Inland Fisheries Division
Monthly Report – September 2015

Stock Assessment

Brook trout stream surveys - Streams listed in the *2014-2018 Brook Trout Sampling Schedule* were sampled including:

- Upper Mainstem Savage River – remote location station.
- Cove Run – low density brook trout population, however quality size fish in the population. See below.
- Hoyes Run – Tier II area downstream of Fork Run. Reproducing population of brook, brown, and rainbow trout. See below.

Cove Run Brook Trout Restoration Project - About 45 students enrolled in Northern Garrett High School's AP Environmental Science class participated in a day-long brook trout population survey, aquatic macroinvertebrate survey, water quality analysis, and stream habitat assessment of Cove Run downstream of the headwater restoration sites. Reproduction for brook trout was consider poor in 2015, however brook trout numbers continue to be more abundant than creek chubs, a fish species more tolerant of warmer temperatures. Summer temperature data were retrieved, showing excellent results – the maximum temperature was 68.5° F, and only recorded on one date for a 1 hour period!

Northern Garrett High School students and a couple of gorgeous brook trout from Cove Run!

Hoyes Run Trout Population Survey - Garrett College Natural Resource and Wildlife Technology students assisted with this trout population survey. We surveyed the lower portion of the stream which is a MDE designated Tier II stream. The adult combined species population was 215 per mile (60% brook trout, 20% brown trout, and 20% rainbow trout), and 2015 reproduction was considered good at 472 young-of-year (YOY) per mile (46% brook trout, 32% brown trout, and 23% rainbow trout). MDE Water Resource Administration recently denied a groundwater withdrawal application from the Hoyes Run Watershed to supply commercial development in the Deep Creek Lake watershed in order to protect the biological integrity of this unique coldwater trout stream.

Wild brown trout, brook trout, and rainbow trout from Hoyes Run, 2015.

Yough. River Catch and Return Trout Fishing Area - Retrieved temperature recorders from eleven sites in the river to evaluate the effectiveness of temperature enhancement releases from the Deep Creek Lake Hydroelectric Station – these data were delivered to Versar, Inc for analysis and results will be available at a later date.

Trout Survey - Conducted three-pass depletion electrofishing surveys in several Catoctin Mountain wild trout streams to attain population estimates for adult and YOY trout. Reproduction in 2015 was considered good.

Fishing Creek – Conducted electrofishing surveys in Fishing Creek to assess brook trout populations. Fishing Creek is located in the Frederick City Watershed (a completely forested landscape) and continues to be the region's most stable brook trout population. As part of an ongoing statewide study, fin clips of the lower caudal lobe were obtained throughout various segments of the creek for genetic analysis. This study aims to genetically describe individual populations in order to predict their overall resiliency to environmental disturbances.

Monocacy River - Inland Regional staff and striped bass biologists conducted an electrofishing survey at two sites on the Monocacy River to obtain population estimates for smallmouth bass and redbreast sunfish. To complete these labor intensive surveys, coordination and cooperation with other Fisheries staff members is imperative.

Prettyboy Reservoir Tributary Sampling - Conducted multiple pass electrofishing surveys to assess the status of the brook trout populations in Prettyboy Reservoir tributaries. The following tributaries were sampled: Walker Run, Silver Run, Bull Sawmill tributary (Baltimore County), Alesia Road tributary (2 sites), Muddy Branch, and Roller Road tributary. Excellent adult brook trout standing crops were found in Walker Run, Silver Run, Alesia Road tributary and Muddy Creek, with adults up to 301 mm total length (11.9 inches). Brook trout YOY recruitment was also good in all streams surveyed. Access was granted to an unnamed tributary to the South Branch Gunpowder Falls in Carroll County. The tributary was surveyed for the first time and was found to support a wild brook trout population. An additional survey in the tributary where better adult habitat is available is recommended if landowner permission is granted. The survey

data have been entered into Inland's GIFS database.

Bee Tree Run - Surveyed the lower station on Bee Tree Run below Bee Tree Road with assistance from Baltimore County Department of Environmental Protection and Sustainability. An excellent population of brown trout adults were collected in the small freestone stream. The YOY brown trout density was 793 YOY/ha (321 YOY/acre).

Good Hope Tributary - Conducted multiple-pass electrofishing surveys in the Good Hope tributary at Hobbs Drive and the lower Gum Springs tributary near the confluence with Paint Branch with staff from Montgomery County Department of Environmental Protection. One adult and two YOY brown trout were collected in the Hobbs Drive station and no trout were found in the Gum Springs station.

