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PA FISH AND BOAT COMMISSION
COMMENTS AND RECOMMENDATIONS
February 22, 2018~~October 19, 2015~~

WATER: UNT to Trout Run (rm 2.59) (818E) Cambria County

EXAMINED: August 08, 2014

BY: Depew, Smith, Parks, and Griffith

Bureau Director Action: _____ Date: _____

Division Chief Action: _____ Date: _____

CW Unit Leader Action: _____ Date: _____

AREA COMMENTS:

UNT to Trout Run (rm 2.59) is located in Cambria County and is a 3.2 km (1.99 mi) long tributary to Trout Run. The stream was surveyed on August 8th, 2014 as part of the Unassessed Waters Program. Results from the 2014 survey indicated that the stream supported a Class A population of wild Brook Trout. Ninety-five wild Brook Trout were captured in 2014. The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes (CWF) for the UNT to Trout Run (rm 2.59) basin does not adequately protect the existing fauna within the basin. The stream should be upgraded to High Quality - Cold Water Fishes (HQ-CWF). Ten percent of the section length was sampled.

AREA RECOMMENDATIONS:

1. Add the UNT to Trout Run (rm 2.59), from headwaters to mouth, to the list of stream sections that support natural reproduction of trout.
2. Manage the UNT to Trout Run (rm 2.59), Section 01, as a Class A wild trout stream with no supplemental trout stocking.
3. Add the UNT to Trout Run (rm 2.59), Section 01 (from headwaters to mouth), to the Class A wild trout streams list.
4. The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes (CWF) for the UNT to Trout Run (rm 2.59) basin does not adequately protect the existing fauna within the basin. Based on the presence of a Class A wild Brook Trout population, the stream should be upgraded to High Quality - Cold Water Fishes (HQ-CWF).

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 Trout Run (rm 2.59) (18E)
Section 01
Fisheries Management Report
Unassessed Water

Prepared by
M.A. Depew and S.L. Griffith

Fisheries Management Database Name: UNT to Trout Run (rm 2.59)
Lat/Lon: 40°22'18"/78°39'34"

Date Sampled: August 08, 2014 Date Prepared: October 07, 2014

Introduction

The UNT to Trout Run (rm 2.59) is a small stream located in Cambria County and flows north into Trout Run at River Mile (RM) 2.59 at 40°22'18" latitude and 78°39'34" longitude. The stream has a total length of 3.2 km (1.99 mi) and a drainage area of 3.86 km² (1.49 mi²). The UNT to Trout Run (rm 2.59) can be found on the Beaverdale, PA United States Geological Survey 7.5 minute quadrangle (Figure 1).

The UNT to Trout Run (rm 2.59) 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 the UNT to Trout Run (rm 2.59) is privately owned forested land. The UNT to Trout Run (rm 2.59) is managed as one section from the headwaters to the mouth.

Methods

The examination of the UNT to Trout Run (rm 2.59) was conducted on August 08, 2014. 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 an Appalachian Aquatics AA-24 variable voltage electrofisher set at 250 volts and 11 amps AC-Alternating 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 were given an identifying upper caudal fin clip during the initial electrofishing pass to facilitate a mark-recapture population estimate. Trout densities were determined using the Chapman modification of the Petersen estimator or M+C-R when R was less than three. Scientific and common fish names reference the Integrated Taxonomic Information System (<http://www.itis.gov>).

Results

Site River Mile: 0.03

Sample site 0101 at RM 0.03 was located at the culvert on State Route 0164 at 40°22'16" latitude and 78°39'35" longitude. The 330 m long station averaged 1.56 m in width and covered 10 percent of the section length (Table 1). The lower portion of the stream primarily flowed through a suburban area whereas the upper portion primarily flowed through a dense forest. Bank erosion was light and the stream substrate consisted primarily of rubble. The RBP analysis yielded a final score of 160, which was in the optimal range (Table 2).

Physical-chemical parameters and their associated values measured under low flow conditions were as follows: water temperature 16°C, specific conductance 149 umhos, pH 7.3 standard units, total alkalinity 42 mg/l, and total hardness 57 mg/l (Table 3). These results indicate normal water quality for a small Pennsylvania stream.

One fish species, wild Brook Trout *Salvelinus fontinalis*, was captured at the site (Table 4).

Brook Trout

Ninety-five wild Brook Trout ranging from 50 mm to 224 mm in total length (TL) were captured during the survey with thirteen (14 percent) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total Brook Trout biomass was

estimated to be 41.58 kg/ha. Brook Trout abundance was estimated at 334 trout/km (537 trout/mi) with 45 trout/km (72 trout/mi) being of legal length or longer (Table 5).

