

Freshwater Fisheries Monthly Report – August 2021

Stock Assessment

Savage River Trout Survey - Annual sampling was completed on the Lower Savage River. Staff and volunteers traveled statewide to assist with sampling efforts conducted on August 3 and 4. The upper station, located in the artificial fly only management area of the river, supported an overall population estimate of 1,170 trout per mile with 89 percent of fish collected being brown trout. The lower Aaron's Run station, located in the artificial flies and lures management area, was lower than average with an overall population estimate of 669 trout per mile with 90 percent of fish collected being brown trout. Fish were in excellent condition with higher average weights than previous samples. Great fish condition could be attributed to the large periodical cicada hatch that occurred during the late spring and early summer months providing a robust diet. Young-of-the-year (YOY) collected during the survey suggest limited reproductive success.



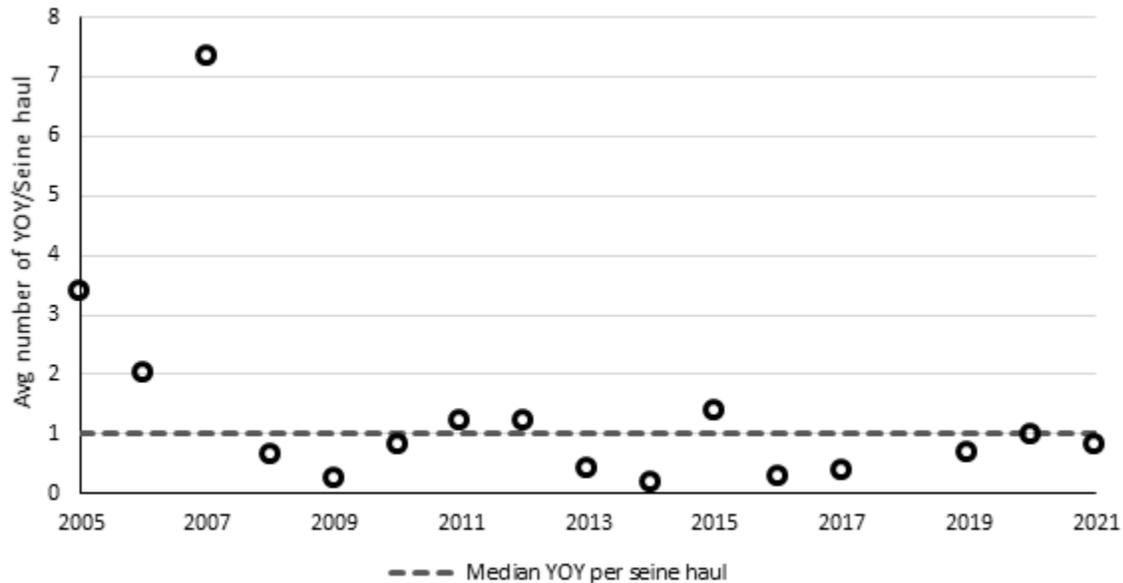
Beautiful Savage River brown trout. Photo: John Mullican

Trout Surveys - With assistance from Trout Unlimited and AmeriCorps, staff surveyed annual monitoring sites along with new sampling locations to monitor for fish presence with a focus on brook trout and overall water quality improvement. Multiple locations were surveyed on Jennings Run, Monroe Run, and Wolfden Run. Surveys still need to be conducted on an unnamed tributary to Maple Lick Run, North Fork of Crabtree, Mudlick Run, and an unnamed tributary to Mudlick Run.

Largemouth Bass Mercury Study - Initiated YOY largemouth bass collection for University of Maryland Center for Environmental Science as part of an ongoing study examining trends in mercury bioaccumulation in fish over time. Fish from Frostburg Reservoir (Piney) and Savage River Reservoir have been collected with Deep Creek Lake next on the schedule.

