

## Freshwater Fisheries Monthly Report – May 2021

### Freshwater Fisheries - Stock Assessment

**Deep Creek Lake** - Completed a nighttime electrofishing survey on Deep Creek Lake in order to monitor and assess the lake's robust fish populations. Over the course of two nights, 20 random stations were surveyed. Fish collected while sampling included: black crappie, bluegill, chain pickerel, largemouth bass, northern pike, pumpkinseed, rock bass, smallmouth bass, walleye, and yellow perch. Fish populations were generally well balanced with multiple size classes represented, including large individuals.



*A healthy largemouth bass from Deep Creek Lake (photo by John Mullican)*



*Trophy bluegill collected from Deep Creek Lake (photo by John Mullican)*

**Potomac River Muskellunge** - Staff has been assisting researchers from West Virginia University by helping collect a small number of muskellunge from the upper Potomac River. These fish were transported to ponds at the U.S. Geological Survey, Eastern Ecological Science Center for use in a multi-state summer temperature study. This research is part of on-going work in the mid-Atlantic region to help protect the muskellunge population at the southern extent of its distribution range.

**Greenbrier Lake** - Conducted night electrofishing surveys on Greenbrier Lake (Washington County) to look at the largemouth bass and sunfish populations. Most of the largemouth bass collected were 8-12 inches in length, as seen in a very high catch rate of 316 fish/hour for this size range. Fewer largemouth bass larger than 12 inches were collected during the survey, although a few fish in the 19-21 inch range were detected. An initial population estimate of approximately 1,400 largemouth bass greater than 8 inches was calculated. Bluegill, redear sunfish, and black crappie were also collected in the survey. Sunfish densities looked good with a catch rate of 221 fish/hour for fish greater than 6 inches in length.

**Broadford Lake** - Conducted daytime electrofishing surveys on Broadford Lake (Garrett County) to characterize bass and sunfish populations. Largemouth bass population metrics were similar to past surveys and are characterized by low abundance/recruitment and a population dominated by large individuals. Management actions are being considered to increase the abundance of bass. A balanced population of black crappie was documented and is popular with local anglers. Several hybrid striped bass were also collected ranging from 17 to 20 inches in length.



*Broadford Lake crappie (photo by John Mullican)*



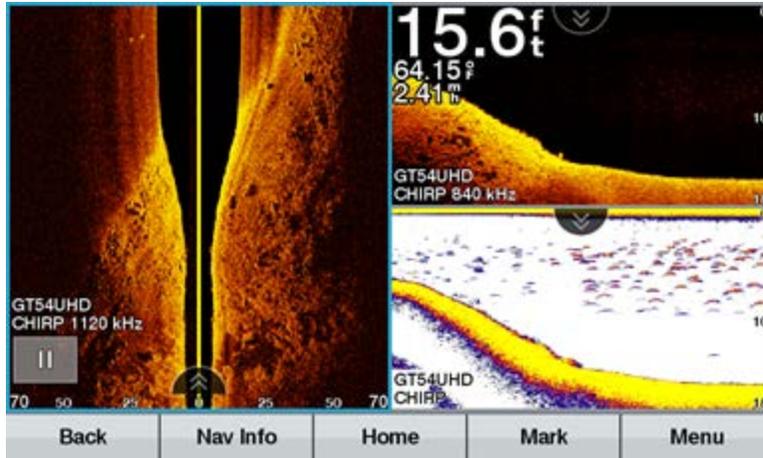
*Hybrid striped bass collected from Broadford Lake (photo by John Mullican)*

## **Freshwater Fisheries - Habitat and Water Quality**

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

- Application submitted by a timber company for the installation of three temporary bridges for a timber harvest in Friendsville Maryland. Recommendations for installation and removal were provided to protect the affected areas.
- Garrett County Roads Division application for a bridge replacement project to take place on Snowy Creek in Crellin Maryland. Recommendations were submitted on time of year restrictions, equipment placement and disturbance, safeguards for abutment construction, and mitigation to be completed after the new bridge is installed.
- Bridge application for a private residence. Freshwater Fisheries supported the installation of the bridge and agreed with the plans provided in the project narrative. No further comments were submitted.
- State Highway Administration proposal for a culvert pipe replacement on MD 144 near an unnamed tributary to Fifteen Mile Creek. After review, Freshwater Fisheries supported the proposal as time of year restrictions and needed best management practices were included.
- Installation of a stone revetment on the shoreline of Deep Creek Lake. Comments were given.

**Broadford Lake Habitat Assessment** - Completed a habitat assessment on Broadford Lake. Side scan sonar was used to record bottom substrate and fish habitat within the 400 meter electrofishing sites, uploaded to a computer, and viewed. Percentage of habitat types that corresponded with electrofishing stations were recorded. The habitat data, used in conjunction with electrofishing survey results, can be used to identify the most productive habitats for each species and guide future habitat improvement projects.



