:

- 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
- Fishing the Savage Reservoir
- Registering a vessel in Maryland

The Maryland Becoming an Outdoors-Woman (BOW) program hosted its summer workshop, on August 9 - 11. This year marks 30 years for the BOW Program in Maryland. One hundred women attended the three-day event at the 4-H Center in Garrett County, MD and participated in outdoor classes, which included hunting, shooting sports, fishing, and outdoor recreation. Staff from multiple units within the Department coordinate the BOW program including Fishing and Boating Services, Maryland Park Service, Natural Resources Police, and Wildlife and Heritage Service. BOW enables women to learn about a wide variety of outdoor recreational opportunities in a casual, non-threatening environment. Classes are designed to be as hands-on as possible, giving participants enough knowledge to further pursue their interests once the workshop is over.

Some of the invasive blue catfish that were removed from the Patuxent River during recent surveys were put to use to help introduce participants to the benefits of consuming wild caught invasive catfish. As part of the fishing unit at BOW, a taste test of fried catfish helped to dispel the myth that catfish cannot compete against our local seafood.

Cunningham Falls State Park Fishing Event – Provided the Mobile First Catch Fishing Trailer for an evening fishing event on Hunting Creek Lake within Cunningham Fall State Park. Approximately 35 people took advantage of the beautiful evening for fishing, however no one told the fish. Only three small sunfish were caught! In spite of limited catch, everyone was very appreciative of the opportunity to throw a line in the water.



Anglers enjoy fishing at Hunting Creek Lake

Pond Standpipe Modifications - Central Region staff presented preliminary data on pond standpipe modifications to the Carroll County Water Resource Coordination Council. The Council is interested in the work that Central Region and Brook Trout Program staff have done on two small, spring fed ponds in Carroll County.

Gunston School Chesapeake Watershed Semester - Provided a fisheries biology demonstration to students that are participating in the Chesapeake Watershed Semester at the Gunston School in Centreville. Students met with Fishing and Boating Services staff at the Savage River in Garrett County, where they were informed about stream ecology, aquatic communities, and the influence of land use practices on aquatic resource health.

Students had the opportunity to see and hold live fish, look for benthic macroinvertebrates in the stream, and walk through a successful tree-planting project.



Fisheries biology demonstration for participants in the Chesapeake Watershed Semester at the Gunston School

Freshwater Fisheries - Angler Access

Ponds Checks - Southern Region staff inspected the condition of the trout stocking ponds that tend to have the most submerged vegetation, floating nuisance plants, and algae. Staff have already been in touch with local municipalities that will be coordinating with the Department about getting the ponds open and clear for fall stocking of trout.



North Branch Potomac River stream cleanup

Stream Clean-up - Western Region I staff volunteered time and a pickup truck to assist with a stream cleanup effort in the Catch-and-Release All-Tackle management area on the North Branch Potomac River funded and organized by Trout Unlimited. Two crews worked

simultaneously to collect trash from the river, along the shoreline, and at popular access points. Several local fishing guides assisted and provided their rafts to carry trash removed from the river to access points. Over the approximate five mile section of river, 60 bags of garbage, more than 45 tires, a few bicycles, and a small mountain of larger items were removed from the water and shorelines.

Freshwater Fisheries – Fish Health

Mercury Study - Freshwater Fisheries staff helped with the collection of juvenile largemouth bass from multiple impoundments across the state as part of a long-term project to study mercury deposition. Researchers from the University of Maryland Center for Environmental Science (UMCES) are leading this project. Mercury concentrations for a given year are determined by analyzing juvenile fish. With regulations to improve air quality, the researchers hope to see a reduction in mercury concentrations over time.

