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Possible Changes to MDE Permit #GA1992S009

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Executive Summary

This note suggests and rationalizes possible changes to Permit #GA1992S009 issued to Brookfield, Inc., issued by MDE, which allows the former to operate the Deep Creek Lake Hydroelectric Project.

The principal suggested changes propose to do away with the TER protocol and replace the mandatory water water schedule with a predictive methodology.

Also suggested is to include the lake property owners as major stakeholders in the permit.

Introduction

On April 1, 2019, according to MDE Water Appropriations Permit ##GA1992S009 (08), a new Permit must be signed by Brookfield in order for the latter to continue operating the Deep Creek Hydroelectric Project.

The conditions listed in the current Permit, signed on June 11, 2011, are almost exclusively geared towards specifying when water releases from Deep Creek Lake are allowed for white-water rafting and maintaining the flow in the Youghiogheny river such that stocked trout can survive and be available to the fishing community.

Nowhere in the permit is there any mention regarding the rights of those that own property around Deep Creek Lake.

A weak argument can be made that the rule bands protect the lake property owners, but there have been numerous cases in the past that insufficient water is retained in the lake to allow recreational boating activities.

The issue is exacerbated by the fact that lake property owners pay more than 50% of the total tax revenue to the county, while the fishing and white-water rafting communities are not able to quantify their contributions.

Therefore, the current permit needs to be changed significantly to redress such inequalities.

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Discussion

We realize the MDE and DNR, and probably also the County, have no incentive to change the permit conditions. MDE and DNR have said as such in various meetings. They have no interest in revisiting the TER protocol, nor are they supportive of a water budget model.

Given these observations, some of the citizenry of Garrett County have taken it upon themselves to provide rational input to the permitting process by backing the suggestions with data and analysis.

WAM

WAM is the acronym for “water allocation methodology.” WAM was developed by residents of Garrett County who realize that a ‘forecasting’ approach makes more sense given the variability of the water in Deep Creek Lake.

WAM should be used everyday, in an automated fashion, to define a tentative release schedule for the next several weeks from the day of the forecast.

This should be a great boon to all stakeholders, since they can better plan their future recreational activities. WAM has been discussed extensively in several documents.

TER

While a better methodology to predict Youghiogheny river temperatures at the Sang Run river bridge has been suggested for a long time because of the high error rate of the current protocol, it has recently come to our attention that very few people fish in the Youghiogheny river stretch from the tail race of the hydroelectric facility to the Sand Run River bridge. This is mostly because of nature conservancy practices that make accessibility along this stretch of the river very difficult.

Taken from the “Introduction” to Ref [1]: “One of the goals of the MDNR is to use cool water releases from the project to enhance the temperature habitat for trout during low flow conditions in the summer months.”

Since few fishermen use this stretch of the river begs the question: “Why a TER protocol?”

Why could the cost of operating the temperature gages at the Sang Run River bridge by both Brookfield and DNR (separate gages) and the labor involved with executing the protocol, the unreliability of the protocol, retaining the required records, and writing the results in an annual report, not be put to a better use?

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Hurdles to Overcome

From Reference [2, p3-54]:

“The mainstem Youghiogheny River and its tributaries, including Deep Creek Lake, are classified as Class III, Natural Trout waters by the State of Maryland. ...In addition to basic uses of water contact recreation, fish, other aquatic life, wildlife, and water supply, the Class III designation provides further protection to support the existence of natural, reproducing trout populations. In waters that possess an existing water quality that is better than the water quality standards established for them, the State requires that the quality of these waters be maintained. Downgrading is discouraged by the State and only allowed under certain conditions and with notice and opportunity for public hearing.”

Comment:

1. Trout is stocked so it's not a natural habitat.
2. ... protection to support... does not mean “create a artificial environment”

From Reference [2, p. 3-62]:

“During non-release periods, high temperatures can extend throughout the river for short periods during the day. However, numerous tributaries and an estimated 9 cfs leakage from the Deep Creek hydroelectric facility create small, localized pockets of cold water in the mainstem.”

From Reference [3]:

“In 1976 a 21 mile long segment of the Youghiogheny was designated as Maryland's first Wild River. A state protected corridor along the river runs from Miller's Run just north of Oakland to the town of Friendsville. This corridor is managed by the Maryland Park Service to preserve the wild and natural scenic, geologic, historic, ecologic, recreational, fish, wildlife, and cultural resources.”

Comment: To preserve the wild and scenic aspects, the river has become mostly inaccessible to the casual fisherman.

Other Suggestions

3. The permit needs to specify a requirement for Brookfield to make available on their website, monthly, the lake levels, generator status, and bypass flow status as measured every 5 or 10 minutes.
4. The proposed “water allocation methodology (WAM)” should be used daily to provide estimated forecasts of water releases for each day of the next two

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weeks. These forecasts should be published daily on Deep Creek Hydro's website

5. MDE/DNR should operate at least two, preferably three, independent weather stations around the lake recording real-time weather conditions at least every 15 minutes, including solar radiation. This data is to be made available via the "Underground Weather"
6. Recasting Condition 19 in the Permit to reflect no guaranteed white-water releases except for possibly special annual festivals or races. Any release is subject to the results produced by WAM.
7. Install instrumentation in the tail race to provide better estimates of wicket gate losses and bypass flow amounts as a function of valve setting.

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References

1. Stephen P. Schreiner Geoffrey D. Birky, "A TEMPERATURE SIMULATION MODEL OF THE YOUGHIOGHENY RIVER FROM DEEP CREEK STATION TO SANG RUN," PPRP-DC-1, June 1997.
2. PENNSYLVANIA ELECTRIC COMPANY, "DEEP CREEK STATION SUPPORT DOCUMENT FOR PERMIT APPLICATION TO APPROPRIATE AND USE WATERS OF THE STATE", August 1993 , Revised April 1994. [DeepCrSupportDocument-Rev1994Apr.pdf]
3. <https://roadtrippers.com/us/swanton--md/nature/youghioghenny-scenic-wild-river>
4. <http://perfectflystore.com/wyoughr.html>
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