Freshwater Fisheries Monthly Report – July 2020

Stock Assessment

Brook Trout Surveys - Assisted a Trout Unlimited (TU) biologist in conducting brook trout population surveys in the headwaters of two tributaries to the Savage River: Maple Lick, and Mud Lick. A post-restoration survey in the north fork of Crabtree Creek, also in the Savage River watershed, was also completed The monitoring efforts were conducted to assess existing conditions within the stream prior to riparian restoration efforts. In 2019, TU received grant funding from the department's Chesapeake and Atlantic Coastal Bays Trust Fund, the U.S. Fish and Wildlife Service, and the National Fish and Wildlife Foundation's Chesapeake Bay Program to install two miles of livestock exclusion fence and restore 4.2 miles of riparian area along Garrett, Allegany and Washington county trout streams. The projects on Mud Lick and Maple Lick will ultimately limit livestock access to a half mile of stream through the installation of just under a mile of fencing. In addition, TU alongside volunteers will plant 900 trees on roughly two acres of riparian area. Once completed, the efforts will serve to reduce harmful sediment inputs that smother important spawning and feeding habitat for Eastern brook trout.

Recently completed livestock exclusion fencing project along Maple Lick. Riparian tree plantings are planned for this fall. Photo by A. Klotz.

Youghiogheny River Trout Survey - The Federal Aid in Sportfish Restoration report for the Youghiogheny River trout population survey in fiscal year 2020 was completed. The Hoyes station contained an estimated combined trout species density of 643 trout per kilometer, a standing crop of 32 kilograms per hectare, and an estimated density of 209 quality size (≥ 305 millimeters) trout per kilometer. Sampling efforts at the Sang Run station were cancelled due to extreme low flows and hot air temperatures during the scheduled sampling date. The special trout management area was stocked with 69,200 juvenile brown and rainbow trout during FY20.

Beaver Creek Trout Survey - Annual trout surveys have started on Beaver Creek in Washington County. This spring-fed stream supports a very healthy and popular wild brown trout fishery. Monitoring surveys in the put-and-take section showed very good numbers of adults and young-of-year (YOY) fish. The largest brown trout collected measured 18 inches. Additional surveys in the catch-and-release section will be conducted in August.

Adult brown trout from Beaver Creek

Cecil County Trout Surveys - Completed stream electrofishing surveys of two Cecil County streams this month. Rock Run, a direct tributary to the Susquehanna River, continues to support a wild brown trout population. Multiple size and year classes of trout were collected. A previously unsampled tributary of Principio Creek was sampled and contained an abundance of cool and coldwater fishes, but no trout were encountered.

Adult brown trout collected from Rock Run in Cecil County.

Impoundment Seining Surveys - Conducted the annual young of year (YOY) largemouth bass and smallmouth bass reproduction survey on Deep Creek Lake. Twenty established 30.5 meter seining stations were surveyed. Largemouth bass were collected at an average rate of 5.4 YOY per 30.5 meters of shoreline which is considered excellent reproductive success. Smallmouth bass were collected at an average rate of 0.3 YOY per 30.5 meters of shoreline which is considered poor reproductive success. Staff also conducted a largemouth bass reproduction survey on Lake Habeeb. Staff also surveyed 10 established 30.5-meter seining stations.

Largemouth bass were collected at an average rate of 3.1 YOY per 30.5 meters of shoreline which is considered good reproductive success.

River Seining Surveys - Juvenile smallmouth bass seining surveys have been underway on the upper Potomac and Monocacy rivers. Monitoring surveys are conducted every summer to check for natural reproduction and judge relative strength of each year's juvenile numbers. A 30 foot shoreline seine is used for sampling at fixed stations along the length of both rivers. For the upper Potomac River juvenile numbers looked good with an average seine index score of 1.1 fish/seine haul. This is slightly higher than the long-term median score of 1.0 fish/seine haul. Juvenile recruitment also looked good for the Monocacy River with a seine index score of 1.6 fish/seine haul compared to the long-term median of 1.5 fish/seine haul. This year's successful spawning combined with the supplemental stocking of hatchery raised smallmouth bass should help raise adult numbers for the next few years.

Shoreline seining at station on the upper Potomac River; juvenile smallmouth bass

Susquehanna River Smallmouth Bass - Sections of the Susquehanna River in Pennsylvania have been experiencing high rates of disease in young smallmouth bass this year. Eastern Region staff attempted to collect juvenile smallmouth bass in the Susquehanna River below Conowingo Dam to examine for external signs of disease. A limited number of juvenile bass were collected due to their ability to evade the electrofishing gear. Only one that was collected showed an external lesion.

Healthy juvenile smallmouth bass collected from the Susquehanna River.

