Existing Use Determination and Rationale: Big Pipe Creek Main Stem and Tributaries (Carroll County)

May 18, 2020

Description of Setting and Data Sources

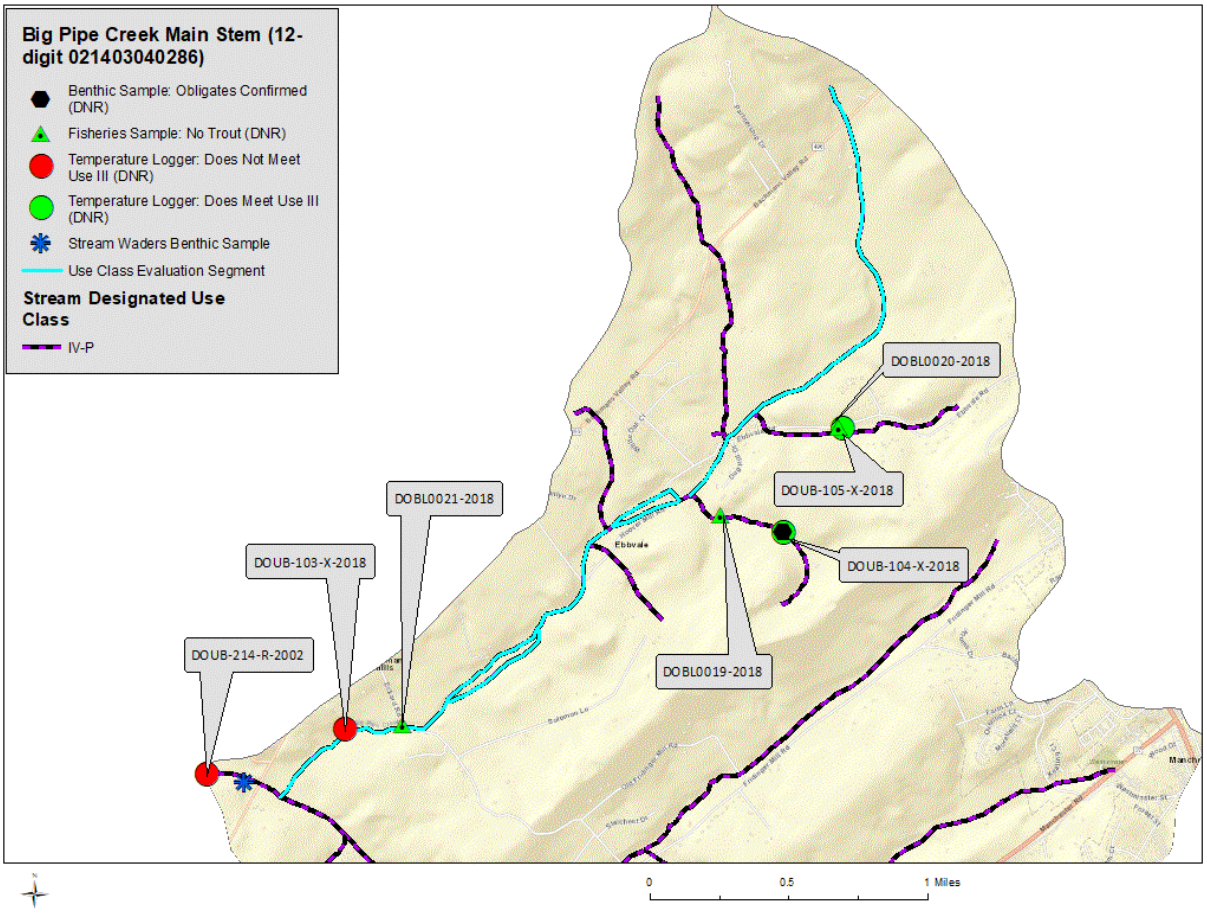
The Big Pipe Creek main stem and associated tributaries in the Double Pipe Creek watershed above Rinehart Road (12-digits 021403040284, 021403040286, and 021403040287) are located north of Westminster, MD in Carroll County. At least some portions of these catchments have been found to support naturally reproducing populations of brook trout but are currently designated as Class IV-P waters. Carroll County, the MDDNR Fisheries and MBSS Programs, and Stream Waders volunteers have conducted surveys of these waterbody segments. The figures in this document show the locations and sampling stations associated with the waters being evaluated. Tables 1 through 11 provide a summary of water temperature and cold water obligate species data for this area. For the purposes of determining the existing uses at an appropriate level of specificity, this document examines available data for the following portions of the Big Pipe Creek watershed:

- Big Pipe Creek main stem upstream of Route 496 Bachmans Valley Road
- Unnamed Tributary To Big Pipe Creek Near Ebbvale Rd
- Unnamed Tributary To Big Pipe Creek Near Dug Hill Dive
- Unnamed Tributary To Big Pipe Creek Near Route 27 Manchester Road
- Unnamed Tributary To Big Pipe Creek Near Homestead Drive
- Unnamed Tributary To Big Pipe Creek Near Bixler Church Road
- Ohio Branch

Big Pipe Creek Main Stem (Upstream of Route 496 Bachmans Valley Road) Existing Use Determination

Biological and Temperature logger data are available for the Big Pipe Creek Mainstem as well as two small unnamed tributaries. Because the data show that the existing uses of the main stem and two small tributaries are different, they are considered separately.

Figure 1: Main Stem of Big Pipe Creek



Temperature Data Summary for Big Pipe Creek Main Stem

Water temperature data were collected during 2 separate sampling events by MDDNR MBSS. Neither event demonstrated Use Class III temperature criteria attainment.

Table 1. Big Pipe Creek Main Stem Temperature Logger Data

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2018	DOUB-103-X-2018	Big Pipe Creek	MDDNR MBSS	6624	22%	0%	18.71	21.67
2002	DOUB-214-R-2002	Big Pipe Creek	MDDNR MBSS	4239	64%	14%	20.93	27.25

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

Biological Data Summary for Big Pipe Creek Main Stem

MDDNR fisheries conducted 1 biological sampling event and MDDNR MBSS conducted 1 biological sampling event in the Big Pipe Creek Main Stem. No coldwater obligates were found.

Table 2. Big Pipe Creek Main Stem Biological Data

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
6/13/2018	DOBL0021	Big Pipe Creek	MDDNR Fisheries Program	-	-	-
2018	DOUB-103-X-2018	Big Pipe Creek	MDDNR MBSS (only benthic macroinvertebrates sampled)	-	-	-
7/8/2002	DOUB-214-R-2002	Big Pipe Creek	MDDNR MBSS	-	-	-

Existing Use Determination and Rationale for Big Pipe Creek Main Stem

Current Use Class: Class IV-P

Existing Use Determination: The existing use of the Big Pipe Creek mainstem is no different than its currently designated use class of IV-P.

