

*Inland Fisheries Division Activities Report – March 2016*

**Stock Assessment**

**Deep Creek Lake** - Prepared and implemented northern pike spring sampling protocols in Deep Creek Lake to obtain life history information. We sampled 14 stations and collected 16 northern pike, ranging in size from 228 mm (9 inches) to 1080 mm (42.5 inches). Abundance, age, length, weight, gender, and maturity data were obtained and will aid in future management goals. Scales and the left pelvic fin rays were collected in order to age the fish and provide a secondary mark to the standard dart tags inserted along the dorsal fin. A photo of the urogenital opening was also taken in order to be able to determine sex via visual assessment.



*The Inland Fisheries Northern Pike Research Team in action!*

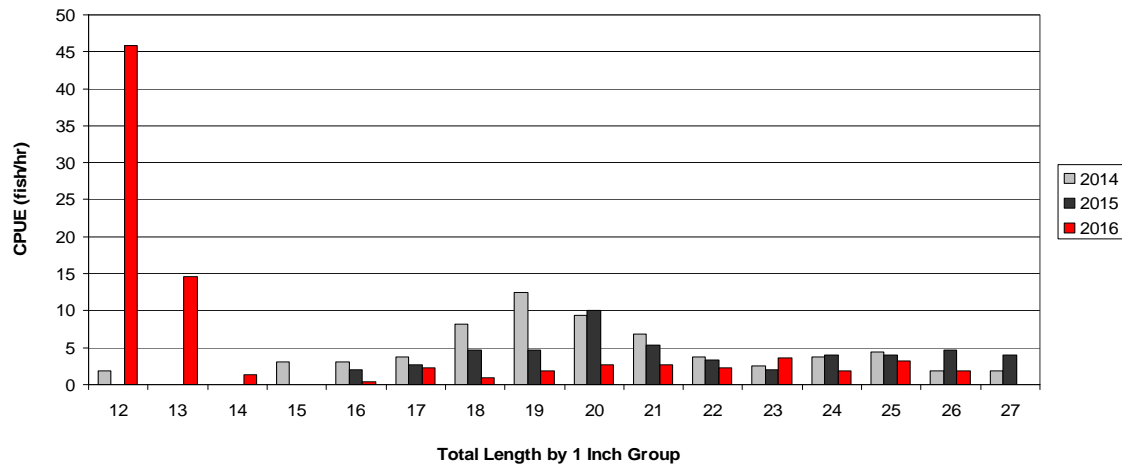


*(L) -Weighing a large northern pike collected during March 2016 survey work on Deep Creek Lake. (R) - Sex differentiation for northern pike by urogenital opening characteristics.*

**Potomac River Muskellunge** - As part of an ongoing tagging study, Potomac River muskellunge were collected during spring electrofishing samples. These seasonal surveys provide a unique opportunity to collect larger samples of musky using electrofishing gear. From 1997 to date, 786 musky have been marked using Dart tags inserted just below the leading edge of the dorsal fin, anchoring into the interneural bones. These data provide the department with movement habits, growth data, and reports of harvest for this unique and increasingly popular fishery. All fish collected during electrofishing surveys are either tagged or recorded as recaptures. Scales and pelvic fin rays are removed, processed, and aged to supplement the length at age key, thus providing a more accurate catch curve to better estimate mortality.

**Potomac River Walleye** – These are a popular sport fish that provides year round recreational fishing opportunities and also serve as a source of brood stock for Manning Hatchery. Staff collected brood fish and size structure assessments for walleye from the Washington County portion of the Potomac River during annual spring electrofishing surveys. Poor recruitment has been documented for Potomac River walleye over the past decade; therefore, stocking was resumed in 2012 to supplement natural reproduction. Despite stocking efforts, recruitment has been susceptible to spring floods which are evident in the current population. Sampling results were dominated by larger females and 10-12” fish, which are the contribution of the 2015 yearclass. The 2015 yearclass, which was comprised of  $\geq 50\%$  hatchery fish, was considered to be one of the stronger hatches in the history of this population. Stocking will continue in 2016 in order to maintain/enhance this economically valuable and important recreational fishery.

**Walleye Length Frequency**  
Potomac River, Spring 2014, 2015, and 2016



**Jabez Branch** - Conducted a brook trout fry count in the Right Fork of Jabez Branch on March 16. Fifteen brook trout fry were counted in the Right Fork. The fry were active and very mobile suggesting the relatively mild winter led to an early hatch. Five redds were observed in the Right Fork and zero in the Left Fork in November, 2015.

