

Freshwater Fisheries Monthly Report – April 2019

Stock Assessment

Hoyes Run - Assisted the department's Maryland Biological Stream Survey with benthic macroinvertebrate collections in Hoyes Run to document baseline biological conditions in the stream. A water appropriation permit has been approved by the Maryland Department of the Environment, with monitoring conditions set that should provide biological and aquatic habitat protection for the stream.

Deep Creek Lake Northern Pike Population Study - Conducted a mark and recapture population estimate. This year a new series of tags were used as part of a mark-recapture effort with the objective of determining the total population size in the lake. This information can then be used to track the fishery and model potential regulations. A total of 89 northern pike were collected in two nights of electrofishing efforts at fifteen established stations. Deep Creek Lake's adult northern pike population was estimated at 485 fish, which equated to about eight northern pike per mile of shoreline. The northern pike measured between 10.1 and 42.3 inches.



Deep Creek Lake trophy northern pike, 2019.

Deep Creek Lake Walleye Population Study - Conducted the annual walleye abundance study in Deep Creek Lake. The adult walleye population remains at abundant levels with a catch per unit of effort of 185 walleye per hour of electrofishing. Most of the collected walleye were males in the 15 to 20 inch size class. The season opened on April 16, and regulations include a 15 inch minimum size and a five fish daily creel limit/10 fish possession limit. We also collected length, weight and catch rate data at the Annual Garrett Basser's Walleye Tournament held on

Deep Creek Lake. Thirty-four teams competed with a limit of five fish per team. A total of 103 walleye were checked in for a catch rate of three fish per team. Several walleye measured in at greater than 20 inches, and the lunker was a 26.4 inch fish weight 5.6 pounds.



Deep Creek Lake walleye, 2019.

Habitat and Water Quality

Environmental Review - Provided aquatic resource information and recommendations to the Environmental Review Program for projects including:

- Maryland Department of the Environment regarding the status of brook trout populations in an unnamed tributary to Jennings Run. An investigation into a logging operation that was not in compliance with the sediment and erosion control plan showed that there was some sediment input into the stream. Corrective actions were required.
- Maryland Department of the Environment regarding a Use I time of year waiver request for a rock slide stabilization project along the Chesapeake and Ohio Canal Path at the Paw Paw Tunnel. The rock slide posed a human safety hazard and this shallow area of the canal does not support robust warmwater gamefish populations. There is no division objection to granting the waiver.
- Scientific collection permit for University of Maryland Baltimore County for a rainbow darter research project in western Maryland.
- Nine environmental review projects in Baltimore and Carroll Counties.
- Waterway access evaluation on the Route 26 bridge over Liberty Reservoir.
- Stormwater management practices in Use III (coldwater) streams to protect coldwater habitat.
- Bank stabilization projects to construct stone revetments on Deep Creek Lake. Recommendations included protection of existing rock and wood cover and habitat improvement to mitigate loss of shoreline fish habitat.

- A mitigation bank concept plan in Baltimore County. The wetland/stream restoration and riparian buffer will benefit water quality and stream temperatures in the headwaters of a watershed that supports wild trout.
- Maryland Department of Environment, Dam Safety Division regarding an emergency breach of a small pond in Frederick County.
- Maryland Department of Environment Water Supply Program, Environmental Review Program and Washington Suburban Sanitary Commission Potomac Water Filtration Plant staff regarding intake screening and entrance velocity requirements. Existing infrastructure, turbidity, flood debris and aquatic vegetation pose significant challenges to intake screening.
- The replacement of a culvert on an unnamed tributary in the Crabtree Creek watershed in Garrett County to protect coldwater habitat.
- A Maryland Department of Transportation State Highway Administration project to replace the Route 39 bridge over the Youghiogheny River in Crellin. Stormwater from the roadway will be directed into subsurface retention facilities to improve water quality before entering the river. An improved parking area for anglers/boaters to access the Youghiogheny River will be provided at the site through the Waterway Access Bill (HB 797). Fishermen can float from Crellin to the Oakland, Route 88 Bridge. There is already public access and parking at the Route 88 bridge, a distance of about five river miles that would make a nice day-float.
- The replacement of a section of aging sewer line in Middletown.
- A Potomac Edison project to install a 24-inch culvert for new entrance road to an existing electrical substation in Frederick. The culvert will convey an intermittent stream in the Tuscarora watershed; no fishery impacts anticipated.
- A Columbia Gas project to replace a gas utility line using horizontal directional drilling (HDD) under Georges Creek, Allegany County. HDD permits utility replacement without disturbing the stream substrate or riparian vegetation.