Is this Existing Use Determination Consistent with the Current (March 2020) Designated Use Class? **Yes.** Since no cold water obligate species (e.g. trout, tallaperla, etc) were found within this segment, the existing use of the Big Pipe Creek mainstem does not require that water temperatures remain significantly colder than the water quality criterion established to protect the current use class (Class IV-P) designation. As a result, the existing use of Big Pipe Creek does

not require a different level of protection than that afforded by the current use class designation of IV-P.

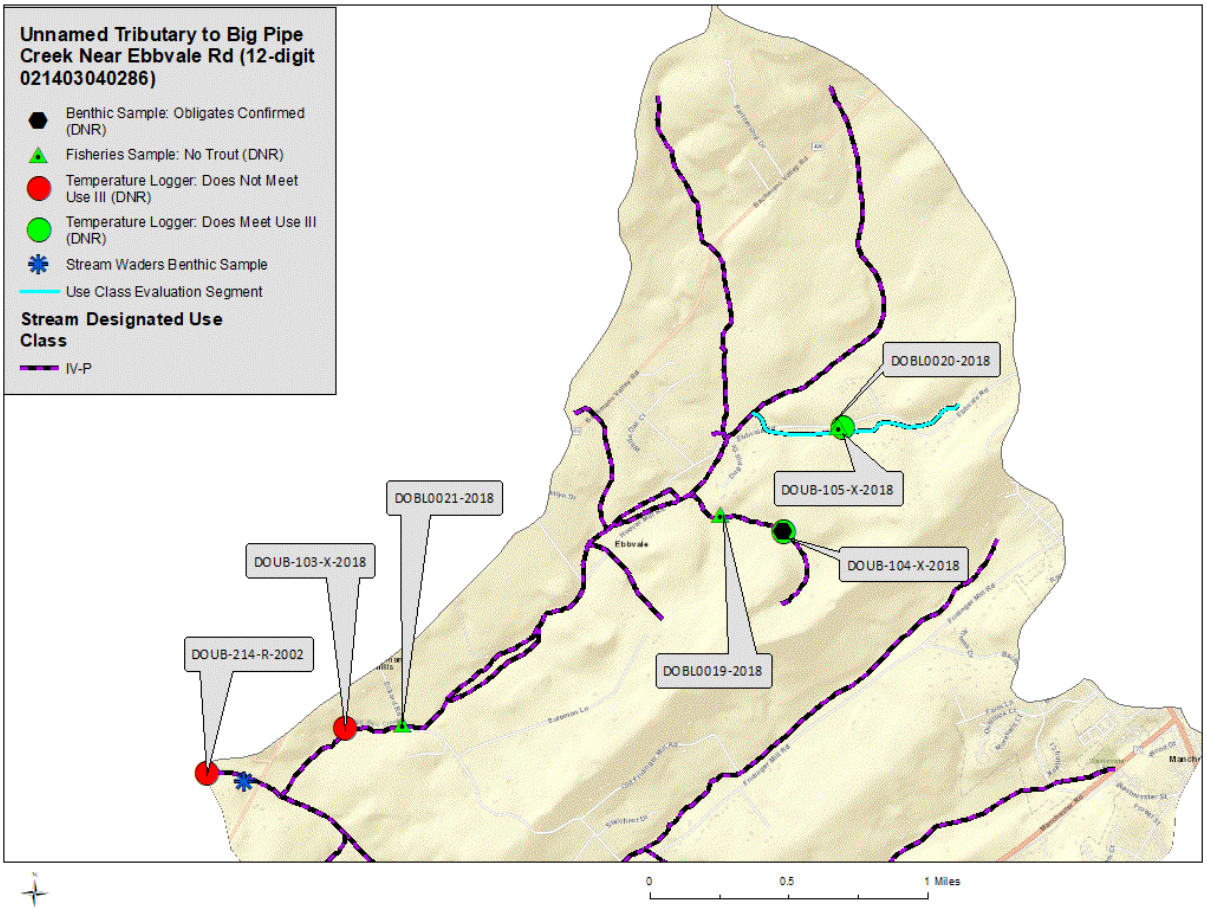
Changes Proposed to the Currently Designated Use Class: No changes are currently proposed to the designated use of this stream segment.

Rationale for the Existing Use Determination: The water temperature in the upstream portion of the main stem does not meet the Use Class III-P criteria. Brook trout or other cold water obligate species have not yet been confirmed within the main stem, therefore MDE does not recognize this tributary as having an existing use associated with self-sustaining trout populations or otherwise different from Use Class IV-P.

Unnamed Tributary to Big Pipe Creek Near Ebbvale Rd Existing Use Determination

Water temperature and biological data were collected at the DOUB-105-X-2018 MBSS sampling station in this unnamed tributary. A MDDNR fisheries sample also occurred in 2018 at the same location.

Figure 2: Unnamed Tributary to Big Pipe Creek Near Ebbvale Rd



Temperature Data Summary for Unnamed Tributary to Big Pipe Creek near Ebbvale Rd

Water temperature data collected at the DOUB-105-X-2018 station by MDDNR MBSS demonstrated Use Class-III temperature criteria attainment.

Table 3. Unnamed Tributary to Big Pipe Creek near Ebbvale Rd Temperature Logger Data

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2018	DOUB-105-X-2018	UT to Big Pipe Creek near Ebbvale Rd	MDDNR MBSS	6624	2%	0%	17.24	19.5

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

Biological Data Summary for Unnamed Tributary to Big Pipe Creek near Ebbvale Rd

Biological data were collected during two sampling events in 2018. No cold water obligates were found.

Table 4. Unnamed Tributary to Big Pipe Creek near Ebbvale Rd Biological Data

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
6/13/2018	DOBL0020	UT to Big Pipe Creek near Ebbvale Rd	MDDNR Fisheries Program	-	-	-
2018	DOUB-105-X-2018	UT to Big Pipe Creek near Ebbvale Rd	MDDNR MBSS	-	-	-

Existing Use Determination and Rationale for Unnamed Tributary to Big Pipe Creek near Ebbvale Rd

Current Use Class: Class IV-P

Existing Use Determination: The existing use of this unnamed tributary is no different than its currently designated use class of IV-P.

Is this Existing Use Determination Consistent with the Current (March 2020) Designated Use Class? **Yes.** Since no cold water obligate species (e.g. trout, tallaperla, etc) were found within this water segment, the existing use of this unnamed tributary does not require that water temperatures remain significantly colder than the water quality criterion established to protect the current use class (Class IV-P) designation. As a result, the existing use of this tributary to Big Pipe Creek does not require a different level of protection than that afforded by the current use class designation of IV-P.