Habitat and Water Quality

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

- A culvert replacement on a tributary to the Savage River at a residence along Savage River Road. A collapsing culvert underneath the driveway of the residence is to be replaced for functionality and safety reasons. Recommendations were given for Use III-P stream to ensure the construction has no negative impacts on the stream, the existing drainage and hydrology is not changed, and mitigation after construction is completed.
- Two culvert replacements from applications submitted by MD State Highway Administration on MD 495. The two collapsing culverts being replaced are on small Use III-P tributaries to Monroe Run, which supports a robust brook trout population. Recommendations included timing of construction, minimal equipment disturbance, and mitigation after the replacement to ensure no negative impacts to the headwater tributaries or Monroe Run.
- Reviewed and commented on an application submitted by Maryland Department of the Environment (MDE) Bureau of Mines for a culvert cleaning project in the Jennings Run watershed. This culvert had years of debris built up and is now a safety concern. Recommendations were specified for minimal disturbance to the tributary, proper pump-around procedures during the dewatering phase, and mitigation at the completion of the project.
- Comments were prepared for an application to install three temporary bridges for a timber harvest located off Oakland Sang Run Road. Recommendations were specified on guidelines for bridge installation and mitigation after removal.
- Commented on potential emergency pond draining impacts to trout populations in Aspen Run, Carroll County.
- The demolition of an obsolete water treatment plant at Greenbrier State Park in the headwaters of Little Beaver Creek.
- Comments were provided to the Environmental Review Program regarding a National Park Service project to repair sections of damaged Chesapeake and Ohio Canal towpath adjacent to the Potomac River. Recommendations to preserve shoreline habitat and reduce the possibility of trapping fish during flood events were submitted.

Land Stewardship Committee

- Worked with Program Open Space (POS) and Wildlife and Heritage Service towards the purchase of a 39-acre property along 1,500 feet of the Youghiogheny River near Millers Run. The landowner has agreed to sell the property to the department and this parcel will become part of the Mount Nebo Wildlife Management Area.
- Continued working with Program Open Space and Forest Service staff on a potential acquisition along the upper Savage River and Elk Lick.
- Provided supportive comments for a potential acquisition of a 329.7-acre parcel of property as an addition to Dan's Mountain Wildlife Management Area (WMA) in Allegany County. This WMA is a popular and important piece of public land for both recreation and resource conservation. Portions of the property border Dry Run, a tributary to the North Branch Potomac River. Dry Run enters the North Branch Potomac River within the zero creel limit trout fishing area, one of Maryland's top trout fishing destinations. The Freshwater Fisheries Program supports this acquisition as it will provide for long term water quality protection in the watershed.

- Provided supportive comments for a conservation easement on 95 acres in the headwater area of the North Branch Casselman River. An unnamed tributary to the North Branch of the Casselman River just downstream of the property supports a reproducing brook trout population The Maryland State Wildlife Plan designates brook trout as a species of greatest conservation need. The Freshwater Fisheries Program supports a conservation easement on this property as it will provide for long term water quality protection in the Casselman River watershed. The department's 2006 Brook Trout Fishery Management Plan identifies the importance of increasing conservation easements to protect aquatic habitat in watersheds that support brook trout populations.

State Lake Fund Projects

- Reviewed Herrington Lake herbicide treatment plans. A recommendation was made not to use a copper-based herbicide in the lake as this chemical can be toxic to aquatic life in low alkalinity systems.
- Initiated a new proposal to install reef ball fish habitat structures in Lake Habeeb. Western Region staff have been in contact with the Rocky Gap State Park manager, and they are working together to pick ideal locations for the placement of the reef balls to provide the most benefit to the lake's anglers.

Trout Unlimited's Hoyes Run Embrace A Stream Project - Representatives of the Maryland Department of Natural Resources, Garrett College's Natural Resources and Wildlife Technology program, and the Youghiogheny Chapter of Trout Unlimited presented a custom made brook trout sign for the Savage Farm Springhouse to Billy and Adelaide Savage in celebration of completion of the major environmental habitat restoration project on the property. The Savage Spring contributes approximately half the flow to the upper end of Hoyes Run which is one of the highest quality trout streams in Maryland. The work consisted of stream fencing, a hardened crossing and alternate water sources for livestock. The project was designed to exclude livestock from the stream thereby reducing sediment, improving channel characteristics and increasing shading. Surveys conducted by the department indicate that improvements have already occurred based on an increased trout population on the property. The Youghiogheny Chapter of TU would like to thank all the partners who participated in this successful project: the Savage Family, Maryland Department of Natural Resources, Garrett College, Trout Unlimited, National Capital Chapter of TU, Youghiogheny River Watershed Association, National Resource Conservation Service, Habitat Forever, LLC who did the fencing, Backyard Buffer Program for providing trees, Tess Nichols who completed a water quality assessment report, Jenny Wampler who crafted the spring house sign, and all those who provided donations.

