

## Existing Use Determination and Rationale:

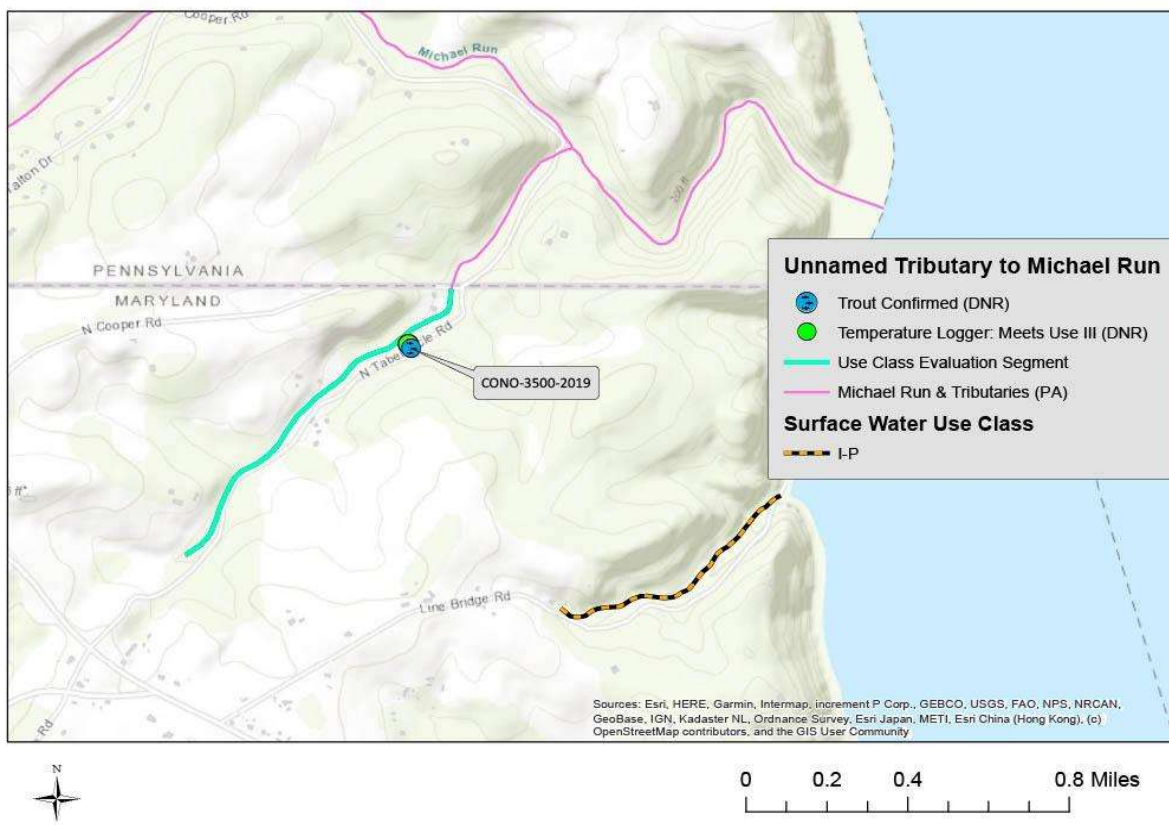
### Unnamed Tributary to Michael Run (Harford County)

May 20, 2024

#### Description of Setting and Data Sources

The unnamed tributary (UT) to Michael Run (12-digit 021202040337) in the Lower Susquehanna River watershed, located south of the Pennsylvania and Maryland border and west of the Conowingo Reservoir in Harford County, is currently designated as Use Class I-P. In 2019, Maryland DNR Fisheries deployed a temperature logger to one location of the unnamed tributary and conducted one qualitative fish survey in the waterbody segment. The figure below shows the location of the sampling stations, and temperature and biological data results are provided in Tables 1 and 2.

Figure 1: Unnamed Tributary to Michael Run



## Temperature Data for UT Michael Run

Water temperature data were collected during one sampling event in 2019 by Maryland DNR Fisheries. Recorded water temperatures attained Class III(-P) criteria.

Table 1. Unnamed tributary (UT) to Michael Run Temperature Logger Data

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean (°C)	Daily Max (°C)
2019	CONO3500	UT Michael Run	MDDNR Fisheries	6624	1.25%	0%	16.6	22.9

\*Water temperature logger data assessed from June 1<sup>st</sup> to August 31<sup>st</sup>. The “Daily Max” represents the maximum temperature from June 1<sup>st</sup> to August 31<sup>st</sup>.

## Biological Data Summary for UT Michael Run

Table 2. Unnamed tributary (UT) to Michael Run Biological Data

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
06/03/2019	CONO3500-2019	UT Michael Run	MDDNR Fisheries	Brown trout	63	Multiple Year Classes with YOY

The Maryland DNR Fisheries Program conducted a qualitative electrofishing survey in 2019 at station CONO-3500. The CONO3500 trout data from 2019 shows multiple young-of-year (YOY) brown trout and brown trout adults from several year classes ranging from 140-350 mm (5.5 - 13.8 inches). Multiple adult year classes and YOY brown trout confirms the presence of self-sustaining brown trout populations in the unnamed tributary to Michael Run. The Maryland DNR Fisheries Program did not attempt to collect cold-water obligate benthic macroinvertebrate species.

## DNR Fish Stocking

A personal communication with Mark Staley (Maryland DNR Inland Fisheries Service Central Region Manager) confirmed there is no record of the unnamed tributary to Michael Run being

stocked by Maryland DNR with trout or any other species within the last five years. Personal communication with Mike Porta [Pennsylvania Fish and Boating Commission (PFBC)] also confirmed no historical record of Michael Run being stocked with trout by the PFBC. Therefore, the observed brown trout population in this stream is not the result of recent stocking activities.