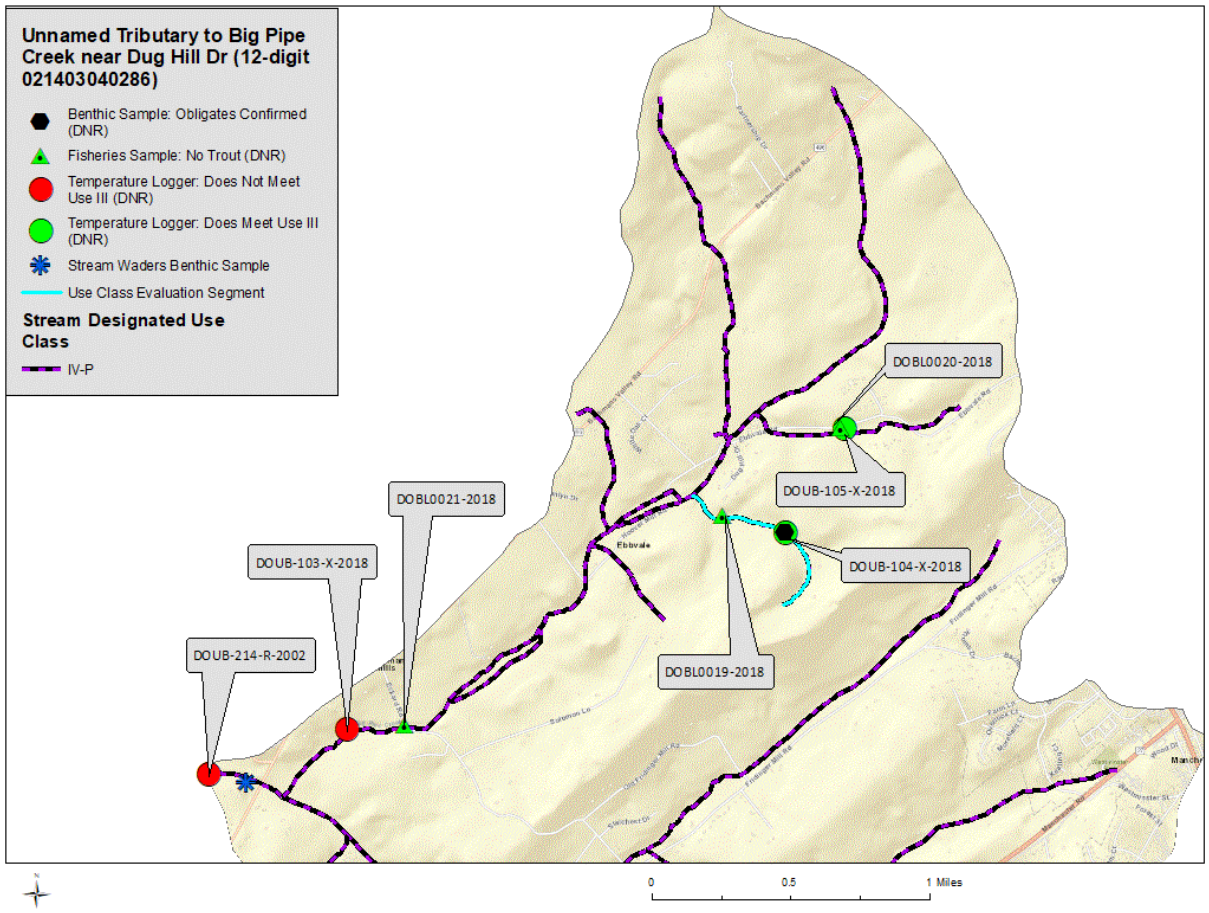
Changes Proposed to the Currently Designated Use Class: No changes are currently proposed to the designated use class of this tributary.

Rationale for the Existing Use Determination: The water temperature in this unnamed tributary meets the Use Class III-P criteria. However, brook trout or other cold water obligate species have not yet been confirmed within this tributary, therefore MDE does not recognize this tributary as having an existing use associated with self-sustaining trout populations or otherwise different from Use Class IV-P.

Unnamed Tributary to Big Pipe Creek Near Dug Hill Drive Existing Use Determination

Biological and temperature data are available for this unnamed tributary from two stations. Although the biological sampling events did not confirm the presence of a trout population, results show that coldwater obligate macroinvertebrates are present in this unnamed tributary. Furthermore, temperature logger data confirms that this unnamed tributary meets Use Class III temperature criteria.

Figure 3. Unnamed Tributary to Big Pipe Creek Near Dug Hill Drive



Temperature Data Summary for Unnamed Tributary to Big Pipe Creek Near Dug Hill Drive

Temperature data were collected at the DOUB-104-2018 MBSS sampling station in 2018. The data demonstrated attainment of Use Class III temperature criteria.

Table 5. Unnamed Tributary to Big Pipe Creek near Dug Hill Dr. Temperature Logger Data

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2018	DOUB-104-X-2018	UT to Big Pipe Creek near Dug Hill Dr	MDDNR MBSS	6624	3%	0%	17.32	20.18

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

Biological Data Summary for Unnamed Tributary to Big Pipe Creek Near Dug Hill Dr.

Biological data were collected during two sampling events in 2018. One cold water obligate was found at the DOUB-104-X-2018 station.

Table 6. Unnamed Tributary to Big Pipe Creek near Dug Hill Drive Biological Data

Date	Station ID	Stream	DATA SUBMITTER	Species	Count	Maturity
6/13/2018	DOBL0020	UT to Big Pipe Creek near Dug Hill Dr.	MDDNR Fisheries Program	-	-	-
2018	DOUB-104-X-2018	UT to Big Pipe Creek near Dug Hill Dr.	MDDNR MBSS	*Tallaperla*	1	

Existing Use Determination and Rationale for Unnamed Tributary to Big Pipe Creek near Dug Hill Dr.

Current Use Class: Class IV-P

Existing Use Determination: This unnamed tributary to Big Pipe Creek, from its confluence with Big Pipe Creek [39.675983ºN, -76.919152ºW] and including all upstream surface waters, supports cold water obligates and has water temperatures that have a 90^{th} percentile below 20°C, an average daily mean below 20°C, and daily max below 24°C.

Is this Existing Use Determination Consistent with the Current (March 2020) Designated Use Class? **No.** The existing use of this tributary, as described above, requires that water temperatures remain significantly colder than the water quality criterion established to protect the current use class (Class IV-P) designation. As a result, the existing use of this tributary to Big Pipe Creek requires protections to maintain the cold water temperatures currently found in this tributary and different than those afforded by the current use class designation of IV-P.