Dedication ceremony for the Trout Unlimited's Hoyes Run Embrace A Stream Project representatives Alan Klotz - Fishing and Boating Services, Tess Nichols – Garrett College Natural Resource and Wildlife Technology Program, Adelaide and Billy Savage – landowners, and Ken Pavol – President of Youghiogheny Chapter of Trout Unlimited (Photo and article submitted by Sull McCartney).

South Branch Bear Creek Fish Passage Project - Continued to communicate with the U.S. Fish and Wildlife Service on progress of this project to remove two large collapsed culverts and replace with a single span bridge which would allow for fish passage. The U.S. Fish and Wildlife engineer expects to complete the final plan this month and send it to MDE for approval. Once approved, the bridge manufacturer estimates four weeks to completion.

Reef Ball Habitat - Conducted electrofishing transects at the National Harbor Reef Ball project site (Potomac River, Prince George's County) to determine efficacy of reef balls to attract fish or provide habitat. This is the third season of sampling transects. Recording video of the reef balls was attempted, but poor water clarity resulted in limited success.

Stream Restorations Projects - Central Region staff assisted Western Region II by visiting a stream restoration site on Bens Branch in Frederick County to assess the completed project. Visited a potential stream restoration/tree planting site in the Big Pipe Creek watershed with Trout Unlimited, Town of Manchester, Maryland Forest Service, and Carroll County Bureau of Resource Management.

Participated in a temperature total maximum daily load workgroup with Maryland Department of the Environment and partners.

Stocking and Population Management

Trout - The North Branch Potomac River zero creel limit trout fishing area was stocked with 21,000 cutthroat trout juvenile (147/pound) on July 2. These fish were reared at the Albert Powell Hatchery.

Striped Bass - Juvenile striped bass (average size 3 inches) produced at the Joseph Manning Hatchery were stocked by hatchery staff in Garrett County impoundments on July 16. Piney Reservoir and Broadford Lake were each stocked with 2,000 juveniles. This stocking program has led to unique fishing opportunities in these high mountain lakes.

Smallmouth Bass - Stocked 30,000 juvenile smallmouth bass in the Potomac River from Taylors Landing downstream to Edwards Ferry. Freshwater staff collected adult smallmouth bass from the Potomac in April to serve as hatchery brood. Over the last four months, staff at the Joseph Manning Hatchery spawned the bass in ponds with artificial nesting structures and reared the fry in fertilized ponds. An additional 5,000 juvenile smallmouth bass were generously provided by the West Virginia Division of Natural Resources, Warmwater Hatchery Program for the upper Potomac River. Once growth had been maximized in the ponds, the bass were transferred to indoor circular tanks where they were trained to feed on an artificial diet to accelerate growth to a stockable size of two to three inches. The final step was transporting these fish to the Potomac River. Several consecutive years of high river flows during the spring have reduced spawning success causing lower catch rates for anglers. The hatchery fish will supplement natural reproduction, accelerating the recovery of the fishery and improving fishing.

Hatchery produced juvenile smallmouth bass being transported and stocked in the upper Potomac River

Stocking Permits - Four stocking permits were issued in July.

Fish Health

Fish Kill - Lake Habeeb experienced a fish kill on July 19-20, 2020. Several fish (multiple species) were removed from the beach areas and Park Service staff reported observing dead fish all along the perimeter of the lake. Maryland Department of the Environment's Fish Kill Investigation staff were notified and they began investigation on the afternoon of July 20. Results are pending but extreme hot conditions during the post-spawn period may have led to the mortalities.

Dead fish collected from Lake Habeeb on July 20, 2020 included adult sunfish, bullheads, and a largemouth bass Photo courtesy of Maryland Park Service.

Monocacy River - Responded to a fish kill report from a Natural Resources Police officer at Riverside Park near Frederick. Fisheries staff investigated and found multiple dead species and size classes. Further assessment up and downstream of Riverside Park indicated the kill was localized. The kill was reported shortly after several thunderstorms came through the area and may be attributed to a lightning strike.

Dead fish lay along the bank of the Monocacy River near Frederick; dead adult bluegill.

Mercury Study - Young of year largemouth bass were collected from Piney Reservoir, Deep Creek Lake, and Savage Reservoir as part of the University of Maryland's Center for Environmental Science long-term mercury accumulation in fish study. Surveyors collected largemouth bass from each lake.