Smallmouth Bass Survey - Completed smallmouth bass juvenile surveys of the upper Potomac River. Seine samples were conducted at multiple stations from Seneca upstream to Oldtown. The average number of smallmouth bass YOY collected per haul was 0.82 fish. This is just below the long-term median score of 0.95 fish/haul. Staff continued to see juvenile

smallmouth bass with external skin lesions. These fish were retained and provided to the U.S. Geological Survey for additional health testing. Annual smallmouth bass boat electrofishing surveys will be conducted later this fall to monitor the adult population.



Smallmouth bass juvenile recruitment index for the upper Potomac River (2005-2021)

Trout Surveys - For the second straight month, following the standard operating procedure (SOP) for trout management, August temperatures prevented field work in central region trout streams from being conducted due to air temperatures in the mid-nineties and heat indexes above 100°F. As soon as the temperatures cool, the annual Bee Tree Run trout survey will be conducted in the lower station.

First Mine Branch - Conducted multiple qualitative electrofishing surveys in an unnamed tributary to First Mine Branch in Baltimore County. The tributary contains both native brook trout and wild brown trout. Densities indicated good natural reproduction of brook and brown trout with brook trout dominating the population structure.

Habitat and Water Quality

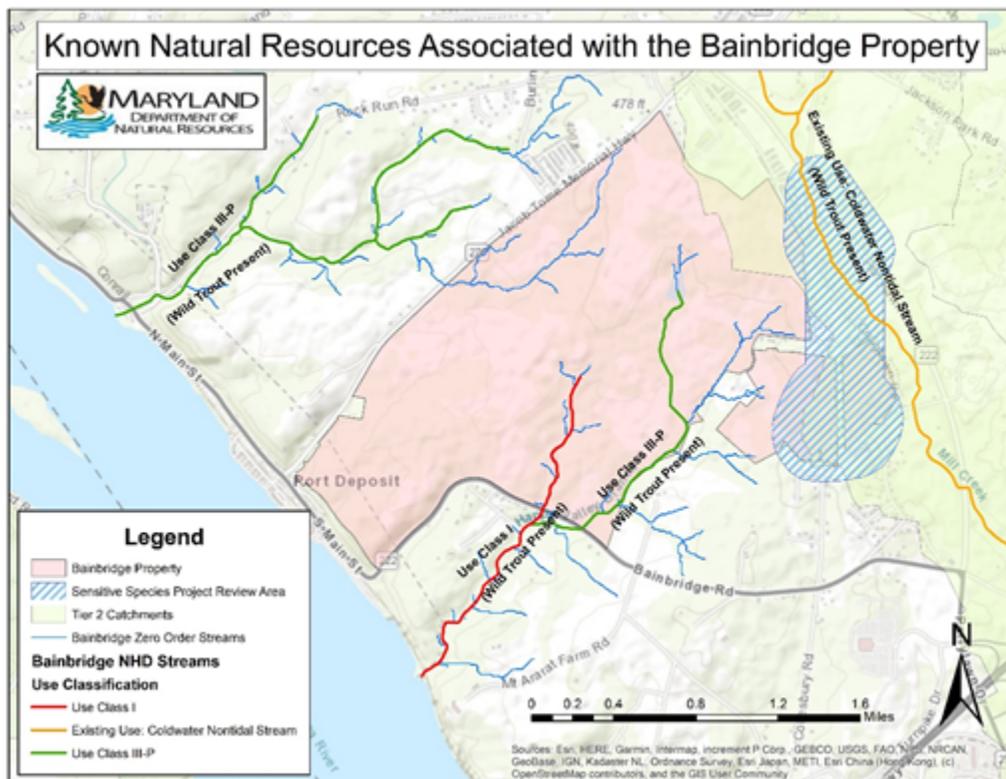
Culvert Replacement - Provided comments on an emergency culvert replacement on Savage River Road at the intercept of Savage River Road and Big Run. Comments were provided to protect riparian areas and the stream that is inhabited by a robust population of brook trout. Upon the completion of the project, it was noted that *as built* conditions resulted in a widened, shallow stream channel with poor habitat along with culvert outflows being well above the waterline resulting in fish passage issues. Staff attended a field meeting to address post-construction conditions and work is being planned to incorporate habitat structures that will mitigate those issues and improve brook trout habitat and connectivity.