## **Habitat and Water Quality**

**Environmental Review** - Provided comments to the Environmental Review Unit (ERU), Maryland Department of Environment (MDE), Integrated Policy and Review Unit (IPR) or other agencies regarding:

- To MDE Water Resource Administration regarding a proposal for a private business to install an air conditioning cooling unit in Evitt's Creek in Cumberland. Complete details of the plan were not yet available, however stream temperatures obtained in the watershed by MBSS were provided to MDE. Comments were made that this project should not alter stream temperatures or impact stream habitat. MDE will follow-up when project plans are available.
- Provided comments to IPR/SHA addressing the application for a time-of-year restriction waiver for construction of the new "Dover Bridge" (MD Rt. 331) over the Choptank River. Overall, Fisheries declined the waiver for instream work based on the project's potential impacts to striped bass reproduction which occurs in that reach of the Choptank River.
- Site visit to a proposed State Highway Administration project that could adversely impact Tinkers Run, a tributary to Piscataway Creek and, eventually the Potomac River. The projects ultimate goal is to reduce sedimentation into Tinkers Run. Comments were provided to reduce impacts to spawning fish and insure proper erosion controls are put in place during construction.
- Reviewed and commented on an Eagle Scout project proposed for St. Mary's Lake which would increase much needed fish habitat in the lake. The proposal calls for the construction of three "Bio Islands" from recycled materials which will then be planted with native emergent plants. Departmental comments included preferred method of anchoring the material and changes in placement of the islands. Inland Fisheries will monitor fish use of these structures during scheduled sampling of St. Mary's Lake in 2016.

**Muddy Creek Liming** - Worked with Garrett College students to flush lime into Muddy Creek to improve water quality prior to trout stocking. The limestone pile was frozen like a 20 ton block of concrete due to the severe winter, so we pumped stream water onto the pile to thaw it out to increase the alkalinity in the stream. This project began in 1999, and fish kills due to acidic conditions during spring run-off events have been avoided.

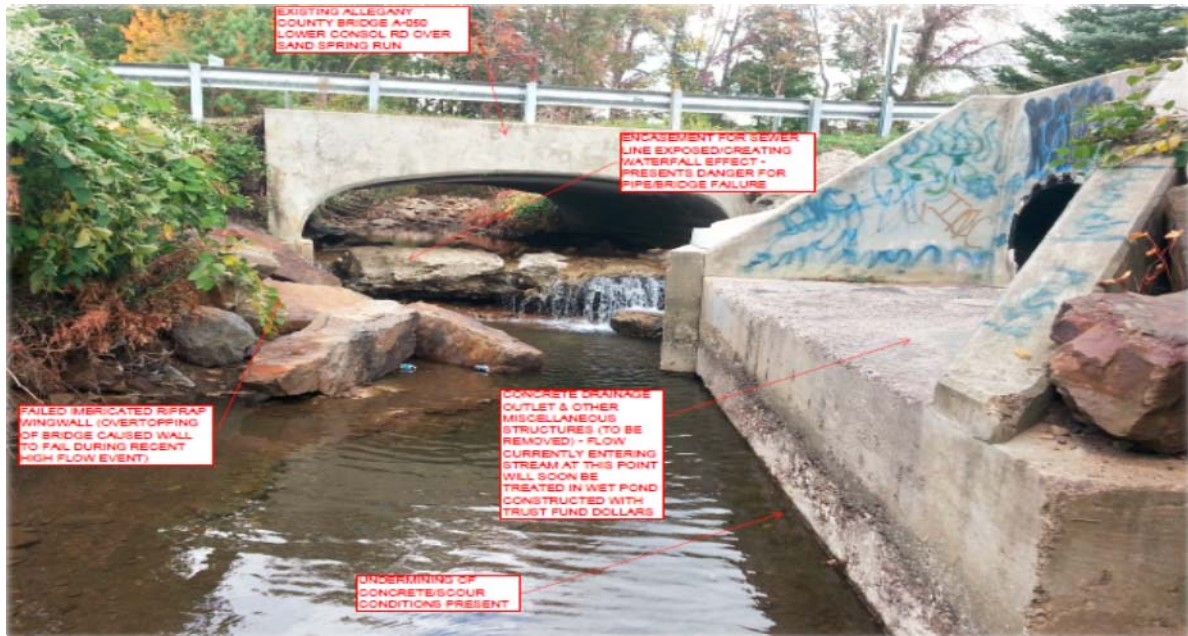
**Deep Creek Lake Fish Habitat Improvement** - A habitat improvement project was conducted in Deep Creek Lake through a cooperative project with the Garrett Bassers fishing club. Staff worked with the bass club to identify areas in Deep Creek Lake that were lacking adequate physical habitat for bass nesting and cover. Approximately 50 Christmas tree structures were secured by cement blocks in these areas. Staff also worked with a local business to update a fishing map to identify these new habitat improvement areas that will be available to the public.



