

Freshwater Fisheries Monthly Report – August 2022

Freshwater Fisheries - Stock Assessment

Savage River - With assistance from other regions, Western I staff conducted a population assessment on the lower Savage River tailwater trout fishery. Two stations were sampled, using a 3-pass depletion method to estimate trout abundance as well as population metrics such as size distribution and condition.



Conducting a trout population survey on the Savage River tailwater.

Western Region Impoundment Surveys - Conducted seining surveys at Lake Habeeb, Savage River Reservoir, and Deep Creek Lake as part of the annual impoundment survey effort. The purpose of the seining surveys were to inform a recruitment index of young-of-year gamefish and panfish, as well as determine forage species and abundance. These indices will be tracked through time as part of the management of the resources.



Haul seining on Deep Creek Lake.

Potomac River Smallmouth Bass - The annual upper Potomac River seining survey was completed with 12 stations being sampled from Seneca Breaks upstream to Paw Paw, WV. The average number of young-of-year (YOY) smallmouth bass was 0.7 fish/seine haul. This is slightly below the long-term median score of 0.9 fish/seine haul. Overall, this was a successful hatch on the river, but numerous juvenile smallmouth bass were observed with external skin lesions. This became more prevalent following high water temperatures in late July. All juveniles observed with lesions were retained for additional fish health testing. Healthy juvenile smallmouth bass were observed in the river during sampling. These fish are reaching 3 inches in size and moving away from shoreline habitat out into the main body of the river.



Juvenile smallmouth bass from upper Potomac River with visible skin lesion

Beaver Creek - Trout surveys were completed in the catch-and-release section of Beaver Creek in Washington County. This year's numbers looked very good with 118 adult and 76 juvenile brown trout collected from the two monitoring stations. Several of the adult brown trout were in the 14-16 inch size range. Big thanks to a local Boy Scout who recently helped install a new signboard kiosk and benches as part of his Eagle Scout project at the angler parking area. New Southern Region biologist, Josiah Jensen, assisted with the Beaver Creek trout survey. It was an excellent opportunity for Josiah to see what projects the other regions were working on as well as providing assistance when needed.

Morgan Run - Central Region staff assisted Patapsco Valley Trout Unlimited with a project on Morgan Run Natural Environment Area to estimate persistence of stocked and wild rainbow and brown trout. Three stream stretches within Morgan Run NEA were surveyed and trout 8 inches in length and longer were tagged. Informational signs were hung to inform the public about the project and where to report tagged fish. Information from tagged fish will be reported via email to Patapsco Valley Trout Unlimited volunteers.

Central Region Stream Surveys - Continued work surveying cold and coolwater streams in Harford, Carroll, and Baltimore Counties to monitor populations of brook and brown trout. The crew managed to survey 14 sites during the month, and documented successful brown trout reproduction and populations in two new Use I streams.

Central region staff assisted West II with the Beaver Creek trout survey and Eastern Region with the catfish study on Conowingo Reservoir and the lower Susquehanna River.