Emergency culvert replacement – Big Run

Reclaimed Mine Site Visits - Participated in field site visits as part of the Maryland Department of Environment Land Reclamation Committee. Committee members visited six reclaimed mines in Garrett and Allegheny counties to approve revegetation procedures for bond releases. Four of six reclamation projects were approved with two pending on the success of areas being re-seeded.

Site Visit of Bainbridge Naval Facility - Attended a site visit and provided written comments on the proposed development of the closed Bainbridge Naval Facility near Port Deposit in Cecil County. The Bainbridge property was an operating U.S. Navy training facility until it closed in the 1970s. The buildings were razed and the property (approximately 1,200 acres) was not maintained. The property is unique due to its size and location. This portion of Cecil County contains several coldwater streams that support wild trout populations. The Bainbridge property includes significant portions of the watersheds of three of these streams. Over time, there has been an increasing desire by federal, state, and local officials to develop the Bainbridge property. In 1999, Bainbridge Development Corporation was founded “to plan, initiate and oversee the activities necessary to convert the approximate 1,200 acre site (formerly the U.S. Bainbridge Naval Training Center) into reuse opportunities which would maximize the economic contribution from the re-development” (source: <https://www.bainbridgedevelopment.org/about>). The current re-development “Phase I” plans include the construction of several large warehouses within 438 acres of the Bainbridge property. Although clearing and grading for the project has already begun as part of a remediation project, Freshwater Fisheries provided a memorandum to the department’s Environmental Review Unit on the current activities and the proposed plans. The memorandum included a map of coldwater resources present in the area, a list of concerns for these resources, and recommended actions. At the focus of the concern was the preservation of the area’s coldwater resources throughout the development process and after its completion. Emphasis was placed on maintaining as much natural hydrology as possible, reducing surface water heating and sediment transport off-site. Other recommendations included removing areas of pavement which are not part of future plans, removal of an existing impoundment, and additional tree plantings.



Land Stewardship Committee – Provided comment for the following land acquisitions:

- Casselman River Watershed. The possible acquisition would provide contiguous land to Savage River State Forest and provide additional protection to a stream inhabited by brook trout.

- Potential Program Open Space property acquisition located in Allegheny County. Comments were provided in reference to important aquatic resources that would be protected if the property was purchased.

Stocking and Population Management

Stocking Permits – Six permits were issued in August.

Outreach

Provided customer service information for inquiries regarding:

- Deep Creek Lake area
- Fishing licenses
- General trout fishing in multiple use areas in Garrett County.
- Water level for the Youghiogheny River Reservoir and the ability to launch a boat at different access areas
- Contacts for citation size fish certification

Career Camp - Participated in the Natural Resources Career Camp held at Casselman River Bridge State Park. Staff provided a stream ecology lesson along with a hands-on electrofishing demonstration, and sampling of benthic macroinvertebrates.

Aquatic Vegetation - Met with Wildlife Division regional staff at McKee Beshers Wildlife Management Area to identify aquatic vegetation and algae growing in their dog training impoundments and consult on vegetation management.

Youth Group Demonstrations - Demonstrated boat electrofishing sampling and fisheries techniques and discussed the importance of conservation and invasive species control at an event hosted by the Maryland Parks Service (MPS) to celebrate participants of the Maryland Conservation Corps (MCC) and Conservation Jobs Corps (CJC) youth group. The event was held at Merkle Natural Resources Management Area (Upper Marlboro). After the demonstration, staff prepared and served deep-fried blue catfish to attendees, an invasive species now abundant in the Patuxent River.

Becoming an Outdoors Woman (BOW) Program – With all programming cancelled for 2020 and 2021 due to COVID restrictions, the BOW committee held a planning meeting to plan events for the 2022 year. The Basic Workshop will be held August 12-14, 2022 at the 4-H Camp in Swanton, MD.

Angler Access

Fishery Management Areas - Continued to monitor and maintain the fishery management areas by completing ground maintenance and trash cleanup.

