Existing Use Determination and Rationale:

Upper Mainstem of the North Branch Potomac River near Kempton (Garrett County)

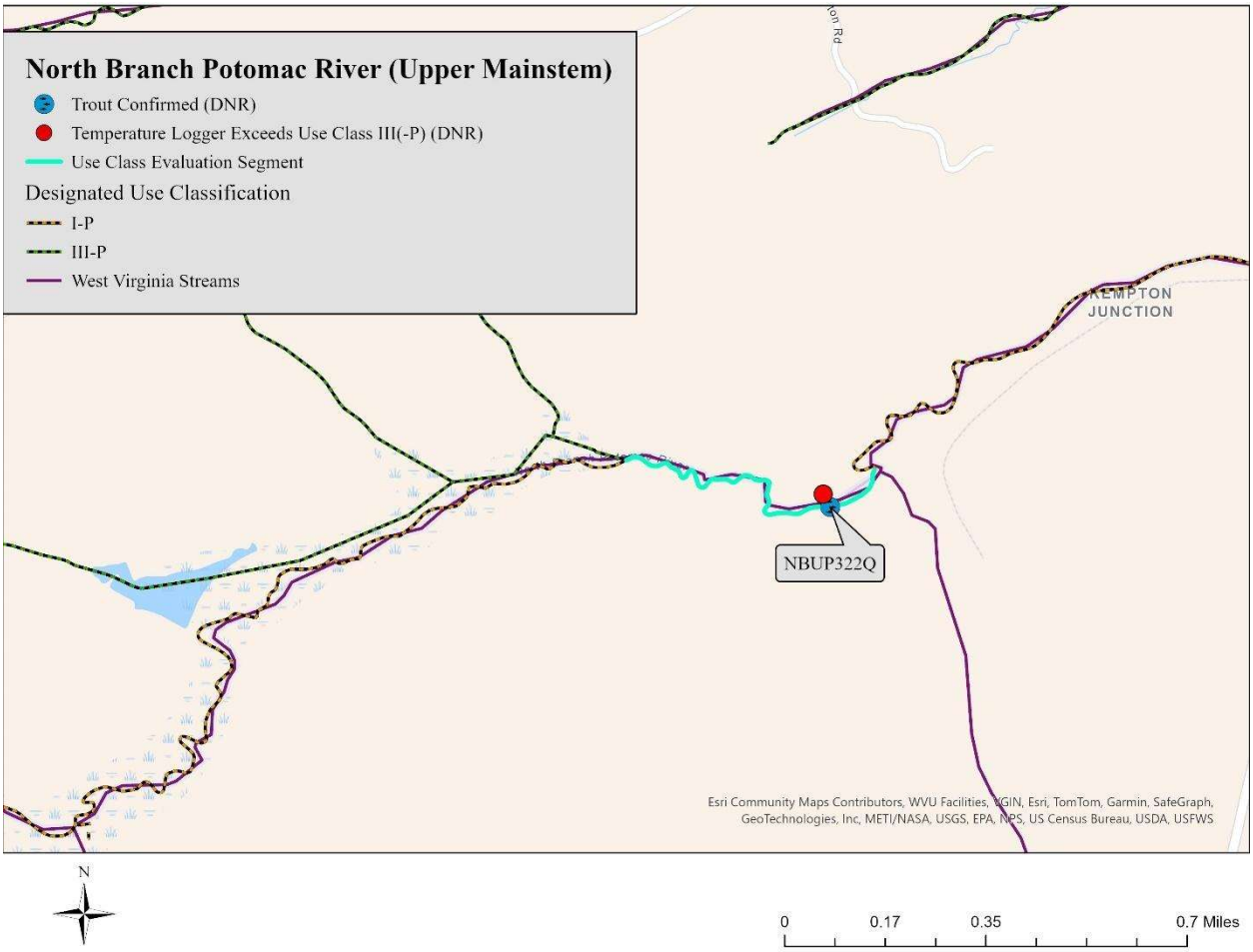
August 14, 2024

Description of Setting and Data Sources

The North Branch Potomac River (upper mainstem) segment (12-digit 021410050039) being evaluated within this document is located in the Upper North Branch Potomac River watershed along the West Virginia-Maryland border. The segment being evaluated is located south of Kempton Road, above the confluence with an unnamed tributary to the North Branch Potomac located near Kempton Junction [39.2112940° N, -79.4525914° W].