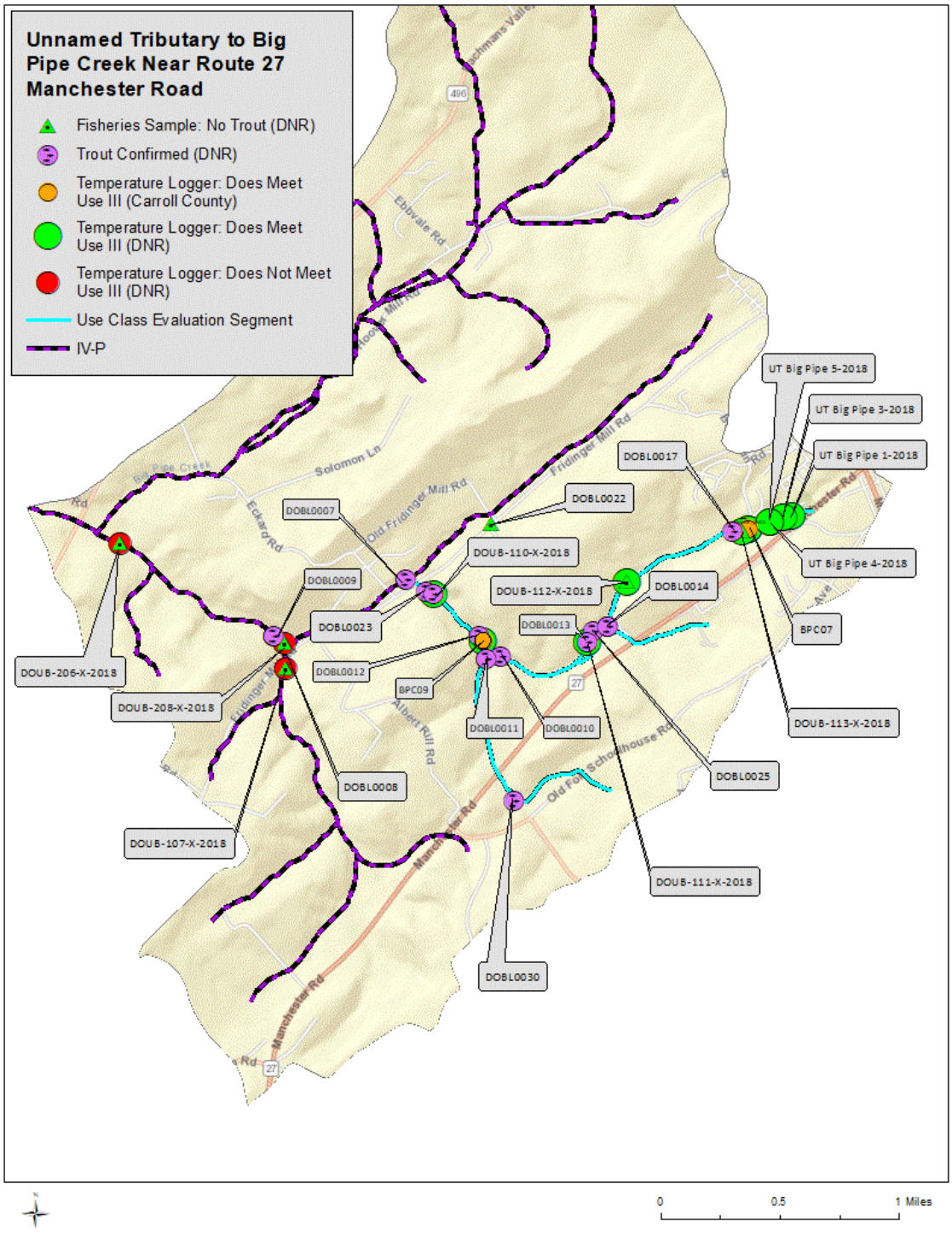
Changes Proposed to the Currently Designated Use Class: As shown in Figure 8, the Department recommends that the unnamed tributary to Big Pipe Creek near Dug Hill Drive be redesignated to Class III-P.

Rationale for the Existing Use Determination: Available data for this unnamed tributary demonstrate the presence of cold water obligate species and water temperatures that meet the Use Class III-P criteria.

Unnamed Tributary To Big Pipe Creek Near Route 27 Manchester Road Existing Use Determination (Upstream of Fridinger Mill Road)

Biological and temperature data have been collected throughout this unnamed tributary's upstream catchment. A reproducing brook trout population has been confirmed in this tributary and the upstream regions of the watershed meet the Use Class III temperature criteria. The temperature data collected suggests that the waters upstream of a confluence at Fridinger Mill Road (39.657544^{o} N, -76.922310^{o} W) is achieving the Use Class III temperature criteria.

Figure 4: Unnamed Tributary to Big Pipe Creek Near Route 27 Manchester Road



Temperature Data Summary for Unnamed Tributary to Big Pipe Creek Near Route 27 Manchester Road

All 11 sampling events in this portion of the catchment demonstrated attainment of the Use Class III temperature criteria. Carroll County scientists submitted daily mean temperature results for 7 days at station BPC07 between June and August 2016. As a result, the average daily mean and daily max data calculations utilized mean temperatures for those results.

Table 7: Unnamed Tributary to Big Pipe Creek Near Route 27 Manchester Road Temperature Logger Data

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2018	BPC09	UT to Big Pipe Creek near Homestead Drive	Carroll County	6624	4%	0%	17.57	24.03
	BPC07	UT to Big Pipe Creek near Homestead Drive	Carroll County	6624	2%	0%	16.21	22.08
2016	BPC07	UT to Big Pipe Creek near Homestead Drive	Carroll County	7	0%	0%	16.91	18.7
2018	Ut Big Pipe 1	UT to Big Pipe Creek near Homestead Drive	MDDNR Fisheries	6624	0.06%	0%	16.3	21.3
	Ut Big Pipe 3	UT to Big Pipe Creek near Homestead Drive	MDDNR Fisheries	6624	2%	0.03%	15.8	24.6
	Ut Big Pipe 4	UT to Big Pipe Creek near Homestead Drive	MDDNR Fisheries	6624	1%	0%	15.7	22.7
	Ut Big Pipe 5	UT to Big Pipe Creek near Homestead Drive	MDDNR Fisheries	6624	1%	0%	15.7	22.2
2018	DOUB-110-X-2018	UT to Big Pipe Creek near	MDDNR MBSS	6624	10%	0%	17.85	20.32

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
		Homestead Drive						
2018	DOUB-111-X-2018	UT to Big Pipe Creek near Homestead Drive	MDDNR MBSS	6624	3%	0%	17.32	20.27
2018	DOUB-112-X-2018	UT to Big Pipe Creek near Homestead Drive	MDDNR MBSS	6624	4%	0%	17.16	20.49
2018	DOUB-113-X-2018	UT to Big Pipe Creek near Homestead Drive	MDDNR MBSS	6624	1%	0%	16.47	19.57

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

Biological Data Summary for Unnamed Tributary to Big Pipe Creek Near Route 27 Manchester Road

Maryland DNR Fisheries conducted extensive sampling throughout this section of the watershed. A total of 11 sampling events demonstrated the presence of a reproducing brook trout population. MDDNR fisheries did not attempt to collect coldwater obligate benthic macroinvertebrate species.