Freshwater Fisheries - Habitat and Water Quality

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

- Permit applications for five new mines in Garrett County and Allegany County. The proposed mining activities would impact coldwater resources in the North Branch Casselman River, five tributaries of Georges Creek, and a tributary of the North Branch Potomac River. Staff conducted site visits to the proposed mine locations with Maryland Department of the Environment, Bureau of Mines Division. Potential impacts to aquatic resources and methods and opportunities for minimizing those impacts were discussed. The department will continue to work with Bureau of Mines staff to protect existing aquatic resources and make recommendations for remediation efforts.
- Attended a site visit and provided written comments for a new interchange along I-95 in Cecil County. The plan calls for restoration of several streams which are classified as Use III and located in a Tier II catchment. The impact area includes several “wetlands of special state concern” which harbor several listed RTE species. Controlling stormwater, sediment, and minimizing thermal impacts are of greatest concern for Freshwater Fisheries.
- Reviewed the final plans for dredging in Arrowhead Cove on Deep Creek Lake.
- An application was submitted by Herrington Manor State Park for a bridge installation project. Comments were provided for time of year restrictions, equipment use and material storage, sediment/erosion control and pump around procedures, and site restoration.
- Comments were provided for a bridge installation project that is to take place in Lonaconing Maryland. Comments were provided for time of year restrictions, equipment use and material storage, sediment/erosion control and pump around procedures, and site restoration
- Performed a site visit for a bridge replacement project on Buffalo Run located in Friendsville, Maryland to see if needs were met after an application was modified. The original application for the project stated that the entire stream bottom of the project area would be lined with rip rap. In commenting on the project, it was stated that it is better to obtain natural stream bottom substrate rather than lining with rip rap. The project design was then modified to fit the needs to maintain a natural stream bottom.
- Met on-site with Garrett County Department of Public Works representatives to discuss the feasibility of screening a water intake structure for the town of Bloomington located in the lower Savage River. The intake is buried in the substrate and screening was deemed unnecessary in the current state. If changes to the channel morphology or intake structure occur, the feasibility of screening the intake is to be re-evaluated.
- Reviewed an instream waiver request to remove a stream diversion installed to allow minor bridge repairs on Owens Creek in Frederick County. It was determined that removing the diversion during the October to May closure period would pose less of a risk to the environment than leaving it in place through the winter.
- A stream restoration project on Grove Creek in Washington County to address bank erosion and increase the riparian buffer.
- A project to repair/replace an existing cement bridge spanning a tributary to Ballenger Creek in Frederick County. The concrete bridge and stone abutments will be replaced with new abutments and a larger pre-fabricated steel deck. The new abutments will be placed behind the original abutments reducing instream disturbance.
- Installation of a temporary boat ramp into Fishing Creek Reservoir to conduct sediment borings. The reservoir is not open to the public and the installation will not impact upstream or downstream trout resources.

Temperature Loggers - A routine check on the Youghiogheny River and North Branch Potomac River to monitor placement of temperature loggers that were deployed before the June 1 monitoring period. One temperature logger on the Youghiogheny River had been tampered with and was found dewatered on a rock. It was placed back in the river and hidden to continue recording water temperature data.

Land Reclamation - Participated in a Land Reclamation committee meeting to conduct field visits at three reclaimed mines in Garrett and Allegany Counties. All sites met the phase two requirement for vegetation as specified in the reclamation plan for each site.

Cosca Lake Habitat Improvements - Joined an impromptu meeting with construction contractors and officials with the Maryland National Capital Park and Planning Commission at Cosca Lake and discussed the addition of mini reef balls to the lake. Cosca Lake has experienced extensive renovations over the past few years to improve the headwaters of the lake and conduct dam repairs. Upcoming improvements will include dredging the area impacted the most by erosion and sedimentation. In addition to the dredging, engineers are interested in including reef balls in the lake to improve habitat.

Lake Waterford Renovation - Met with engineers from BayLand Consulting and Design, the group selected to design the renovations of Lake Waterford in Pasadena. Lake Waterford has been in decline for many years and drastic work is needed to improve water quality and impoundment capacity of the lake. The major work will include dredging and changing the current holding capacity of 18 MGAL to 36 MGAL. High on the list of importance to BayLand is the construction of habitat for fish and contouring of the lake bottom to benefit aquatic life.

Freshwater Fisheries - Stocking and Population Management

Hughesville Pond - Mechanically removed Azolla (water fern) from Hughesville Pond. The plant annually explodes in Hughesville but is often killed off when overnight temperatures dip in the fall. Removal of the plant is necessary so that trout can be stocked in the pond later in October. Maintenance on the wood car stops and benches were also performed in anticipation of increased angler presence during the fall.

Freshwater Fisheries - Outreach

Customer Service - Provided customer service information for inquiries regarding:

- Fishing on Deep Creek Lake
- Gathered information from callers reporting tagged walleye from Deep Creek Lake
- Stocking of private ponds
- Where/how to obtain a Maryland fishing license
- Directed caller to appropriate personnel for a property discrepancy on Deep Creek Lake.
- Nontidal Potomac River fishing opportunities and status of flathead catfish
- North Branch Potomac River trout management

Signs were placed on the Youghiogheny River and North Branch Potomac River to inform anglers of the effects of trout fishing during warmer summer months. These signs were also provided to Western II and Central Region staff to place on their popular trout fisheries.