*Western Region I Fisheries and Wildlife Service staff deploying fish habitat structures in Deep Creek Lake.*

**Land Stewardship Committee** - Provided comments on a potential land acquisition on a 60± acre parcel adjoining Potomac State Forest in the Lostland Run watershed. The Inland Fisheries Service supports this acquisition for long-term water quality protection in the North Branch Potomac River Watershed. The 2006 Maryland DNR Brook Trout Fisheries Management Plan's overarching goal is to "*restore and maintain healthy brook trout populations in Maryland's freshwater streams and provide long-term social and economic benefits from a recreational fishery*". By acquiring this property and under public ownership, long-term water quality protection for brook trout in Lostland Run will be realized.

**Stream Restoration Projects** - Provided a letter of support for the Allegany County Environmental Policy Review Team's stream restoration proposals for Sand Spring Run and Evitt's Creek. The County is proposing to restore a section of Sand Spring Run by removing concrete from the stream channel, stabilizing the stream bank and re-grading to allow fish passage. The County also plans to restore a section of Evitt's Creek by stabilizing the stream bank and relocating a section of the sewer line. The County's proposal is in alignment with our agency's goals of protecting and enhancing our coldwater resources as outlined in the *2006 Maryland Brook Trout Fisheries Management Plan*.



*Sand Spring Run restoration site in the Georges Creek Watershed.*

**Maryland Marcellus Stream Monitoring Coalition** - The University of Maryland Center for Environmental Science-Appalachian Laboratory announced that the Marcellus Shale Stream Monitoring Coalition (MSSMC) will receive the 2016 Richard A. Johnson Environmental Education Award. Comprised of seven partner organizations (Maryland Department of Natural Resources, Friends of Deep Creek Lake, Mid-Atlantic Council of Trout Unlimited, Mountain Laurel Garden Club, Mountain Ridge High School, Savage River Watershed Association, and Youghiogheny River Watershed Association), the MSSMC will be honored at the 25th anniversary of the Johnson Award next month.

**Smallmouth Bass Health** - Met with USGS Fish Pathologists at Leetown Science Center and staff from the Interstate Commission on the Potomac River Basin (ICPRB) to compare data, discuss future sampling needs, and determine the best course of action regarding potential toxin accumulations in smallmouth bass. Suspicions are that microcystin toxins may be accumulating within fish (smallmouth bass) and potentially exacerbating estrogenicity and/or immune suppressants. The Department, USGS, and ICPRB will work cooperatively to collect, identify, and describe the severity of microcystin within the upper Potomac River and how it may directly relate to health concerns of smallmouth bass.

**Fishing Creek** - Met with regional Wildlife and Heritage Service and Forestry staff to review and provide a counter proposal to the initial draft of the bike trail network recommended by the City of Frederick Ad hoc committee. Inland Fisheries is providing recommendations to reduce trail erosion, particularly at stream crossings and steep approaches to stream crossings. Clifford Branch and the right and left fork of Fishing Creek are within the City of Frederick Municipal Forest and support the most productive and stable native brook trout resources in Frederick County.

**Water Temperature Recorders** - Provided members of the Maryland Chapter of Trout Unlimited (TU) field training on the proper technique for deploying WaterTemp Pro stream temperature recorders in streams. A total of 20 stream locations in the upper Gunpowder River watershed within Baltimore (5) and Carroll (15) Counties have been designated by Inland Fisheries for WaterTemp Pro deployment by the Maryland Chapter. The stream temperature data collected by TU will be important in determining the stream quality and potential extent of brook trout in the Gunpowder River watershed.

### **Fish Health**

The USFWS's Lamar Fish Health Center reported that Age 1 wild rainbow trout collected from the North Branch Potomac River's Lower Catch-and-Return Trout Fishing Area in fall 2015 tested negative for whirling disease.

Provided white perch samples to Cooperative Oxford Laboratory to determine the extent of a coccidian parasite in tributaries of Chesapeake Bay. Samples were provided from the Potomac and Patuxent Rivers.

Provided northern snakehead samples from the Patuxent River to Cooperative Oxford Laboratory for general bacteriology cultures and a specific culture to look for the presence of a *Mycobacteria sp.*

### **Outreach**

**Educational Workshop** - Staff and a student volunteer provided a "hands-on" stream ecology workshop for about 80 Southern Garrett Middle School students. The educational workshop was sponsored by the Garrett County Public School System at the Hickory Environmental Education Center (HEEC), with goal of introducing the students to environmental career opportunities. The students put on waders to collect and identify stream macroinvertebrates in Cove Run. Based on their observations they were able to determine the health of the stream – which turned out to be "excellent" based on the large number of stoneflies, mayflies, and caddisflies in their collections.

