

Data Summary for Waters with Existing Uses Different from the Designated Uses



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Contributing Authors: Shirley Kirby and Matthew Stover
Water and Science Administration
Water Quality Standards Section

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I. Statement of Purpose and Background

Recently collected data have become available which demonstrates that the existing use of some waters is different than the currently designated use classification found in Code of Maryland Regulations 26.08.02.08. Specifically, several streams with warm or semi-warm use classifications (Class I, I-P, and IV) have been found to contain naturally reproducing populations of cold or cool-water obligate species. As a result, the applicable water temperature criteria at these locations may not reflect site-specific conditions or adequately protect these resident species. This document therefore serves to provide a brief description of the available data along with some summary statistics to aid future efforts at characterizing the existing use¹ of these waters. It should be noted, that this document does not purport to formally establish any existing use or the scale of any such existing use. Rather, this document is meant to provide notification of this information and to stimulate dialogue in how best to handle these scenarios moving forward.

The Maryland Department of the Environment (MDE or the Department) has been made aware of waterbodies in the Antietam Creek, Deer Creek, North Branch Patapsco River, Upper North Branch Potomac River, Conewago Creek, Double Pipe Creek, and Furnace Creek 8-digit watersheds, which are currently designated as Use Class I, I-P or IV but which have, or may have, naturally reproducing populations of cold or cool-water obligate species. In creating these stream data summaries, the Department has relied on stream data collected by three primary groups: Carroll County Department of Land and Resource Management, Maryland Department of Natural Resources (MDDNR) Freshwater Fisheries Service, and MDDNR Maryland Biological Stream Survey (MBSS) Service. These groups have conducted various types of field surveys that included sampling for trout (salmonid) species, benthic macroinvertebrates, and water temperature. The results from these surveys were consolidated for each stream and are presented in this document to highlight the major factors considered in evaluating a water body's existing use and/or use classification. Currently, Maryland recognizes three fish species and two benthic macroinvertebrate taxa as cold water obligates; brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*), and benthic macroinvertebrate Stonefly species *Tallaperla* and *Sweltsa*. However, additional species that require cooler water temperatures may also be discussed within this document.

Please note that only those waters, which are not currently classified as Class III or III-P, are included in the water body descriptions that follow. This document will be placed on the Maryland Department of the Environment's website so as to raise awareness of the resource found in these locations in order to promote proactive water quality planning in these areas.

¹ Here and throughout this document we use the term "existing use" as it's defined in the Clean Water Act (CWA). Per the CWA, "Existing uses are those uses actually attained in the waterbody on or after November 28, 1975, whether or not they are included in the water quality standards."

II. Patapsco River

The North Branch Patapsco River main stem and tributaries that connect to the mainstem, between the confluence of Roaring Run and upstream to the confluence with West Branch Patapsco River, including Board Run and Deep Run, have naturally reproducing populations of brown trout (*Salmo trutta*). An unnamed tributary to the North Branch Patapsco River in the vicinity of Hollingsworth Road, the main stem of the West Branch Patapsco River, and a part of the South Branch Patapsco River also contain naturally reproducing populations of brown trout. For each waterbody, relevant data including water temperature and biological (e.g., trout and benthic macroinvertebrate) data are presented.

North Branch Patapsco River main stem

The North Branch Patapsco River main stem (12-digit 021309071048) from the unnamed tributary at Hollingsworth Road and north to the main stem's confluence with the West Branch Patapsco River is currently designated as a Class IV-P waterbody. Carroll County, and MDDNR Fisheries and MBSS scientists conducted surveys of this section of the North Branch Patapsco River main stem. Figure 1 below, shows the location of the sampling stations and the stream segment being reviewed. The resulting data including water temperature and information on the presence of trout is shown in Tables 1 and 2, respectively.

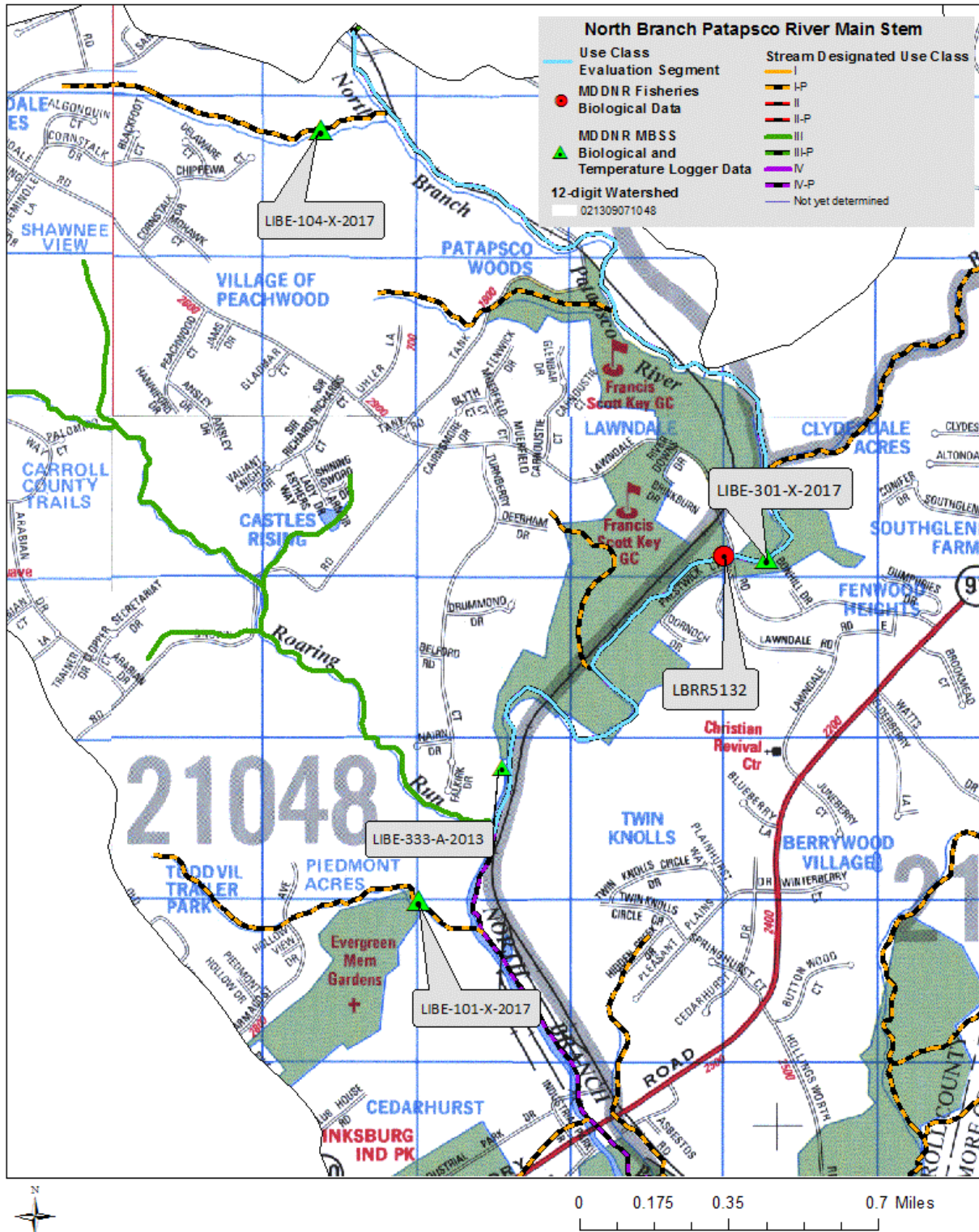


Figure 1. North Branch Patapsco River

Temperature Data for the North Branch Patapsco River

Water temperature data were collected at four sampling events in 2013 and 2017. Two of the sampling event’s temperature results meet the Class III criterion, (20° Celsius for 90% of the time) while the other two do not.

Table 1. North Branch Patapsco River Water Temperature Logger Data

Date	Station ID	Stream	Watershed	Data Submitter	County	# Temp Readings	Percent > 20°C	Percent > 24°C	Avg Daily Mean	Daily Max
2017	LIBE-101-X-2017	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR MBSS	Baltimore	6624	10%	0%	17.98	23.21
2017	LIBE-104-X-2017	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR MBSS	Baltimore	6624	8%	0%	18.08	22.51
2017	LIBE-301-X-2017	North Branch Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	6624	73%	8%	21.14	25.87
2013	LIBE-333-A-2013	North Branch Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	6624	63%	8%	20.81	27.58

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

Biological Data for the North Branch Patapsco River

Brown trout (*Salmo trutta*) were found at five of the seven biological sampling events along this water segment. Though not shown in the table below, DNR MBSS staff noted the capture of one young of year brown trout (measurement length not noted) downstream of the station LIBE-301-X-2017. Since this individual was sampled outside of the 75-meter sampling reach, it was not counted or measured as part of the record for LIBE-301-X-2017. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 2. North Branch Patapsco River Biological Data

Date	Station ID	Stream	Watershed	Data Submitter	County	Species	Count	Maturity
8/4/2017	LBRR5132	NB Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	<i>Salmo trutta</i>	1	Adult
7/26/2017	LBRR5132	NB Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	<i>Salmo trutta</i>	9	Multiple Year Classes Adult
9/1/2016	LBRR5132	NB Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	<i>Salmo trutta</i>	15	Multiple Year Classes with YOY
7/26/2017	LIBE-301-X-2017	NB Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	<i>Salmo trutta</i>	9	Multiple Year Classes Adult
7/19/2017	LIBE-104-X-2017	UT to NB Patapsco River	Liberty Reservoir	MDDNR MBSS	Baltimore	-	-	-
7/18/2017	LIBE-101-X-2017	UT to NB Patapsco River	Liberty Reservoir	MDDNR MBSS	Baltimore	-	-	-
3/5/2013	LIBE-333-A-2013	UT to NB Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	<i>Salmo trutta</i>	6	Multiple Year Classes with YOY

*YOY - young-of-year

Board Run

Board Run (12-digit 021309071048) is a Use Class I-P tributary to the North Branch Patapsco River upstream of Liberty Reservoir near Hampstead. Both MDDNR Fisheries and MDDNR MBSS scientists have conducted surveys of Board Run. A map (Figure 2) of the location and sampling stations, and the data results (Tables 3 and 4), including water temperature and trout presence information are provided below.

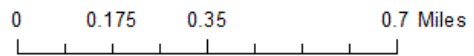
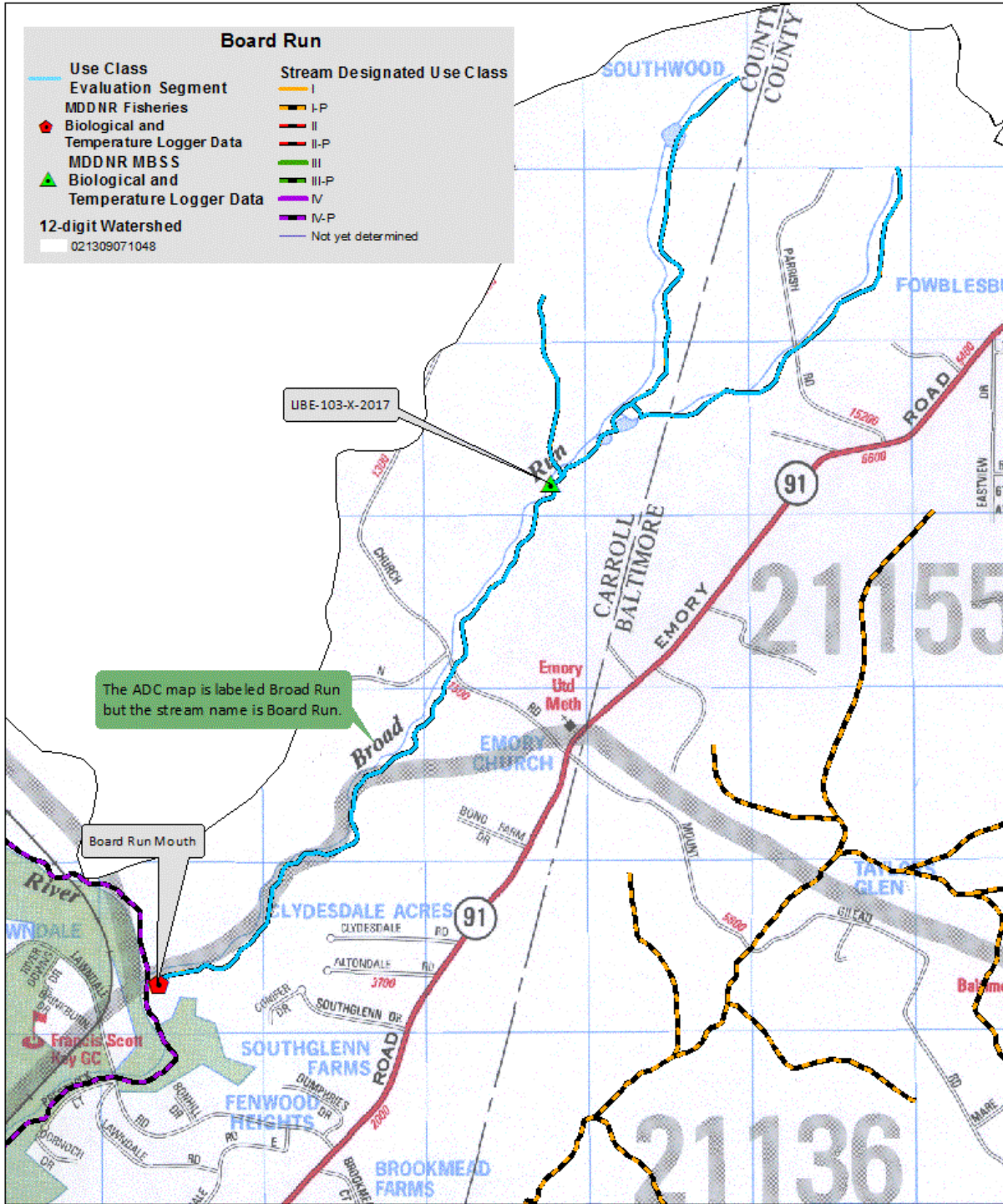


Figure 2. Board Run

Temperature Data for Board Run

Water temperature data were collected at two sampling events in 2017. Both stations' temperature results fail to meet the Class III criterion.

Table 3. Board Run Water Temperature Logger Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2017	LIBE-103-X-2017	Board Run	Liberty Reservoir	MDDNR MBSS	Baltimore/Carroll	6624	29%	0%	18.88	23.19
2017	Board Run Mouth	Board Run	Liberty Reservoir	MDDNR Fisheries	Baltimore/Carroll	6624	46%	0%	19.78	23.18

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

Biological Data for Board Run

Four adult brown trout (*Salmo trutta*) were found at one of two sampling events along this segment. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 4. Board Run Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
7/18/2017	LIBE-103-X-2017	Board Run	Liberty Reservoir	MDDNR MBSS	Baltimore/Carroll	<i>Salmo trutta</i>	4	Multiple Year Classes Adult
6/8/2016	Board Run Mouth	Board Run	Liberty Reservoir	MDDNR Fisheries	Baltimore/Carroll	-	-	-

*Fish sampling and water temperature data at the Board Run Mouth station were collected in separate years, 2016 and 2017, respectively.

Deep Run

Deep Run (12-digit 021309071048) is a Use Class I-P tributary to the North Branch Patapsco River located southwest of Hampstead, MD. Carroll County, MDDNR Fisheries and MBSS scientists conducted surveys along Deep Run. A map (Figure 3) shows the location of Deep Run along with the relevant sampling stations. Tables 5 and 6, below, provide a summary of water temperature and trout species information.