Discussion

The UNT to Trout Run (rm 2.59) supported natural reproduction of Brook Trout and qualified for the 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 wild trout stream, as outlined in 58 PA Code §57.8a. Class A Wild Trout Streams.

The UNT to Trout Run (rm 2.59) supported a high density population of wild Brook Trout with several legal length fish present. Good water quality and adequate habitat allow for the presence of a quality Brook Trout population.

The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes (CWF) for the UNT to Trout Run (rm 2.59) basin does not adequately protect the existing flora and fauna present within the basin. Based on the presence of a Class A wild Brook Trout population, the stream should be upgraded to High Quality - Cold Water Fishes (HQ-CWF).

Management Recommendations

1. Add the UNT to Trout Run (rm 2.59), from headwaters to mouth, to the list of stream sections that support natural reproduction of trout.
2. Manage the UNT to Trout Run (rm 2.59), Section 01, as a Class A wild trout stream with no supplemental trout stocking.
3. Add the UNT to Trout Run (rm 2.59), Section 01 (from headwaters to mouth), to the Class A wild trout streams list.
4. The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes (CWF) for the UNT to Trout Run (rm 2.59) basin does not adequately protect the existing fauna within the basin. Based on the presence of a Class A wild Brook Trout population, the stream should be upgraded to High Quality - Cold Water Fishes (HQ-CWF).

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 Trout Run (rm 2.59) (18E), Cambria County. Site 0101 sampling location, length surveyed, average site width and site area.

| Site Date | River mile | Downstream limit description | Length (m) | Ave. Width (m) | Site Area (ha) |
|-----------|------------|------------------------------|------------|----------------|----------------|
| 08/08/14 | 0.03 | Culvert on SR 0164 | 330 | 1.56 | 0.05 |

Table 2. High Gradient Rapid Bioassessment Protocol ratings for the UNT to Trout Run (rm 2.59) (18E), Cambria County, conducted at site 0101 at RM 0.03 on August 08, 2014.

This form is designed to accept data "SCORE" from: Form 2 - Appendix A-1, Rapid Bioassessment Protocols For Use In Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition.

| Habitat Parameter Reported | Score | Habitat Parameter Reported | Score |
|---|-------|--|-------|
| 1. Epifaunal Substrate / Available Cover: | 16 | 8. (LB) Left Bank Stability (LB): | 9 |
| 2. Embeddedness: | 15 | 8. (RB) Right Bank Stability (RB): | 9 |
| 3. Velocity / Depth Regime: | 14 | 9. (LB) Left Bank Vegetative Protection: | 9 |
| 4. Sediment Deposition: | 15 | 9. (RB) Right Bank Vegetative Protection: | 9 |
| 5. Channel Flow Status: | 15 | 10. (LB) Left Bank Riparian Vegetative Width: | 9 |
| 6. Channel Alteration: | 15 | 10. (RB) Right Bank Riparian Vegetative Width: | 8 |
| 7. Frequency of Riffles (or bends): | 17 | | |
| Total Score | | Entered Comments | |
| 160 | | | |

RBP Habitat Ratings with Total Score:
 Optimal = 151-200
 Suboptimal = 101-150
 Marginal = 51-100
 Poor = 0-50

Table 3. Chemistries collected in the UNT to Trout Run (rm 2.59) (18E), Cambria County. Sample site(s) are within Section 01 in 2014 sample year.

| Parameter | Site 0101 |
|--|------------|
| Site RM | 0.03 |
| Sample Date | 08/08/2014 |
| Time (24 hour) | 1115 |
| pH Field Colorimetric | 7.3 |
| Specific Conductance | 149 |
| Total Alkalinity Field Mixed Indicator | 42 |
| Total Hardness Field EDTA | 57 |
| Water Temperature | 16.0 |

Table 4. Fish species occurrence in the UNT to Trout Run (rm 2.59) (18E), Cambria County, at sample site 0101 at RM 0.03 on August 08, 2014.

| Common Name | Scientific Name |
|-------------|------------------------------|
| Brook Trout | <i>Salvelinus fontinalis</i> |

Table 5. Wild Brook Trout Petersen abundance and biomass estimates at sample site 0101 at RM 0.03 on the UNT to Trout Run (rm 2.59) (18E), Cambria County, on August 08, 2014.

