

Distribution

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

February 22, 2018

WATER: UNT to West Branch Susquehanna River (RM 193.26) (308B)
Clearfield County

EXAMINED: July 07, 2015

BY: Dave Kristine, Zack Salada, and Taylor Blackman

Bureau Director Action: _____ Date: _____

Division Chief Action: _____ Date: _____

CW Unit Leader Action: _____ Date: _____
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AREA COMMENTS: UNT to West Branch Susquehanna River (RM 193.26) is a small stream that flows into West Branch Susquehanna River in Clearfield County. The estimated biomass of wild Brook Trout was 32.50 kg/ha and met the minimum biomass criteria for listing as a Class A wild Brook Trout stream. Ten percent of the stream length was sampled.

AREA RECOMMENDATIONS:

1. Add UNT to West Branch Susquehanna River (RM 193.26), Section 01, (headwaters downstream to the mouth) to the Commission's Class A Wild Trout Streams program.
2. Manage UNT to West Branch Susquehanna River (RM 193.26), Section 01, as a Class A Wild Trout Stream under Commonwealth Inland Waters regulations with no stocking.
3. Add UNT to West Branch Susquehanna River (RM 193.26) from the headwaters downstream to the mouth to the PFBC's list of streams sections that support natural reproduction of trout.
4. Request the Department of Environmental Protection designate UNT to West Branch Susquehanna River (RM 193.26) 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 West Branch Susquehanna River (RM 193.26) (08B)
Section 01
Fisheries Management Report
Unassessed Water

Prepared by
David Nihart and Jason Detar

Fisheries Management Database Name: UNT to West Branch Susquehanna River
(RM 193.26)
Lat/Lon: 40°55'20"/78°37'15"

Date Sampled: July 07, 2015 Date Prepared: October 07, 2015

Introduction

UNT to West Branch Susquehanna River (RM 193.26) is a small stream located in Clearfield County and flows into West Branch Susquehanna River at River Mile (RM) 193.26, 40°55'20" latitude and 78°37'15" longitude (Figure 1). The stream has a total length of 0.96 km (0.6 mi) and a drainage area of 1.14 km² (0.44 mi²). UNT to West Branch Susquehanna River (RM 193.26) can be found on the Curwensville, PA United States Geological Survey 7.5 minute quadrangle (Figure 1).

UNT to West Branch Susquehanna River (RM 193.26) was surveyed as part of the Unassessed Waters Program to gather baseline information on the resource for management purposes and to verify and document the presence of a reproducing population of trout. Knowledge of the presence of wild trout in streams is important in the proper permitting of land use activities and in the long-term restoration projects such as the Eastern Brook Trout Joint Venture. The riparian land along UNT to West Branch Susquehanna River (RM 193.26) is privately owned. UNT to West Branch Susquehanna River (RM 193.26) is managed as one section from the headwaters to the mouth.

Methods

The examination of UNT to West Branch Susquehanna River (RM 193.26) was conducted on July 07, 2015. All procedures were carried out according to those outlined by Weber et al. (2011). One sampling station was chosen to be representative of Section 01.

Physical characteristics, physical-chemical values, 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 electrobackpack equipped with a variable voltage electrofisher set at 150 volts DC-direct current (battery backpack). 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: 0.01

Sample site RM 0.01 was located approximately 10 m upstream of the mouth, 40°55'22" latitude and 78°37'15" longitude. The 100 m long station averaged 2.08 m in width and covered 10 percent of the section length (Table 1). This portion of the stream primarily flowed through a dense forest. Bank erosion was light and the stream substrate consisted primarily of boulder, rubble, and gravel. The RBP analysis yielded a final score of 148 (Table 2).

Physical-chemical parameters and their associated values measured under normal flow conditions were as follows: water temperature 14.2°C, specific conductance 301 umhos, pH 7.2 standard units, total alkalinity 46 mg/l, and total hardness 147 mg/l (Table 3).

Two fish species were captured at the site, including wild Brook Trout *Salvelinus fontinalis*. The other species captured was Slimy Sculpin *Cottus cognatus* (Table 4).

Brook Trout

Twenty-four wild Brook Trout ranging from 50 mm to 249 mm in total length (TL) were captured during the survey with four (17 percent) being greater than or equal to the legal harvestable length (175 mm: 7 inches). Total Brook Trout biomass was estimated to be 32.5 kg/ha. Brook Trout abundance was estimated at 240 trout/km (386 trout/mi) with 40 trout/km (64 trout/mi) being of legal length or longer (Table 5).