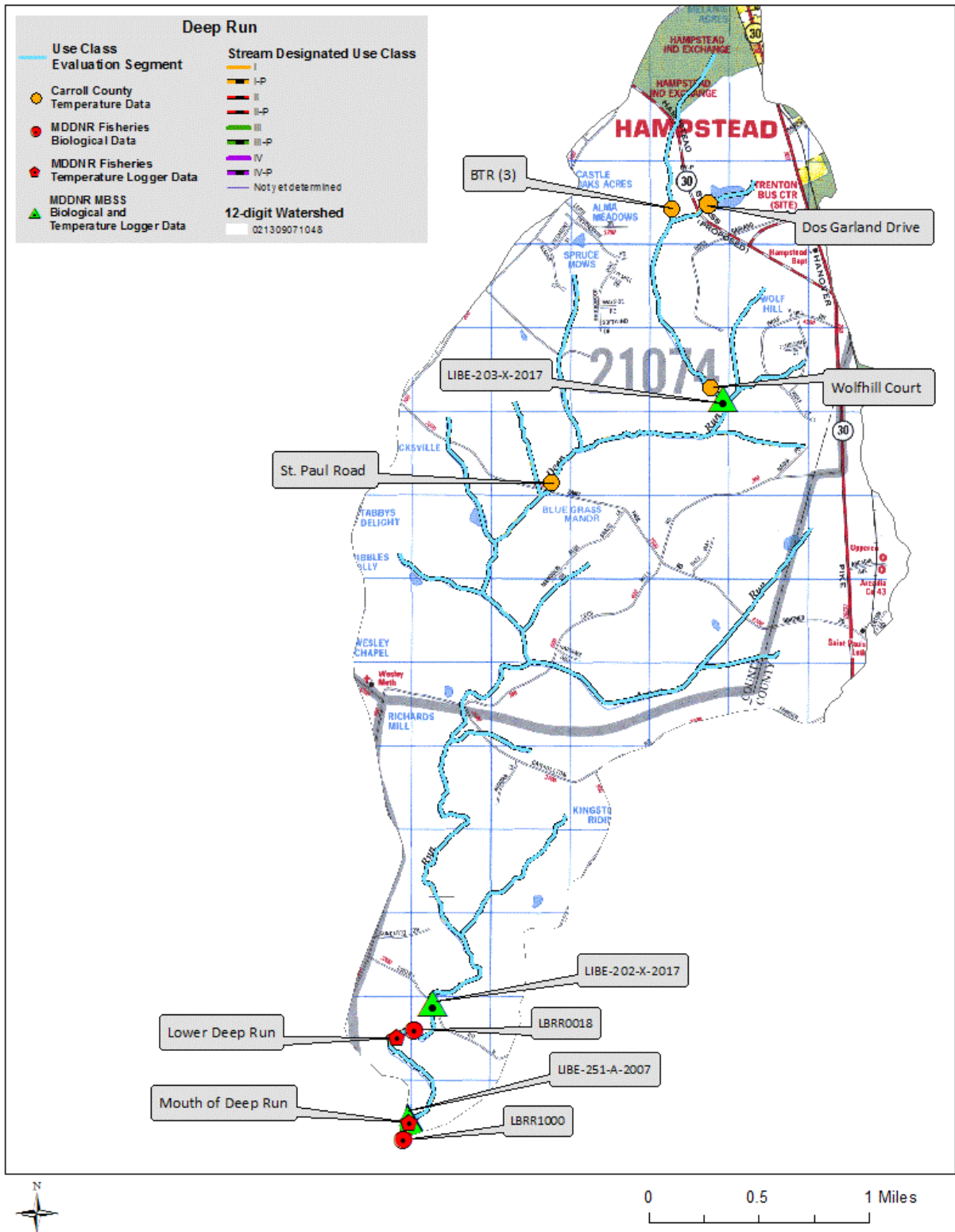


Figure 3. Deep Run

Temperature Data for Deep Run

Water temperature data were collected at nine sampling events in 2014, 2015, and 2017. None of the stations sampled have water temperature results that meet the Class III criterion.

Table 5. Deep Run Water Temperature Logger Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2015	St. Paul Road	Deep Run	Liberty Reservoir	Carroll County	Carroll	4416	66%	5%	20.79	25.74
2015	BTR (3)	Deep Run	Liberty Reservoir	Carroll County	Carroll	4416	36%	28%	19.57	30.80
2015	Dos Garland Rd	Deep Run	Liberty Reservoir	Carroll County	Carroll	4416	48%	1%	19.85	26.18
2015	Wolfhill Court	Deep Run	Liberty Reservoir	Carroll County	Carroll	4416	75%	7%	21.27	25.60
2015	Lower Deep Run	Deep Run	Liberty Reservoir	MDDNR Fisheries	Carroll	1929	71%	1%	20.20	25.14
2014	Mouth of Deep Run	Deep Run	Liberty Reservoir	MDDNR Fisheries	Carroll	5355	42%	0%	19.70	31.31
2017	LIBE-202-X-2017	Deep Run	Liberty Reservoir	MDDNR MBSS	Carroll	6624	63%	1%	20.39	24.24
2017	LIBE-203-X-2017	Deep Run	Liberty Reservoir	MDDNR MBSS	Carroll	6624	63%	3%	20.48	25.28
2017	LIBE-251-A-2007	Deep Run	Liberty Reservoir	MDDNR MBSS	Carroll	6624	56%	2%	20.25	26.09

*Water temperature logger and instantaneous YSI flowtracker data were assessed from June to August. The "Daily Max" represents the maximum temperature from June to August.

Biological Data for Deep Run

Multiple year classes including young-of-year brown trout (*Salmo trutta*) were found at four of the five sampling events where fish populations were sampled. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 6. Deep Run Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
7/15/2015	LBRR0018	Deep Run	Liberty Reservoir	MDDNR Fisheries	Carroll	<i>Salmo trutta</i>	5	Multiple Year Classes with YOY
9/15/2014	LBRR1000	Deep Run	Liberty Reservoir	MDDNR Fisheries	Carroll	<i>Salmo trutta</i>	6	Multiple Year Classes with YOY
7/20/2017	LIBE-202-X-2017	Deep Run	Liberty Reservoir	MDDNR MBSS	Carroll	<i>Salmo trutta</i>	7	Multiple Year Classes with YOY
7/18/2017	LIBE-203-X-2017	Deep Run	Liberty Reservoir	MDDNR MBSS	Carroll	-	-	-
3/14/2007	LIBE-251-A-2007	Deep Run	Liberty Reservoir	MDDNR MBSS	Carroll	<i>Salmo trutta</i>	4	Multiple Year Classes with YOY

*YOY – young-of-year

Unnamed Tributary to North Branch Patapsco River

The unnamed tributary to the North Branch Patapsco River (Use Class I-P, 12-digit 021309071048) at the Hollingsworth Road crossing is approximately 9 miles in length and located north of Finksburg. MDDNR Fisheries and MBSS scientists conducted surveys of this waterbody segment. A map (Figure 4) of the location and sampling stations, and the data results (Tables 7 and 8) including water temperature and trout species information is detailed below.

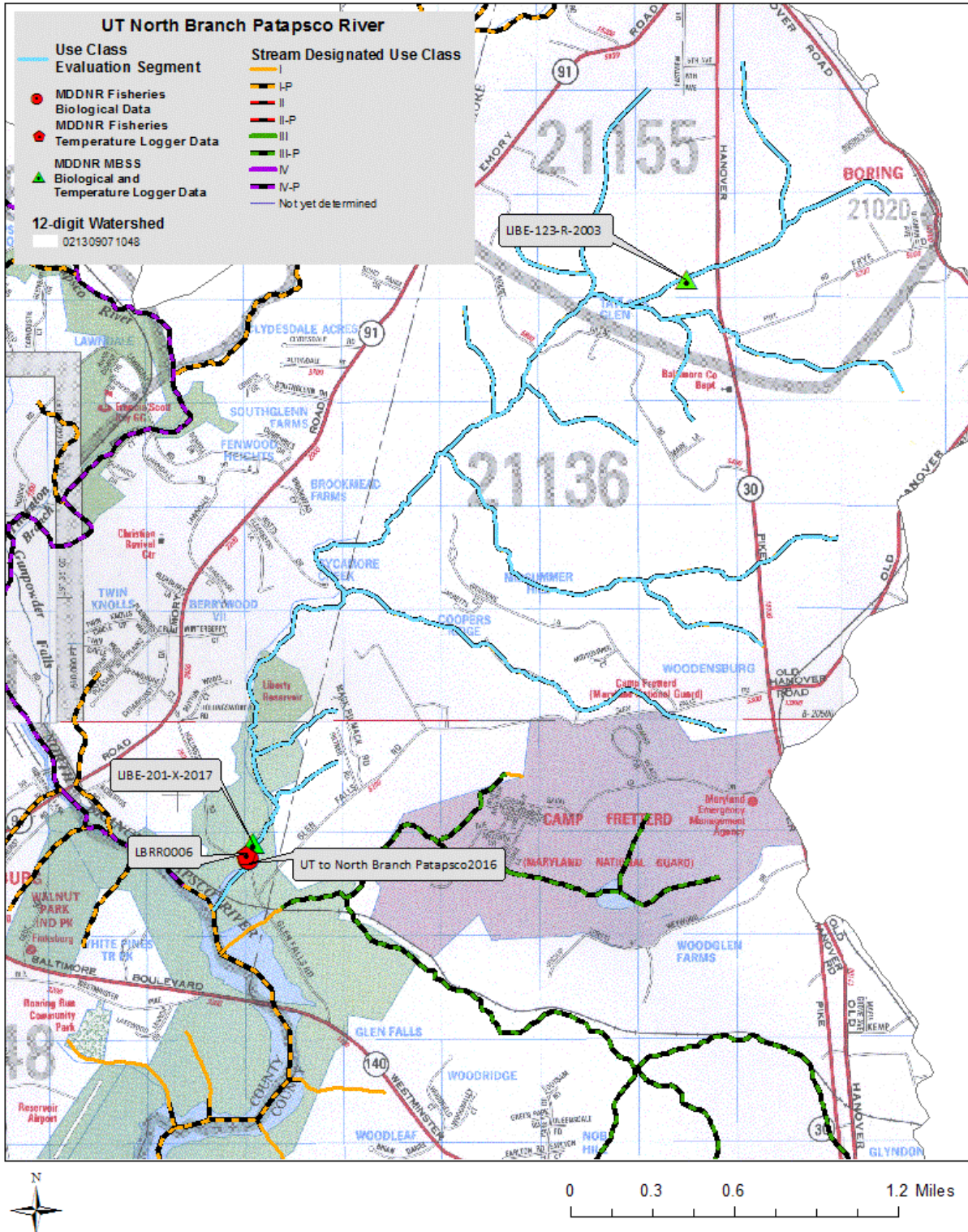


Figure 4. Unnamed Tributary to North Branch Patapsco River at Hollingsworth Road.

Temperature Data for Unnamed Tributary to the North Branch Patapsco River

Water temperature data were collected at three sampling events in 2003, 2016, and 2017. None of the stations' water temperature results meet the Class III criterion.

Table 7. Unnamed Tributary North Branch Patapsco River Water Temperature Logger Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2016	UT to North Branch Patapsco River	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR Fisheries	Baltimore	6623	67%	4%	20.79	25.60
2017	LIBE-201-X-2017	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR MBSS	Baltimore	6624	54%	0%	19.97	24.24
2013	LIBE-123-R-2003	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR MBSS	Baltimore	6191	31%	0%	18.70	23.82

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

Biological Data for Unnamed Tributary to the North Branch Patapsco River

Brown trout (*Salmo trutta*) were found at two of the four biological sampling events. Though not shown in the table below, DNR MBSS staff noted the capture of four adult brown trout (length measurements not provided) upstream of the station LIBE-201-X-2017. Since these fish were sampled outside of the 75-meter sampling reach they were not counted or measured as part of the record for LIBE-201-X-2017. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 8. Unnamed Tributary North Branch Patapsco River Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
6/15/2016	LBRR0006	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR Fisheries	Baltimore	<i>Salmo trutta</i>	16	Multiple Year Classes with YOY
8/4/2011	LBRR0006	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR Fisheries	Baltimore	-	-	-
7/19/2017	LIBE-201-X-2017	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR MBSS	Baltimore	<i>Salmo trutta</i>	1	YOY
3/6/2003	LIBE-123-R-2003	UT to North Branch Patapsco River	Liberty Reservoir	MDDNR MBSS	Baltimore	-	-	-

* YOY - young-of-year

South Branch Patapsco River

The South Branch Patapsco River main stem (8-digit 02130908) located near Woodbine, MD in the southern portion of Carroll and northern portion of Howard County is currently designated as a Use Class IV waterbody. MDDNR MBSS scientists conducted surveys of this waterbody segment. A map (Figure 5) of the location and sampling stations, and the data results (Tables 9 and 10), including water temperature and trout species information is detailed below.

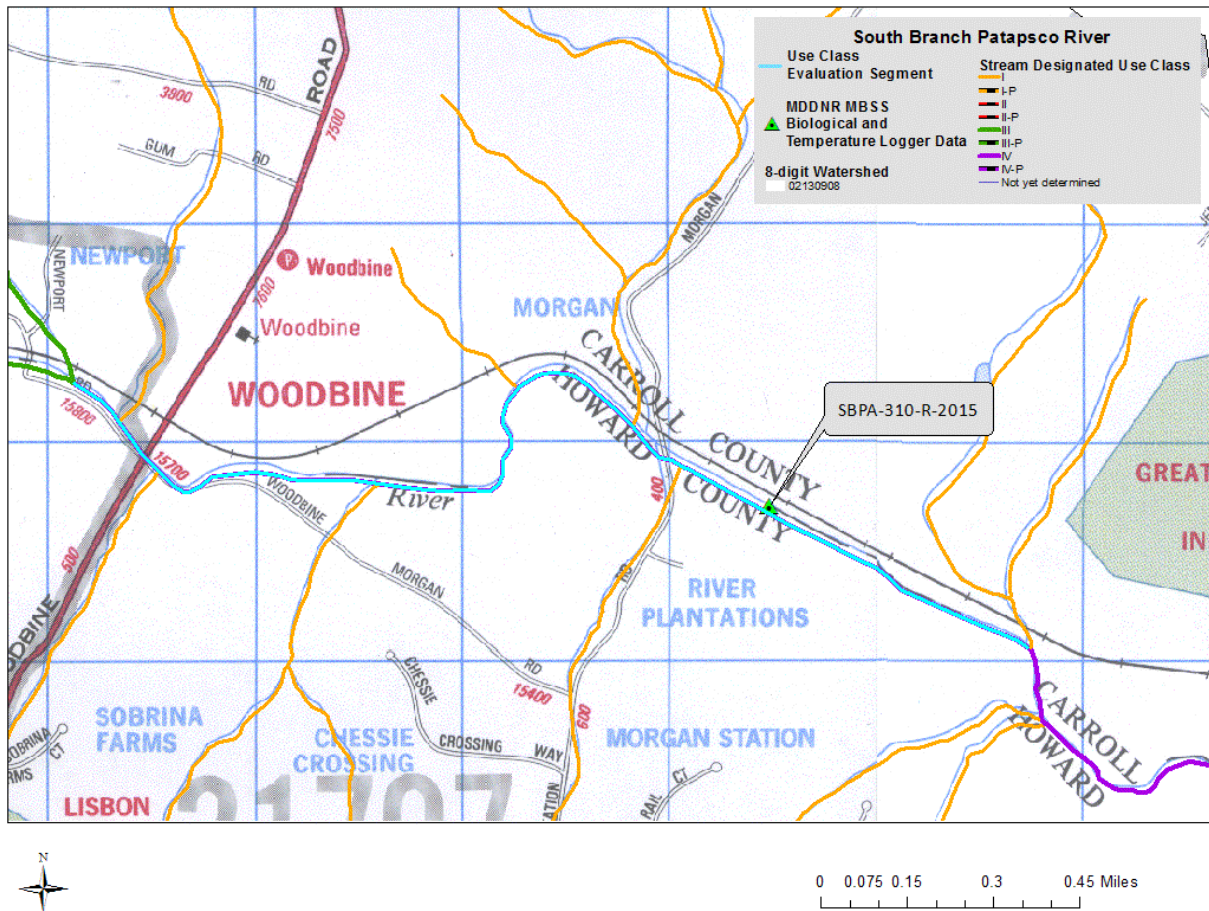


Figure 5. South Branch Patapsco River

Temperature Data for the South Branch Patapsco River

Water temperature data were collected at one sampling event in 2015. Water temperature results at this station do not meet the Class III criterion.

