

### **Distribution**

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**PA FISH AND BOAT COMMISSION  
COMMENTS AND RECOMMENDATIONS**

February 22, 2018

**WATER:** UNT to Bradley Run (308C) Cambria County

**EXAMINED:** August 15, 2012

**BY:** D. Kristine, J. Keslar, WCO Colian, E. Smithmyer (Clearfield Creek Watershed Association)

Bureau Director Action: \_\_\_\_\_ Date: \_\_\_\_\_

Division Chief Action: \_\_\_\_\_ Date: \_\_\_\_\_

CW Unit Leader Action: \_\_\_\_\_ Date: \_\_\_\_\_

**AREA COMMENTS:**

UNT to Bradley Run is a small, first order, coldwater stream located near the town of Gallitzin which was found to support an excellent wild trout population during a 2012 survey. Both young-of-the-year and multiple age classes of wild brook trout and brown trout were present including legal-size fish. Results of the 2012 survey estimated the total biomass of wild brook and brown trout at 40.82 and 7.81 kg/ha, respectively which met the minimum biomass criteria for listing as a Class A wild brook trout stream. Ten percent of the total stream length was sampled.

**AREA RECOMMENDATIONS:**

1. Add UNT to Bradley Run, Section 01, (from the headwaters to the mouth) to PFBC's list of stream sections that support natural reproduction of trout.
2. Add UNT to Bradley Run, Section 01, (from the headwaters to the mouth) to the Commission's Class A Wild Trout Streams program.
3. Manage UNT to Bradley Run, Section 01, as a Class A wild brook trout stream under Commonwealth Inland Waters regulations with no stocking.
4. Request the Department of Environmental Protection designate the entire length of UNT to Bradley Run as High Quality-Cold Water Fishes and Migratory Fishes (HQ-CWF, MF) under 25 PA Code Chapter 93 based on the Class A qualifier found in 93.4b(2)(ii).

This work made possible by funding from the Sport Fish Restoration Act Project F-57-R Fisheries Management.

**PENNSYLVANIA FISH & BOAT COMMISSION  
BUREAU OF FISHERIES  
FISHERIES MANAGEMENT DIVISION**

UNT to Bradley Run (308C)  
Fisheries Management Report

Prepared by  
David Kristine and Jason Detar

Fisheries Management Database Name: Unt To Bradley Run  
Lat/Lon: 40°30'03"/78°34'22"

Date Sampled: August 15, 2012      Date Prepared: January 23, 2013

### **Introduction**

UNT to Bradley Run is a small coldwater stream located in Cambria County and flows into Bradley Run at River Mile (RM) 1.1 at 40°30'03" latitude and 78°34'22" longitude. The stream has a total length of 3.0 km (1.9 mi) and a drainage area of 3.39 km<sup>2</sup> (1.31 mi<sup>2</sup>). UNT to Bradley Run can be found on the Ashville, PA United States Geological Survey 7.5 minute quadrangle (Figure 1). The entire watershed is forested, privately owned, and mostly undeveloped except for some private residences near the headwaters and a power line crossing near the mouth. The current 25 PA Code Chapter 93 Water Quality Standards designation for the UNT to Bradley Run is Cold Water Fishes and Migratory Fishes (CWF, MF).

UNT to Bradley Run was surveyed in 2012 as an initial inventory to determine the presence of a wild trout population for management and protection purposes.

### **Methods**

The examination of UNT to Bradley Run was conducted on August 15, 2012. All procedures were carried out according to Weber et al. (2011). One representative sampling station totaling 10 percent of the total stream length was evaluated during our investigation.

Physical characteristics, water chemistry, and fish communities were examined. Rapid bioassessment protocols (RBP) were used to assess the habitat in this stream (Barbour et al. 1999). The fish communities were sampled using an Appalachian Aquatics variable voltage battery backpack electrofisher set at 200 volts pulsed-DC. Wild trout were measured and recorded in 25 mm (1.0 inch) length groups. Statewide average weights calculated for each length group were used to generate the biomass estimate. Wild trout densities were determined by using the number of trout captured in a single

electrofishing pass. Scientific and common fish names reference the Integrated Taxonomic Information System (<http://www.itis.gov>).