This stream segment is currently designated as Use Class I-P. In 2023, Maryland DNR Fisheries deployed a temperature logger to one location of the segment. Additionally, Maryland DNR Fisheries conducted one electrofishing survey along the segment in 2023. The figure below shows the location of the sampling stations. Temperature and biological data results are provided in Tables 1 and 2.

Figure 1: North Branch Potomac River



Temperature Data for North Branch Potomac River (upper mainstem)

Water temperature data were collected by Maryland DNR Fisheries in 2023.

Table 1. North Branch Potomac River (upper mainstem) Temperature Logger Data

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean (°C)	Daily Max (°C)
2023	NBUP322Q-2023	North Branch Potomac River	MDDNR Freshwater Fisheries	6624	45.80%	2.43%	16.68	26.38

*Water temperature logger data assessed from June 1st to August 31st. The "Daily Max" represents the maximum temperature from June 1st to August 31st.

Biological Data Summary for North Branch Potomac River (upper mainstem)

In 2023, the Maryland DNR Fisheries Program conducted an electrofishing survey at the station of NBUP322Q. Multiple YOY and adult brook trout were found at station NBUP322Q in 2023. The Maryland DNR Fisheries Program did not attempt to collect cold-water obligate benthic macroinvertebrate species at either of these stations.

Table 2. North Branch Potomac River (upper mainstem) Biological Data

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
6/9/2023	NBUP322Q-2023	North Branch Potomac River	MDDNR Freshwater Fisheries	Brook trout	17	Multiple Year Classes with YOY