Table 9. South Branch Patapsco River Water Temperature Logger Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2015	SBPA-310-R-2015	South Branch Patapsco River	South Branch Patapsco River	MDDNR MBSS	Carroll/Howard	6624	58%	0%	19.98	23.28

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

Biological Data for the South Branch Patapsco River

Multiple year classes including young-of-year brown trout (*Salmo trutta*) were found at the biological sampling event in 2015. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 10. South Branch Patapsco River Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
4/2/2015	SBPA-310-R-2015	South Branch Patapsco River	South Branch Patapsco River	MDDNR MBSS	Carroll/Howard	<i>Salmo trutta</i>	12	Multiple Year Classes with YOY

* YOY - young-of-year

West Branch of the North Branch Patapsco River

The West Branch North Branch Patapsco main stem (12-digit 021309071051 and 021309071062) upstream of the confluence with the North Branch Patapsco River is located northwest of Westminster and is approximately 9 miles in length. It is currently designated as a Class IV water. Both MDDNR Fisheries and MBSS scientists have conducted surveys of this waterbody segment. A map (Figure 6) of the location and sampling stations, and the data results (Tables 11 and 12), including water temperature and trout species information, is detailed below.

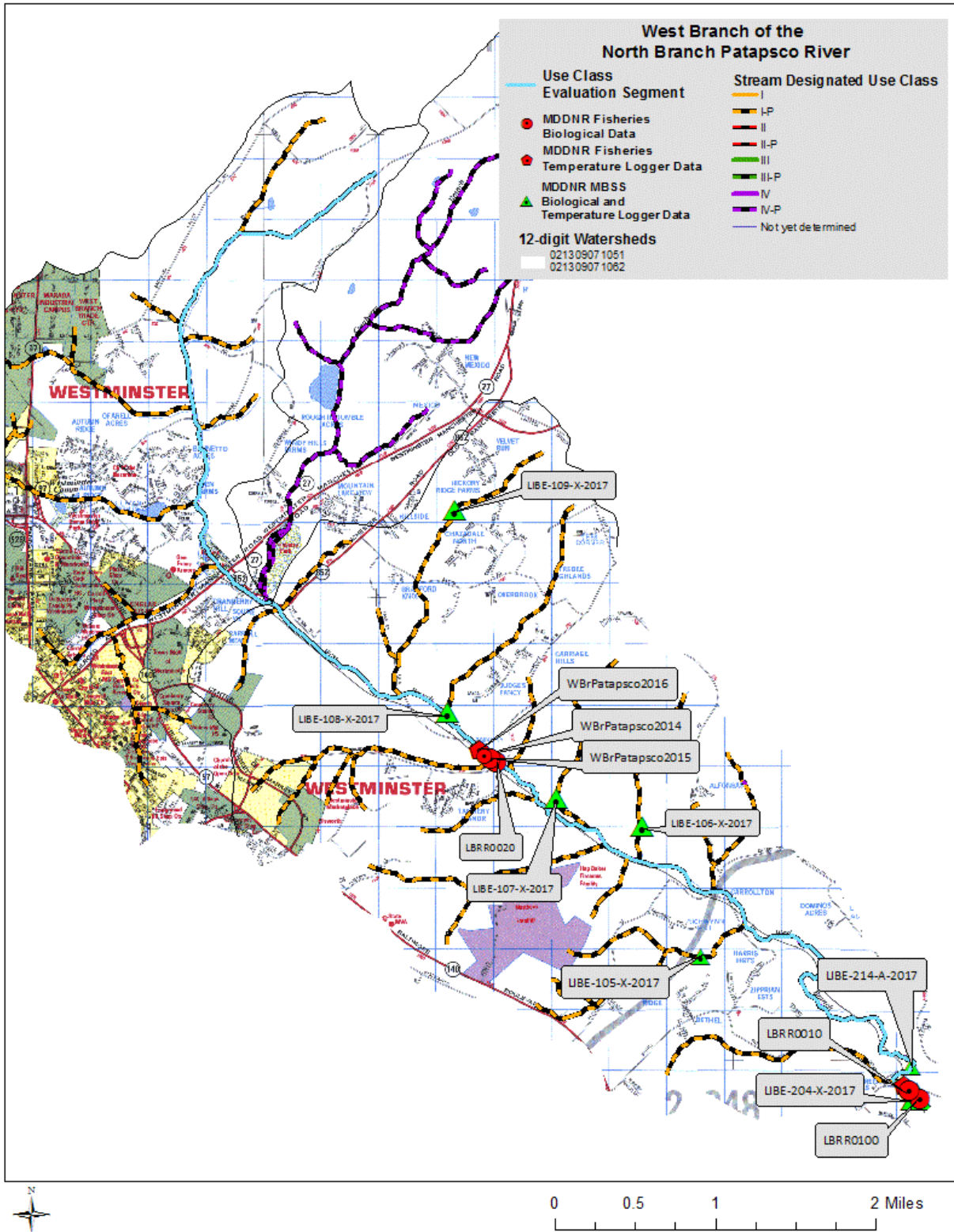


Figure 6. West Branch North Branch Patapsco River

Temperature Data for the West Branch North Branch Patapsco River

Water temperature data has been collected at nine sampling events in the West Branch North Branch Patapsco River in 2007, 2014, 2015, 2016, and 2017. Three sampling events meet the Class III water temperature criterion. Six of the nine sampling events do not meet the Class III criterion.

Table 11. West Branch Patapsco River Water Temperature Logger Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2016	WBrPatapsco2016	WBr Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	6624	78%	13%	21.62	27.20
2015	WBrPatapsco2015	WBr Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	1930	62%	2%	20.53	24.94
2014	WBrPatapsco2014	WBr Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	5355	35%	0%	19.34	23.11
2017	LIBE-105-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	6624	8%	0%	17.88	21.77
2017	LIBE-106-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	6624	5%	0%	17.47	21.78
2017	LIBE-107-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	6624	20%	0%	18.41	22.71
2017	LIBE-108-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	6624	25%	0%	18.63	22.99
2017	LIBE-109-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	6624	0%	0%	17.10	19.98
2017	LIBE-204-X-2017	WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	6624	71%	7%	21.00	26.01
2007	LIBE-214-A-2007	WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	-	-	-	-	-

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

Biological Data for the West Branch North Branch Patapsco River

Brown trout (*Salmo trutta*) were found at seven of the ten biological sampling events. Though not shown in the table below, DNR MBSS staff noted the capture of three brown trout (length measurements not provided) downstream of the station LIBE-204-X-2017. Since these fish were sampled outside of the 75-meter sampling reach, they were not counted or measured as part of the record for LIBE-204-X-2017. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 12. West Branch Patapsco River Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
6/15/2016	LBRR0010	WBr Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	<i>Salmo trutta</i>	19	Multiple Year Classes with YOY
9/15/2014	LBRR0020	WBr Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	<i>Salmo trutta</i>	15	Multiple Year Classes with YOY
7/26/2017	LBRR0100	WBr Patapsco River	Liberty Reservoir	MDDNR Fisheries	Carroll	<i>Salmo trutta</i>	1	YOY
7/19/2017	LIBE-105-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	<i>Salmo trutta</i>	12	Multiple Year Classes Adult
7/19/2017	LIBE-106-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	-	-	-
7/5/2017	LIBE-107-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	-	-	-
7/5/2017	LIBE-108-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	<i>Salmo trutta</i>	1	Adult
7/5/2017	LIBE-109-X-2017	UT to WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	-	-	-
7/26/2017	LIBE-204-X-2017	WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	<i>Salmo trutta</i>	1	YOY
3/14/2007	LIBE-214-A-2007	WBr Patapsco River	Liberty Reservoir	MDDNR MBSS	Carroll	<i>Salmo trutta</i>	14	Multiple Year Classes with YOY

*YOY - young-of-year

III. Big Pipe Creek

An unnamed tributary to the Big Pipe Creek main stem and associated tributaries above Rinehart Road (12-digit 02140304287) is located in the Union Mills Reservoir watershed north of Westminster, MD in Carroll County. These waters have been found to support naturally reproducing populations of brook trout (*Salvelinus fontinalis*) but are currently designated as Class IV-P waters. Carroll County, MDDNR Fisheries and MBSS scientists have conducted surveys of these waterbody segments. Figure 7 shows the location of sampling stations while Tables 13 and 14 provide a summary of water temperature and cold/coolwater obligate information for this area.

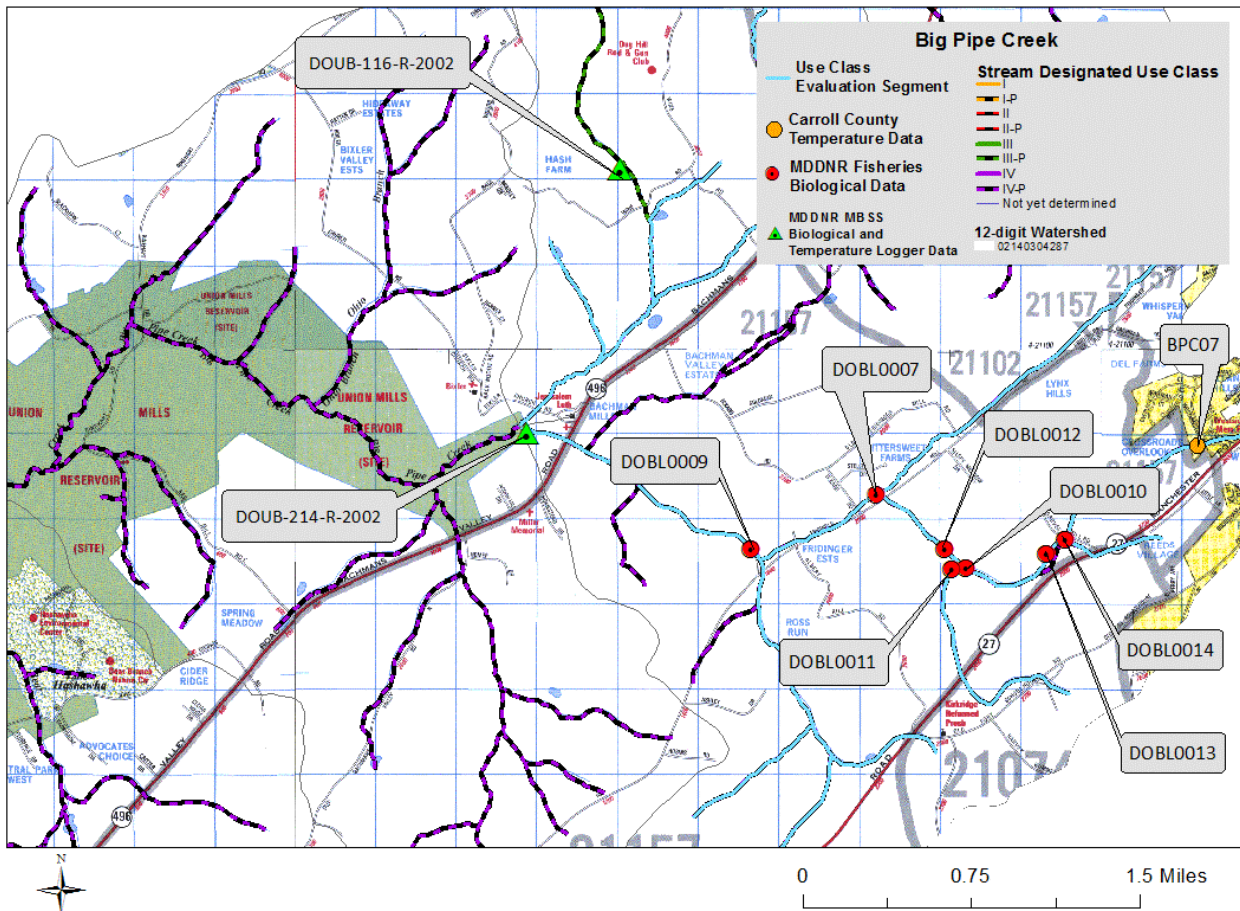


Figure 7. Unnamed Tributaries to Big Pipe Creek

Temperature Data for the Unnamed Tributaries to Big Pipe Creek

Water temperature data were collected at three sampling events in 2002 and 2016. Carroll County scientists submitted daily mean temperature results for seven days at station BPC07 between June and August 2016; therefore mean temperature analysis used mean temperatures for the Daily Mean and Daily Max calculations. One (DOUB-214-R-2002) of the three stations' temperature results does not meet the Class III criterion.

Table 13. Unnamed Tributary to Big Pipe Creek Water Temperature Logger Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2002	DOUB-214-R-2002	UT to Big Pipe Creek	Double Pipe Creek	MDDNR MBSS	Carroll	4239	64%	14%	20.93	27.25
2016	BPC07	UT to Big Pipe Creek	Double Pipe Creek	Carroll County	Carroll	7	0%	0%	16.91	18.70

*Water temperature logger and instantaneous YSI flowtracker data were assessed from June to August. The "Daily Max" represents the maximum temperature from June to August. The water temperature calculations for Station BPC07 use seven daily mean temperatures.

Biological Data for the Unnamed Tributaries to Big Pipe Creek

Brook trout (*Salvelinus fontinalis*) were found at seven of the eight biological sampling events in 2002 and 2017. Though not shown in the table below, DNR Fisheries staff observed but were not able to capture three young of year brown trout (length measurements not provided) near station DOB0014. Since these fish were not captured they were not counted or measured as part of DOB0014. Coldwater obligate benthic macroinvertebrate species data were not provided.

In 2002 upstream of the use class evaluation segment, a coldwater obligate benthic macroinvertebrate (*Tallaperla*) was found at station DOUB-116-R-2002; this stream segment is a designated Use Class III-P tributary.

Table 14. Unnamed Tributary to Big Pipe Creek Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
8/31/2017	DOBL0014	UT to Big Pipe Creek	Double Pipe Creek	MDDNR Fisheries	Carroll	<i>Salvelinus fontinalis</i>	12	Multiple Year Classes with YOY
8/31/2017	DOBL0013	UT to Big Pipe Creek	Double Pipe Creek	MDDNR Fisheries	Carroll	<i>Salvelinus fontinalis</i>	32	Multiple Year Classes with YOY
8/25/2017	DOBL0012	UT to Big Pipe Creek	Double Pipe Creek	MDDNR Fisheries	Carroll	<i>Salvelinus fontinalis</i>	12	Multiple Year Classes with YOY
8/25/2017	DOBL0011	UT to Big Pipe Creek	Double Pipe Creek	MDDNR Fisheries	Carroll	<i>Salvelinus fontinalis</i>	2	Multiple Year Classes with YOY
8/25/2017	DOBL0010	UT to Big Pipe Creek	Double Pipe Creek	MDDNR Fisheries	Carroll	<i>Salvelinus fontinalis</i>	14	Multiple Year Classes with YOY
8/24/2017	DOBL0009	UT to Big Pipe Creek	Double Pipe Creek	MDDNR Fisheries	Carroll	<i>Salvelinus fontinalis</i>	6	Multiple Year Classes Adult
8/18/2017	DOBL0007	UT to Big Pipe Creek	Double Pipe Creek	MDDNR Fisheries	Carroll	<i>Salvelinus fontinalis</i>	4	Multiple Year Classes Adult
3/5/2002	DOUB-214-R-2002	UT to Big Pipe Creek	Double Pipe Creek	MDDNR MBSS	Carroll	-	-	-

*YOY - young-of-year

IV. Conewago Creek

Long Arm Creek and its tributaries (12-digit 02050310289) in the Conewago Creek watershed, located northwest of Manchester in Carroll County, are currently designated as Use Class I-P. The MDDNR Fisheries Service conducted a survey of the waterbody segment in 2017. Figure 8 below, shows the location of the sampling station, and water temperature data results (Table 15).