## Results

*Site River Mile: 0.00*

Sample site RM 0.00 was located at the mouth at 40°30'03" latitude and 78°34'22" longitude. The 300 m long station averaged 1.9 m in width and covered 10 percent of the section length (Table 1). This portion of the stream is partially shaded and flows near SR 0053 through a mixed hardwood forest which is fragmented by dirt roads and a power line crossing. Bank erosion was moderate and the substrate here consisted primarily of rubble, gravel, and sand. The RBP analysis yielded a final score of 148 (Table 2). Overhanging vegetation, exposed tree roots, undercut banks, water depth in several nice pools, and instream woody debris, provided good habitat for fish.

Water chemistry values measured under low flow conditions were as follows: water temperature 15.4°C, specific conductance 87 umhos, pH 6.7 standard units, and total alkalinity 10 mg/l (Table 3).

Six fish species were captured at the site, including wild brook trout *Salvelinus fontinalis* and brown trout *Salmo trutta* (Table 4).

Seven wild brown trout were captured ranging from 50 mm to 349 mm in total length (TL). Brown trout biomass was estimated at 7.81 kg/ha with an estimated abundance of 23 trout/km (37 trout/mi) and three trout/km (five trout/mi) being of legal length or longer (175 mm: 7 in) (Table 5).

A total of 208 wild brook trout were captured ranging from 25 mm to 274 mm in total length (TL) with eight (four percent) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total brook trout biomass was estimated to be 40.82 kg/ha. Brook trout abundance was estimated at 693 trout/km (1,115 trout/mi) with 26 trout/km (42 trout/mi) being of legal length or longer (Table 6).

## Discussion

UNT to Bradley Run supports an excellent wild brook trout population and lower density wild brown trout population. Based on the presence of young-of-the-year and multiple age classes of wild trout the stream met the requirements for listing as a naturally reproducing trout stream, as outlined in PA Code §57.11., Listing of Wild Trout Streams. In addition, the brook trout biomass determined from the survey met the Commission's minimum biomass criteria of 30 kg/ha for a Class A wild brook trout population, as outlined in 58 PA Code §57.8a., Class A Wild Trout Streams. Thus, based on the wild trout biomass and sampling ten percent of the streams total length, we recommend UNT to Bradley Run be managed as

a Class A wild brook trout stream under Commonwealth Inland Waters regulations with no stocking.

The current 25 PA Code Chapter 93 Water Quality Standards designation for UNT to Bradley Run is Cold Water Fishes and Migratory Fishes (CWF, MF). This is an inadequate level of protection for this stream. Due to the significant wild trout resource which meets Class A criteria, UNT to Bradley Run should be upgraded to the High Quality-Cold Water Fishes and Migratory Fishes (HQ-CWF, MF) designation by the PA Department of Environmental Protection (DEP) upon listing by the Commission as a Class A wild trout stream.

#### **Management Recommendations**

1. Add UNT to Bradley Run, Section 01, (from the headwaters to the mouth) to PFBC's list of stream sections that support natural reproduction of trout.
2. Add UNT to Bradley Run, Section 01, (from the headwaters to the mouth) to the Commission's Class A Wild Trout Streams program.
3. Manage UNT to Bradley Run, Section 01, as a Class A wild brook trout stream under Commonwealth Inland Waters regulations with no stocking.
4. Request the Department of Environmental Protection designate the entire length of UNT to Bradley Run as High Quality-Cold Water Fishes and Migratory Fishes (HQ-CWF, MF) under 25 PA Code Chapter 93 based on the Class A qualifier found in 93.4b(2)(ii).

