

Existing Use Determination and Rationale:

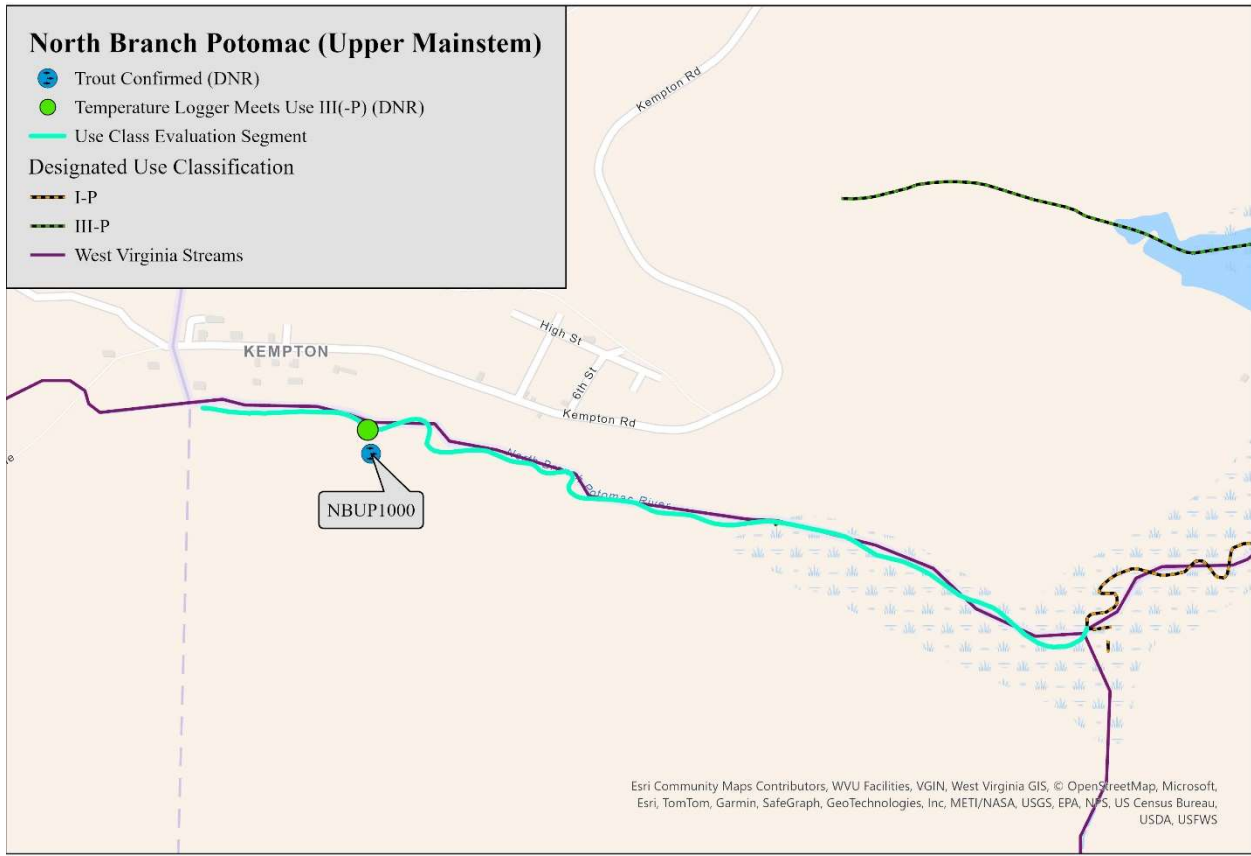
North Branch Potomac River, Upper Mainstem (Garrett County)