*Side scan sonar images used for habitat assessments*

**Temperature Loggers** - Calibrated 14 devices to be placed in the Youghiogheny River. The loggers will be used to monitor air and water temperatures throughout a 6.5 mile stretch where temperature enhancement releases are provided. These temperature enhancement releases are important as they are necessary to support a very popular catch and release trout fishery.

Temperature loggers were deployed and macroinvertebrates were collected from two streams in Cecil County that have not previously been monitored. Macroinvertebrates were also collected from three sites on Basin Run.

Conducted quality assurance/quality control on 50 Onset WaterTemp Pro loggers for Central and Eastern Region Freshwater Fisheries, Maryland Chapter Trout Unlimited, and Patapsco Valley Chapter Trout Unlimited. The loggers were returned to the appropriate owners and deployed to begin the June 1 through September 1 water temperature monitoring index period. This is an important and necessary step to ensure that accurate results are obtained.

**Private Pond** - Performed a site visit at a private pond in Calvert County to ensure the location was appropriate for stocking hybrid striped bass. The landowner was informed of actions to take to prevent escape of the fish and is eager to move ahead.

## **Freshwater Fisheries - Stocking and Population Management**

**Rainbow Trout** - Concluded the spring trout stocking season by assisting Albert Powell Hatchery personnel with stocking of rainbow and golden rainbow trout into statewide waters.

**Rainbow Trout Juvenile** - Stocked 40,000 juvenile rainbow trout into mainstem sections of Antietam Creek (Washington County). These hatchery-raised juvenile trout are part of the put-and-grow program in which juveniles are stocked into streams that have appropriate environmental conditions to allow their natural growth to adult size.

**Striped Bass Fry** - Approximately one million striped bass fry were stocked into Triadelphia Reservoir (Howard and Montgomery counties) to support a very popular landlocked striped bass fishery in central Maryland. Wild-caught brood were used to produce fry at the department's Joseph Manning Hatchery.

**Walleye Fry** - Savage River Reservoir was stocked on May 5 with 50,000 walleye fry provided by Joseph Manning Hatchery.

Juvenile walleye raised at Joseph Manning Hatchery were transported and stocked into the Susquehanna River.



*Walleye juveniles at stocking location on Susquehanna River*

Approximately 40,000 walleye fry produced at Joseph Manning Hatchery from Potomac River brood were stocked into the Potomac River to supplement natural reproduction.

**Channel Catfish** - Assisted Unicorn Hatchery staff with pond seining and loading the transport truck for stocking of adult channel catfish. Unicorn staff stocked 962 fish in 11 impoundments.

**Stocking Permits** - Applications requesting approval for stocking waters in the state of Maryland were submitted. Each application was reviewed for location, confirmation that only species that are approved to be stocked in Maryland waters were listed, and to ensure the supplier of the fish is on the approved 2021 State Suppliers List.

A total of 51 stocking permits were submitted and approved in April/May.

## **Freshwater Fisheries - Outreach**

Provided customer service information for inquiries regarding:

- Tips for fishing Deep Creek Lake.
- Fishing tips for yellow perch and walleye
- Guidance and questions on trout stocking.
- Brook and brown trout fishing in Garrett County
- Potential hellbender sighting in a tributary to Little Morgan Run
- Northern snakehead sightings in the Homelands Community Ponds (Baltimore City)
- Brown trout caught by a smallmouth angler in the Middle Patuxent River

**Angler Survey** - Conducted angler interviews on the North Branch Potomac River as part of a new angler preference survey. Information from this survey will be compiled to provide data on angling pressure, user groups, economic value of the river, and to provide data for possible future management decisions pertaining to the river.

**Savage River Reservoir** - Provided information on Savage River Reservoir as part of a cooperative effort to make brochures for the State Lakes Protection and Restoration Fund. Brochures will give the public a better understanding of the importance of these lakes and the benefit of current projects.

**Youth Fishing** - Spoke with members of Howard County Dads, a local non-profit, about introducing young and novice anglers to fishing. The focus was on targeting sunfish and keeping kids engaged. Topics discussed included appropriate tackle, baits, locations, and times of the day.

**Master Naturalist** - Provided an Aquatic Ecosystems/Freshwater Fish class for the Maryland Master Naturalist Program in Calvert County. The class was instructed on the different aquatic ecosystems in Maryland, threats to stream ecosystems and the importance of riparian buffers for protection of aquatic resources. A presentation on the fishes of Maryland with focus on fish found in their region was provided. Participants were able to practice identifying different fish species from most of the 23 families of freshwater fishes found in Maryland.