Staff provided an overview and update on the Deep Creek Lake walleye tagging effort to the Deep Creek Lake Property Owners Association.

Natural Resources Police Cadet Training - Collected eleven fish species from the Patuxent River and set up a live fish display that was used as part of the Natural Resources Police Cadet training at the NRP Academy in Sykesville. Training included understanding distinguishing morphometric characteristics

needed to properly identify common invasive and sport fishes as well as rationale for common fishing regulations.



NRP Cadets learning about fish

Mobile Fish Trailer -Took the newly acquired First Catch Mobile Fish Trailer, courtesy of Recreational Fishing and Boating Foundation to the Operation Waterways Environmental Education Urban Female Kayaking and Fishing event at Lake Roland in Baltimore. It was a positive experience for the new anglers that learned the basics of fishing.



First Catch Mobile Trailer and new anglers learning about fishing.

Becoming an Outdoors-Woman - The Becoming an Outdoors-Woman (BOW) program hosted its first full workshop since 2019 on August 12-14, 2022. One hundred women attended the three-day event at the 4-H Center in Garrett County 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. The classes are designed to be as hands-on as possible, giving participants enough knowledge to further pursue their interests once the workshop is over.



BOW Committee and volunteers after a long, but rewarding weekend.

Fashion a Fish - Provided a PowerPoint presentation and fun activity called Fashion a Fish for the Grantsville Ruth Enlow Library's Summer Reading Club for elementary age students. This Project's Wet lesson teaches about fish coloration, body shape, mouth shape and fins and how these adaptations influence their habitat use, swimming, and feeding behavior. Participants then fashioned their own fish magnet to take home (Photo below).



Fashion a Fish project for elementary school students.

Freshwater Fisheries – Angler Access

Fishery Management Areas - Staff continues to mow grass and do trash clean ups at the Evitts Creek, Black Oak, and McCoolle Fishery Management Areas.

Freshwater Fisheries – Fish Health

Largemouth Bass - Collected YOY largemouth bass samples for University of Maryland Center for Environmental Science as part of an ongoing study looking at atmospheric mercury deposition trends in YOY fish to monitor mercury accumulation levels for a given year (and over time). Fish from Frostburg Reservoir (Piney, Savage River Reservoir, and Deep Creek Lake) were collected for the study.

Freshwater Fisheries - Invasive Species

Organized and participated in a meeting with Maryland Bowfishing Association to discuss problems and promotion of the sport in invasive fish control.

Removed a radio tracking receiver with antenna array from the Patuxent River which was used for the blue catfish study that was recording data since August of 2021. Though the study had ended last year, removal of the station was not possible until recently.

Tilapia - Southern biologists performed reconnaissance at a Calvert County stormwater management pond to determine if fish from an unauthorized release of tilapia could be recovered. Options to recover the fish by seining, electrofishing, fish toxicant, and draining were investigated. After weighing the available options, the decision was made to allow the fish to succumb to cold temperatures during the winter. The department reminds the public that releasing unwanted fish to the environment is illegal and can cause ecological harm.

Invasive Catfish - Prepared and provided a slideshow presentation to members of the Natural History Society of Maryland. Over 200 members listened to the presentation on the history of catfish in Maryland. From identifying native catfish species in the State to the current challenges of the introduction of blue catfish and flathead catfish in the Chesapeake drainage, members were provided with a broad overview of species habitat, water chemistry preferences, angling and recent commercial catches and how they affect management of these species.

Prepared and provided a slideshow presentation that was included in the Invasive Catfish session of the Atlantic States Marine Fisheries Commission Policy Board meeting in Arlington Virginia. The presentation was one of three given by agencies involved in the Invasive Catfish Task Force. These agencies include the US Geological Survey, US Army Corp. of Engineers, Virginia Institute of Marine Sciences, Virginia Tech, Chesapeake Bay Foundation and others. These agencies are working together to form a cohesive management approach to management of invasive catfish which are now commonly found throughout the mid-Atlantic States.