Gunpowder Falls - Conducted electrofishing surveys in the Gunpowder Falls at the dam/Falls, Masemore Road and Blue Mount stations. DNR Secretary, Assistant Secretary, Fisheries Director, along with Office of Communications and numerous Inland staff were present to assist. A brief history of the Gunpowder Falls tailwater trout management success story was provided before the survey began. Highlights of the surveys included another year of excellent brown trout recruitment and a healthy adult brown trout population with adults up to 18.5 inches. Collected several rainbow trout as well as three brook trout and a tiger trout (brown X brook hybrid). Data will be analyzed for inclusion in the 2015 federal aid final report.



Salisbury Impoundments - Participated in a planning meeting with the City of Salisbury, Wicomico County and MDE regarding future management of public impoundments in the Salisbury area. A wide variety of topics were discussed including: invasive plant management, siltation, nutrient management, water level manipulation, nuisance waterfowl, public access and fisheries management. The overall goal is for impoundments to be managed using methods that are functional, cost-effective, sustainable and beneficial to the public.

Rock Run - A coldwater fisheries assessment was completed for Rock Run, a Use III tributary of the Susquehanna River. The stream is home to a robust population of reproducing brown trout. Fisheries data will be paired with macro-invertebrate data collected earlier in the year to help guide management decisions and environmental review. These data should prove useful for the planned replacement of the Rt. 222 bridge crossing.

Habitat and Water Quality

Environmental Review - Provided comments to DNR's Integrated Policy and Review (IPR) Unit or other agencies regarding:

- Scientific collection permit application by Coastal Resources Inc. for aquatic macroinvertebrate collections for fifteen sites in Casselman River tributary streams as part of the US Route 219 Planning Study. The applicant planned to conduct the collections in October 2015. Recommendations were made to wait until spring, or if that is not possible, make the collections in October as early as possible to avoid any brook trout spawning activity.
- SHA Bridge Replacement Project on MD Route 47 over North Jennings Run, possible public angler access opportunity to provide parking for a couple of vehicles and the stocking truck. This location is a stocking location within the North Jennings Run Put-and-Take Trout Fishing Area.
- TOY waiver request to complete a rehabilitation project on Tuscarora Creek, a class III stream. Granting a waiver to complete the project under dry/low flow conditions was recommended; no trout resources are present in the project area. Comments were provided to ERU regarding the feasibility of recreational access to the Potomac River from State highway 478 bridge replacement project site; no practical, safe access was available.

Lands Reclamation Committee - Participated in the Phase II Bond Release Field Evaluations for twelve strip mines totaling 130 acres in Garrett and Allegany Counties. The committee members walked these strip mines reclamation sites to evaluate whether re-vegetation standards were met prior to the bond being released to the operator. Votes on the bond releases took place during the September monthly meeting. Three sites totaling 33 acres were denied the bond release due to erosion or inadequate re-vegetation. These sites will be re-evaluated in the spring of 2016. The committee discussed the possibility of recommending that the Bureau of Mines reduce the success standard for herbaceous cover on forestry sites. Following discussion the committee decided to have re-vegetation sub-committee evaluate the possibility along with reviewing the list of recommended tree species.

Casselman River Brook Trout Restoration Project - Worked with Forest Service, Natural Resource Conservation Service, and a landowner along Little Laurel Run to establish a fenced riparian zone in order to improve water quality conditions for brook trout. A National Fish and Wildlife Foundation grant was obtained to purchase trees and other materials needed for the fencing project, and the NRCS will provide funding through the Maryland Agricultural Water Quality Cost-Share Program for this project. Inland Fisheries will provide in-kind services through water quality monitoring, biological monitoring, as well as assistance with design and labor. Northern Garrett High School students and the Youghiogheny River Watershed Association members will provide the necessary volunteer labor to plant trees in the riparian zone in spring 2016. The Youghiogheny River Watershed Association also submitted a mini-grant application to the *Mountain Maryland Gateway to the West Heritage Area* to cover additional costs

for the project. Our goal is to establish a forested riparian zone on this private property with no cost to the landowner.

Measuring riparian zone fencing location along Little Laurel Run in the Casselman River Watershed.