## **Freshwater Fisheries - Angler Access**

Staff continues to monitor and maintain the Evitts Creek, Black Oak, McCoolle, Jackson/Beaver Creek, Brownville Pond, Urbana, and Brunswick Pond fishery management areas.

## **Freshwater Fisheries - Invasive Species**

**Blue Catfish** - Continued monitoring movements of invasive blue catfish from the oligo- and meso-haline portions of the tidal Patuxent River (Anne Arundel, Calvert, Charles, Prince George's counties) as part of a collaborative project with U.S. Geological Survey, Eastern Ecological Science Center. During May 2021, an additional 39 fish were implanted with internal radio acoustic tags. Movements of the fish will be monitored via active and passive tracking through June 2021 to determine potential spawning locations and identify patterns of habitat use.

Staff analyzed tracking data to determine overwintering habitats of blue catfish in Patuxent River as part of an ongoing effort to learn more about habitat preferences. Locations near Jug Bay were particularly important overwintering habitats for blue catfish.

**Invasive Species Removal** - The removal of invasive fish captured in the west fish lift of Conowingo Dam continued. Fish numbers have required several transport trips a week. The flathead catfish have primarily been utilized for a cooperative, watershed-wide study being completed by the department, Pennsylvania Fish and Boat Commission, and Penn State University. However, some were taken to the Cooperative Oxford Laboratory for wild fish health assessment, and some to Maryland Department of Environment for contamination studies. Northern snakeheads are taken to J.J. McDonnell, a cooperating seafood processor, for processing and donation to the Maryland Food Bank and the United Way.

**Northern Snakehead** - Staff dissected over 60 northern snakeheads captured during fish lift operations at Conowingo Reservoir. These fish were dissected to examine aspects of reproduction, diet, and growth.

## **Freshwater Fisheries - Brook Trout Program**

Staff has been analyzing Maryland Biological Stream Survey data and brook trout, aquatic insect, habitat, and land use data in an effort to model brook trout distribution and occupancy in Maryland. This work will help inform brook trout reintroduction and restoration efforts.

Responded to a request from Dr. Ray Morgan for potential collaboration in the Susquehanna River watershed regarding effective brook trout population sizes. This work has the potential to fill data gaps identified in the recent Maryland brook trout patch assessment.

Provided comments to the Chesapeake Bay Program, Brook Trout Action Team (BTAT) chair, Steve Faulkner (U.S. GeologiS), regarding brook trout losses in Maryland, causes for the losses, and whether losses could be reversed. This information may help to mold future BTAT goals.

Reviewed the top ranked brook trout grant proposals being funded by the Eastern Brook Trout Joint Venture during fiscal year 2022.

Compiled temperature and flow data for a State Wildlife Grant aimed at determining which tributaries to the upper Savage River mainstem provide the most cold water and are potential refugia during thermally stressful periods.

Worked with West Region I staff to ensure brook trout sampling plans can be completed during the upcoming 2021 field season, given fewer staff as a result of retirements.

Assisted Western Region I staff with a mark-recapture population estimate of largemouth and smallmouth bass in Broadford Lake as part of a game fish stock assessment.

Assisted Western Region I staff with a spring stock assessment of game fish in Deep Creek Lake. As part of this effort, otoliths were removed from various size classes of walleye to supplement the age data collected during spring walleye tournaments on the lake.

Provided feedback on the development of a standard operating procedure to use side scan sonar technology to characterize the habitat in freshwater lakes and streams.

## **Freshwater Fisheries - Tidal Bass Program**

**Reef Ball Habitat** - Surveyed artificial reefs at National Harbor (Smoots Bay). Reefs were installed in 2016 to replace submerged structures removed or diminished in the cove. Follow-up monitoring was conducted between 2017 and 2021. Fish species diversity was greater on reefs than another area of Smoots Bay, and reefs are used by several species often associated with submerged structure, such as largemouth bass and sunfish. Gizzard shad and alewife commonly occurred in the area without the reef. While population abundance of largemouth bass has not increased relative to years prior to reef installation, the freshwater reefs provide habitat for largemouth bass and are associated with greater fish diversity.

Attended a Fishing League Worldwide (FLW) tournament at Smallwood State Park (Potomac River) and recorded reports of two tagged fish caught by tournament anglers.

Worked with members of Maryland Department of the Environment and the angling community to examine causes of an outbreak of disease affecting largemouth bass on Gunpowder River and Middle River. The disease was caused by a common bacterium that successfully attacked physiologically stressed bass. A stressed immune system may be related to ecological factors, such as a combination of spawning stress and a growing abundance of northern snakeheads in the river ecosystems.