Table 8. Unnamed Tributary to Big Pipe Creek Near Route 27 Manchester Road Biological Data

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
9/21/2018	DOBL0017	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	21	Adult with YOY
9/13/2018	DOBL0030	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	8	Multiple Year Classes with YOY
6/21/2018	DOBL0014	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	32	Multiple Year Classes with YOY
6/21/2018	DOBL0025	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	13	Multiple Year Classes with YOY
6/19/2018	DOBL0023	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	1	Adult

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
8/31/2017	DOBL0014	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	12	Multiple Year Classes with YOY
8/31/2017	DOBL0013	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	32	Multiple Year Classes with YOY
8/25/2017	DOBL0012	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	12	Multiple Year Classes with YOY
8/25/2017	DOBL0011	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	2	Multiple Year Classes with YOY
8/25/2017	DOBL0010	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	14	Multiple Year Classes with YOY
6/19/2018	DOUB-110-X-2018	UT to Big Pipe Creek	MDDNR MBSS	brook trout	1	Adult
2018	DOUB-111-X-2018	UT to Big Pipe Creek	MDDNR MBSS (only benthic macroinvertebrates sampled)	-	-	-
2018	DOUB-112-X-2018	UT to Big Pipe Creek	MDDNR MBSS (only benthic macroinvertebrates sampled)	-	-	-
2018	DOUB-113-X-2018	UT to Big Pipe Creek	MDDNR MBSS (only benthic macroinvertebrates sampled)	-	-	-

*YOY - young-of-year

Existing Use Determination and Rationale for Unnamed Tributary To Big Pipe Creek Near Route 27 Manchester Road (Upstream of Fridinger Mill Road)

Current Use Class: Class IV-P

Existing Use Determination: This section of the unnamed tributary, from its confluence with another unnamed tributary [39.657544^{o} N, -76.922310^{o} W] and including all upstream surface waters, supports a reproducing brook population and has water temperatures that have a 90th percentile below 20°C, an average daily mean below 20°C, and daily max below 24°C.

Is this Existing Use Determination Consistent with the Current (March 2020) Designated Use Class? **No.** The existing use of this section of the tributary, as described above, requires that water temperatures remain significantly colder than the water quality criterion established to protect the current use class (Class IV-P) designation. As a result, the existing use of this section of this tributary to Big Pipe Creek requires protections to maintain the coldwater temperatures currently found in this tributary and different than those afforded by the current use class designation of IV-P.

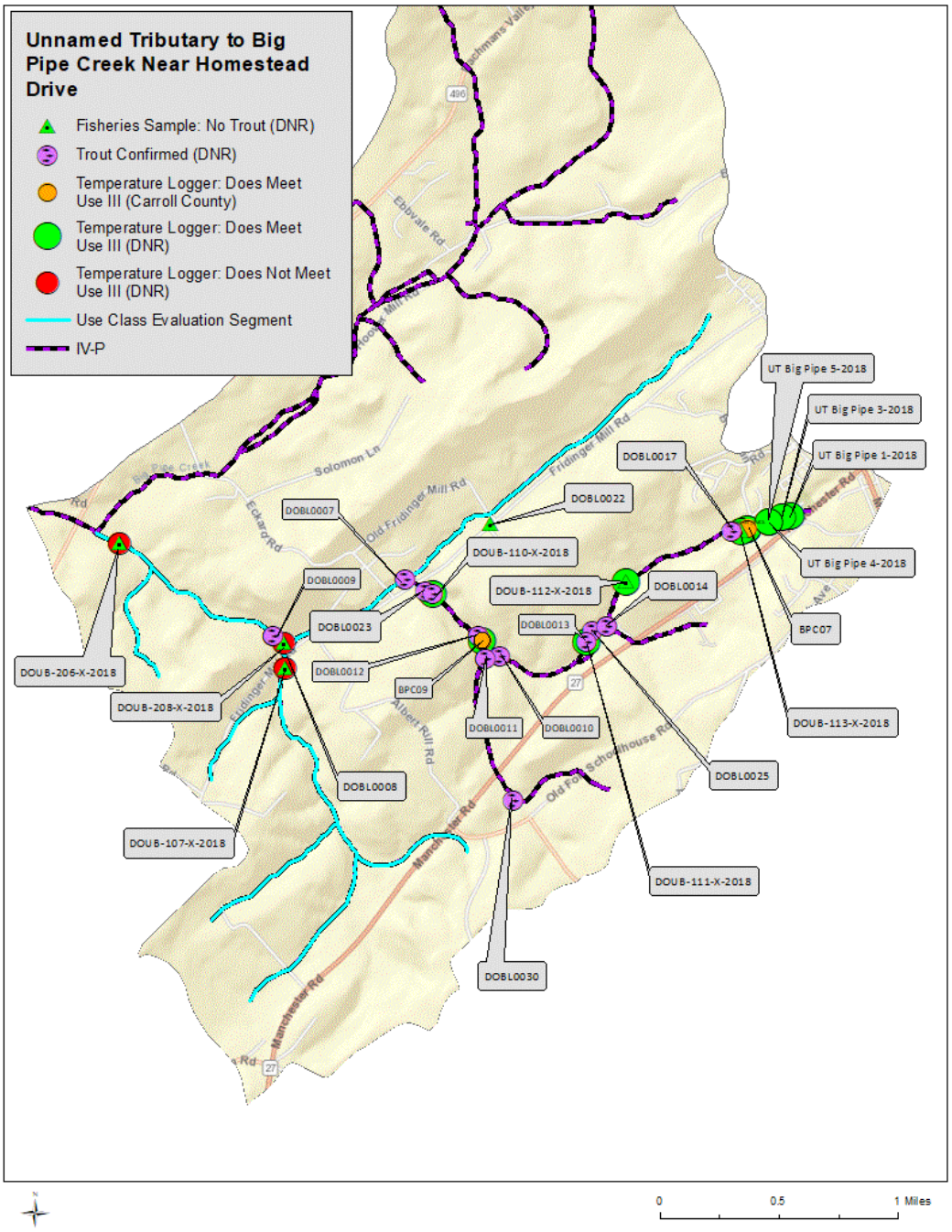
Changes Proposed to the Currently Designated Use Class: As shown in Figure 8, the Department recommends that the portion of the unnamed tributary to Big Pipe Creek, upstream of the confluence near Fridinger Mill Road, be redesignated, to Class III-P.