June 13, 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 North Branch Potomac River segment being evaluated runs from the southwestern-most part of Garrett County near the town of Kempton to the confluence with the Unnamed Tributary to the North Branch Potomac [39.2024041° N, - 79.4726861° W] that flows from West Virginia into the North Branch Potomac. This stream segment is currently designated as Use Class I-P. In 2022, Maryland DNR Fisheries deployed a temperature logger to one location of the segment. In 2023, follow-up temperature monitoring was conducted at the station. Additionally, Maryland DNR Fisheries conducted two electrofishing surveys along the segment in 2022 and 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 2022 and 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)
2022	NBUP1000-2022	North Branch Potomac River	MDDNR Freshwater Fisheries	6192	0.31%	0%	16.66	20.34
2023	NBUP1000-2023	North Branch Potomac River	MDDNR Freshwater Fisheries	6624	0.72%	0%	16.10	21.75

*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)

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

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
6/30/2022	NBUP1000-2022	North Branch Potomac River	MDDNR Freshwater Fisheries	Brook trout	42	Multiple Year Classes with YOY
7/12/2023	NBUP1000-2023	North Branch Potomac River	MDDNR Freshwater Fisheries	Brook trout	56	Multiple Year Classes with YOY

The Maryland DNR Fisheries Program conducted a Zippin Multiple Pass electrofishing survey in 2022 and 2023 at station NBUP1000. The NBUP1000 trout data from 2022 and 2023 shows multiple young-of-year (YOY) brook trout and brook trout adults. The Maryland DNR Fisheries Program did not attempt to collect cold-water obligate benthic macroinvertebrate species.

DNR Fish Stocking

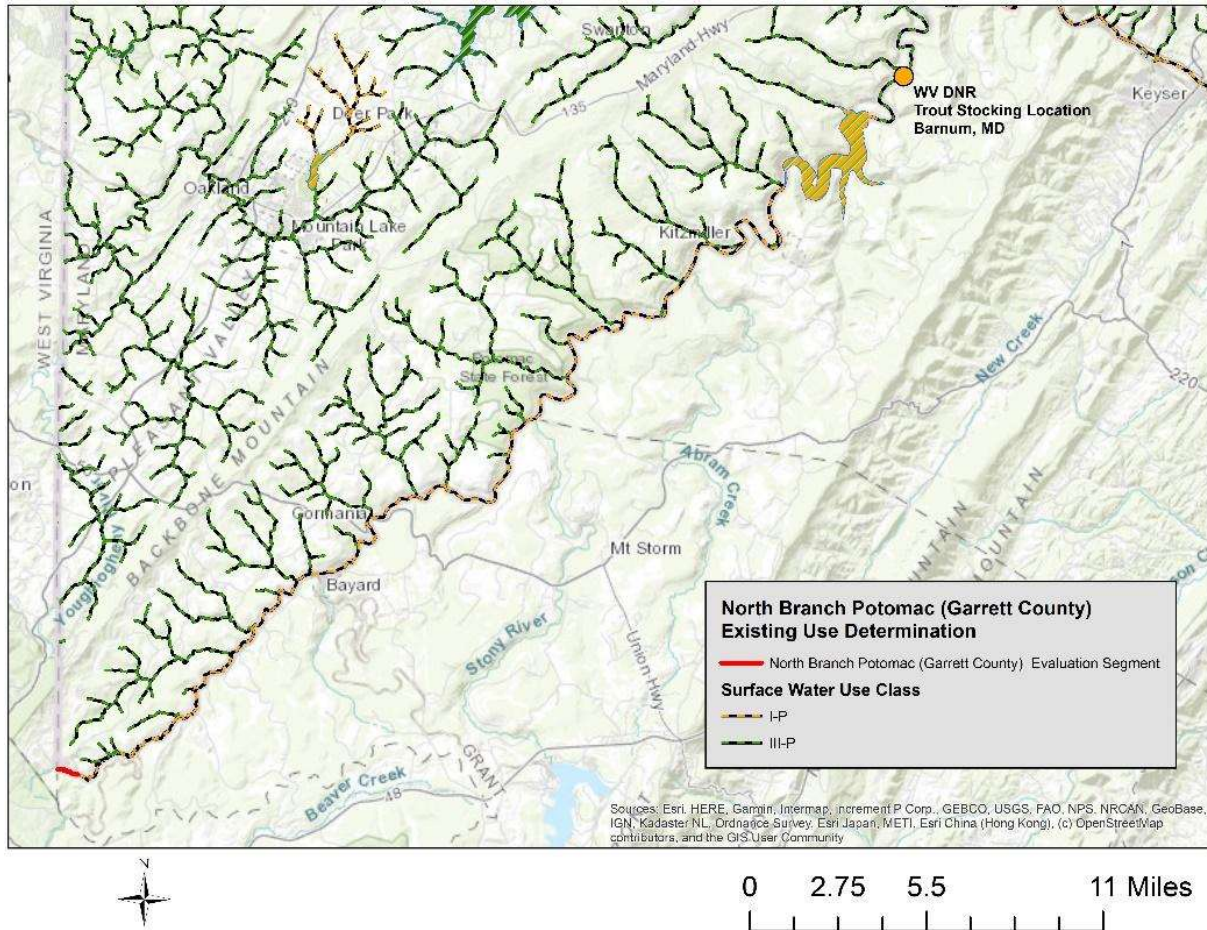
In personal communications with Matt Sell, Western Region I Fisheries Manager with Maryland Department of Natural Resources (MD DNR), the upper North Branch Potomac was stocked in 2023 with adult rainbow and golden trout downstream of the evaluation segment near Gorman, WV and Bayard, MD. Brook trout 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 annually stock portions of the North Branch Potomac downstream of the Jennings Randolph Reservoir, 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