Flathead Catfish - Eastern Region staff conducted their annual flathead catfish investigations in the Conowingo Reservoir and the Susquehanna River. This project is a continuation of Pennsylvania Fish and Boat Commission's flathead study into Maryland's reaches on the Susquehanna River. The goal is to gather life history information and determine relative abundance of this invasive species to help determine their current and future impacts to the ecosystem. Four sets of baited hoop nets tied in series were deployed in both the reservoir and the river for three days. Flathead catfish varied in size with 20-40 pound flatheads common in Conowingo Reservoir. All flatheads caught during the survey were removed from the system. Other species collected in the nets included blue catfish, blue crabs, bluegill, black

crappie, channel catfish, common carp, quillback and white crappie. Thanks to the staff from Unicorn Hatchery and Central Region for assisting.



Large flathead catfish from Conowingo Reservoir.

Blue Catfish - Eastern Region is continuing to collaborate with Salisbury University to complete a study of invasive blue catfish in the Nanticoke River and Marshyhope Creek. The study is focused on gathering life history data (age and growth) and diet. Samples have been collected by electrofishing the areas each month. A wide variety of individuals have been collected thus far ranging from three inches to 50 pounds. The overall number of blue catfish in the watershed is staggering. Additionally, staff attended an invasive species fishing tournament held on the Nanticoke River and assisted with data collection from harvested fish. Crabs have been encountered in the stomachs of some individuals collected from downstream, more saline areas. Unidentified stomach matter is being analyzed using DNA sequencing.



Salisbury University students and staff netting blue catfish from the Nanticoke River during electrofishing.



A blue crab removed from the stomach of a blue catfish from the Nanticoke River.

Freshwater Fisheries - Coldwater Program

Continued to work through the 2022 brook trout surveys. All remaining long-term monitoring sites in tributaries to the Savage River were completed. Qualitative surveys were conducted to determine the presence of brook trout in tributaries of the North Branch Potomac River above Jennings Randolph Lake, Jennings Run, Camp Spring Run, an unnamed tributary to Middle Creek, and 2 unnamed tributaries to Deer Creek.

Benthic macroinvertebrate samples collected from Bear Creek were processed and analyzed as part of the Water Appropriation and Use Permit conditions for the Bear Creek Fish Hatchery. The benthic community surveyed above and below the hatchery water intake for potential impacts resulting from hatchery activities. The results of the surveys suggested that there were no significant impacts to the benthic macroinvertebrate assemblage. Furthermore, the presence of semivoltine taxa in both samples suggested that there were no dewatering events since the last samples were collected in 2020.

Met with Maryland Department of the Environment staff to discuss an existing use determination for the North Branch Potomac River below the confluence with the Savage River. This section of the North Branch is currently designated as a Class I warmwater stream. However, recent temperature monitoring data suggests the river meets Use Class III coldwater temperature criteria. Furthermore, brown trout and rainbow trout have been observed spawning in the river. Maryland Department of the Environment agreed

that the water quality standards for the North Branch needed to be improved and an existing use determination would be considered. Freshwater Fisheries will continue to collect data in the North Branch to accumulate evidence for maximum regulatory protection.

Freshwater Fisheries - Tidal Bass Program

Staff conducted their annual planning caucus for the Tidal Bass Survey. Targeted areas in 2022 were discussed, along with equipment and supply needs, tournament updates, and annual report reviews.

Staff worked with members of Black Bass Advisory Committee to develop an informational letter to tournament directors about solutions to well-known problems posed for summertime tournaments; scripting of a short video series addressing similar issues was begun as well.

Freshwater Fisheries - Other

Welcomed a new biologist, Josiah Jensen, to the Southern Region crew. Most recently, Josiah worked as a biological science technician with USGS at the Leetown Science Center and a graduate research assistant with West Virginia University collecting fish health information, studying field-based fish health indices in the Chesapeake Watershed with a focus on smallmouth bass, small stream backpack electrofishing, mapping stream habitat, and estimating fish age from otoliths.