



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

August 26, 2019

Memorandum

To: John Grace, Chief, Water Supply Program, Maryland Department of the Environment (MDE)

From: Tony Prochaska, Director, Freshwater Fisheries Program, Fishing and Boating Services 

Subject: Brookfield Renewable Deep Creek Water Appropriation and Use Permit, GA1992S009(08): Temperature Enhancement Release Protocol and Trout Fishery

The department appreciates the efforts of the Maryland Department of the Environment (MDE) to organize and facilitate three stakeholder meetings specific to the permit application submitted by Brookfield Renewable for the Deep Creek hydroelectric generation facility. During the meetings, all parties were given the opportunity to share information and thoroughly discuss the various issues. In addition to the stakeholder meetings, a Temperature Enhancement Release (TER) workgroup was created and met on August 1, 2019 to discuss the department's TER proposed protocol modifications, which are based on data and analyses that justify the requested changes. The department's requested changes include: 1) changing the time of releases predicted at 11 a.m. to start as soon as practicable after that time; 2) continuing to run the protocol until September 15 and make releases if needed; and 3) increasing the trigger flow threshold from 150 cfs to 180 cfs, as measured at the USGS Oakland gage. These small adjustments to the TER protocol are designed to further improve its performance and will help protect the fishery through the duration of the next permit.

Although the TER workgroup meeting on August 1 was productive, statements from a select group of stakeholders were inaccurate or misleading. As a result, the department is providing the following information to MDE so that future management decisions can be made based on the best available information/facts.

General Stakeholder Statement: the department spends a lot of tax dollars on the fishery and the development and evaluation of the TER protocol.

Department Response: Fishing and Boating Services invests ~ \$55,000 annually to manage the Youghiogheny River Catch and Return Trout Fishing Area. Activities include trout stocking, temperature monitoring, trout population sampling, routine maintenance, and report writing. These activities are funded largely by a grant from the U.S. Fish &

Wildlife Service's (FWS) Wildlife & Sport Fish Restoration (WSFR) Program and Maryland's Fisheries Management and Protection Fund. For more information on the WSRF program, please see here: [WSFR Program](#). Revenue for Maryland's Fisheries Management and Protection Fund (considered a special fund – not general funds) is generated from the sale of non-tidal recreational fishing licenses and is therefore considered a user pay/user benefit model. General tax dollars are not invested in either of the funds that support the vast majority of our efforts in the Youghiogheny River special management area.

The development and evaluation of the TER model and protocol is funded by Maryland's Environmental Trust Fund (another special fund – Annotated Code of Maryland §3-302). The primary intent of this fund is to evaluate/consider the environmental and socio/economic impacts from any energy generation within the State of Maryland. For more information on this fund, please see here: [ETF Fund](#).

General Stakeholder Statement: the trout in the Youghiogheny River are very large in size because the river is not very accessible – it is not being fished.

Department Response: The Youghiogheny River Catch and Return Trout Fishing Area (from approximately the tailrace downstream 4 miles to the Sang Run Bridge) provides good public access. There are two parking areas – one located at Hoyes Run, the other located near Sang Run. There is a trail located on portions of the public land that borders the river. There is also paddle craft float fishing opportunities between Hoyes and Sang Run.

One of the primary reasons the fish in this section of the river can get large is because fishing regulations prohibit the harvest of trout – it is a **catch and release** fishery. In addition, anglers are required to use artificial lures only (no bait allowed). This helps to reduce delayed mortality because a fish is less likely to be seriously injured by deep hooking, etc.

Excellent management by Brookfield Renewable over the last 6+ years has also maintained river temperatures in a range that reduces thermal stress to trout, thus helping to maintain a healthy trout population with good growth rates and fish condition. This, along with no legal harvest, allows the fish to live longer and reach larger sizes. Overall, TERs have increased biomass, density, and the number of quality sized trout in the special management area. This information was presented by Freshwater Fisheries during the third stakeholder meeting held in April 2019.

Trout anglers (and many anglers in general) aren't afraid to hike into more remote areas to disconnect from the hustle and bustle of today. In 2016, Fishing and Boating Services partnered with Morgan State University to conduct a scientifically valid Wild Trout Angler Preference Survey. The survey provided a lot of information regarding the attitudes and preferences of Maryland's trout anglers. When asked what motivates you to target wild brook trout, the two most important factors included natural surrounding (i.e., aesthetic

value) and areas less crowded. These preferences can be extended to other important trout fisheries in Maryland.