There is evidence of brook trout populations within this segment of the upper North Branch Potomac River, as sampled in 2022 and 2023. West Virginia DNR actively stocked brook trout 31.6 miles downstream, near Barnum, MD prior to ceasing 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 2022, meaning that the most recent brook trout stocking at the time of data collection was four years prior, in 2018.

While brook trout stocking has occurred at the downstream location in Barnum, MD, there is a significant distance (31.6 stream miles) and multiple barriers to brook trout passage between the evaluation segment and the previously stocked location. Within the 2006 [Maryland Brook Trout Fisheries Management Plan](#)², this upper portion of the North Branch Potomac,

1

<https://mde.maryland.gov/programs/Regulations/HB1124/Documents/Cold%20Water%20Existing%20Use%20Determinations%20Policy%20and%20Procedures.pdf>

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

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 2022 and 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 2022 and 2023 sampling events fulfill the biological conditions as defined in the [Coldwater Existing Use Policy and Procedures](#) and confirms the presence of self-sustaining brook trout populations in the North Branch Potomac River.

Existing Use Determination and Rationale for the mainstem North Branch Potomac River from the Town of Kempton downstream to the next stream confluence

Current Use Class: Class I-P

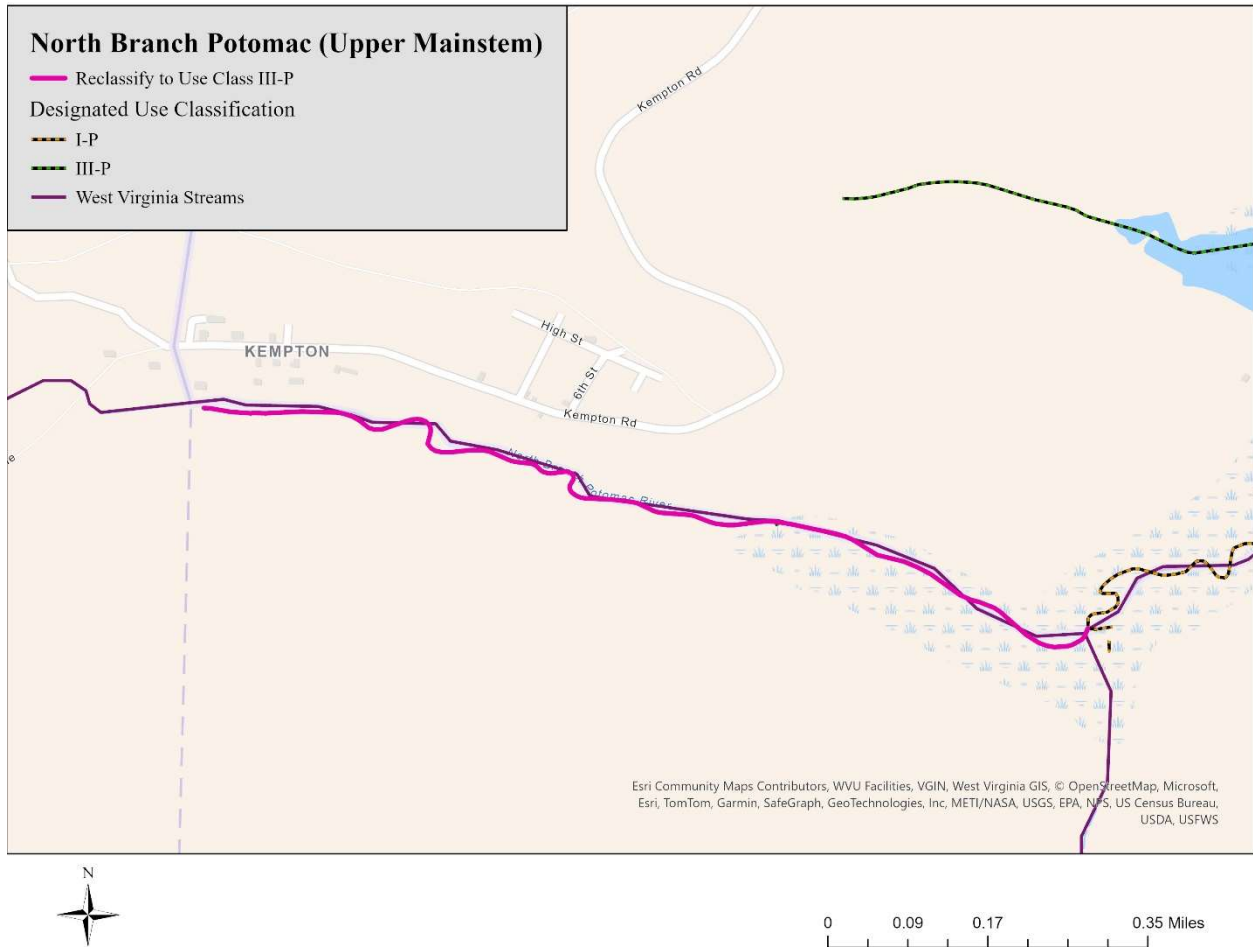