**First Aid** - Provided a CPR/Standard First Aid certification class for Chesapeake & Coastal Watershed Services and Wildlife regional staff members. This course has been offered "in-house" since 2008, providing training to multiple agencies within the Department.

**Customer Service Inquiries** - Fielded numerous phone calls from eager anglers about the white and yellow perch spawning runs, the yellow perch run in southern Maryland is over and the white perch run is tapering off.

With opening day of trout on March 26<sup>th</sup> all regions were answering calls regarding the Put-and-Take trout fishery. Anglers have been pleased with the size and quality of trout stocked throughout the regions.

**Media** – Provided an interview to a reporter from the Capital Gazette about trout stocking in Severn Run Natural Environment Area, Anne Arundel County. Provided an

interview to the Office of Communications while trout stocking at Allen Pond Park, a Prince George's County Park located in Bowie, MD.

**Blue Catfish Tournament** - Coordinated Inland Fisheries participation in the Coastal Conservation Association's annual Blue Catfish Tournament that will take place in April at Smallwood State Park on the Potomac River. Inland Fisheries will be on hand to discuss current blue catfish studies and to collect all blue catfish over 30 inches in length for a consumption study.

**Envirothon** – Provided aquatic training to high school students from Kent, Queen Anne's, Talbot, Dorchester, and Frederick counties in preparation for test day in April. Students were instructed on such topics as water quality, watershed conservation, invasive species, and macroinvertebrates to name a few.

### **Angler Access**

**Fish Management Area** - Conducted boundary line determination on the North Branch Potomac River (NBPR) Fishery Management Area - Folly Run Tract. A six acre in-holding has been purchased and we will need to re-mark the boundary this spring. Interestingly, we found that anglers are utilizing this parcel to as a walk-in access to the Maryland side of the NBPR's Put-and-Take Trout Fishing Area downstream of Jennings Randolph Lake dam.

**Eastern Region Fisheries Management Areas** - Implemented a voluntary postcard angler survey at the five Eastern Region Fisheries Management Areas. A sign board and postcard drop box has been placed at Rising Sun Pond, Smithville Lake, Unicorn Lake, Urieville Lake, and Wye Mills Lake. This survey is intended to collect information about anglers' fishing experiences to allow Eastern Region staff to best manage the fisheries resources at these Fisheries Management Areas.



*Voluntary postcard survey box*

## **Stocking and Population Management**

**Trout** - Spring trout stocking season is in full swing, and Inland staff assisted Hatchery staff with stocking throughout the state from the Casselman River in Garrett County to Beaverdam Creek on the Eastern Shore, and everything in between. Over 130,000 trout were stocked in March to provide spring angling opportunities.



*A very happy angler on the Casselman River Delayed Harvest Trout Fishing Area!*

**Beaver Creek** - Installed a 20' pole gate on a very popular piece of private property along Beaver Creek, where public access has been permitted. An agreement was reached with the department and the new landowner to allow continued stocking and fishing on the property if the gate was purchased and installed by Fisheries staff.

**Golden Shiner** - Stocked approximately 200,000 advanced juvenile golden shiner to St. Mary's Lake, a large impoundment in St. Mary's County, MD. These fish will help bolster available forage for gamefish.

## **Invasive Species**

**Northern Snakehead** - Discussed the northern snakehead population and fishery on the Patuxent River with numerous anglers, park rangers, and a school group at Patuxent River Park. Anglers were very interested in how to catch the fish, how they taste, and their potential impacts to other fisheries.

## **Brook Trout Program**

**Gunpowder River** - Conducted brook trout electrofishing surveys with assistance from Maryland Biological Stream Survey (MBSS), Baltimore County Department of Environmental Protection and Sustainability (BCDEPS), Baltimore City Reservoir Management Division and Biology staff from Hood College in the upper Gunpowder River. Ten to 15 adult brook trout  $\geq 200$  mm were needed to surgically implant radio tags for a telemetry study of brook trout movement in the upper Gunpowder River mainstem and its tributaries. Nine brook trout adults were collected and implanted on March 1 in Baltimore County and six brook trout adults were collected and implanted on March 10



in Carroll County. This project is part of a larger upper Gunpowder river watershed project to assess the potential for brook trout restoration throughout the system, and develop a plan to address and remediate habitat and water quality issues identified as needing restoration.