St. Mary's Lake Flier - The flier is a unique sunfish that has been on the list of *Species of Special Concern* for many years. First documentation of the fish occurred at St. Mary's Lake in St. Mary's County, and the spillway below the lake as well. Later, several more fliers were found in Cedarville Pond and the spillway below Cedarville. In the late 1980s, it was speculated that the flier found in Cedarville originated from Harrison Lake in Virginia. Harrison Lake had been the source of all the largemouth bass that were stocked in St. Mary's and some other area lakes at the time. The fliers in St. Mary's Lake were suspected to be the transplants from Harrison Lake. For decades, the flier had only been found in those two areas. The flier population did well at times, but also seemed to crash and disappear periodically. In more recent years, Maryland Biological Stream Survey (MBSS) has found them in two other branches of St. Mary's River. Freshwater Fisheries biologists also sampled two other sites and documented several additional fliers.

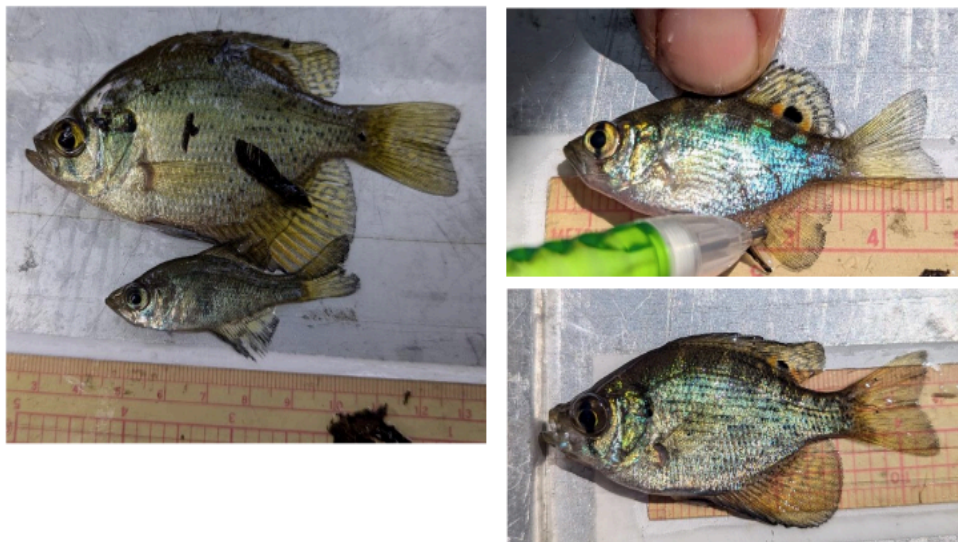


Figure 1. Clockwise from the left, a juvenile black crappie and an adult flier closely resembling each other; a 46mmTL flier with very prominent ocellus; a 79mmTL flier with a slightly more muted ocellus.

Freshwater Fisheries - Invasive Fishes Program

Chef Tours - Invasive Fishes Program staff attended two chef tours where Maryland seafood, including the invasive Chesapeake Bay blue catfish and Chesapeake Channa (also known as northern snakehead), was highlighted and promoted.

Low Frequency Electrofishing Testing - The Invasive Fishes Program and biologists and staff from Freshwater Fisheries and Hatcheries Division, and Statewide Operations performed some preliminary work with researchers from Virginia Commonwealth University's Rice Rivers Center to determine the efficacy of using unmanned aerial vehicles (UAVs) and bionics technologies in blue catfish surveys. Low-frequency electrofishing is commonly used to survey blue catfish populations but catches may not reflect true abundance and densities. Advanced technologies like UAVs and bionic transducers may allow researchers to more accurately assess catfish populations, and better understand catchability of low-frequency electrofishing. Once the low frequency pulse reaches the fish, muscle movement is erratic, causing the fish to float to the surface. Being able to net and/or count the number of fish reacting to the initial electrical current must be done quickly since blue catfish are impervious to a similar reaction for a minimum of 24 hours. The work took place on the tidal, freshwater Patuxent River and nearly 3000 pounds of blue catfish were removed from the river.



L to R – Overhead view of electrofishing boat and blue catfish; loading blue catfish for removal.