| Length group (mm) | Population Estimate | Low 95% CI | High 95% CI | Estimated Number/Ha | Estimated Kg/Ha | Estimated Number/Km |
|-------------------|---------------------|------------|-------------|---------------------|-----------------|---------------------|
| 50 | 48 | 33 | 71 | 932 | 2.29 | 145 |
| 75 | 14 | 6 | 34 | 272 | 1.62 | 42 |
| 100 | 11 | 5 | 25 | 214 | 2.92 | 33 |
| 125 | 12 | 6 | 28 | 233 | 5.70 | 36 |
| 150 | 11 | 5 | 25 | 214 | 8.78 | 33 |
| 175 | 12 | 6 | 28 | 233 | 14.88 | 36 |
| 200 | 3 | | | 58 | 5.39 | 9 |
| Totals | 111 | | | 2,156 | 41.58 | 334 |

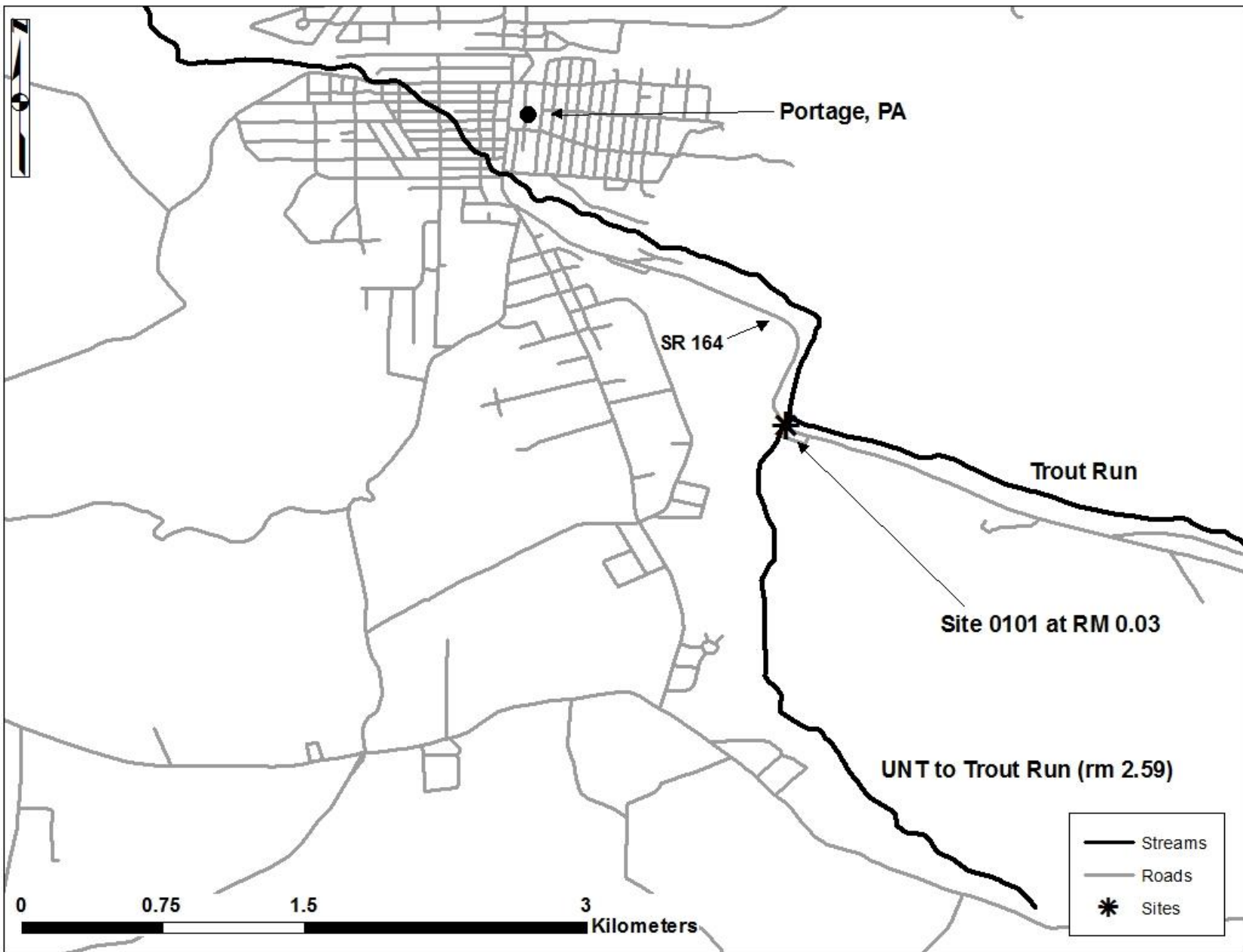


Figure 1. Location map for sample site 0101 at river mile 0.03 on the UNT to Trout Run (rm 2.59) (18E), Cambria County, in August 2014.