DNR Fish Stocking

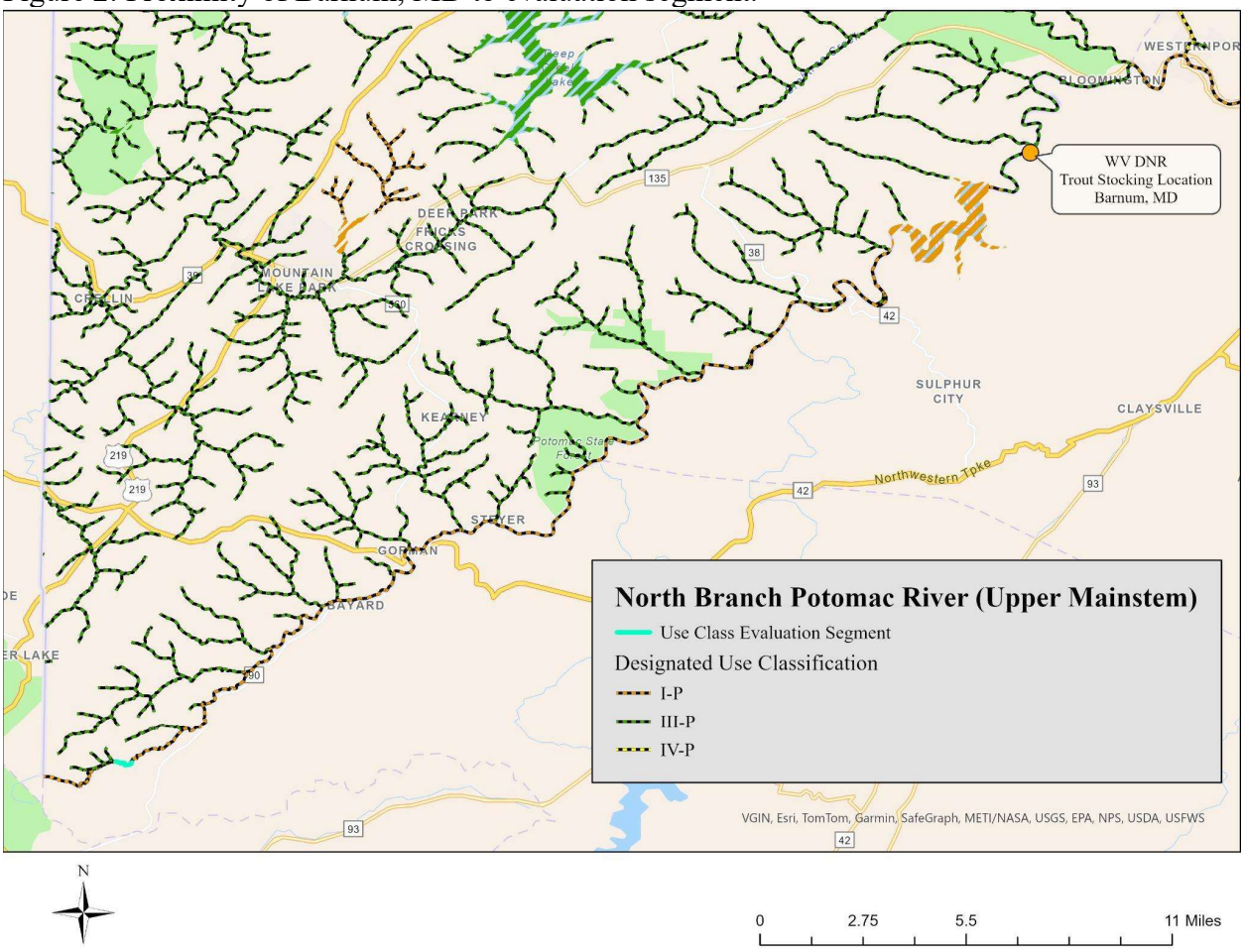
In personal communications with Matt Sell, Western Region I Fisheries Manager with Maryland Department of Natural Resources (MD DNR), the upper North Branch Potomac was stocked in 2023 with adult rainbow and golden trout downstream of the evaluation segment near Gormania, WV and Bayard, MD. Brook trout are not stocked by MD DNR.

In communications with Brandon J. Keplinger, District 2 Fisheries Biologist of West Virginia Division of Natural Resources (WV DNR) and Jim Hedrick, WV DNR Hatchery Program Manager, WV DNR does not stock trout within the upper portion of the North Branch Potomac, near the segment being evaluated in this document. WV DNR does stock portions of the North Branch Potomac downstream of the Jennings Randolph Reservoir annually, predominantly with rainbow and golden rainbow trout. WV DNR has historically stocked brook trout near Barnum, MD, downstream of Jennings Randolph Reservoir, but ceased intentional brook trout stocking activities after 2018. In communications with Jim Hedrick, WV DNR Hatchery Program Manager, brook trout were accidentally stocked at Barnum in 2023.

Trout Data Considerations

Young-of-year and adult-year classes of brook trout were found in 2023 within this segment of the upper North Branch Potomac River. It should be noted that West Virginia DNR actively stocked brook trout 30.8 miles downstream of this segment, near Barnum, MD prior to ceasing intentional stocking activity after 2018. See Figure 2 for proximity of Barnum, MD to the evaluation segment.

Figure 2: Proximity of Barnum, MD to evaluation segment.



According to the data policies outlined in Maryland's Cold Water Existing Use Determinations: Policy and Procedures[1] document, evidence of a self-sustaining, naturally reproducing trout population requires a minimum five years of no stocking activity within the evaluation segment or in nearby hydrologically connected streams to determine if populations are sustained by natural conditions rather than on-going stocking efforts. Maryland DNR fisheries data was collected in 2023 at the evaluated segment. In order to meet the requirement of a self-sustaining trout population, the most recent brook trout could have been stocked in a nearby hydrologically connected stream would have been 2018.