Discussion

Section 01 of UNT to West Branch Susquehanna River (RM 193.26) supported natural reproduction of Brook Trout and qualified for listing of Wild Trout streams as outlined in 58 PA Code §57.11. The Brook Trout biomass determined from the survey met the Pennsylvania Fish and Boat Commission's minimum biomass criteria for a Class A population, as outlined in 58 PA Code §57.8a., Class A Wild Trout Streams.

The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes and Migratory Fishes (CWF, MF) for the UNT to West Branch Susquehanna River (RM 193.26) basin does not adequately protect the existing flora and fauna present within the basin. Due to the significant wild trout resource, which met Class A criteria, UNT to West Branch Susquehanna River (RM 193.26) 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 West Branch Susquehanna River (RM 193.26), Section 01, (headwaters to the mouth) to the Commission's Class A Wild Trout Streams program.
2. Manage UNT to West Branch Susquehanna River (RM 193.26), Section 01, as a Class A Wild Trout Stream under Commonwealth Inland Waters regulations with no stocking.
3. Add UNT to West Branch Susquehanna River (RM 193.26) from the headwaters to the mouth on the PFBC's list of streams sections that support natural reproduction of trout.
4. Request the Department of Environmental Protection designate UNT to West Branch Susquehanna River (RM 193.26) as a 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 West Branch Susquehanna River (RM 193.26) (08B), Clearfield 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) |
|-----------|-----------|---|------------|----------------|----------------|
| 07/07/15 | 0.01 | Site starts approximately 10 m upstream of the mouth. | 100 | 2.08 | 0.02 |

Table 2. High Gradient Rapid Bioassessment Protocol ratings for UNT to West Branch Susquehanna River (RM 193.26) (08B), Clearfield County, conducted at RM 0.01 on July 07, 2015.

| Habitat Parameter Reported | Score | Habitat Parameter Reported | Score |
|---|-------|---|-------|
| 1. Epifaunal Substrate / Available Cover: | 14 | 8.(LB) Left Bank Stability (LB): | 8 |
| 2. Embeddedness: | 11 | 8.(RB) Right Bank Stability (RB): | 8 |
| 3. Velocity / Depth Regime: | 14 | 9.(LB) Left Bank Vegetative Protection: | 9 |
| 4. Sediment Deposition: | 12 | 9.(RB) Right Bank Vegetative Protection: | 9 |
| 5. Channel Flow Status: | 16 | 10.(LB) Left Bank Riparian Vegetative Width: | 10 |
| 6. Channel Alteration: | 10 | 10.(RB) Right Bank Riparian Vegetative Width: | 10 |
| 7. Frequency of Riffles (or bends): | 17 | | |

Total Score: 148

Table 3. Chemistries collected in UNT to West Branch Susquehanna River (RM 193.26) (08B), Clearfield County. Sample site(s) are within Section 01 in 2015 sample year.

| Parameter | Site 1 |
|--|------------|
| Site RM | 0.01 |
| Sample Date | 07/07/2015 |
| Time (24 hour) | 1230 |
| pH Field Colorimetric | 7.2 |
| Specific Conductance | 301 |
| Total Alkalinity Field Mixed Indicator | 46 |
| Total Hardness Field EDTA | 147 |
| Water Temperature | 14.2 |

Table 4. Fish species occurrence from UNT to West Branch Susquehanna River (RM 193.26) (08B), Clearfield County, at sample site RM 0.01 on July 07, 2015.

| Common Name | Scientific Name | Coarse Abundance |
|---------------|------------------------------|------------------|
| Brook Trout | <i>Salvelinus fontinalis</i> | |
| Slimy Sculpin | <i>Cottus cognatus</i> | Rare |

Table 5. Wild Brook Trout catch and biomass estimates at sample site RM 0.01 on UNT to West Branch Susquehanna River (RM 193.26) (08B), Clearfield County, on July 07, 2015.

| Length group (mm) | Catch | Estimated Number/Ha | Estimated Kg/Ha | Estimated Number/Km |
|-------------------|-------|---------------------|-----------------|---------------------|
| 50 | 10 | 481 | 1.18 | 100 |
| 100 | 1 | 48 | 0.66 | 10 |
| 125 | 5 | 240 | 5.88 | 50 |
| 150 | 4 | 192 | 7.90 | 40 |
| 175 | 2 | 96 | 6.14 | 20 |
| 200 | 1 | 48 | 4.45 | 10 |
| 225 | 1 | 48 | 6.29 | 10 |
| Totals | 24 | 1,153 | 32.50 | 240 |