Western Region Land Stewardship Committee - Deep Creek State Park Manager and the Regional Fisheries Manager worked together on a Memorandum of Understanding that defined duties to be performed by the respective agencies once the property along the Youghiogheny River in Crellin becomes part of the Youghiogheny River Natural Environmental Area. The Park Service will be responsible for any potential engineering and construction projects as well as property boundary marking, while Freshwater Fisheries Program will take the responsibility of routine land maintenance of the small parking area and soft launch area.

Eastern Region Land Stewardship Committee - Four property acquisition reviews were completed by Eastern Region staff. Most notable was a proposed conservation easement of a property on the upper section of Unicorn Lake. Maintaining the water quality in the watershed is key to conserving the fisheries in the lake and successful culture of fish at the Unicorn Lake Fish Hatchery.

Deep Creek Lake Hydro Station Water Appropriation Permit - Attended the stakeholder meeting regarding the renewal of the water appropriation permit for the Deep Creek Lake Hydro Station. The stakeholder groups involve fishing, lake recreation and whitewater interests. The power company has done an extremely good job at balancing lake levels to provide recreational opportunities for all stakeholder groups. However, a few new items regarding the permit conditions were discussed and evaluated thoroughly through the end of April. **Update:** Dr. Steve Schreiner of Versar, Inc. presented potential improvements to the temperature enhancement releases and the resulting influence on lake levels based on our requests for: 1) continued temperature enhancement releases into September; 2) increase flow trigger from 150 cubic feet per second to 200 cubic feet per second; and 3) change temperature enhancement releases that occur at 12:30 p.m. to an earlier time. The change in lake level in these proposed protocol changes would be an average of 0.6 inches annually and, under a worst case scenario, 1.7 inches based on our previous years of monitoring. The power company would achieve a greater compliance record if these measures are incorporated into the new water appropriations permit and the trout fishery would benefit by fewer temperature exceedances.

Cove Run Brook Trout Restoration Project - Students from Northern Garrett High School performed the annual bluebird box cleaning along the Cove Run riparian zone fencing. All the boxes were utilized last year and cleaning was necessary in order for the bluebirds to raise a new brood. The students then inspected the tree and native shrub plantings conducted by former classmates. Growth and survival of the vegetation was remarkable and now provides shading and bank stabilization in the restoration area.



Northern Garrett High School students cleaning bird boxes along Cove Run, note fully vegetated riparian zone in the background.

Savage River Clean Up Event - The Youghiogheny Chapter of Trout Unlimited teamed up with staff and Garrett College Natural Resource and Wildlife Technology students to conduct a litter clean up along the Savage River Trophy Trout Management Area. A sincere thank you goes out to these folks that gave a day to make fishing the river a more enjoyable experience.



The clean up crew on the Savage River Trophy Trout Management Area.

Stocking and Population Management

Trout - Assisted Hatchery personnel with the stocking of trout into lakes, ponds and streams for the spring trout stocking season. Approximately 127,000 adult trout (brown, golden and rainbow) were stocked throughout the state during the month of April.

Walleye - Stocked 135,000 surplus walleye fry into the Susquehanna River.

Largemouth Bass - Collected a limited number of adult largemouth bass from Mattawoman Creek, a tributary of the tidal freshwater Potomac River (Charles County), to be used as broodstock. The fish were transported to the department's Joseph Manning Hatchery (Charles County) and stocked in hatchery ponds. After a successful spawn, the adults will be returned to Mattawoman Creek. Their progeny will be raised at the hatchery and returned to the tidal freshwater Potomac River as fingerlings later in the year.

Issued forty-three pond stocking permits for private pond owners.