*Upper Gunpowder river electrofishing to collect Brook Trout for radio tagging, March 2016.*



*(L)-Brook trout radio tag surgery in the field, shown is the initial incision for tag insertion. (R)-Radio tag, the tag contains an internal antenna and is inserted into the body cavity of the fish in the abdominal area.*

Conducted a radio telemetry search on March 3 for the nine radio tagged brook trout in the Baltimore County section of the Gunpowder River. All nine tagged brook trout were found and were relatively close to their capture and release sites. A second search was conducted on March 18 in both counties. Eight of the nine brook trout in the Baltimore County area were found with little movement and five of the six Carroll County brook

trout were found with one moving upstream approximately 180 meters from its capture and release site.

Reviewed public comments and provided feedback for the Chesapeake Bay Agreement's brook trout outcome two year work plan (statewide). Staff will be involved in several of the key plan projects including continuing genetic inventory research and index development.

Conducted an electrofishing seminar with researchers at Hood College (Frederick Co.) as part of their collection permit requirements. Topics included a background in basic circuit theory and how it applies to electrofishing, how electrofishing works with fish, proper fish collection and handling techniques, as well as crew safety while electrofishing. A follow-up field visit to use an electrofisher is scheduled for this summer.

**Common Carp** - Brook Trout Program is the Fisheries webpage recreational angler contact point (statewide) for common carp. Staff received multiple requests from North Carolina angling pay lake owners on how to purchase common carp from Maryland watermen. We spoke with our colleagues from North Carolina's fishery agency and apparently there is a large and increasing pay lake carp fishery developing in North Carolina, especially for larger carp, for which these fish are much more easily and cheaply obtainable in the wild than from commercial sources. We also spoke to an operator of one of these lakes in North Carolina who had asked about how to obtain carp from Maryland, and he told us that a competitor of his had purchased a shipment of live carp from a Maryland waterman that had caught them in the tidal Potomac River. While not a recreational fishing issue we did follow up with several of our tidal staff folks, and what they told us was that common carp are not a regulated commercial fishery in tidal waters and as far as they knew there are no restrictions on catching and selling them from tidal waters. Our recommendation to the inquiries from the folks in North Carolina was that they visit the Maryland Waterman's Association web page and then send a request asking as to who might be selling/willing to sell live carp, this may be an opportunity for Maryland watermen to pursue an additional commercial fishing opportunity.

### **Tidal Bass Program**

**Potomac River Tournament** - Attended the American Bass Anglers Ram Open Series tournament held on the Potomac River to monitor release boat conditions and ensure fish recovered prior to release. Nearly 100 boats fished the tournament and the winning weight was 19.57 lbs. Two fish weighing 5.72 lbs each tied for the largest fish of the tournament.

**Black Bass Tournament Permit** - Fielded many calls and concerns regarding a new permit modification to be applied to bass tournaments who receive permits in Maryland. The concerns were addressed by senior management and directors are now provided two options when organizing a tournament: 1) adhere to a 5 fish creel, 12" minimum, with no more than 1 fish that measures 15" or more between June 16 and October 31; or 2) adhere to special conditions when staging a tournament. More information on the special

conditions and responses to angler concerns can be found on the [tournament angler page](#). The tidal bass tournament permit application was updated to allow directors to choose between these two options.

**Potomac River Mark-Recapture Study** – Staff continues mark-recapture work to estimate population size of bass on Potomac River and estimate catch-and-release mortality.

**Regulation signs** - New tidal black bass and impoundment regulation signs were posted as needed at over 50 access locations on the Eastern Shore.

**Potomac and Upper Chesapeake Bay Catch-and-Return** - Signs encouraging anglers to voice their opinions about the proposed black bass Catch-and-Return areas in the Potomac and Upper Chesapeake Bay were posted at popular boat ramps, piers, and fishing areas on the Potomac River and removed after the public comment period ended. Public comments will be reviewed and discussed internally. The Department will then refine the idea of Catch-and-Return areas and request an additional 2 weeks of public comments on the refined idea.

## **Other**

### **GIFS Database**

Queried 100 random sampling events for the Tidal Bass Program for quality control/quality assurance of the database. Several transcription errors were noted and corrected.

Received requests for data from the University of Notre Dame and MD Department of the Environment. Currently, the requested data are being queried.

Made several changes to GIFS data fields and tables, including updates to the 'Voltage' and 'Extra Pass' fields.

Discussed brook trout data entry and management in the GIFS database (statewide). Staff received instruction on how to create sites, surveys, and passes as well as uploading data using the bulk uploader. Topics such as real-time summary stats for data, database design/layout, etc. were also discussed.