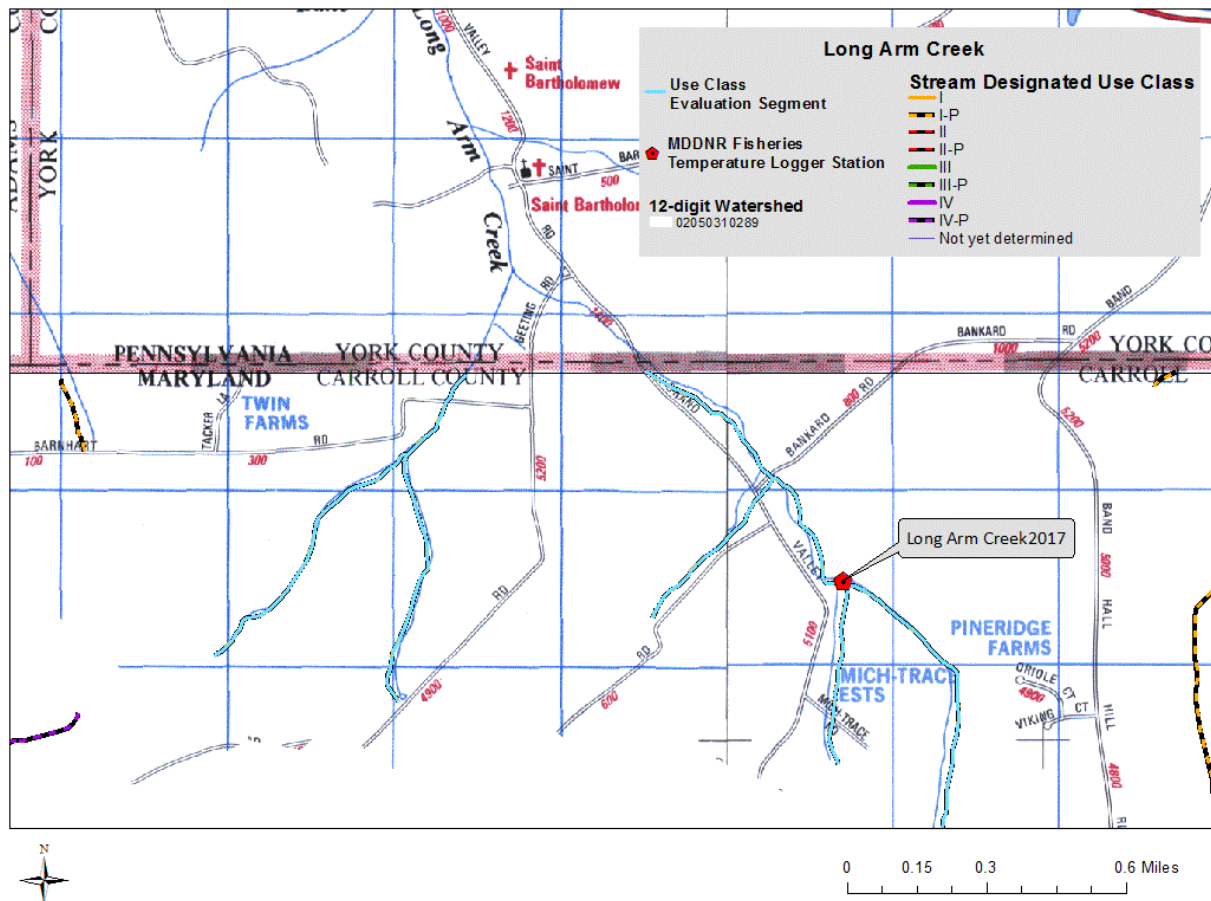


Figure 8. Long Arm Creek

Temperature Data for Long Arm Creek

Water temperature data were collected at one sampling event in 2017. The water temperature results meet the Class III criterion.

Table 15. Long Arm Creek Temperature Logger Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2017	Long Arm Creek	Long Arm Creek	Conewago Creek	MDDNR Fisheries	Carroll	6624	4%	0%	17.58	23.02

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

Biological Data for Long Arm Creek

No biological data were available for these waters.

V. Antietam Creek

Falls Creek (12-digit 021405020205) in the Antietam Creek watershed, located northwest of Cascade in Washington County, is currently designated as Use Class IV-P. This waterbody segment currently supports a naturally reproducing population of brown trout (*Salmo trutta*). The MDDNR MBSS conducted a survey of the waterbody segment in 2003. Figure 9 below, shows the location of the sampling station and biological data results (Table 16).

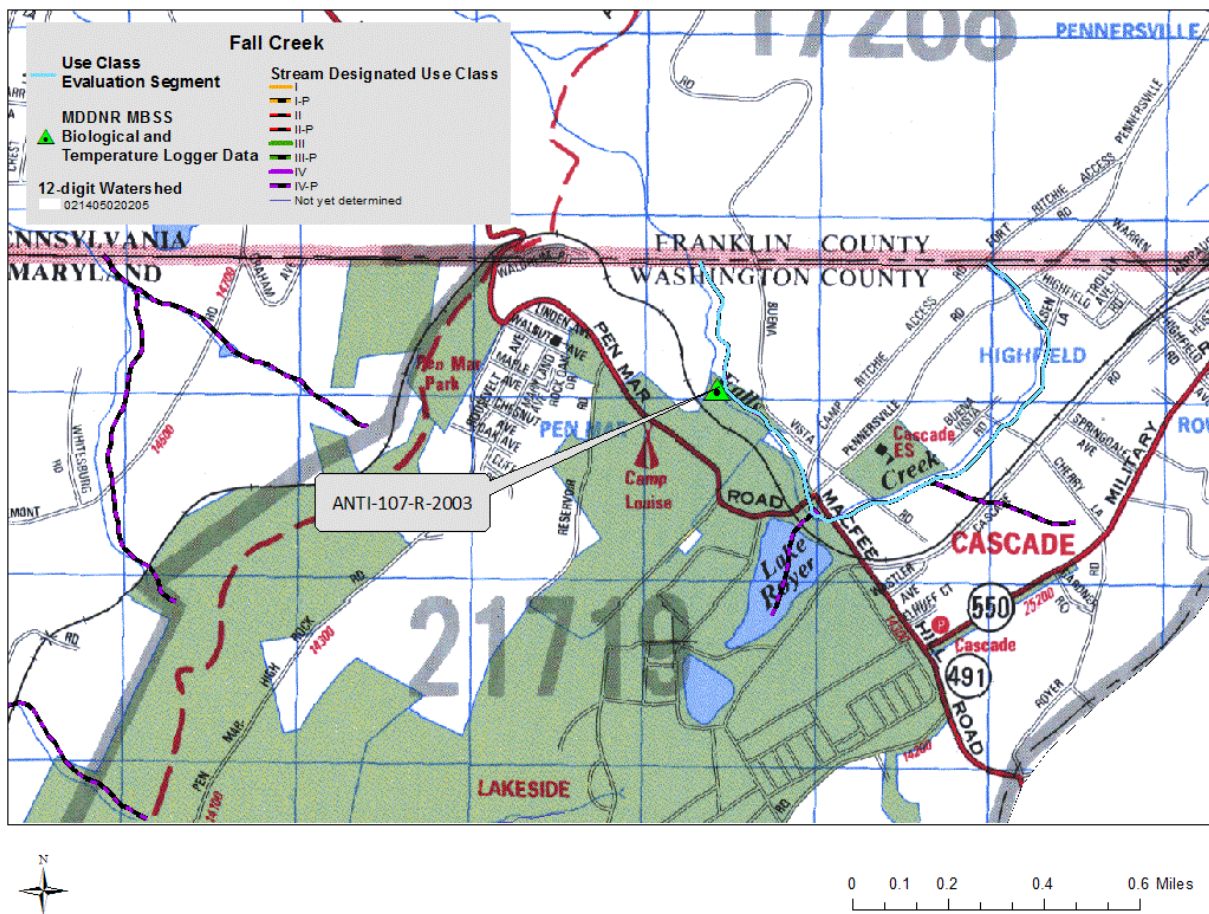


Figure 9. Falls Creek

Temperature Data for Falls Creek

No water temperature data were collected for this waterbody.

Biological Data for Falls Creek

Multiple year classes including young-of-year brown trout (*Salmo trutta*) were found at the biological sampling event in 2003. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 16. Falls Creek Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
3/4/2003	ANTI-107-R-2003	Falls Creek	Antietam Creek	MDDNR MBSS	Washington	<i>Salmo trutta</i>	23	Multiple Year Classes with YOY

*YOY – young-of-year

VI. Furnace Creek

Mill Creek and all tributaries (12-digit 021306091137) are located in the Furnace Creek watershed near Perryville, MD. It is currently designated as a Use Class I-P water. The waterbody segment currently supports naturally reproducing populations of brown trout (*Salmo trutta*). The MDDNR Fisheries and MBSS scientists have conducted surveys of this waterbody segment. Figure 10 shows the location of sampling stations, with the water temperature and biological data results provided in Tables 17 and 18.

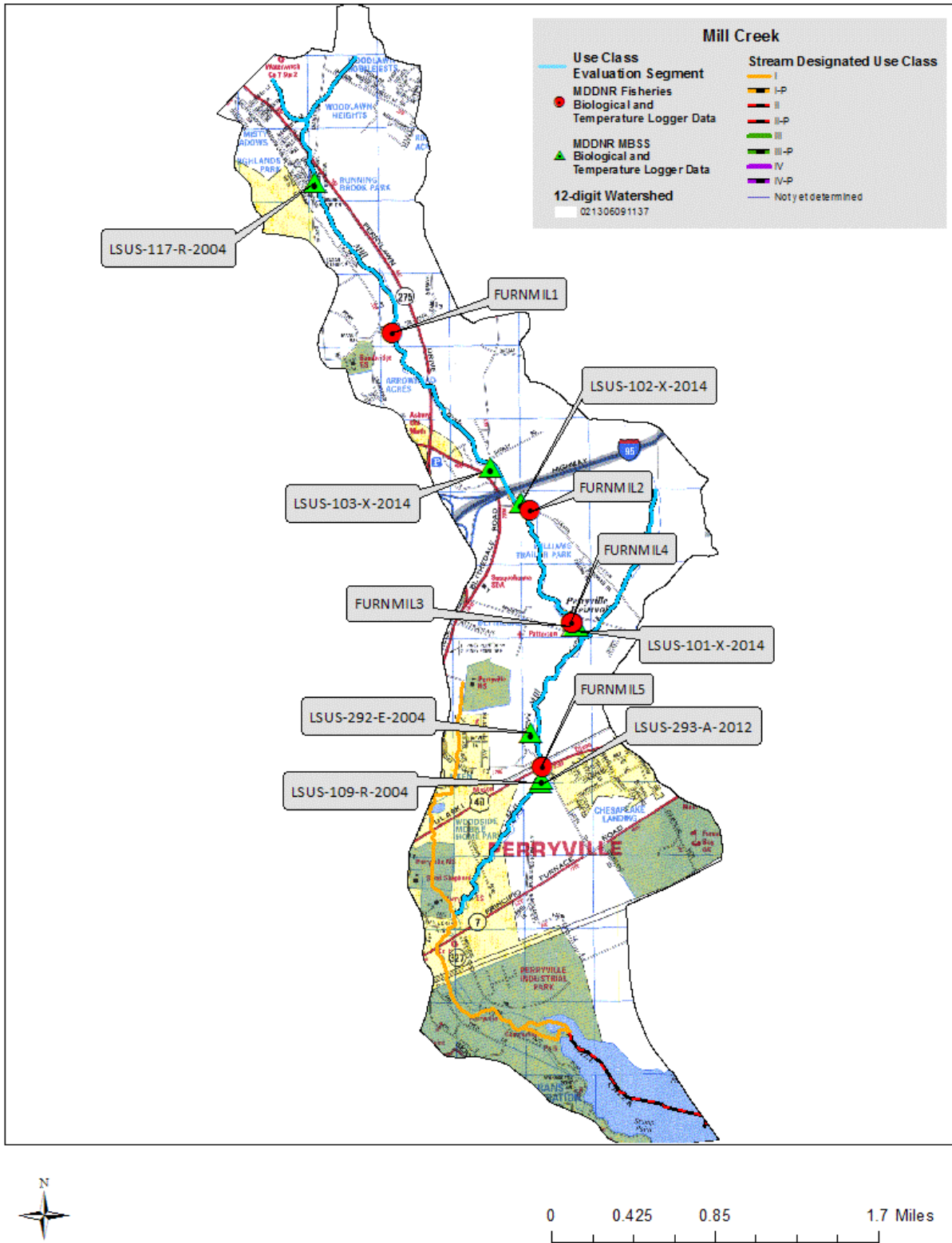


Figure 10. Mill Creek

Temperature Data for Mill Creek

Water temperature data has been collected at eight sampling events in Mill Creek in 2003, 2004, 2012, and 2014. One station meets the Class III water temperature criterion. Seven of the eight stations do not meet the Class III criterion.