Checked and replaced regulation signs as needed at different management areas statewide.

Invasive Species

Flathead Catfish - Conducted 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 a series were deployed in both the reservoir and the river for three days. Catches were

much higher in the Susquehanna River below Conowingo Dam. The flatheads varied in size, with the largest individual measuring over 36 inches in length and weighing 42 pounds. All flatheads were removed from the system. Genetic, age, and diet data were collected for researchers at Penn State University. Other species collected in the nets included blue catfish, blue crabs, bluegill, black crappie, channel catfish, common carp, quillback, and white perch. Thanks to the staff from Unicorn Lake Fish Hatchery and Matapeake Work Station for assisting and to the Shad and Herring Program who lent us the perfect boat to complete the work.



A 42 pound flathead from Conowingo Reservoir

Radio Receiver Stations – Freshwater Fisheries and Resource Assessment Service staff removed several radio receiver stations from locations in the upper, tidal Patuxent River (Prince George's County). The stations were in place to monitor radio-tagged blue catfish as part of a cooperative project with the United States Geological Survey Eastern Ecological Science Center and other partners, to determine overwintering and spawning habits of the invasive species. A few receiver stations at strategic locations will remain in place to continue monitoring fish movements.

Blue Catfish - Freshwater Fisheries staff from across the state completed a mark-recapture project to estimate density of invasive blue catfish in a tidal, freshwater section of the Patuxent River (Anne Arundel and Prince George's counties). Crews met for an initial tagging event, and two subsequent events in hopes to estimate the abundance of fish in that portion of the river. Preliminary findings indicate the population of fish greater than 7.8 inches (200 mm) was 49,925 (standard error = 13,781) within a roughly 10 km stretch of the river, and 24,818 (standard error = 10,033) for fish greater than 15.9 inches (405 mm) within that same stretch.



Collecting, measuring, and weighing blue catfish. The largest captured on the Central Region boat was 35.5 inches (90.1cm).

Maryland State Fair - Organized materials, including signage and specimens, to present invasive fish information during the Maryland State Fair on September 3.

Brook Trout Program

Conducted brook trout monitoring throughout the Savage River watershed at a number of locations. Sampling data are used to estimate trout abundance and condition as well as assess physical habitat and water quality at each site. Brook trout abundance in both the Crabtree Creek and Middlefork drainages were below average for both juvenile and adult fish. This may be the result of low summer flows the past two years, high flow events during the same period, and/or changes in habitat at some of the sites. Abundance in the tributaries above Savage River Reservoir appeared to be at or near average. A 12 inch brook trout was collected from Poplar Lick. All data will be analyzed and incorporated into both the statewide coldwater database and the Coldwater Resources Mapping Tool.

Presented accomplishments and challenges associated with the brook trout outcome of the Chesapeake Bay Agreement during the department's monthly "Bay, Tributary, and Landscape" (BLT) meeting.

Held a conference call with the new coordinator of the Eastern Brook Trout Joint Venture to discuss habitat improvement projects for brook trout in Maryland as well as our involvement in the upcoming Eastern Brook Trout Joint Venture annual meeting.

Met with Maryland Department of the Environment to discuss habitat and land use modeling to explore restoration opportunities in the Upper Gunpowder River watershed. An abstract highlighting the work was submitted for the November 2021 American Fisheries Society meeting that will be held in Baltimore.

Tidal Bass Program

Staff met to discuss the tidal bass surveys that will begin at the end of September.

Targeted river populations this year will include: Bush River, Chester River, Choptank River, Gunpowder River, Middle River, Potomac River, and upper Chesapeake Bay.

Other

Upcoming Surveys - Numerous fish surveys scheduled in the coming weeks include annual brook trout sampling at four locations, assisting Trout Unlimited in sampling six locations, and young of year seining surveys on Deep Creek Lake.

"The Alans" Retirement Party - The event finally happened. With both Alan Klotz and Alan Heft retiring during the COVID restrictions, the celebration was postponed a bit. Both Alans served the department for more than 30 years. We wish them both the best in retirement.