Outreach

Customer Service - Staff provided technical assistance to the following: four private pond owners regarding fish species and quantities to stock; an outdoor club wanting to obtain a stocking permit for a fishing rodeo; private landowner regarding debris dam in Evitts Creek; fish consumption informational request from water of Allegany County; walleye in lower Antietam

Creek; put-and-take trout stocking information for Pautzke Bait promotional video; and several fish identifications of catches by anglers.

Deep Creek Lake Bass Tournament - The first annual Deep Creek Lake Bass Tournament Directors Meeting was held at the Deep Creek Lake Discovery Center. Participants included members of bass fishing clubs, Deep Creek Lake State Park Manager, Deep Creek Lake Natural Resource Management Area Manager and biologists and Western I Freshwater Fisheries Manager and biologist. Agenda discussion items included findings from the launch stewardship program; hydrilla control efforts at Deep Creek Lake and Lake Habeeb; update on aquatic invasive species and the State Lakes Fund; tournament dates and procedures to keep fish healthy; and Deep Creek Lake fish habitat project. This was a very informative meeting for all parties and we plan to continue meeting each year.

Trout Unlimited - Western Region I Manager was the guest speaker at the Youghiogheny Chapter of Trout Unlimited meeting. Discussion topics included the Deep Creek Lake Hydro Electric Power Plant water appropriation permit renewal as well as the status of the Hoyes Run stream restoration project.

Central Region staff attended the Seneca Valley Trout Unlimited meeting in Germantown (Montgomery County) to discuss fisheries management in Little Seneca Creek.

Gunpowder Riparian Project - Staff met with Maryland Forest Service, Carroll County Soil Conservation District and a landowner to discuss possible planting of a riparian buffer on the upper Gunpowder River and a tributary. This project would provide a much needed forest buffer to occupied brook trout habitat in Carroll County.

Beaver Creek Stream Restoration - Staff gave an overview of the Beaver Creek stream restoration project in Washington County to a class from the U.S. Fish and Wildlife Service National Conservation Training Center. Class participants were taking part in a Rosgen Level I training being conducted by Dave Rosgen. Freshwater Fisheries provided information on the stream restoration work that had been conducted and the positive response shown to the trout fishery and biological community from improvements to stream habitat conditions.

Envirothon - Staff created and administered the aquatics test for the Frederick County and the Eastern Region Envirothon programs. The Envirothon is an environmental competition for high school students. Students are tested in aquatics, forestry, wildlife, soils and a new fifth issue each year. County winner will compete at the Maryland Envirothon in June, the winning team will then represent Maryland at the National Envirothon in Raleigh, North Carolina.



L-R: Students key fish as part of the aquatic test; Winners - Catoclin HS will represent Frederick County at the Maryland Envirothon in June.

Master Naturalist - Provided an aquatic ecosystems/freshwater fish class for the Maryland Master Naturalist Program in Prince George's County. The class was instructed on the different aquatic ecosystems in Maryland, the threats to the stream ecosystems and the importance of riparian buffers for protection of the resource. A Powerpoint presentation on the *Fishes of Maryland* was provided with focus on the fishes found in their region. Participants were then able to practice keying fish samples from most of the 23 families of freshwater fishes found in Maryland.

Lake Management - Attended the Mid-Atlantic States Lake Forum which was held at the Chesapeake Bay Foundation facility in Annapolis (Anne Arundel County). The forum was sponsored by the Mid-Atlantic Panel on Aquatic Invasive Species and consisted of presentations on various issues including harmful algal blooms, invasive plant control and stakeholder involvement in management decisions. The forum's timing was excellent given the new State Lakes Restoration Fund (SB501/HB801).

Invasive Species

Blue Catfish - Staff continued work determining seasonal food habits of invasive blue catfish within the tidal freshwater Patuxent River. During April, 54 fish ranging from 17 to 39 inches in length, and up to 38.3 pounds were dissected to determine diet. Food items found included: alewife, larval American eels, gizzard shad and large adult white perch. Additionally, otoliths were removed for later age-determination work.