Existing Use Determination: The North Branch Potomac River (upper mainstem), from the border of West Virginia and Maryland [39.2058829° N, -79.4866701° W] downstream to the next confluence [39.2024041° N, -79.4726861° W] supports self-sustaining brook trout (*Salvelinus fontinalis*) and water temperatures that have a 90th percentile below 20 °C, an average daily mean below 17°C, and daily maximum below 22°C.

Is this Existing Use Determination Consistent with the Current (June 2024) Designated Use Class? No. The existing use of the North Branch Potomac River (upper mainstem segment) 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 the North Branch Potomac River (upper mainstem segment) requires protection to maintain the cold-water temperatures and self-sustaining brook trout population found here. These are both different from those protections afforded by the segment’s current Use Class designation of I-P.

Changes Proposed to the Currently Designated Use Class: As shown in Figure 3, the Department recommends that the North Branch Potomac River (upper mainstem segment), from the Maryland-West Virginia line to its confluence with the next stream segment, be redesignated to Class III-P.

Rationale for the Existing Use Determination: The North Branch Potomac River (upper mainstem segment) supports a self-sustaining brook trout population and has water temperatures that meet the Use Class III-P criteria. Therefore, the Department has determined that this stream segment has an existing use consistent with Use Class III-P.

Figure 3: Existing Use Determination of North Branch Potomac River (upper mainstem segment)



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.