Rationale for the Existing Use Determination: The water temperature in this unnamed tributary meets the Use Class III-P temperature criteria and supports a reproducing brook trout population. Therefore, the Department has determined that this unnamed tributary has an existing use consistent with Use Class III-P.

Unnamed Tributary to Big Pipe Creek Near Homestead Drive (downstream of the confluence at Fridinger Mill Road) Existing Use Determination

Biological and temperature data have been collected in this portion of an unnamed tributary to Big Pipe Creek near Homestead Drive. A reproducing brook trout population has been confirmed in this tributary. However, water temperature data do not meet Use Class III temperature criteria.

Figure 5: Unnamed Tributary to Big Pipe Creek Near Homestead Drive



Temperature Data Summary for Unnamed Tributary to Big Pipe Creek Near Homestead Drive

Temperature data were collected during three separate sampling events in 2018. None of these stations showed attainment of Class III temperature criteria.

Table 9. Unnamed Tributary to Big Pipe Creek Near Homestead Drive Temperature Logger Data

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2018	DOUB-107-X-2018	UT to Big Pipe Creek near Homestead Drive	MDDNR MBSS	6624	14%	0%	18.33	20.44
2018	DOUB-206-X-2018	UT to Big Pipe Creek near Homestead Drive	MDDNR MBSS	6624	28%	0.38%	18.89	21.77
2018	DOUB-208-X-2018	UT to Big Pipe Creek near Homestead Drive	MDDNR MBSS	6624	21%	0%	18.51	21.03

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

Biological Data Summary for Unnamed Tributary to Big Pipe Creek Near Homestead Drive

Two Maryland DNR Fisheries sampling events showed that the reproducing brook trout population extends at least partially downstream into this section of the watershed. The MDDNR Fisheries sample located at the DOBL0009 station shows that the reproducing brook trout population extends downstream of the confluence near Albert Rill Rd. (39.653345 N^{o}, -76.93215^{o}W). Currently there is no evidence that the brook trout habitat extends beyond the next downstream confluence located at the end of Homestead Drive (39.658286^{o}N, -76.942401^{o}W).

Table 10. Unnamed Tributary to Big Pipe Creek Near Homestead Drive Biological Data

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
2018	DOUB-205-X-2018	UT to Big Pipe Creek	MDDNR MBSS (only benthic macroinvertebrates sampled)	-	-	-

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
2018	DOUB-208-X-2018	UT to Big Pipe Creek	MDDNR MBSS (only benthic macroinvertebrates sampled)	-	-	-
2018	DOUB-107-X-2018	UT to Big Pipe Creek	MDDNR MBSS (only benthic macroinvertebrates sampled)	-	-	-
6/21/2018	DOBL0008	UT to Big Pipe Creek	MDDNR Fisheries Program	-	-	-
6/21/2018	DOBL0009	UT to Big Pipe Creek	MDDNR Fisheries Program	-	-	-
8/24/2017	DOBL0009	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	6	Multiple Year Classes Adult
8/18/2017	DOBL0007	UT to Big Pipe Creek	MDDNR Fisheries Program	brook trout	4	Multiple Year Classes Adult
6/14/2018	DOBL0022	UT to Big Pipe Creek	MDDNR Fisheries Program	-	-	-

DNR Fish Stocking

In a personal communication, Mark Staley (Maryland DNR Inland Fisheries Service Central Region Manager) has stated that the Freshwater Fisheries program has never stocked or relocated brook trout to Big Pipe Creek. The observed brook trout population is naturally occurring and of wild origin.

Existing Use Determination and Rationale for Unnamed Tributary to Big Pipe Creek Near Homestead Drive

Current Use Class: Class IV-P

Existing Use Determination: This section of the unnamed tributary, from its confluence with another unnamed tributary located near the end of Homestead drive at [39.658286º N, -76.942401º W] and upstream to a confluence located at [39.657541º N, -76.922308 º W] but not including an unnamed tributary located at [39.653345º N, -76.932151 º W], supports a reproducing brook trout population and has an average daily mean temperature below 19°C, a daily maximum of less than 22°C, stays below 20°C for at least 79% of the time and stays below 24°C for at least 90% of the time.

Is this Existing Use Determination Consistent with the Current (March 2020) Designated Use Class? **No.** The existing use of this section of the tributary, as described above, requires that water temperatures remain significantly colder than the water quality criterion established to protect the current use class (Class IV-P) designation. As a result, the existing use of this section of this tributary to Big Pipe Creek requires protections to maintain the coldwater temperatures

currently found in this tributary and different than those afforded by the current use class designation of IV-P.

Changes Proposed to the Currently Designated Use Class: Though it is clear that the designated use class of this section of the unnamed tributary should be revised to reflect and be protective of the existing use, a self-sustaining brook trout stream, current temperature data do not support the re-designation of this section of the unnamed tributary to Class III-P without conducting a use attainability analysis (UAA). Since Maryland is in the process of redefining Class IV (or IV-P) and 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 unnamed tributary at this time. Instead, and until Maryland conducts either a UAA or establishes new definitions for Class IV and a cool water use class, MDE will formally recognize this section of the unnamed tributary as having an existing use that is different than its current designated use class.

Rationale for the Existing Use Determination: The most downstream brook trout observation in this tributary occurred in 2017 at the DOBL0009 sampling location and yielded multiple year classes of adults. A comparison of the DOUB-206-X-2018 and DOUB-208-X-2018 logger data suggest that temperatures increase significantly downstream of the DOBL0009 sampling location. This temperature increase may be related to a farm pond located at the end of Homestead Dr. and could act as a thermal barrier to brook trout movement. Therefore, as shown in Figure 8, the support of reproducing brook trout populations existing use will extend to the confluence at the end of Homestead Dr. (39.658286^{o}N, -76.942401^{o}W) but not beyond it.

There has been limited sampling in certain head waters of this watershed. The sample located at the DOBL0007 yielded 4 brook trout of multiple year classes. However, the DOBL0022 sampling station did not show that the brook trout population extends into the first order stream that runs parallel to Fridinger Mill Road. Therefore, as shown in Figure 8, the support of reproducing brook trout populations existing use does not extend into this tributary.

The DOBL0009 sampling station yielded 6 brook trout representing multiple year classes and is located directly downstream of a north-flowing tributary. A comparison of the temperature logger data from the DOUB-208-X-2018 and DOUB-107-X-2018 stations suggests that temperatures are colder in this small tributary, but do not attain Use Class III temperature criteria. It seems unlikely that temperature is a barrier to brook trout movement in this north-flowing tributary. However, the DOBL0008 sampling event is located in this north-flowing tributary and did not yield brook trout. Therefore, there is currently no evidence that the brook trout population extends to this area of the catchment. As shown in Figure 8, the support of reproducing brook trout populations existing use does not extend into this tributary.