Outreach

Customer Service - Provided information for inquiries regarding:

- North Branch Potomac River zero creel limit trout fishing regulations.
- Access to the Youghiogheny River downstream of Swallow Falls.
- Boat inspections for aquatic invasive species at Deep Creek Lake State Park.
- Trout stocking in the Youghiogheny River catch and return trout fishing area.
- Complaint regarding rope swing along Deep Creek Lake – turned inquiry over to Park Service for their action.
- Tips for fishing Deep Creek Lake.
- License requirements for non-resident anglers.
- Age requirements and having to possess a fishing license.
- Bow fishing regulations for different water bodies in Garrett County.
- NRP need for information on regulations regarding dip net size.
- Constituent questions about northern snakehead fishing locations in Howard County and trout fishing opportunities near Germantown, Montgomery County.
- Identification to confirm an esocid caught in Triadelphia Reservoir was a large tiger muskie.
- Summer trout fishing opportunities in Frederick and Montgomery counties.
- Identification of tiger trout caught in Wills Creek, Allegany County.
- Shoreline fishing opportunities for blue catfish.
- Mortality of muskellunge due to angling and heat related stress.
- Nontidal Potomac River smallmouth bass supplemental stocking efforts.

Angler Access

Fishery Management Area Maintenance – Continued conducting maintenance work at the fishery management areas (FMAs) to provide angler access. Gary A. Yoder, McCoole, and Evitts Creek Ponds FMAs continue to be mowed and cleared of trash to make these areas presentable for anglers and recreational boaters. Staff did a site visit to Evitts Creek Ponds after water levels were reported to be lower than usual. It was determined that there was restricted flow in the inlet pipe in an area where the pipe was reduced. To restore flow, staff gathered proper materials and then replaced the reduced section of pipe with one of proper size.

Invasive Species

Worked with University of Maryland to help develop outreach aimed at showcasing the health benefits of eating blue catfish.

Developed a risk assessment for Alabama Bass, a species introduced to parts of Virginia. If introduced in Maryland, the species will threaten existing black bass fisheries, as they have been documented in southern states to hybridize and outcompete smallmouth and largemouth bass.

Completed a draft catfish fishery management plan, which is currently being reviewed internally by senior leadership.

Sequencing kits were delivered to U.S.Geological Survey staff partnering with the department on an eDNA monitoring project for the state; eDNA kits should soon be available for staff interested in surveying waters for select invasive species.

Participated in the department's weekly google hangout webshow to discuss the snakehead fishery.

Continued work examining stomachs of invasive blue catfish from the tidal, freshwater Patuxent River as part of a seasonal diet study (Anne Arundel, Calvert, Charles, and Prince George's counties).

Biologists are in the process of finalizing permissions with landowners to install radio receiver stations along the upper tidal Patuxent River. The stations will be used for an upcoming tagging and tracking project of blue catfish in the Patuxent. The goals of the project are to determine overwintering and spawning habitats and determine factors that influence fish distribution.

Brook Trout Program

Focused this month on conducting brook trout population sampling field work. So far reproduction has been excellent, and large numbers of yearling brook trout from last year's record hatch have been collected. This work will continue through August.

Cooperated with U.S. Fish and Wildlife Service and Trout Unlimited with joint brook trout restoration projects on Wolfden Run and Sand Spring Run by conducting brook trout population assessments.

Assisted Garrett County workers in relocating the Lower Savage River water temperature gauge receiver and transmitter to the new electrical housing that was constructed.

Tidal Bass Program

Attended various black bass tournaments to monitor water quality and weigh-in activities and to ensure guidelines for social distancing and public safety were followed.

Developed a new conservation webpage for the Tidal Black Bass Program; a draft page was created and is currently being edited. The new webpage will showcase existing and new content.

Began examining otoliths from largemouth bass to determine the proportion of tournament mortalities that originated from hatchery releases; this work will explore the contributions of hatchery stocking efforts to fishery enhancement.

Entered the most recent monitoring data of the artificial reef at Smoots Bay. Briefly analyzed the four years of data for patterns. Preliminary data indicate structure oriented species are aggregating near reefs but largemouth bass has not shown any increase in abundance in Smoots Bay.

Web-hosted the Black Bass Advisory Subcommittee meeting that included committee members, department staff, and the general public. Topics discussed included Alabama bass, a potential

artificial reef project in Potomac River, and minimizing handling stress during summertime bass tournaments.

Participated in several conversations with other units and stakeholders regarding the speed limits at Days Cove flats. At a future Boat Act Advisory Committee Meeting, stakeholders will present a strategy that establishes a compromise between boaters who need to reach planing speed and kayakers who have safety concerns.

Responded to an angler who caught a tagged largemouth bass in the upper Mattawoman Creek (Potomac River, Charles County). The lucky angler was sent a certificate, letter, and lapel pin prize. The fish was tagged May 10, 2017.