Table 17. Mill Creek Water Temperature Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2014	LSUS-101-X-2014	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	6624	29%	0%	19.10	23.14
2014	LSUS-102-X-2014	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	6624	16%	0%	18.60	23.28
2014	LSUS-103-X-2014	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	6624	14%	0%	18.52	22.44
2012	LSUS-293-A-2012	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	6624	71%	6%	20.97	25.94
2004	LSUS-117-R-2004	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	4967	5%	0%	16.99	22.14
2004	LSUS-292-E-2004	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	5975	32%	0%	19.04	22.63
2003	FURNMIL2	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	2190	91%	9%	17.77	22.26
2003	FURNMIL4	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	2190	94%	6%	17.83	20.94

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

Biological Data for Mill Creek

Mill Creek was sampled twenty-three times at twelve stations in 2004, 2012, 2013, and 2014. Brown trout (*Salmo trutta*) were found at fourteen of the twenty-three biological sampling events. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 18. Mill Creek Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
6/14/2018	FURNMIL3	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	1	Adult
6/14/2018	FURNMIL2	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	1	YOY
6/14/2018	FURNMIL1	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	-	-	-
9/4/2013	FURNMIL3	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	3	Multiple Year Classes with YOY
8/2/2011	FURNMIL2	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	-	-	-
8/1/2011	FURNMIL3	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	9	Multiple Year Classes Adult
9/3/2009	FURNMIL3	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	5	Multiple Year Classes with YOY
8/26/2008	FURNMIL3	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	6	Multiple Year Classes with YOY
8/14/2007	FURNMIL3	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	4	Multiple Year Classes with YOY
8/25/2004	FURNMIL3	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	9	Multiple Year Classes with YOY
8/25/2004	FURNMIL2	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	1	Adult
6/26/2001	FURNMIL3	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	5	Multiple Year Classes with YOY
6/26/2001	FURNMIL4	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	-	-	-
6/26/2001	FURNMIL5	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	-	-	-
6/25/2001	FURNMIL2	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	<i>Salmo trutta</i>	12	Multiple Year Classes with YOY
6/25/2001	FURNMIL1	Mill Creek	Furnace Bay	MDDNR Fisheries	Cecil	-	-	-
3/10/2014	LSUS-101-X-2014	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	-	-	-
3/10/2014	LSUS-102-X-2014	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	<i>Salmo trutta</i>	2	Multiple Year Classes Adult
3/10/2014	LSUS-103-X-2014	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	<i>Salmo trutta</i>	6	Multiple Year Classes with YOY
3/6/2012	LSUS-293-A-2012	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	-	-	-
3/30/2004	LSUS-109-R-2004	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	-	-	-
3/31/2004	LSUS-117-R-2004	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	-	-	-
4/27/2004	LSUS-292-E-2004	Mill Creek	Furnace Bay	MDDNR MBSS	Cecil	<i>Salmo trutta</i>	1	YOY

*YOY - young-of-year

VII. North Branch Potomac River

From 2013 to 2017, the MDDNR Freshwater Fisheries Service conducted a fishery survey in the North Branch Potomac River from Jennings-Randolph Lake Dam downstream to Cumberland, MD in Allegany County. The portion of the North Branch Potomac River from Jennings-Randolph Lake to Laurel Run is currently designated as Class III-P, while segments downstream of this point are currently designated as Class I-P. A number of waterbody segments along these portions of the North Branch Potomac River are actively stocked by the MDDNR to support a recreational fishery. In addition, the segment of the North Branch Potomac River between the confluence of Laurel Run and downstream to its confluence with Piney Swamp Run (a tributary in West Virginia) is reported to support natural reproduction of brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*). The fishery management areas sampled during the survey include the Lower, and Upper Catch and Release Area (C&R) Trout Fishing Management Area (TFMA), Westernport Put and Take (P&T) TFMA, McCooles Zero Creel Limit (ZCL) TFMA, and Gary Yoder (Black Oak) ZCL TFMA (Figure 11). For each waterbody segment, relevant data results from the 2013 Federal Aid Annual Report F-48-R-23 Study IV Job 2, 2014 Federal Aid Annual Report F-48-R-24 Study IV Job 2, 2015 Federal Aid Annual Report F-48-R-25 Study IV Job 2, North Branch Potomac River From Jennings Randolph Lake Dam to Cumberland –FY16, and Annual Performance Report–FY17 including water temperature and biological (i.e., trout information) data are presented.

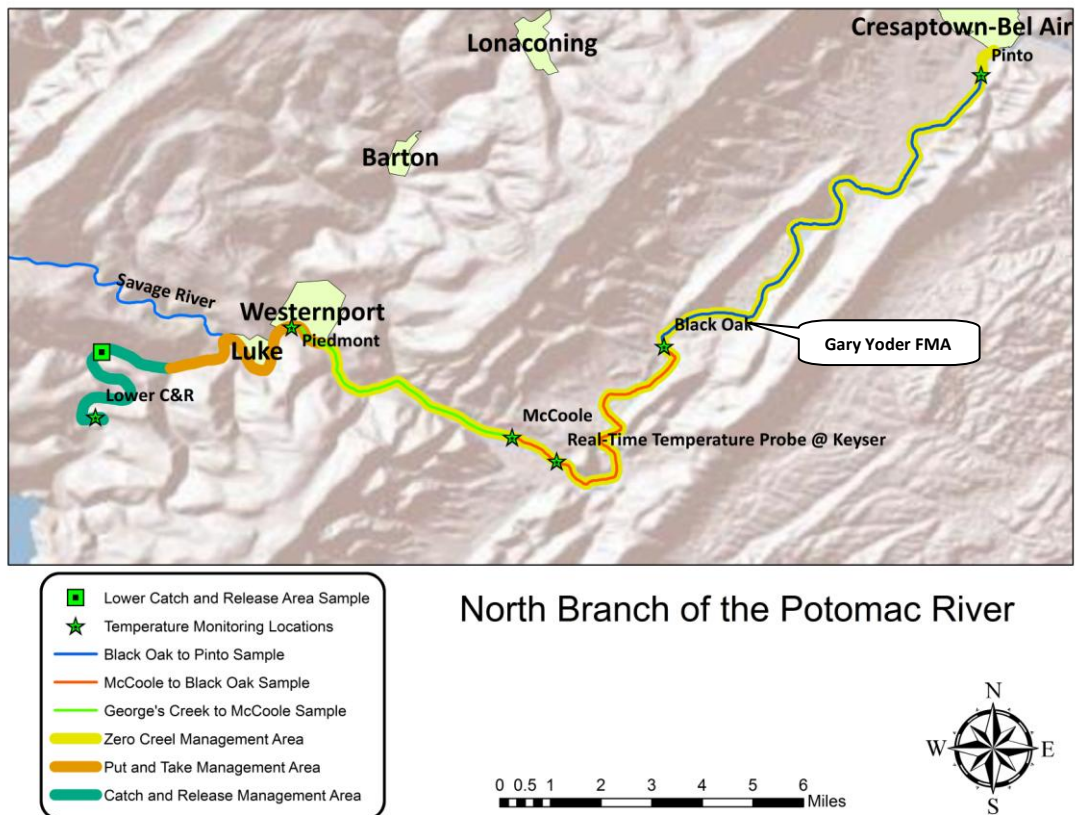


Figure 11. North Branch Potomac River Fisheries Management Areas (MDDNR Freshwater Fisheries Service 2015).

North Branch Potomac River (from Laurel Run to Piney Swamp Run)

The North Branch Potomac River (8-digit code 02141005) southwest of Cumberland, MD in Garrett County between Laurel Run and its confluence with Piney Swamp Run (a tributary in West Virginia), is currently designated as a Use I-P water. Though this area is stocked with both adult and fingerling-sized fish, MDDNR reports the presence of naturally reproducing populations of brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*). Figure 12 shows the location of the waterbody segment, with water temperature and biological (e.g., trout) data results from the Lower C&R TFMA and Westernport P&T TFMA are provided in Figure 13, and Tables 19 and 20.

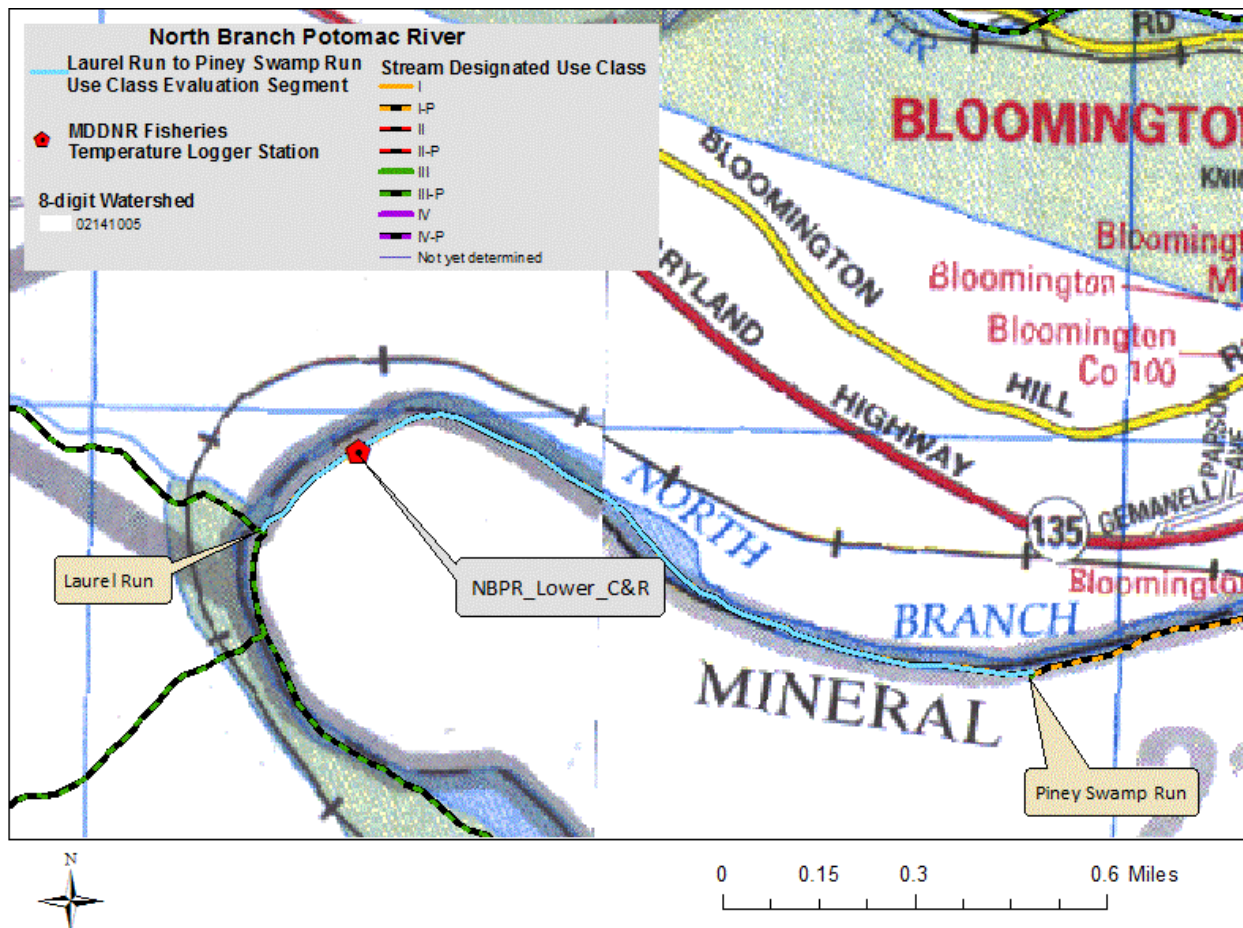


Figure 12. North Branch Potomac River from Laurel Run to Piney Swamp Run

Temperature Data for the North Branch Potomac River (from confluence with Laurel Run to confluence with Piney Swamp Run)

Water temperature data were collected in the Lower C&R TFMA in 2014, and 2015 and 2017. The analysis of raw 2015 and 2017 temperature readings provided in Table 19, from June to August of those years, meet the Class III water temperature criterion. Temperature readings from June through September 2014 appear to meet the Class III water temperature criterion; they were not available for this report so summary statistics are not provided and instead a graph from the 2014 Federal Aid Annual Report is shown below in Figure 13.

Table 19. North Branch Potomac River from Laurel Run to Piney Swamp Run Temperature Data

Date	Station ID	Stream	Watershed	Data Submitter	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2017	NBPR_Lower_C&R	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	5616	0%	0%	15.19	19.0
2015	NBPR_Lower_C&R	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	6300	0%	0%	14.82	19.1

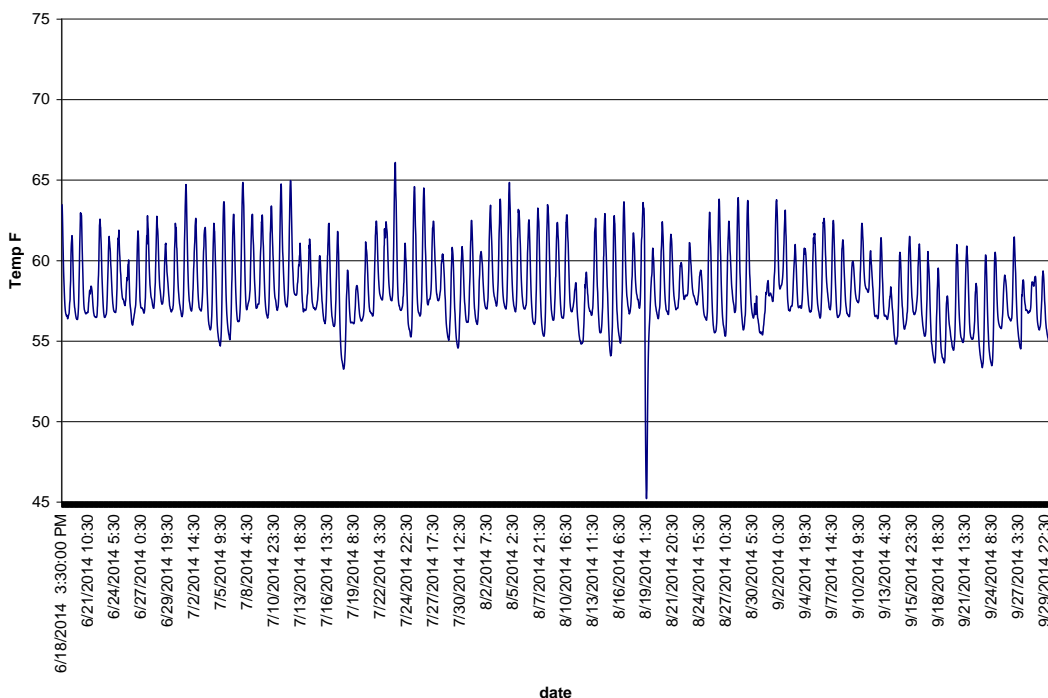


Figure 13. North Branch Potomac River Lower C&R TFMA Temperature in 2014

Biological Data for the North Branch Potomac River (from Laurel Run to Piney Swamp Run)

The number, length, and weight for brook trout, brown trout; and length frequency distributions for brown trout and rainbow trout collected in the Lower C&R TFMA are provided in Table 20. There were multiple year classes with young-of-year rainbow trout, twelve multiple year classes of adult brown trout, and one young-of-year brook trout collected at the sampling station in 2015. There were several of these trout species observed but not collected; they were not counted or measured as part of the record. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 20. North Branch Potomac River from Laurel Run to Piney Swamp Run Biological Data

Date	Location	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity	Observed not collected
2015	Lower C&R TFMA	NBPR Laurel Run to Piney Swamp Run	North Branch Patapsco River	MDDNR Fisheries	Garrett	<i>Salvelinus fontinalis</i>	1	YOY ¹	1
						<i>Salmo trutta</i>	12	Multiple Year Classes Adult ²	3
						<i>Oncorhynchus mykiss</i>	27	Multiple Year Classes with YOY ³	11

1. YOY - young-of-year 2. Brown trout – 16 wild with YOY, 11 hatchery 3. Rainbow trout – 8 wild, 4 hatchery

North Branch Potomac River (from Piney Swamp Run to Route 956 in Pinto, MD)

The North Branch Potomac River (8 digit codes 02141001, 02141004, 02141005, and 02141006) southwest of Cumberland, MD in Allegany and Garrett counties between Piney Swamp Run (a tributary in West Virginia) and Route 956 in Pinto, MD are currently designated as Use I-P waters. These waterbody segments are actively stocked for recreational fishing by the MDDNR Fisheries Service. Figure 14 shows the location of the waterbody segment, with water temperature and biological data results provided in Figures 15 through 25, and Tables 21 and 22.