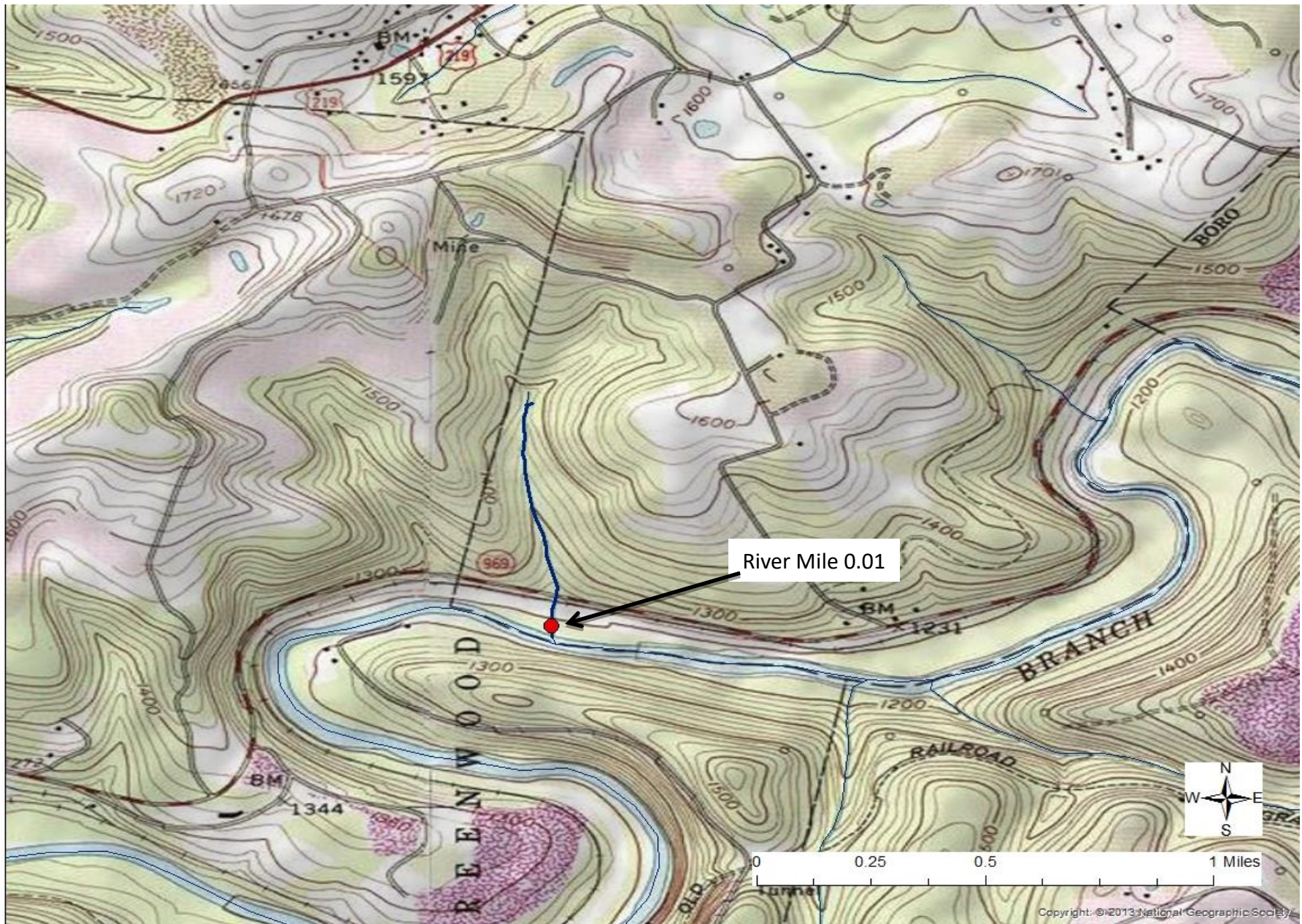


Figure 1. Location map for sample site river mile 0.01 on UNT to West Branch Susquehanna River (RM 193.26) (08B), Clearfield County.