Flathead Catfish Sampling - Eastern Region staff are in the process of completing flathead catfish sampling on Conowingo Reservoir and the tidal Susquehanna River using baited hoop nets. Nets in Conowingo were very productive, with several large individuals collected over 900 millimeters in length. The largest individual was 1100 millimeters (43.3 inches) in length and weighed 25.4 kilograms (55.9 pounds). All flathead catfish were removed from the system. Otoliths were extracted from the larger individuals to estimate their age. Current data suggest that flathead catfish in the Susquehanna River system grow steadily until about age 10 or 800 millimeters, at which point growth slows down considerably. No blue catfish were encountered in Conowingo Reservoir.

Large Conowingo Flathead Catfish

Freshwater Fisheries - Coldwater Program

Conducted over 15 trout surveys, most of which were population estimates to monitor resource health. Qualitative surveys were conducted at several stations to determine the extent of resource occupancy. Additionally, tissue samples were collected from two brook trout patches for genetic analysis.

Removed brook trout and other fish species from the limits of disturbance (LOD) for the Shallmar Road culvert replacement project on Wolfden Run. In partnership with Trout Unlimited, U.S. Fish and Wildlife Service, the Department of Public Works, and the Department of Natural Resources, Garrett County is replacing a failing undersized culvert that limits fish passage with an appropriately sized bridge. Fishing and Boating Services removed fish from the work area and placed them in suitable habitat in Wolfden Run. Although fish had been previously relocated prior at the start of construction, elevated flows caused by the remnants of tropical storm Debbie allowed fish to move back into the project area.

Analyzed benthic macroinvertebrate data from samples collected in Bear Creek earlier this year. The samples are routinely collected to determine if Bear Creek Hatchery operations are influencing stream water quality. No impacts to the benthic community were observed and the results were summarized in a report and submitted to Maryland Department of the Environment.

Freshwater Fisheries - Tidal Bass Program

Met with regional fisheries staff for the annual Tidal Black Bass Caucus. The caucus's focus was the upcoming tidal black bass survey where the Potomac, Gunpowder, Bush, Middle, and Pocomoke rivers will be sampled as well as areas in the Upper Chesapeake Bay and Marshyhope Creek. Regional staff were also updated on activities and meeting summaries of the Black Bass Advisory Committee, black bass tournaments, and several social media and public facing reports.

Participated in two podcasts: Fishing the DMV and the Fisheries Podcast. Fishing the DMV is a podcast hosted by Thomas Arens that, as the name suggests, focuses on all things related to freshwater fishing in the areas of Washington D.C., Maryland, and Virginia. Topics covered were primarily biography as well as management of the tidal Potomac River. The Fisheries Podcast has rotating hosts and focuses on fisheries professionals and their work experience/research. Topics covered were primarily education and work history as well as Paddlefish research and the roles and responsibilities of a Tidal Black Bass Program Manager.

<https://podcasts.apple.com/us/podcast/fishing-the-dmv/id1597670209>

<https://podcasts.apple.com/us/podcast/the-fisheries-podcast/id1434777977>

The Black Bass Advisory Committee has two members completing their service after the quarterly meeting in October and the application process was opened at the beginning of August. Forty six applications were received and staff is currently working through a rubric to select the top candidates. The selection will be made in mid-September.

Assisted the Coldwater Program with brook trout sampling in Allegany County as well as the Invasive Fishes Program with testing sampling methodologies for blue catfish on the Patuxent

River. Additionally, staff attended the American Bass Association tournament at Smallwood State Park to collect mortalities for age and growth data as well as monitor fish care.

Freshwater Fisheries - Other

Assisted the Environmental Protection Agency with the National Rivers Assessment of benthic, fish, and water chemistry at predetermined sites on the tidal Potomac just south of National Harbor. These surveys take place between every three and five years. Two passes over the same site are completed two weeks apart. Sometimes surprises pop up that you do not normally see such as walleye all the way down to just in front of the old Marshall Hall Amusement Park, south of, but within eyesight of George Washington's Mt. Vernon on the Potomac River.