General Stakeholder Statement: the department is requesting that the TER protocol (and potential TER releases) start in May.

Department Response: the department is not requesting that the TER protocol be run during the month of May. The agency has remained diligent to ensure that the permit modifications that are requested are based on science and therefore justifiable. During the TER workgroup meeting (as stated on the agenda), the department has requested that Brookfield Renewable collect additional temperature data from May 15 through May 30 in order to determine if there is a need to start running the protocol earlier than June 1. This will allow adaption to a changing environment and better protection of the fishery through time.

General Stakeholder Statement: the release of water from Deep Creek Lake to support the fishery is not a viable use of water from the lake. It only benefits the fish and a few anglers.

Department Response: Before Deep Creek Lake was created, a stream network existed that supported a vibrant, native brook trout fishery. In fact, early accounts from Meshach Browning (early 1800s) stated that brook trout could be captured in the Deep Creek stream network, “as fast as one could bait a hook.” That vibrant population was lost with the creation of the lake. Deep Creek (the stream network) also served as a constant coldwater input to the Youghiogheny River. The department views the temperature enhancement releases as a surrogate to the coldwater input to the Youghiogheny River that once existed prior to dam creation.

We lack an accurate estimate of angling effort specific to the special management area (from the tailrace to the Sang Run Bridge). However, a Non-Tidal Angler Preference Survey conducted in 2016 (in partnership with and developed by Morgan State University) collected information on fishing trip location and frequency during the 2015 calendar year, as well as detailed trip information related to a recent fishing trip. This information enabled estimates of fishing trips effort and expenditures related to the Youghiogheny River. It is estimated that 3,600 anglers took 19,800 fishing trips to the Youghiogheny River in 2015, spending an estimated \$3.2 million – a benefit to the local economy. Further, an estimated 17,600 trips (about 90%) of these trips involved the targeting of trout species in the Youghiogheny River. These results were presented during the third stakeholder meeting.

To minimize sources of bias, survey development and implementation included rigorous survey pretesting through one-on-one cognitive interviews, a carefully designed random sampling approach of Maryland non-tidal license holders, and up to four repeat mailing contacts of sampled anglers. As the survey was administered to a sample of all Maryland non-tidal anglers, waterbody-specific analyses such as this will have less precision (that is, a wider range around the estimates) than regional or state-wide analyses. Nonetheless, these results constitute our best estimate of Youghiogheny River fishing trips and expenditures.

As mentioned during the TER workgroup meeting, Fishing and Boating Services receive numerous calls and emails from trout anglers letting us know that they appreciate the trout fishery – they also send photos of the large brown and rainbow trout that are captured in this section of river. These reports have not been quantified. We are currently discussing various approaches to accurately estimate angling effort over the next few years in this special management area.

Regarding benefits to the aquatic resources, including fish, there are state (i.e., Maryland Water Quality Standards) and federal (associated with Clean Water Act) regulations designed to protect the waters of Maryland, including the Youghiogheny River. We are confident that MDE will take appropriate steps to ensure compliance with all state and federal regulations to protect the river and the associated resources.

General Stakeholder Statement: the TER protocol is flawed and ineffective

Department Response: The Department, working closely with our partners, has developed and refined the existing TER model and protocol over the last 24 years. Based on a recent review of the data from 1995-2018, the average number of unnecessary releases is 1.4/year, equivalent to a maximum of less than 3 hours of releases per year on average or a lake level decrease of about ½ inch, **assuming no inflow**. In comparison to an upstream reference river reach with no lake releases, there has been a 90% decrease in summer river temperatures greater than 25°C (generally considered the thermal maximum for trout), at the Sang Run bridge. Improvements in the TER protocol have been realized due to slight modifications, including a small increase in the river baseflow above which the protocol is not implemented and decrease in the early-morning temperature threshold, below which the protocol is not implemented. The department will continue to review and improve the model and protocol through time - we understand the importance of avoiding unnecessary releases from the lake and will take feasible steps to make improvements.

Again, we appreciate MDE's efforts to organize and facilitate a number of stakeholder meetings in advance of the issuance of the next permit for Brookfield Renewable. If you have any questions or comments concerning the information provided above, please contact me at 410-260-8287 or via email at tony.prochaska@maryland.gov.

cc: Michael Luisi, DNR-FABS
Bruce Michael, DNR-RAS