### **Literature Cited**

- Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid bioassessment protocols for use in wadeable streams and Rivers. USEPA. Report 814-99-002 Washington, DC.
- Weber, R., R. T. Greene, and D. Miko. 2011. Protocols for conducting biological assessments of unassessed trout waters. Pages 95-101 in D. Miko, editor. Sampling protocols for Pennsylvania's wadeable streams. Pennsylvania Fish and Boat Commission. Harrisburg, PA.

Table 1. UNT to Bradley Run (08C), Cambria County. Site sampling location, length surveyed, average site width and site area.

Site Date	Rivermile	Downstream limit description	Length (m)	Ave. Width (m)	Site Area (ha)
8/15/2012	0.00	Site located at the mouth, initial inventory for wild trout status	300	1.9	0.06

Table 2. High Gradient Rapid Bioassessment Protocol ratings for the UNT to Bradley Run (08C), Cambria County, conducted at RM 0.00 on August 15, 2012.

Habitat Parameter	Score	Habitat Parameter	Score
Epifaunal Substrate / Available Cover	16	Left Bank Stability	7
Embeddedness	15	Right Bank Stability	7
Velocity / Depth Regime	15	Left Bank Vegetative Protection	8
Sediment Deposition	14	Right Bank Vegetative Protection	8
Channel Flow Status	16	Left Bank Riparian Vegetative Width	4
Channel Alteration	19	Right Bank Riparian Vegetative Width	10
Frequency of Riffles or bends	9	<b>Total Score</b>	<b>148</b>

<u>Habitat Condition</u>	<u>Total Score</u>
Optimal	151-200
Suboptimal	101-150
Marginal	51-100
Poor	0-50

Table 3. Chemistries collected in UNT to Bradley Run (08C), Cambria County. Sample site(s) are within Section 01 in 2012 sample year.

Parameter	Site 1
Site RM	0.00
Sample Date	08/15/2012
Time (24 hour)	1330
Water Temperature (C)	15.4
pH Field Colorimetric (SU)	6.7
Specific Conductance (UMHOS)	87
Total Alkalinity Field Mixed Indicator (MG/L)	10

Table 4. Fish species occurrence from the UNT to Bradley Run (08C), Cambria County, at sample site RM 0.00 on August 15, 2012.

Common Name	Scientific Name
Blacknose Dace	<i>Rhinichthys atratulus</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Brown Trout	<i>Salmo trutta</i>
Longnose Dace	<i>Rhinichthys cataractae</i>
Slimy Sculpin	<i>Cottus cognatus</i>
White Sucker	<i>Catostomus commersonii</i>

Table 5. Wild brown trout catch and biomass estimates at sample site RM 0.00 on UNT to Bradley Run (308C), Cambria County, on August 15, 2012.

Size Group	Catch	Mean Wt (g)	Wt Source	Kg/ Ha	Num/ Ha	Num/ Km
50	4	2.53	StateMeanWt	0.18	70	13
125	2	26.32	StateMeanWt	0.92	35	7
325	1	382.43	StateMeanWt	6.71	18	3
Totals	7			7.81	123	23

Table 6. Wild brook trout catch and biomass estimates at sample site RM 0.00 on UNT to Bradley Run (308C), Cambria County, on August 15, 2012.

Size Group	Catch	Mean Wt (g)	Wt Source	Kg/ Ha	Num/ Ha	Num/ Km
25	9	1.04	StateMeanWt	0.16	158	30
50	120	2.45	StateMeanWt	5.15	2105	400
75	24	5.98	StateMeanWt	2.52	421	80
100	20	13.68	StateMeanWt	4.8	351	67
125	18	24.41	StateMeanWt	7.71	316	60
150	9	41.09	StateMeanWt	6.49	158	30
175	1	64.0	StateMeanWt	1.12	18	3
200	6	92.48	StateMeanWt	9.73	105	20
250	1	178.9	StateMeanWt	3.14	18	3
Totals	208			40.82	3650	693