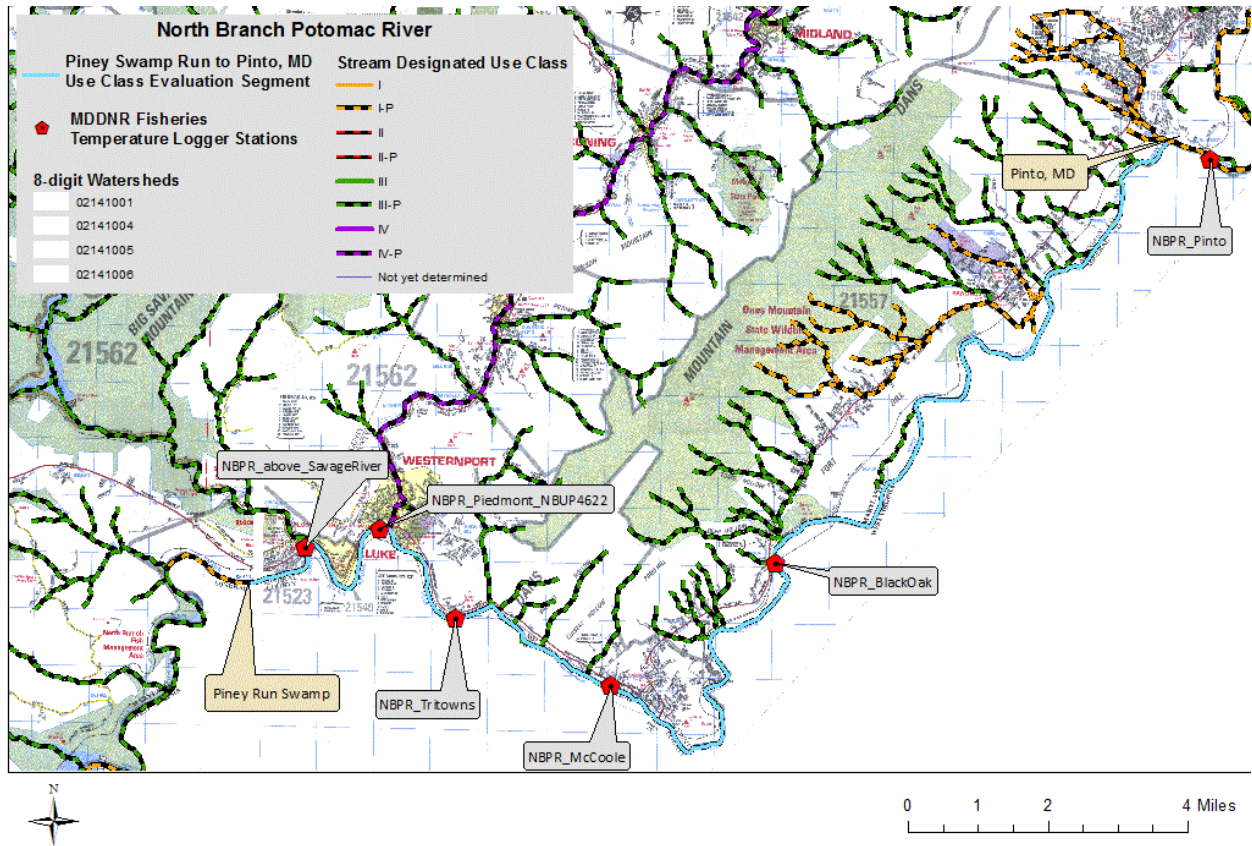


Figure 14. North Branch Potomac River from Piney Swamp Run to Route 956 in Pinto, MD.

Water Temperature Data for North Branch Potomac River (from Piney Swamp Run to Route 956 in Pinto, MD)

Water temperature data were collected at nine sampling events from 2013 to 2017. Raw data were provided for 2015 and 2017 (Table 21); 2013 and 2014 raw data were not available for this report so summary statistics are not provided and instead graphs from the 2013 and 2014 Federal Aid Annual Reports (Figures 15 to 21) are shown below. The Federal Aid Annual reports note temperatures do not exceed the management recommendation of 25 degrees Celsius (77 degrees Fahrenheit). Except for the Gary Yoder (Black Oak) ZCL TFMA in 2014 and 2015 (Table 21 and Figure 16), Tritowns in 2015 (Table 21), and McCoolle ZCL TFMA and Pinto, MD in 2017 (Table 21) all of the stations' water temperature results meet the Class IV water temperature criterion. Please note that Figures 15, 16, and 17 do not list the dates of sampling for the ZCL McCoolle and ZCL Gary Yoder (Black Oak) TFMA, and Westernport P&T TFMA temperature data results. Temperature data is provided in both degrees Fahrenheit and Celsius.

Table 21. North Branch Potomac River from Piney Swamp Run to Pinto, MD Temperature Data

Date	Station ID	Stream	Watershed	Data Submitter	County	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2017	NBPR_above_SavageRiver	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	5616	5%	0%	15.79	20.1
2017	NBPR_Piedmont_NBUP4622	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	5616	7%	0%	17.13	21.6
2017	NBPR_McCoole	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	5616	55%	2%	19.96	25.1
2017	NBPR_Pinto	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	5616	64%	7%	20.39	26.1
2015	NBPR_above_SavageRiver	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	6300	0.1%	0%	15.38	20.2
2015	NBPR_Piedmont_NBUP4622	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	6300	3%	0%	16.64	21.1
2015	NBPR_Tritowns	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	6300	22%	0%	18.34	23.1
2015	NBPR_McCoole	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	6300	33%	0%	18.86	23.5
2015	NBPR_BlackOak	NB Potomac River	NB Potomac River	MDDNR Fisheries	Allegany	6300	47%	1%	19.58	24.9

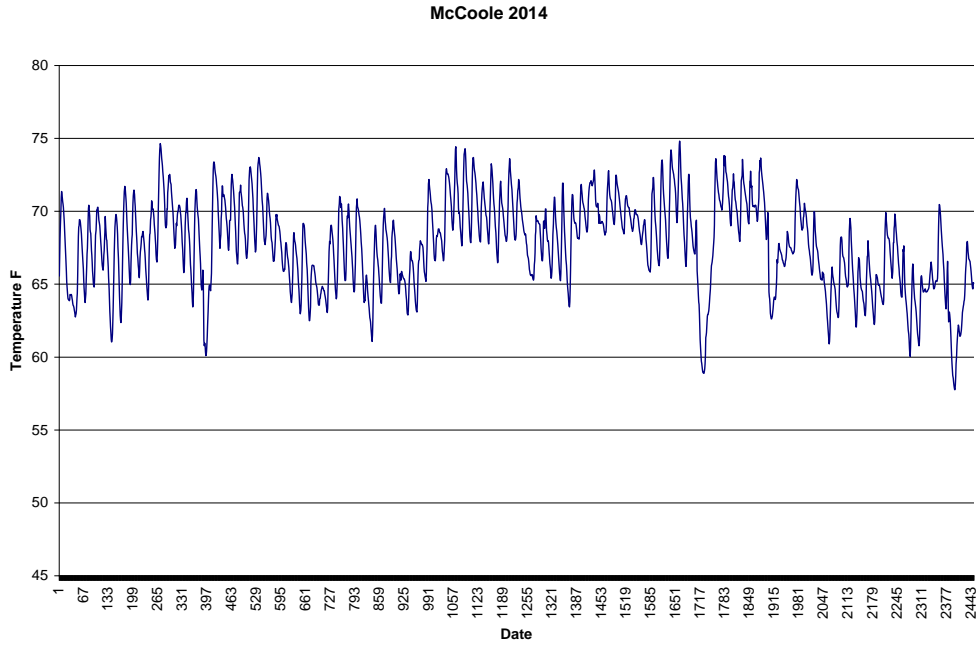


Figure 15. North Branch Potomac River (ZCL) at the McCoole TFMA Water Temperatures in 2014

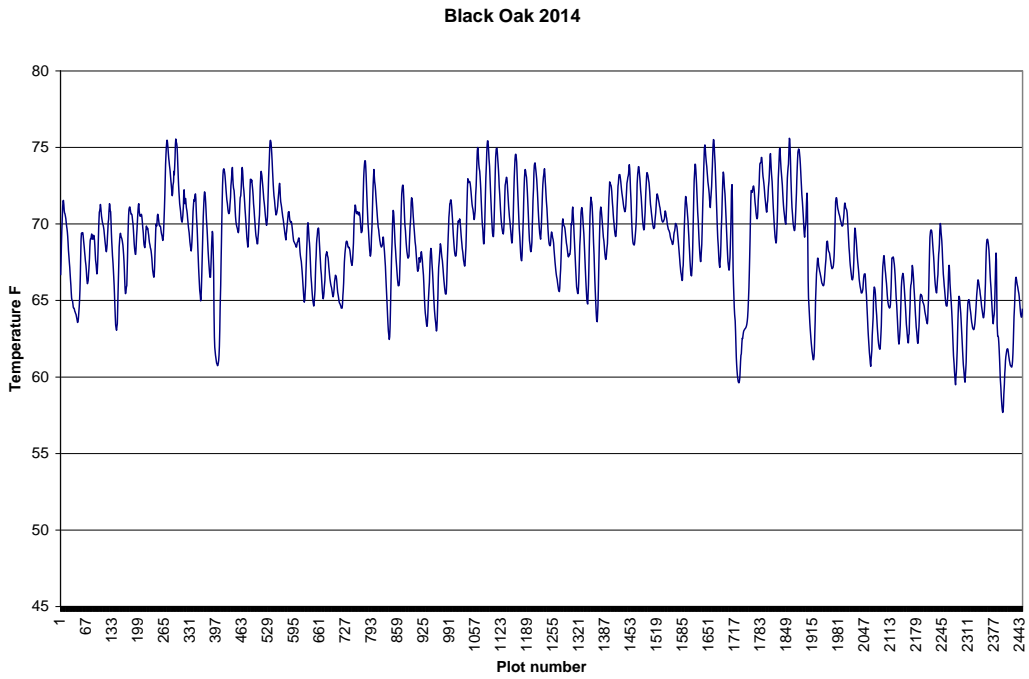


Figure 16. North Branch Potomac River (ZCL) at the Gary Yoder TFMA Water Temperatures in 2014

Westernport 2014

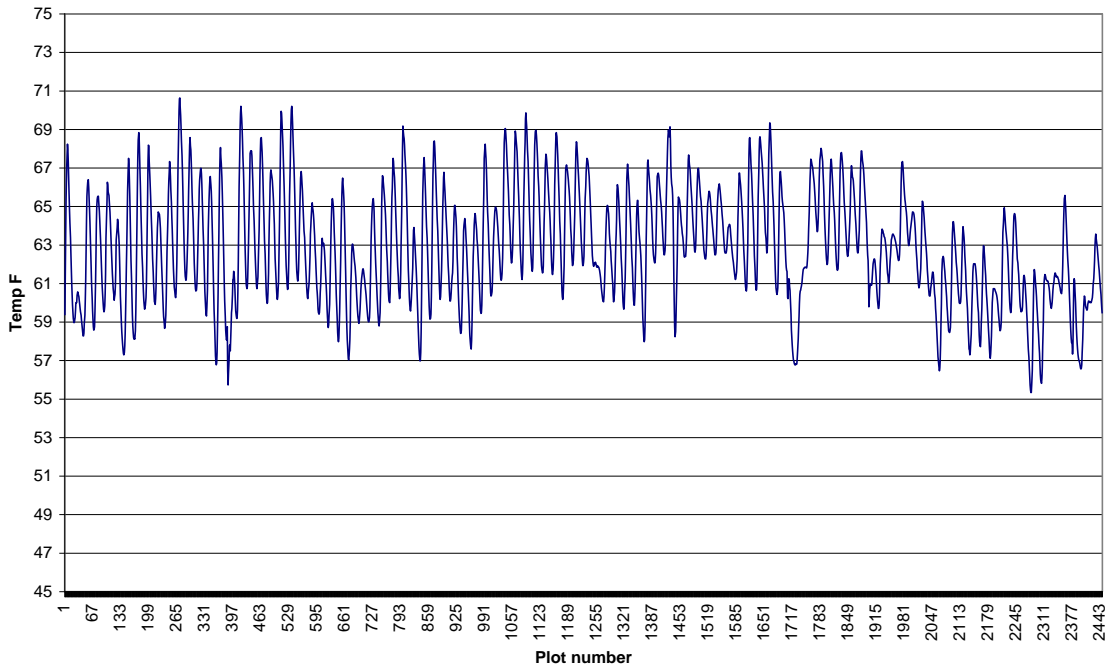


Figure 17. Westernport P&T TFMA Water Temperatures 2014.

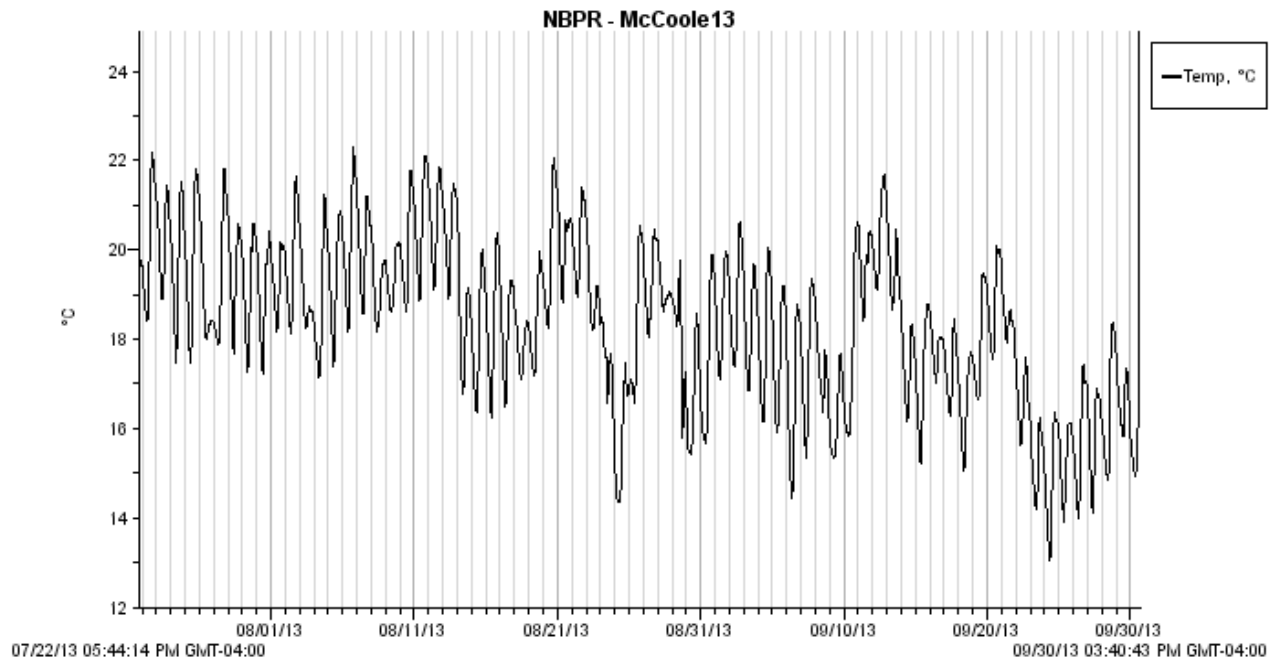


Figure 18. North Branch Potomac River (ZCL) at McCoolle TFMA Water Temperatures in 2013.