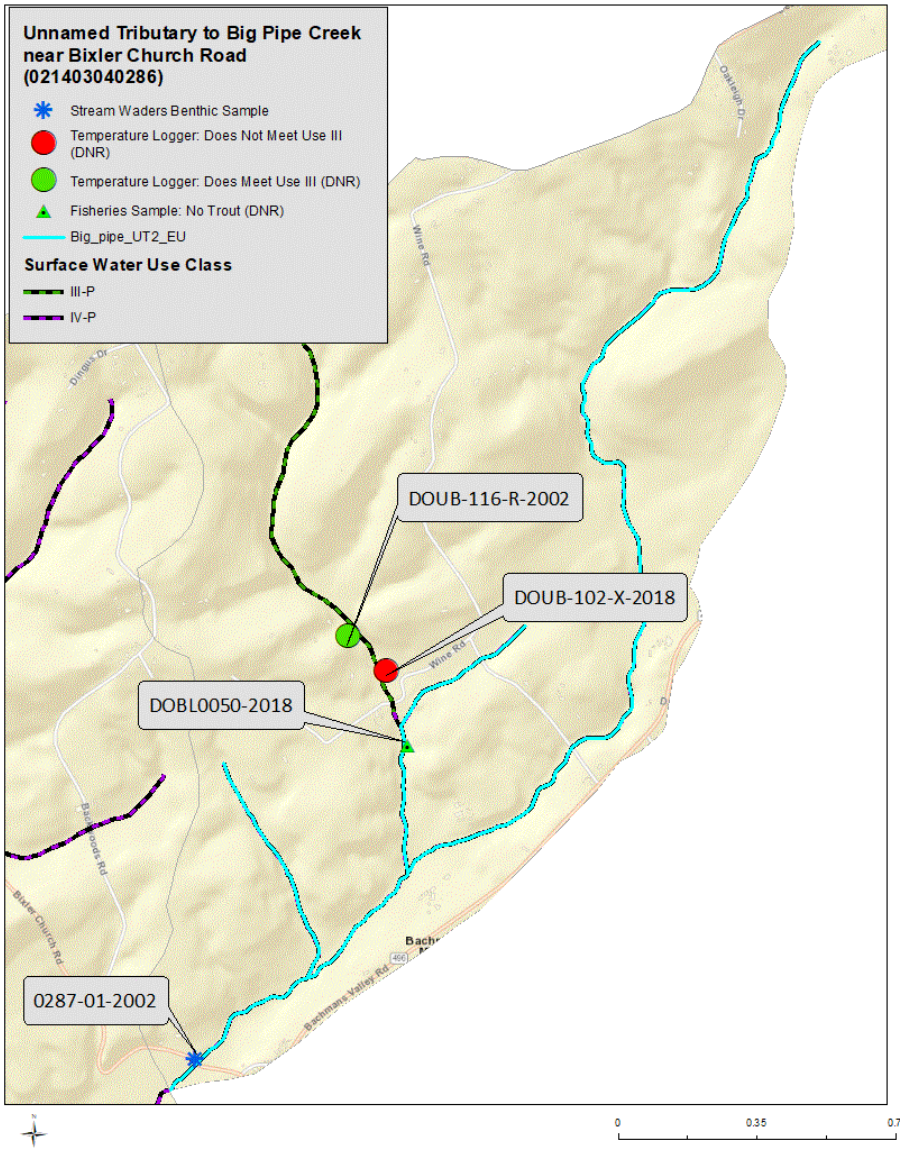
Since none of the water temperature data collected downstream of the confluence located near the intersection of Eckard Road and Fridinger Mill Road (39.657541°N, -76.922308°W) meet the Class III temperature criteria, the State cannot justify redesignating any portion of this

section of this tributary to Class III-P without further improvements in water temperature or conducting a UAA. MDE will be coordinating with stakeholders to refine the current Designated Use Classification structure to include a 'cool water' use class. This tributary's water temperature data may support a redesignation to this conceptualized 'cool water' use. However, since this effort has not yet commenced the State plans to protect this stream with the protections under Tier I Antidegradation Policy until those regulations are properly revised and/or developed.

Unnamed Tributary to Big Pipe Creek Near Bixler Church Road Existing Use Determination

This unnamed tributary to Big Pipe Creek only has one biological sample and no current temperature data. Future sampling is needed to determine the existing use of this tributary. The available sampling locations are shown below.

Figure 6: Unnamed Tributary to Big Pipe Creek Near Bixler Church Road



Temperature Data Summary for Unnamed Tributary to Big Pipe Creek Near Bixler Church Road

No temperature data are available in this unnamed tributary. However, temperature data were collected from two loggers in an unnamed Class III-P side tributary outside of the segment being evaluated here. Data from these two loggers are summarized in Table 9.

Table 11. Unnamed Tributary to Big Pipe Creek Near Bixler Church Road Temperature Logger Data

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2018	DOUB-102-X-2018	UT to Big Pipe Creek	MDDNR MBSS	6624	11%	0%	18.07	20.7
2002	DOUB-116-R-2002	UT to Big Pipe Creek	MDDNR MBSS	6618	6%	0%	17.80	21.51

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

Biological Data Summary for Unnamed Tributary to Big Pipe Creek Near Bixler Church Road

MDDNR fisheries conducted a sampling event in 2018 but did not find trout. MDDNR streamwaders also conducted a sampling event in 2002 but did not demonstrate the presence of cold water benthic macroinvertebrates. Unless otherwise noted, benthic data submitted by MDDNR Stream Waders was identified to family level.

Table 12. Unnamed Tributary to Big Pipe Creek Near Bixler Church Road Biological Data

Date	Station ID	Stream	DATA SUBMITTER	Species	Count	Maturity
6/13/2018	DOBL0050	UT to Big Pipe Creek	MDDNR Fisheries Program	-	-	-
4/23/2002	0287-01-2002	UT to Big Pipe Creek, between confluence with Ohio Branch and Bear Branch	MDDNR Stream Waders	-	-	-

Existing Use Determination and Rationale of Unnamed Tributary to Big Pipe Creek near Bixler Church Road

Current Use Class: Class IV-P

Existing Use Determination: The existing use of this unnamed tributary to Big Pipe Creek, located near Bixler Church Road is no different than its currently designated use class of IV-P.

Is this Existing Use Determination Consistent with the Current (March 2020) Designated Use Class? **Yes**. There are currently no temperature logger data available from this tributary. No cold water obligates have been observed.

Changes Proposed to the Currently Designated Use Class: No designated use changes are proposed at this time. If Level 3 temperature and biological data show that this tributary is attaining Use Class III criteria and is supporting cold water obligates, a use class change may be justified in the future.