While brook trout stocking has occurred at the downstream location in Barnum, MD, as recent as 2023, there is a significant distance (30.8 stream miles) and multiple barriers to brook trout passage between the evaluation segment and the location of brook trout stocking in

1 https://mde.maryland.gov/programs/Regulations/HB1124/Documents/Cold%20Water%20Existing%20Use%20Dete rminations%20Policy%20and%20Procedures.pdf

Barnum, MD. Within the 2006 "Maryland Brook Trout Fisheries Management Plan"[2], this upper portion of the North Branch Potomac, where the evaluation segment is located, is specifically mentioned as being an isolated system for brook trout:

> "In the mainstem North Branch Potomac River above the Jennings Randolph Reservoir, brook trout tributary populations are isolated by chemical, physical (AMD inputs, high summer water temperatures, disrupted hydrology) and biological blockages (smallmouth bass presence) that prevent movement between systems." (MD DNR, 2006).

The Jennings Randolph Reservoir and its physical dam is a significant physical barrier to trout passage to the evaluation segment. Due to barriers to fish passage and the large distance between the evaluation segment and previous stocking location, it is unlikely the brook trout populations documented by MD DNR in 2023 at the evaluation segment are a result of WV DNR brook trout stocking activity in Barnum, MD. Therefore, the presence of multiple adult year classes and YOY brook trout in the 2023 sampling event fulfill the biological conditions as defined in the Coldwater Existing Use Policy and Procedures[1] and confirms the presence of a self-sustaining brook trout population in this segment of the North Branch Potomac River.

[2] https://dnr.maryland.gov/fisheries/documents/MD_Brook_Trout_management_plan.pdf

Existing Use Determination and Rationale

Current Use Class: Class I-P

Existing Use Determination: The North Branch Potomac River (upper mainstem), from the confluence with the Unnamed Tributary (UT) to the North Branch Potomac River [39.2115458° N, -79.4588322 ° W] downstream to the next confluence [39.2112940° N, -79.4525914° W] supports self-sustaining brook trout (*Salvelinus fontinalis*) and water temperatures that remain below 20 °C 54 % of the time, below 24 °C 97% of the time, have an average daily mean below 17°C, and a daily maximum below 26.5°C.