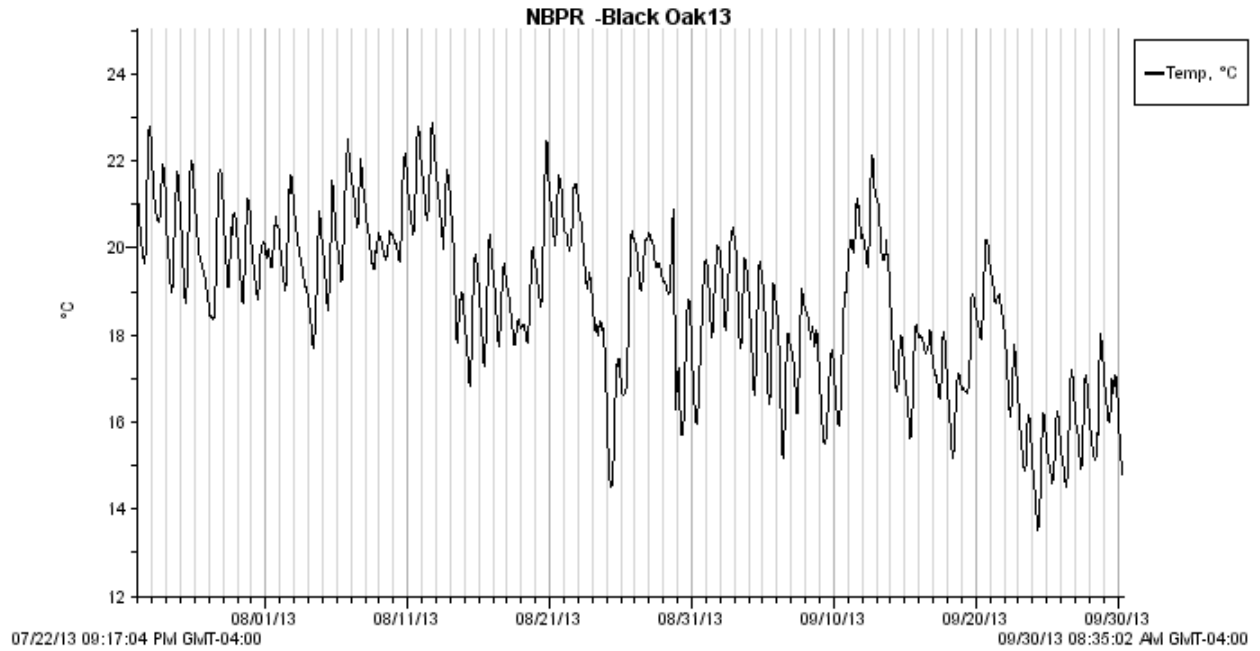


Figure 19. North Branch Potomac River (ZCL) at the Gary Yoder TFMA Water Temperatures in 2013.

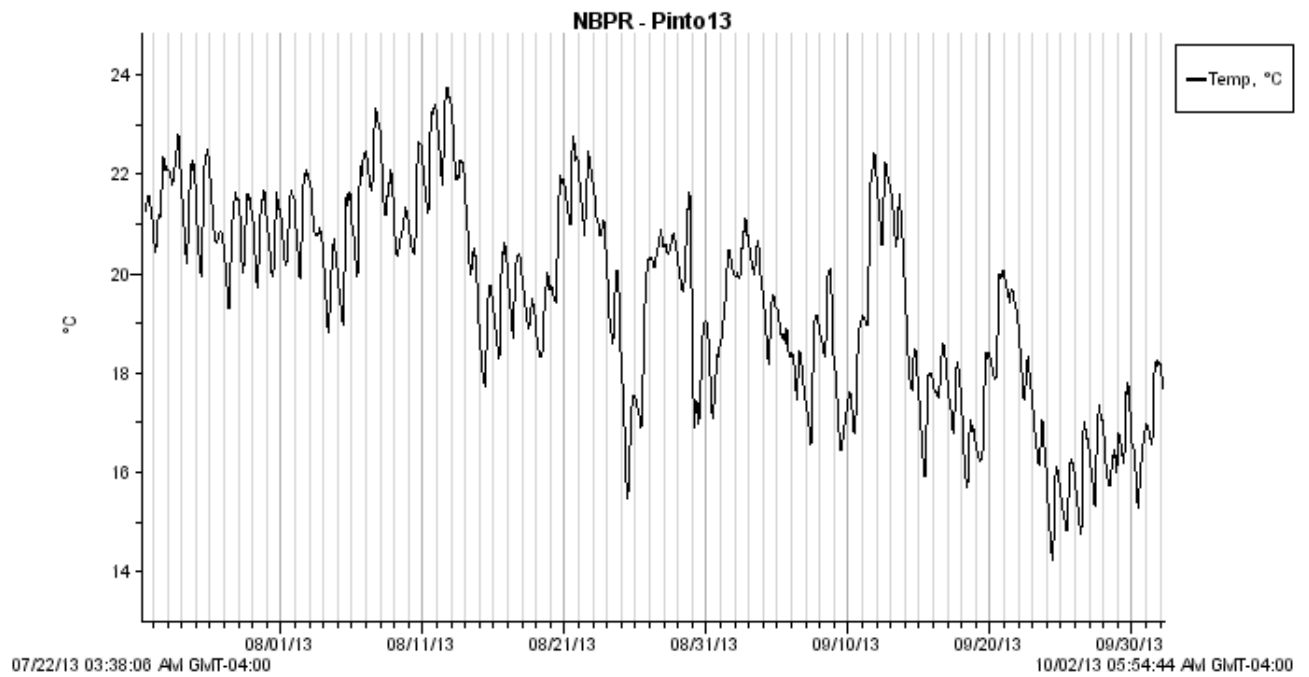


Figure 20. North Branch Potomac River (ZCL) TFMA at the lower boundary (Pinto, MD) Water Temperatures in 2013.

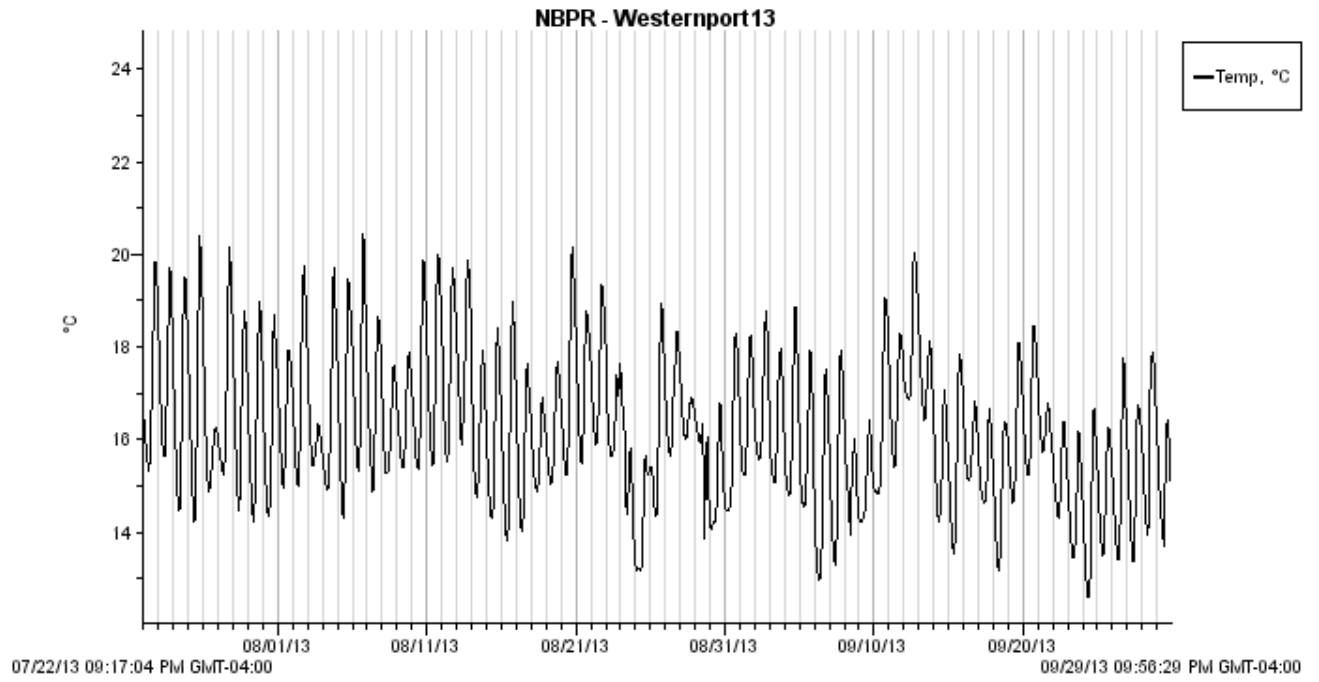


Figure 21. Westernport Put and Take TFMA Water Temperatures 2013.

Biological Data for the North Branch Potomac River (from Piney Swamp Run to Route 956 in Pinto, MD)

The number, length, weight and length frequency distribution of brown trout and rainbow trout are provided for the Upper C&R TFMA, Westernport P&T TFMA and ZCL TFMAs in Table 22, and Figures 22 to 25. Multiple year class adult brown trout and multiple year class adult including young-of-year rainbow trout were collected at the sampling stations from 2013 to 2016 but only multiple year class adult in 2017. There were several of these trout species observed but not collected; they were not counted or measured as part of the record. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 22. North Branch Potomac River from Piney Swamp Run to Pinto, MD Biological Data.

Date	Location	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity	Observed not collected
2017	Black Oak ZCL TFMA to Pinto	NBPR Piney Swamp Run to Pinto, MD	North Branch Patapsco River	MDDNR Fisheries	Garrett	<i>Salvelinus fontinalis</i>	-	-	-
						<i>Salmo trutta</i>	1	Adult	-
						<i>Oncorhynchus mykiss</i>	12	Multiple Year Classes Adult	-
2016	Westernport P & T to Black Oak ZCL TFMA	NBPR Piney Swamp Run to Pinto, MD	North Branch Patapsco River	MDDNR Fisheries	Garrett	<i>Salvelinus fontinalis</i>	-	-	-
						<i>Salmo trutta</i>	20	Multiple Year Classes Adult	-
						<i>Oncorhynchus mykiss</i>	103	Multiple Year Classes with YOY ²	-
2015	McCoole to Black Oak ZCL TFMA	NBPR Piney Swamp Run to Pinto, MD	North Branch Patapsco River	MDDNR Fisheries	Garrett	<i>Salvelinus fontinalis</i>	-	-	-
						<i>Salmo trutta</i>	3	Multiple Year Classes Adult	-
						<i>Oncorhynchus mykiss</i>	53	Multiple Year Classes with YOY ¹	50
2015	Westernport to McCoole ZCL TFMA	NBPR Piney Swamp Run to Pinto, MD	North Branch Patapsco River	MDDNR Fisheries	Garrett	<i>Salvelinus fontinalis</i>	-	-	-
						<i>Salmo trutta</i>	17	Multiple Year Classes Adult	19
						<i>Oncorhynchus mykiss</i>	50	Multiple Year Classes Adult	28
2015	Georges Creek to Westernport Wastewater Effluent P&T TFMA	NBPR Piney Swamp Run to Pinto, MD	North Branch Patapsco River	MDDNR Fisheries	Garrett	<i>Salvelinus fontinalis</i>	-	-	-
						<i>Salmo trutta</i>	3	Multiple Year Classes Adult	4
						<i>Oncorhynchus mykiss</i>	2	Multiple Year Classes Adult	-
2015	Piney Swamp Run to Savage River P&T TFMA	NBPR Piney Swamp Run to Pinto, MD	North Branch Patapsco River	MDDNR Fisheries	Garrett	<i>Salvelinus fontinalis</i>	-	-	1
						<i>Salmo trutta</i>	10	Multiple Year Classes Adult	2
						<i>Oncorhynchus mykiss</i>	8 ²	Multiple Year Classes with YOY ¹	10
2013	ZCL TFMA	NBPR Piney Swamp Run to Pinto, MD	North Branch Patapsco River	MDDNR Fisheries	Garrett	<i>Salvelinus fontinalis</i>	-	-	-
						<i>Salmo trutta</i>	27	Multiple Year Classes Adult	-
						<i>Oncorhynchus mykiss</i>	127	Multiple Year Classes with YOY ¹	-

1. YOY - young-of-year 2. Rainbow trout – 4 wild with YOY, 4 hatchery

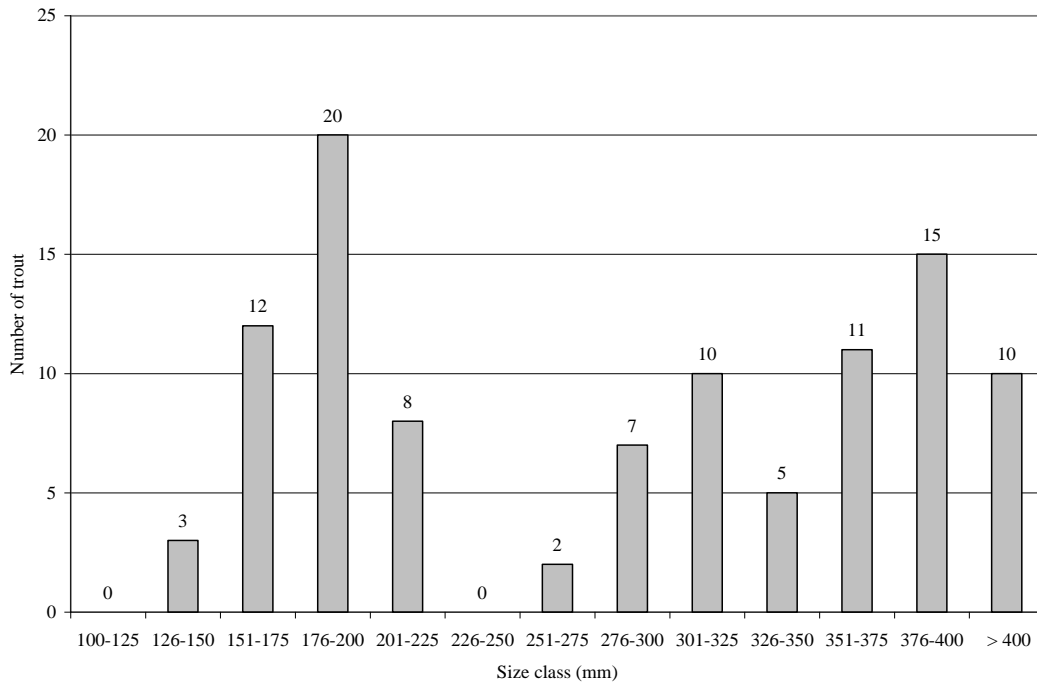


Figure 22. Length frequency distribution of rainbow trout (N = 103) in the ZCL TFMA of the North Branch Potomac River (Westernport to Black Oak), FY16.

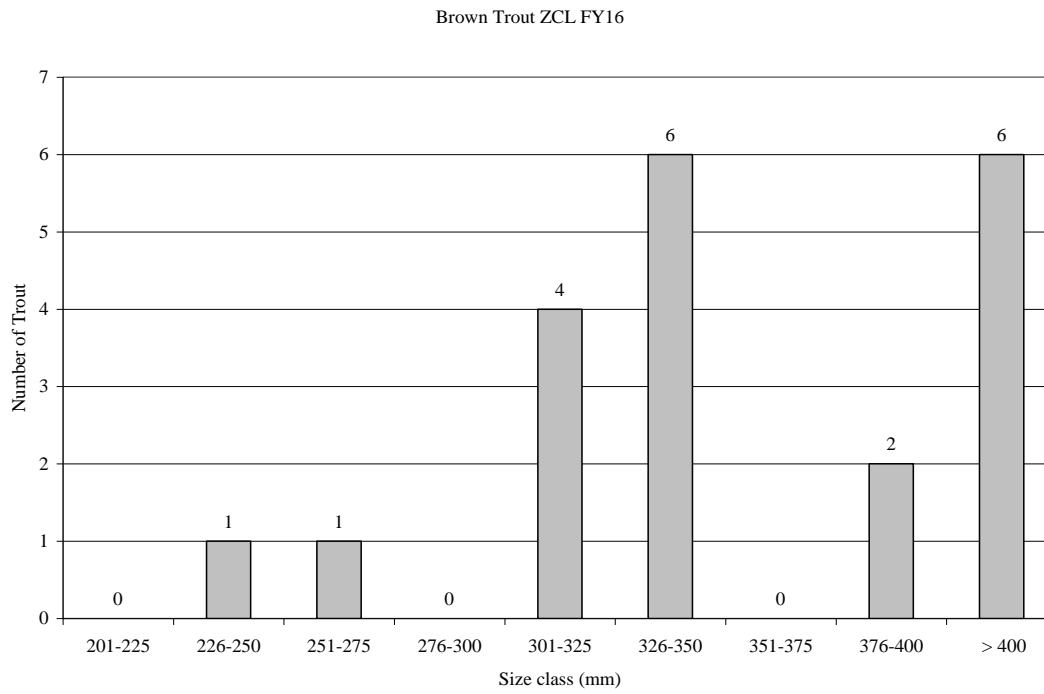


Figure 23. Length frequency distribution of brown trout (N = 20) in the ZCL TFMA of the North Branch Potomac River (Westernport to Black Oak), FY16.