Rationale for the Existing Use Determination: Available data do not demonstrate that the existing use is different from the current designated use. Brook trout or other cold water obligate species have not yet been confirmed within this tributary. Therefore, MDE does not recognize this tributary as having an existing use associated with self-sustaining trout populations or otherwise different from Use Class IV-P.

Ohio Branch Existing Use Determination

Ohio Branch is a tributary to Big Pipe Creek. No temperature data have been collected in Ohio Branch and only one Level 3 biological data sample has been collected. A Maryland Stream Waders sampling event (Level 1 data) showed the presence of a cold water obligate benthic invertebrate.

Figure 7: Ohio Branch

Temperature Data Summary for Ohio Branch

No Temperature data are currently available for Ohio Branch.

Biological Data Summary for Ohio Branch

MDDNR Stream Waders found one *Sweltsa* in 2010. Since this datum does not meet Level 3 data quality standards, this area will be prioritized for future sampling. An MBSS sample was

taken in 2018. However only benthic macroinvertebrates were sampled and no coldwater obligates were found. No fish sampling was conducted at this station.

Table 13: Ohio Branch Biological Data

Date	Station ID	Stream	Data submitter	Species	Count	Maturity
3/8/2018	DOUB-101-X-2018	Ohio Branch	MDDNR MBSS (Bench macroinvertebrates only)	-	-	-
3/20/2010	0284-01-2010	Ohio Branch	MDDNR Stream Waders	*Sweltsa*	-	-

Existing Use Determination and Rationale for Ohio Branch

Ohio Branch

Current Use Class: Class IV-P

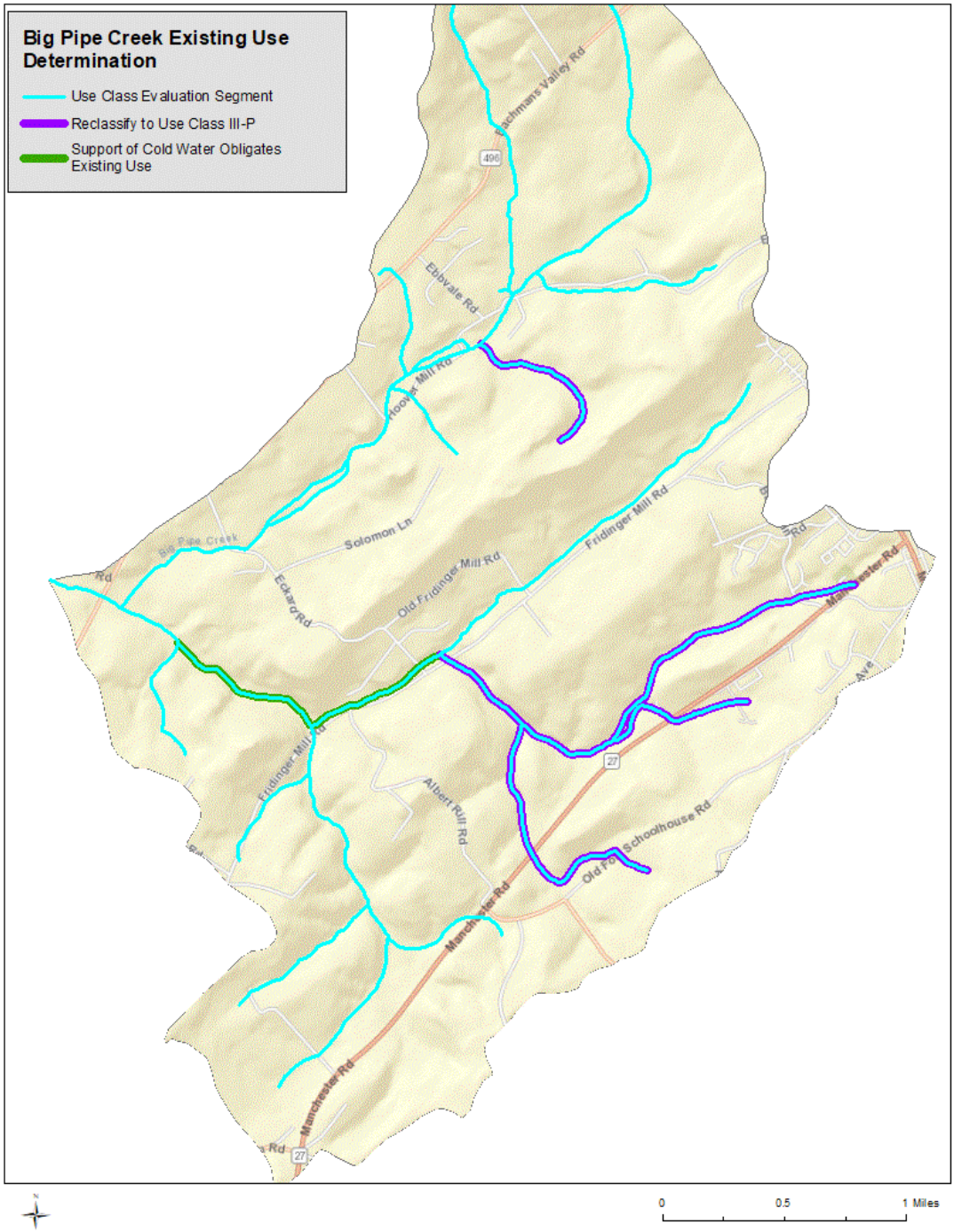
Existing Use Determination: The existing use of Ohio Branch is no different than its currently designated use class of IV-P. (Although Level 1 data suggests the presence of the coldwater obligate Sweltsa, no existing use determination can be made until Level 3 data can be collected for both temperature and biological parameters.)

Is this Existing Use Determination Consistent with the Current (March 2020) Designated Use Class? **Yes**. There are currently no temperature logger data available from Ohio Branch. Although *Sweltsa* was observed in Ohio Branch by the MDDNR Stream Waders program, Level 2 data cannot be used alone to make existing use determinations.

Changes Proposed to the Currently Designated Use Class: No designated use changes are proposed at this time. If Level 3 temperature and biological data show that Ohio Branch is attaining Use Class III criteria and is supporting cold water obligates, a use class change may be justified in the future.

Rationale for the Existing Use Determination: At this time, there are not sufficient data to demonstrate that the existing use is different from the current designated use. Brook trout or other cold water obligate species have not yet been confirmed within Ohio Branch. Therefore, the Department cannot make an existing use determination at this time.

Figure 8: Final Existing Use Determinations and Redesignations for Big Pipe Creek



Public Review Process: These existing use determinations were provided for public review and comment with Maryland's 2019 Triennial Review of Water Quality Standards which went public with the March 11, 2022 edition of the Maryland Register.