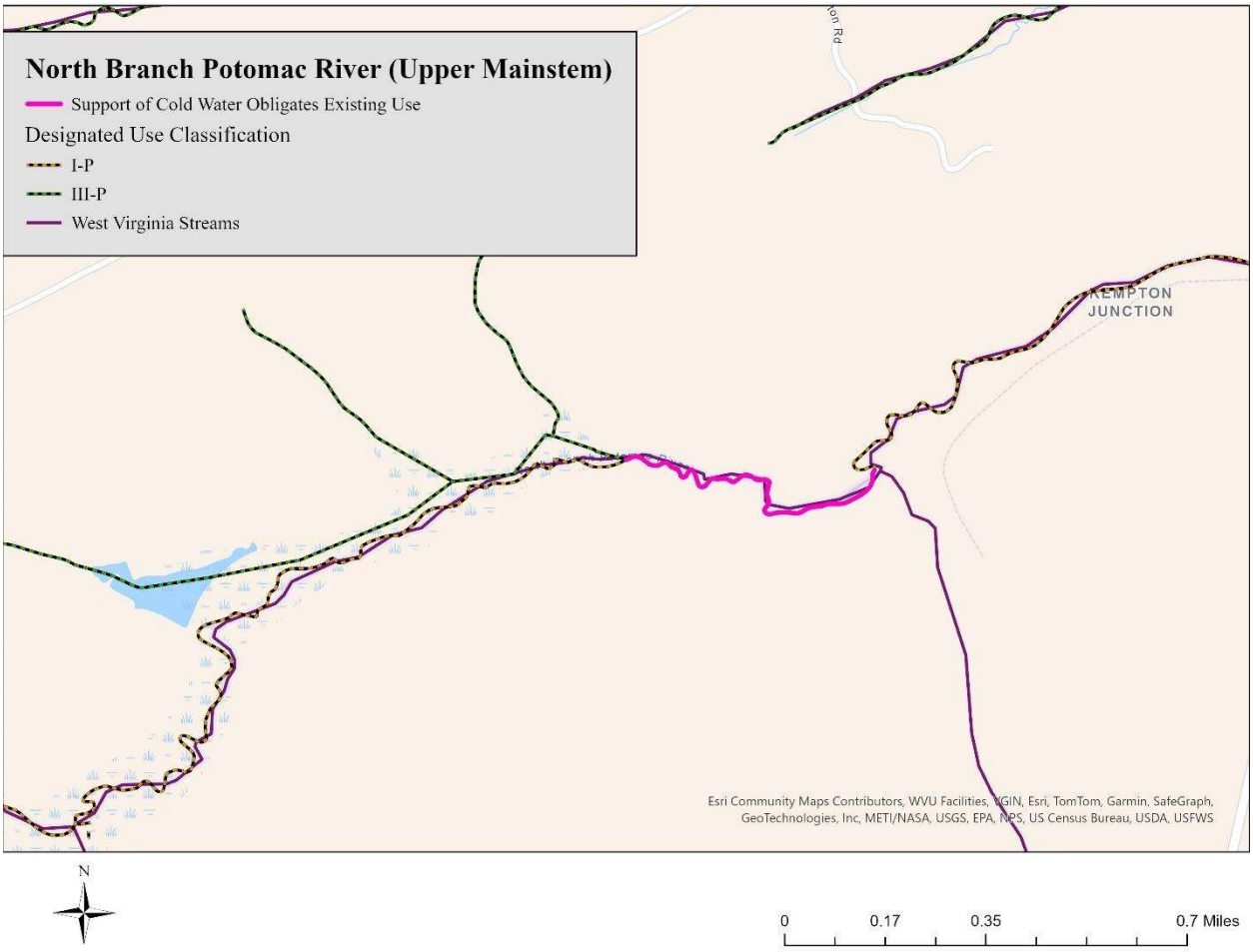
Is this Existing Use Determination Consistent with the Current (August 2024) Designated Use Class? **No.** The existing use of this segment of the North Branch Potomac River currently supports a self-sustaining brook trout population. This existing use is different from the definition of a Use Class 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 this segment of the North Branch Potomac River requires protection to maintain the cold-water temperatures and self-sustaining brook 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: Though the designated use class of this section of the North Branch Potomac River should be revised to reflect and be protective of the existing use, current temperature data do not support the re-designation of this section of the North Branch Potomac River to Class III-P without conducting a use attainability analysis (UAA). Since Maryland is in the process of potentially developing a new 'cool water' use class as part of the work of the Cold-Water Advisory Committee, it is not prudent to redesignate this section of the North Branch Potomac River at this time. Instead, and until Maryland either completes a UAA or establishes new definitions for a cool water use, MDE will formally recognize this section of the North Branch Potomac River as having an existing use requiring the protection of self-sustaining brook trout populations and water temperatures colder than what's required for a Class I stream; see Figure 3.

Rationale for the Existing Use Determination: This segment of the North Branch Potomac River (upper mainstem segment near Kempton) supports a self-sustaining brook trout population, as evidenced by MD DNR's 2023 sampling event. The water temperature data collected in this stream segment do not meet the Class III(-P) temperature criterion; therefore, the State cannot currently redesignate this portion of the North Branch Potomac River to Class III-P without further improvements in water temperature or completing a UAA. While these water temperature data may support a redesignation to the conceptualized 'cool water' use currently being discussed, since these uses are in flux, the State prefers to protect this stream with the protections under Tier I Antidegradation Policy until those uses are properly revised and/or

developed. Therefore, the existing use of this section of the North Branch Potomac River is defined as supporting self-sustaining brook trout (*Salvelinus fontinalis*) and water temperatures that remain below 20 °C 54% of the time, below 24°C 97% of the time, have an average daily mean below 17°C, and a daily maximum below 26.5 °C.

Figure 3: Existing Use Determination of North Branch Potomac River (Garrett County)



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.