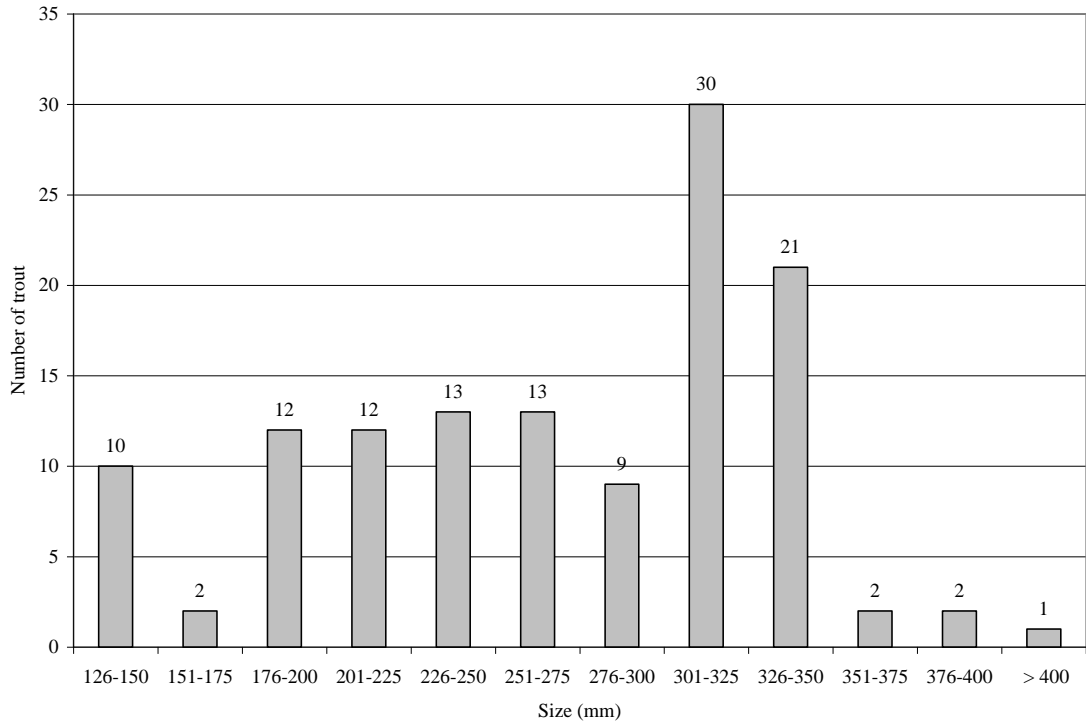


Figure 24. North Branch Potomac River ZCL TFMA Length Frequency Distribution Rainbow Trout (n=127) in June 2013.

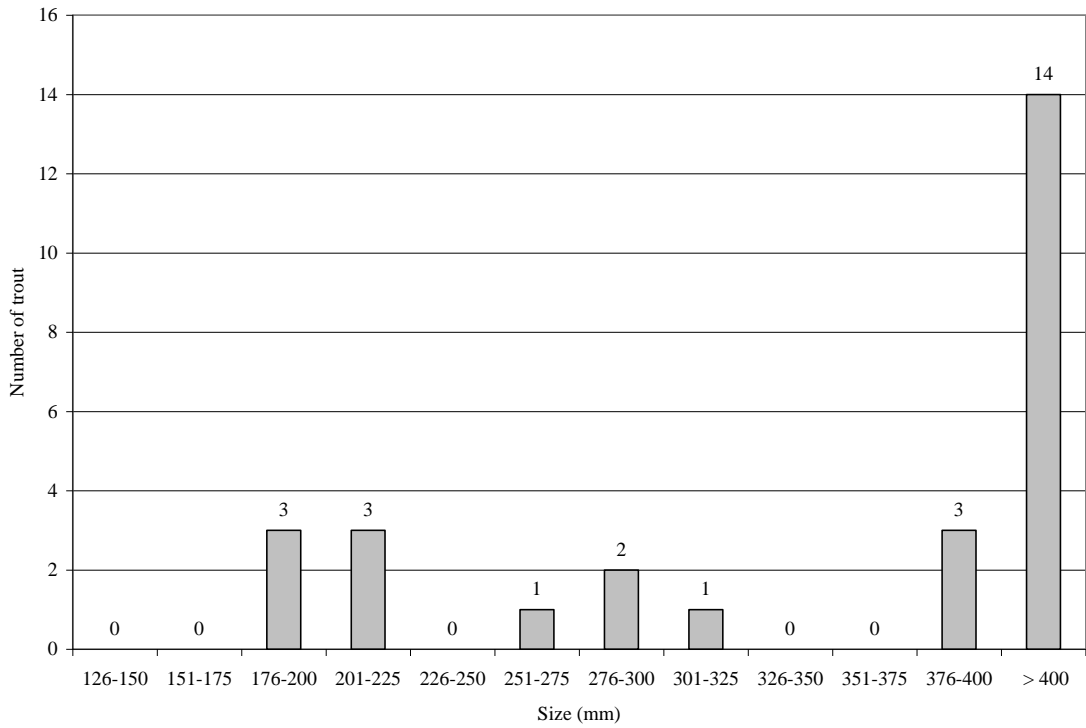


Figure 25. North Branch Potomac River ZCL TFMA Length Frequency Distribution Brown Trout (n=27) in June 2013.

VIII. Deer Creek

An unnamed tributary to Falling Branch (12-digit 021202020329) in the Deer Creek watershed, located northwest of Bel Air in Harford County, is currently designated as Use Class IV-P. The waterbody segment currently supports several species of trout including brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), and a sterile intergeneric hybrid, i.e., tiger trout (*Salmo trutta* × *Salvelinus fontinalis*) was collected. The MDDNR Fisheries Service conducted a survey of the waterbody segment in 2018. Figure 26 below, shows the location of the sampling station and biological data results (Table 23).

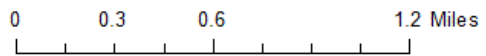
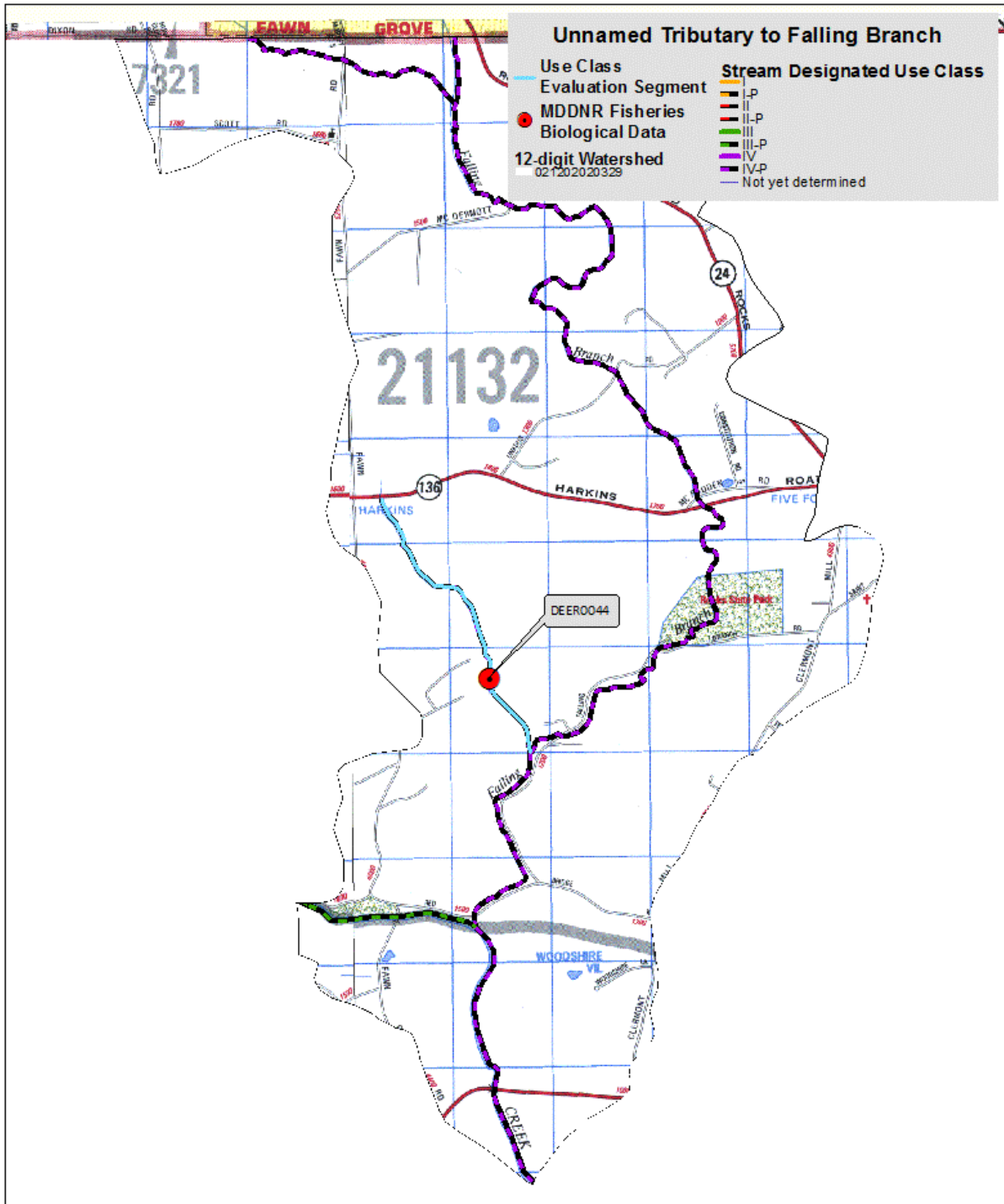


Figure 26. Unnamed Tributary to Falling Branch.

Temperature Data for Unnamed Tributary to Falling Branch

No water temperature data were previously collected for this waterbody; 2018 results are pending temperature logger retrieval later this year.

Biological Data for Unnamed Tributary to Falling Branch

The unnamed tributary to Falling Branch was surveyed in 2018 at one sampling event. One adult and one young of year of brown trout (*Salmo trutta*), one adult brook trout (*Salvelinus fontinalis*), and one adult tiger trout (*Salmo trutta* × *Salvelinus fontinalis*) were found. Coldwater obligate benthic macroinvertebrate species data were not provided.

Table 23. Unnamed Tributary to Falling Branch Biological Data

Date	Station ID	Stream	Watershed	DATA SUBMITTER	County	Species	Count	Maturity
6/29/18	DEER0044	UT to Falling Branch	Deer Creek	MDDNR Fisheries	Harford	<i>Salvelinus fontinalis</i>	1	Adult
						<i>Salmo trutta</i>	2	Adult & YOY
						<i>Salmo trutta</i> × <i>Salvelinus fontinalis</i>	1	Adult

IX. Use Class Evaluations Summary Table

Stream Name	Location of Sampling	County	HUC	Current Designated Use Classification	Summary of Cold/Coolwater Characteristics Found
North Branch Patapsco River main stem	North of Finksburg	Carroll	020600030802	IV-P	Naturally reproducing population of brown trout (<i>Salmo trutta</i>). The temperature at two of the four stations does not meet the Class III criterion (20 degrees Celsius).
Board Run	Southwest of Hampstead	Baltimore, Carroll	020600030802	I-P	Four multiple class brown trout (<i>Salmo trutta</i>). The temperature at both of the two stations does not meet the Class III criterion (20 degrees Celsius).
Deep Run	Southwest of Hampstead	Carroll	020600030802	I-P	Naturally reproducing population of brown trout (<i>Salmo trutta</i>). The temperature at all nine stations does not meet the Class III criterion (20 degrees Celsius).
Unnamed Tributary to North Branch Patapsco River at Hollingsworth Road	North of Finksburg	Baltimore, Carroll	020600030802	I-P	Naturally reproducing population of brown trout (<i>Salmo trutta</i>). The temperature at all three stations does not meet the Class III criterion (20 degrees Celsius).
South Branch Patapsco River main stem	Near Woodbine	Carroll, Howard	020600031001	IV	Naturally reproducing population of brown trout (<i>Salmo trutta</i>). Stream temperature at the one sampling station does not meet the Class III criterion (20 degrees Celsius).
West Branch of the North Branch Patapsco River main stem	Northeast of Westminster	Carroll	020600030801	IV-P	Naturally reproducing population of brown trout (<i>Salmo trutta</i>). The temperature at six of the nine stations does not meet the Class III criterion (20 degrees Celsius). One station does not have temperature logger data.
Unnamed Tributary to Big Pipe Creek	Northeast of Westminster	Carroll	020700090501	IV-P	Naturally reproducing population of brook trout (<i>Salvelinus fontinalis</i>). Water temperature at one of two stations monitored meets the Class III (20 degrees Celsius).
Long Arm Creek	Northwest of Manchester	Carroll	020503060101	I-P	Believed to hold coldwater obligate species. Temperature meets the Class III criterion (20 degrees Celsius). Biological data not available.
Falls Creek	Northwest of Cascade	Washington	0207000440048	IV-P	Naturally reproducing population of brown trout (<i>Salmo trutta</i>). Temperature logger data were not available for this waterbody.
Mill Creek	Northeast of Perryville	Cecil	020600020303	I-P	Naturally reproducing population of brown trout (<i>Salmo trutta</i>). The temperature at seven of the eight stations does not meet the Class III criterion (20 degrees Celsius).
North Branch Potomac River (Laurel Run to Piney Swamp Run)	Southwest of Cumberland	Garrett	020700020205	I-P	This area is stocked with both adult and fingerling-sized rainbow and brown trout. YOY brook trout (<i>Salvelinus fontinalis</i>), twelve multiple year class with YOY brown trout (<i>Salmo trutta</i>) and multiple year class adult rainbow trout (<i>Oncorhynchus mykiss</i>). The temperature readings show the Class III water temperature criterion being met (20 degrees Celsius).
North Branch Potomac River (Old Wilson Bridge and Jennings-Randolph Lake, and Piney Swamp and Route 956 in Pinto, MD)	Southwest of Cumberland	Allegany, Garrett	020700020205	I-P	These waters are actively stocked by the Department of Natural Resources. The temperature data at five of the nine stations does not meet the Class III criterion (20 degrees Celsius). The temperature data at three of the nine does not meet the Class IV criterion (23.9 degrees Celsius).
Falling Branch	Northwest of Bel Air	Harford	020503061602	IV-P	Naturally reproducing population of brown trout (<i>Salmo trutta</i>) and brook trout (<i>Salvelinus fontinalis</i>), and one intergeneric species, i.e., tiger trout (<i>Salmo trutta</i> × <i>Salvelinus fontinalis</i>). Temperature logger data were not available for this waterbody; they are pending 2018 temperature logger retrieval.