Deep Creek Lake - Participated in the Maryland Invasive Species Council (MISC) tour of Deep Creek Lake. MISC provides leadership concerning invasive species and encourages efforts that prevent the introduction and manage the impact of invasive species on Maryland ecosystems. Resource Assessment staff led the tour to observe native and non-native aquatic vegetation in the lake and Inland staff spoke on the importance of the native aquatic vegetation for the diverse fishery in Deep Creek Lake. We seined two stations of different habitat types to observe the fish species present. The first station was a rocky area with little aquatic vegetation – and several smallmouth bass were collected in their preferred habitat. We then seined a nearby area with a wild celery bed and collected hundreds of juvenile sunfish, yellow perch, largemouth bass, and golden shiners.

Potomac River - Collected water quality data and quadrat samples on established linear transects at three geographic locations in the upper Potomac River as part of an ongoing study into nuisance blooms of the blue-green algae *Planktothrix isothrix*. Observations in September revealed no cyanobacteria and dense beds of SAV. Collective data analyses will occur this winter to determine temporal and spatial patterns of nutrient loading parameters.

Information on the current SAV species and general densities in regional State lakes (Cunningham Falls Reservoir, Greenbrier Lake, and Blairs Valley Lake) was provided to Resource Assessment Service. Similar information from around the state will be used to assess the potential risk and spread of invasive plant species such as hydrilla. Hydrilla in the nontidal Potomac River as well as Blairs Valley Lake in Clear Spring can be transported to other waters via boat trailers and boats. A further assessment of smaller bodies of water in Fishery Management Areas and county-owned waters will be completed soon.

Outreach

Staff provided customer service responses regarding:

- Technical assistance for a private pond owner to establish a balance largemouth bass/bluegill population.
- Fishing opportunities via submission of two Anglers Log entries regarding fishing for catfish in the Yough River Lake and trout fishing opportunities in the Yough River C&R Trout Fishing Area and the North Branch Potomac River's Put-and-Take Trout Fishing area at Barnum.
- A trout stocking application (approved) for private individual.
- Trout management in the North Branch Potomac and Youghiogheny rivers. Met with two trout fishing guides who would like to see cutthroat trout fingerling stockings resumed in the North Branch Potomac River, as they said there was a lot of interest from anglers wanting to catch this species of trout. Also the guides were concerned that common mergansers were consuming a lot of stocked fingerling trout resulting in poor fishing in the Yough. River this year.
- Fishing license waiver for youths at the Department of Juvenile Service's Green Ridge Youth Center for a day fishing in Lake Habeeb.
- Non-resident angler regarding questions on bait fish possession limits. NRP advises that the possession of store purchased bait fish are not limited to the 35 bait fish limit caught in the waters of the State.

Elkton Youth Fishing Clinic – Staff and the Town of Elkton teamed up to host a Youth Fishing Event on Saturday Sept 19th at Howard's Pond. Approximately 25 youth, many first timers, attended this event to learn the basics of fishing. Several educational stations were set up to teach the kids (and parents) fish identification, preferred habitat, safe casting, and fish handling and conservation. Maryland BASS Nation volunteers taught proper rod rigging, knot tying and tackle selection. All youth participated in the stations before beginning to fish. The pond was stocked with hybrid sunfish prior to the event and many were caught along with white perch. It was a beautiful day once the fog lifted and we "hooked" a few new future anglers.

Potomac River Seining Survey – Prepared summary of the 2015 Potomac River watershed summer seining survey and shared with constituents via email subscribers list, Anglers Log, and social media. The seining survey is primarily used to assess the annual yearclass strength and trends of smallmouth bass as well as nongame fish species.

Overall, the 2015 yearclass of smallmouth bass was above the long term median value. A good hatch was particularly important in the middle river (Dam 5 to Dam 3) as yearclasses were at or below the long term median for the past 7 years. A very strong yearclass was produced in Conococheague Creek. Several of the young bass collected from the Conococheague showed signs of a myxozoan parasite infection revealed by small white cysts on the back and caudal peduncle. The myxozoan parasite was indentified by researchers at the USGS Fish Health Laboratory as the same species that has been contributing to the mortality of young smallmouth bass in the Susquehanna River. Inland staff will be working with USGS staff to assess the spread and potential impact of this recent discovery.

Little Hunting Creek – Collaborated with MDE and Frederick County Soil Conservation in order to address significant stream bank erosion issues on Little Hunting Creek. The impacted segment of Little Hunting Creek supports a strong population of wild trout with access relying primarily on cooperation from private land owners. Resolving the erosion issues will protect private property and reduce sedimentation.

Middle Fork – Sampled a remote area of Middle Fork. Brook trout staff expressed their appreciation by providing a near fatal encounter with *Ursus americana*!

Provided manpower, educational material, displays and/or casting demos at the Maryland State Fair, Maryland Fishing Challenge, National Hunting and Fishing Day.