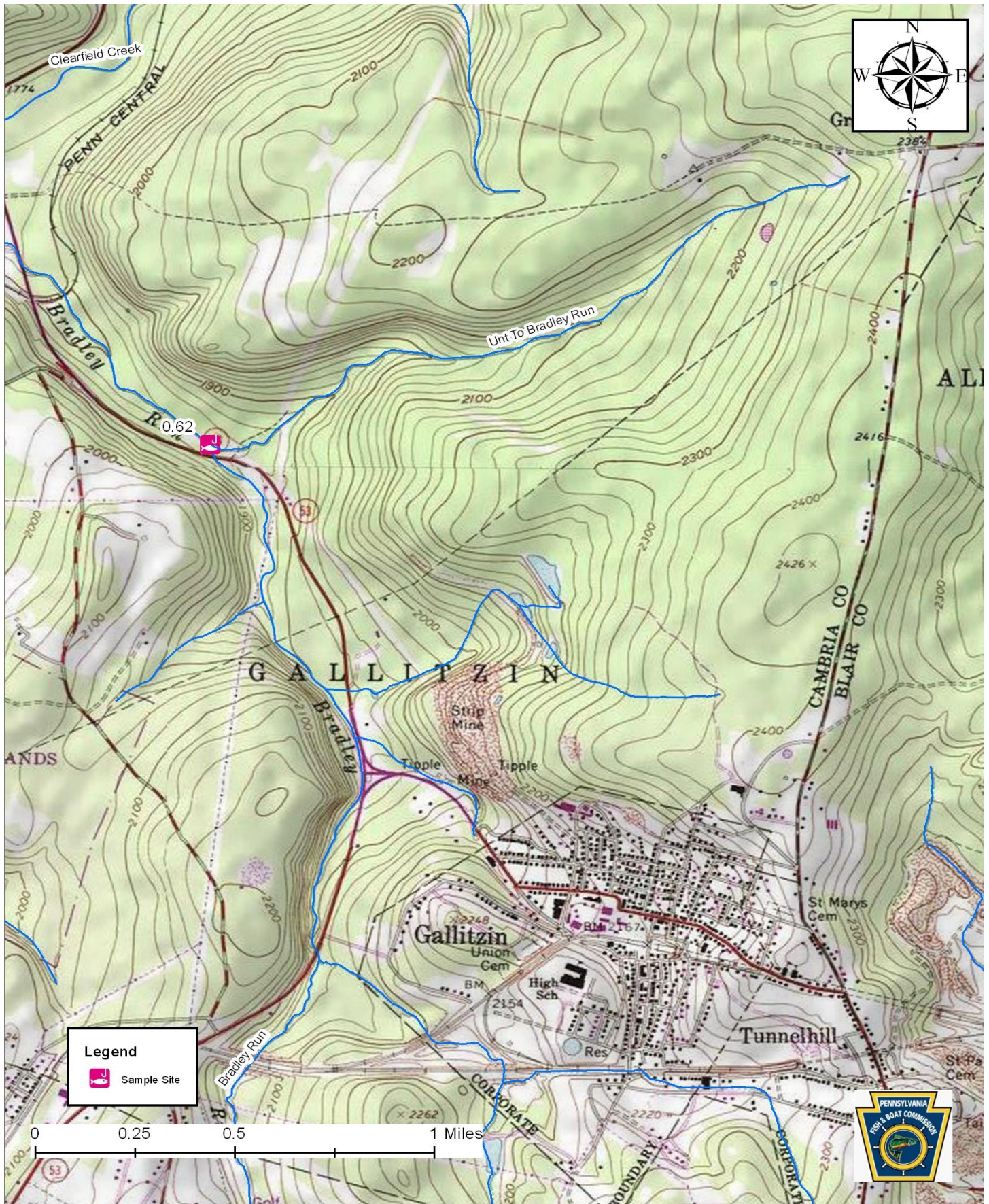


Figure 1. Location map for sample site river mile 0.00 on UNT To Bradley Run (308C), Cambria County.