Acoustic Telemetry - Staff met with the Smithsonian Environmental Research Center to learn more about acoustic telemetry systems and perform range tests in the tidal freshwater Patuxent

River (Prince George's County). Biologists are in the planning stages of a project that aims to determine spawning areas and movement of invasive blue catfish in the Patuxent River with active tracking via acoustic and/or radio telemetry.

Researched both acoustic and radio tags and their application on tracking blue catfish in the tidal Patuxent River. If the fish remain in the tributary, radio tags will work well (we have used them in the past in this part of the river). If they stay down near the mouth of the river or move into the bay, the acoustic tags are preferable. Since we want to track the fish over the spawning period (where they will be up in the freshwater portion of the river) AND during the winter (where they are more likely to be in the higher salinities), both types of tags are applicable to the project. Fortunately, through electronic innovation, there is a tag for that - it emits both a radio frequency ping and an acoustic ping as well. Always something exciting in the world of electronic tracking!

Invasive Catfish Task Force - Participated in the quarterly Invasive Catfish Task Force meeting led by Bruce Vogt of the National Oceanic and Atmospheric Administration (NOAA). This group, which has been working together since 2012, includes state, federal, educational and numerous conservation representatives from the mid-Atlantic region. The team was tasked with compiling data and research on blue catfish with the intent to formulate a cohesive message regarding the impact that these fish may have on the aquatic resources and possible steps that could be taken towards managing both blue and flathead catfish in tidal waters. While many people on the team understand the negative impact these large fish may have on resident aquatic resources, how to manage the species and public messaging is still being discussed. The current focus of the task force is to act as a clearinghouse for data and information regarding ongoing projects and research and to provide information updates and current distribution of blue and flathead catfish in the Chesapeake Bay Region.

Funding - Requested additional funding and outlined research projects that aim to better manage blue catfish populations in the state.

Blackwater River - Worked with U.S. Fish and Wildlife Service to survey Blackwater River as part of a project to examine impacts of northern snakehead on fish communities.

Angler Access

Fishery Management Area Maintenance - Removed downed tree at the McCoolle Fisheries Management Area that provides access to the North Branch Potomac River.

Site improvement work continues at the Jackson Fishery Management Area on Beaver Creek in Washington County. The two structures on the property were recently removed and a new gravel parking area installed for use by anglers. The parking lot has space for four vehicles. The

adjoining section of Beaver Creek supports a healthy brown trout population and has a catch-and-return, artificial fly only regulation. The property is being planted with native trees and shrubs for aesthetic appeal and to improve the riparian/wildlife habitat. Plants provided by the Chesapeake Bay Foundation are being planted by volunteers from the Beaver Creek Watershed Association, Antietam - Conococheague Watershed Alliance and the Seneca Valley Chapter of Trout Unlimited. Freshwater Fisheries Program and individuals from the State's Attorney's Office of Washington County Alternative Sanctions Program have assisted in the planting efforts.



New angler parking lot at Jackson Fishery Management Area in Washington County.



Native trees and shrubs provided by Chesapeake Bay Foundation ready for planting.

Brook Trout Program

Completed the final reports for the State Wildlife grant funded project *“Investigation of Gill Lice Presence and Distribution in Statewide Brook Trout Populations and Refinement of the Genetic Relationship of Upper Savage River Mainstem Fluvial Brook Trout to the Overall Population”*. For the gill lice component of this project, we examined almost 5,000 brook trout from 2016-2018, and fortunately no gill lice were found. Concern about this parasite has increased as it has been found outside of its more northern native range, first in North Carolina and more recently in our neighboring states of Pennsylvania and West Virginia. We are recommending that all brook trout collected are checked moving forward, and that we annually check brook trout populations in shared watersheds with those states that have reported gill lice presence.

The genetic component of this work focused on completing a genetic inventory of upper Savage River (Garrett County) tributary brook trout populations. The results further confirmed the positive impact that occurs genetically, and from a resource perspective, from having a fully connected mainstem and tributary system. Data were also combined with regional genetic research to further examine genetic relationships of brook trout within and among the states. The results of these analyses are being completed and two manuscripts describing this work will be submitted for publication in peer reviewed scientific journals. Hatchery raised brook trout were stocked on occasion in Maryland streams since the late 1800’s up until 1987. The results of this study found that Maryland’s native brook trout stocks do not show any sign of introgression with these hatchery stocked fish; their genetic makeup remains pure. This is an important finding for the long-term conservation of our native stocks.