Stocking and Population Management

Rainbow Trout - The Freshwater Institute, a program of the Conservation Fund www.conservationfund.org), donated rainbow trout that were stocked in the North Branch Potomac River's Put-and-Take Trout Fishing Area at Barnum (400 fish) and the Youghiogheny River Catch-and-Return Trout Fishing Area (468 fish). Both rivers have adequate coldwater for trout survival during the late summer.

Float-stocking rainbow trout in the Yough River C&R Trout Fishing Area.

Trout Fingerlings – Put-and-grow managed areas were stocked with trout fingerings from Albert Powell Hatchery. Antietam Creek in Washington County received 5,700

rainbow and 2,000 brown trout. Stocked Little Seneca Creek (Montgomery Co.) with 2,000 brown trout and Gunpowder Falls tailwater above Falls Road (Baltimore Co.) with 1,500 rainbow trout.

Brook Trout Program - Completed final revisions to Brook Trout Hooking Mortality papers (2) for publication in the North American Journal of Fisheries Management. This research project was designed and conducted with the collaboration of Dr. Bob Hilderbrand, UMCES Appalachian Laboratory, and Dr. David Kazyak, USGS Leetown Laboratory.

Completed tissue collection efforts for genetic sampling for the five statewide brook trout "patches" we are doing as part of a cooperative research effort among Bay states to determine the effectiveness of this type of sampling for monitoring populations. This research is being done as part of the work effort for the brook trout outcome of the Chesapeake Bay Agreement.

Gave an interview on the Outdoorsman Radio Show and spoke with Cumberland Times-News outdoors writer Mike Sawyers regarding northern pike management and the proposed northern pike regulation for Deep Creek Lake. Also gave an open-to-the-public seminar on brook trout fishing and angling opportunities at the Arundel Mills Bass Pro Shops.

Staff helped emcee the Maryland Fishing Challenge finale event, once again entertaining the crowd with witty repartee and clever jokes!

Completed sampling for upper Savage River Zero Creel limit Brook Trout management area. Dr. Bob Hilderbrand of the UMCES Appalachian Laboratory will collate and analyzed data and provide report in late fall.

Led an in-house meeting on the development of the brook trout angler preference survey. Made significant progress, including delineating next steps and discussing timeline.

Conducted site visits at the Metz property stream restoration project on the mainstem Upper Savage River to monitor work progress. Prior to starting work, a brook trout population survey was completed, with a 13.5" long brook trout being collected! Substantial progress has been made on this project which is being managed by the Canaan Valley Institute. The project goal is to restore a natural flow pattern to the stream and to stop severe bank erosion. In-stream work was completed before the end of the month and included fish habitat structures incorporating rock and large logs to improve the previously very poor brook trout habitat. Streambank plantings and riparian buffer tree planting will occur in October and November to complete the project.

Provided input to Chesapeake Bay Program's Habitat Goal Implementation Team (chaired by the USFWS). The team is obtaining ideas from brook trout managers within the Bay states for inclusion in the development of the initial bi-annual Bay Agreement Brook Trout Outcome Workplan.

Tidal Bass Program – Began tidal bass survey. The drainages surveyed in September included: Potomac River, Choptank River, and Marshyhope Creek. Several juveniles and age 1 fish were caught on Potomac River, indicating improved recruitment over recent years.

Worked with members of Maryland BASS Nation (MBN) to redistribute 141 largemouth bass caught during the first day (September 19) of an FLW tournament held at Anchor Marine. Bass were redistributed to the Elk and Sassafras Rivers. This was a pilot project. Stakeholder groups have raised increasing concerns over the large numbers of largemouth bass being removed during tournaments from distant areas, then released at weigh-in locations such the upper Northeast River. DNR biologists are conducting a study in upper Northeast River to determine the level of stockpiling in 2015. One of the actions suggested by Captain Scott Sewell (Conservation Director, MBN) to help solve the issue is manual redistribution after large tournaments via DNR staff using trucks outfitted with portable tanks. Inland Fisheries agreed to move fish at this particular event to determine costs and evaluate feasibility.

Approximately 150 largemouth bass were tagged on Mattawoman Creek to estimate catch-and-release mortality levels. Catch-and-release mortality is expected to be low, but must be measured to develop expectations for catch-and-return areas on conserving bass populations. Anglers who catch and report a tagged bass will receive a certificate, black bass conservation lapel pin, and be entered into a raffle for gift cards. This project will be on-going for 3 years and done in concert with a complimentary project at Manning Hatchery.