## **Existing Use Determination and Rationale**

*Current Use Class:* Class I-P

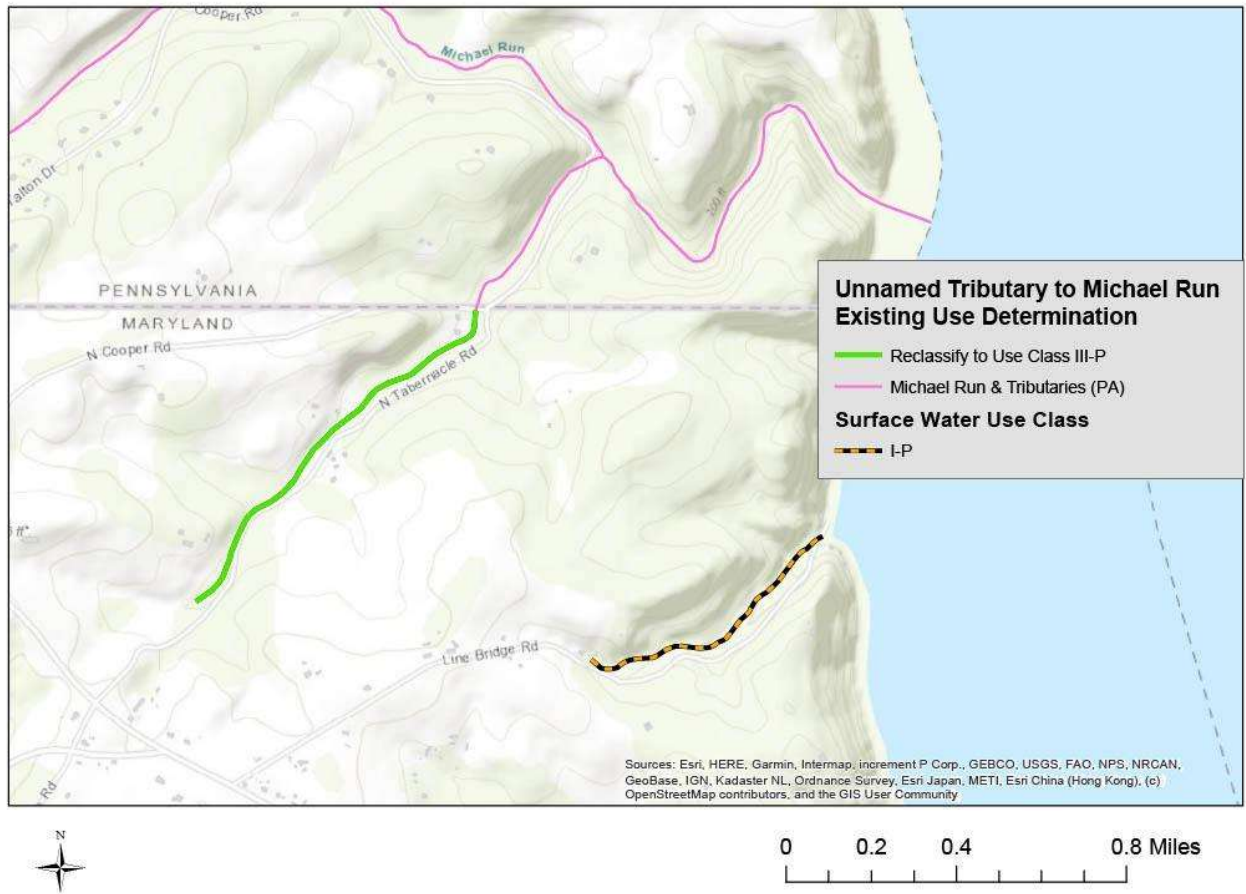
*Existing Use Determination:* The unnamed tributary to Michael Run, from the headwaters near North Tabernacle Rd [39.713601° N, -76.264204° W] downstream to the Pennsylvania-Maryland state line supports naturalized self-sustaining brown trout (*Salmo trutta*) and water temperatures that have a 90<sup>th</sup> percentile below 20 °C, an average daily mean below 17°C, and daily maximum below 23°C.

*Is this Existing Use Determination Consistent with the Current (May 2024) Designated Use Class?* **No.** The existing use of the unnamed tributary to Michael Run, is described as having naturalized self-sustaining brown trout. This existing use is different from the definition of a Use Class I/I-P water body which is described as “waters that are suitable for ...the growth and propagation of fish (other than trout)”. The existing use described above requires that water temperatures remain significantly colder than the water quality criterion established to protect the current use class (Class I-P) designation. Therefore, the existing use of the unnamed tributary to Michael Run requires protection to maintain the cold-water temperatures and naturalized self-sustaining brown trout population found here. These are both different from those afforded by the segment’s current Use Class designation of I-P.

*Changes Proposed to the Currently Designated Use Class:* As shown in Figure 2, the Department recommends that the unnamed tributary to Michael Run, from its headwaters to the Maryland-Pennsylvania line, be redesignated to Class III-P.

*Rationale for the Existing Use Determination:* The unnamed tributary to Michael Run supports a self-sustaining brown trout population and has water temperatures that meet the Use Class III-P criteria. Therefore, the Department has determined that this unnamed tributary has an existing use consistent with Use Class III-P.

Figure 2. Existing Use Determination of UT Michael Run



**Public Review Process:** This existing use determination went public in the September 6, 2024 edition of the Maryland Register and is undergoing public review and comment. The public comment period for this existing use determination will be open from September 6, 2024 through October 7, 2024.