Checked water quality and physical habitat in the lower three miles of Coleman’s Run in Garrett County, a tributary to the Lower Savage River. The stream is currently fishless, having suffered from low pH levels historically. Current pH levels are improved and invertebrates are present. Staff will continue investigations in the upper half of the stream, and will discuss the potential of reintroducing brook trout. The vast majority of the stream length falls within the Savage River State Forest.

Approximately 40 papers have been submitted for inclusion at the upcoming East Coast Trout Management and Culture meeting June 10-12, at Frostburg State University. Many of the presentations will deal directly with fishery management and regulation topics and will be of great interest to both anglers and fisheries professionals. We are encouraging interested anglers and the general public to attend the meeting, registration information is online at <https://forms.frostburg.edu/98>.

Submitted a research proposal entitled *“Investigation of the Utility of eDNA for Detecting Brook Trout Presence in Maryland Streams”* for funding consideration through the State Wildlife Grant Program. Researchers at the University of Maryland’s Appalachian Laboratory in Frostburg are partners for this proposal. This is the fifteenth brook trout research proposal submitted by the Brook Trout Program to the grant program since 2007.

Completed a draft catch-and-release sign for statewide use advocating for anglers to voluntarily release the brook trout they catch to further conserve our brook trout resource. Plans are to post this sign statewide at brook trout fishing areas to encourage anglers to participate, and to direct anglers to our Brook Trout Program webpage to further educate and share brook trout management and conservation information.

Attended a meeting with the Garrett County Roads Division at the request of Trout Unlimited to discuss culvert replacements and fish passage. Specifically, a project on Bear Pen Run in the Savage River watershed was discussed. The proposal would include the replacement of an undersized and failing culvert near the mouth of the stream and replacement with one that will facilitate passage of migratory brook trout. A field visit is scheduled for later this spring.

Staff began investigation of a stream in Allegany County near the city of Frostburg as a potential candidate for brook trout reintroduction, and which if successful would reconnect the mainstem population with this tributary stream. Initial site visits found that good physical habitat exists - further work will look into water quality and land ownership issues.

Tidal Bass Program

Began a project to sample the fish community at and around the freshwater artificial reef site located in Smoots Bay, a cove at National Harbor (Prince George's County). Several years ago, the reef project was completed as a cooperative effort with the department, National Harbor, the Chesapeake Bay Program, the Maryland Artificial Reef Initiative and other partners to augment a loss of natural habitat in the area. The current Smoots Bay reefs project is part of a long-term monitoring plan to evaluate their effectiveness.

Participated in a webinar with black bass tournament directors to discuss fisheries in the state, concerns with weigh-in stations and an upcoming survey to measure economic impacts of black bass tournaments in the state.

Attended the American Bass Anglers Ram Open Series bass tournament on the upper Chesapeake Bay (Harford County). Nearly 150 anglers competed in the event, and weighed in a total of 901.39 pounds of largemouth and smallmouth bass. The tournament lunker was 7.52 pounds and the winning angler had a five fish limit of 22.82 pounds. Immediate survival of fish was 99 percent.

Attended the Black Bass Advisory Subcommittee meeting in Annapolis. Beyond holding annual elections, Dr. Joseph Love provided an update on the state of tidal black bass in Maryland, focusing primarily on the Potomac River and the Upper Bay. Also introduced a study that will document the effects of dragging a haul seine over areas that are known to hold submerged aquatic vegetation. The popular form of fish capture used by some commercial watermen will be

duplicated and the effects (if any) will be documented and presented to a variety of audiences when the study is finalized.

Other

Positively identified a fallfish for certification as the new Maryland State record. The fallfish weighed 2.07 pounds. Adam Aghion of Pikesville caught this impressive fallfish March 20 on the Maryland side of the upper Potomac River, using a drop shot rig with a #12 hook.

