

Distribution

Fisheries Management Area 8

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

February 22, 2018~~August 4, 2015~~~~April 10, 2015~~

WATER: UNT to Stonycreek River (rm 20.29) (818E) Somerset County
EXAMINED: August 14, 2013
BY: Lorson, Depew, Reinhart, Smith, and Renze

Bureau Director Action: _____ Date: _____

Division Chief Action: _____ Date: _____

CW Unit Leader Action: _____ Date: _____

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AREA COMMENTS:

The UNT to Stonycreek River (rm 20.29) is located in Somerset County and is a 3.19 km (1.98 mi) long tributary to Stonycreek River. The stream was surveyed on August 14th, 2013 as part of the Unassessed Waters Program. Results from the 2013 survey indicated that the stream supported a Class A population of naturally reproducing Brook Trout. One hundred and two wild Brook Trout were captured in 2013. In addition to wild Brook Trout, thirteen wild Brown Trout were also captured. The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes (CWF) for the UNT to Stonycreek River (rm 20.29) basin does not adequately protect the existing fauna within the basin. The UNT to Stonycreek River (rm 20.29) should be upgraded to High Quality - Cold Water Fishes (HQ-CWF). 10.5% of the stream length was sampled.

AREA RECOMMENDATIONS:

1. Add the UNT to Stonycreek River (rm 20.29), Section 01, to the list of stream sections that support natural reproduction of trout.
2. Add the UNT to Stonycreek River (rm 20.29), Section 01, to the Class A wild trout waters list.
3. The current Chapter 93 designation of Cold Water Fishes does not adequately protect the resource. Based on the presence of a Class A wild Brook Trout population, the stream should be upgraded to High Quality - Cold Water Fishes.
4. Manage the UNT to Stonycreek River (rm 20.29) as a Class A wild Brook Trout water with no supplemental stocking.
5. We request PA DEP to review mining activities in this watershed based on this Class A Brook Trout finding to deter impacts to this resource.

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 Stonycreek River (rm 20.29) (818E)
Section 01
Fisheries Management Report
Unassessed Water

Prepared by
M.A. Depew and R.D. Lorson

Fisheries Management Database Name: UNT to Stonycreek River (rm 20.29)
Lat/Lon: 40°10'17"/78°54'31"

Date Sampled: August 14, 2013 Date Prepared: August 21, 2013

Introduction

The UNT to Stonycreek River (rm 20.29) is a small stream located in Somerset County and flows west into Stonycreek River just downstream of Hooversville, PA at River Mile (RM) 20.29 at 40°10'17" latitude and 78°54'31" longitude. The stream has a total length of 3.19 km (1.98 mi) and a drainage area of 4.22 km² (1.63 mi²). The UNT to Stonycreek River (rm 20.29) can be found on the Hooversville, PA United States Geological Survey 7.5 minute quadrangle (Figure 1).

The UNT to Stonycreek River (rm 20.29) was surveyed as part of the Unassessed Waters Program to gather 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 Stonycreek River (rm 20.29) is private forested land. The UNT to Stonycreek River (rm 20.29) is managed as one section from the headwaters to the mouth.

Methods

The examination of the UNT to Stonycreek River (rm 20.29) was conducted on August 14, 2013. 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 150 volts AC-Alternating Current and 11 amps (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: 0.15

Sample site 0101 at RM 0.15 was located just upstream of the culvert at the house at 147 Blough Road at 40°10'16" latitude and 78°54'20" longitude. The 336 m long station averaged 2.3 m in width and covered 11 percent of the section length (Table 1). This portion of the stream flowed through a residential area at the lower end of the site and a forested area in the middle and upper reaches. Bank erosion was light and the stream substrate consisted primarily of silt, gravel, and boulders. The RBP analysis yielded a final score of 150, which was in the suboptimal range (Table 2). Heavy amounts of silt lowered the overall score.

Physical-chemical parameters and their associated values measured under high flow conditions were as follows: water temperature 15°C, specific conductance 184 umhos, pH 7.0 standard units, total alkalinity 23 mg/l, total dissolved solids 129 mg/l, and total hardness 62 mg/l (Table 3). The elevated conductivity and total dissolved solids, as well as the excessive amount of siltation, likely indicated impacts from mining operations in the basin.

Four fish species were captured at the site, including wild Brook *Salvelinus fontinalis* and Brown Trout *Salmo trutta*. The other species captured were Blacknose Dace *Rhinichthys atratulus* and Creek Chub *Semotilus atromaculatus*. All four species are common in small, coldwater streams (Table 4).

Brown Trout

Thirteen wild Brown Trout ranging from 50 mm to 99 mm in total length (TL) were captured during the survey with no fish being greater than or equal to the legal harvestable length (175 mm: 7 in). Total Brown Trout biomass was estimated to be 0.90 kg/ha. Brown Trout abundance was estimated at 42 trout/km (68 trout/mi) with no trout being of legal length or longer (Table 5).

Brook Trout

One hundred and two wild Brook Trout ranging from 50 mm to 274 mm in total length (TL) were captured during the survey with ten (10 percent) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total Brook Trout biomass was estimated to be 44.63 kg/ha. Brook Trout abundance was estimated at 342 trout/km (550 trout/mi) with 33 trout/km (53 trout/mi) being of legal length or longer (Table 6).

Discussion

Section 01 of the UNT to Stonycreek River (rm 20.29) supported natural reproduction of Brook Trout and Brown 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 population, as outlined in 58 PA Code §57.8a., Class A Wild Trout Streams.

The UNT to Stonycreek River (rm 20.29) supports an excellent population of wild Brook Trout. Quality sized fish were present in every pool, which was surprising for such a small stream. However, the Brook Trout population may be threatened by mining activity in the watershed. Heavy amounts of silt and slightly elevated levels of conductivity and total dissolved solids were present during the survey.

The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes (CWF) for the UNT to Stonycreek River (rm 20.29) basin does not adequately protect the existing flora and fauna present within the basin. The stream should be upgraded to High Quality - Cold Water Fishes (HQ-CWF) based on the Class A wild Brook Trout population present.

Management Recommendations

1. Add the UNT to Stonycreek River (rm 20.29,) Section 01, to the list of stream sections that support natural reproduction of trout.
2. Add the UNT to Stonycreek River (rm 20.29), Section 01, to the Class A wild trout waters list.
3. The current Chapter 93 designation of Cold Water Fishes does not adequately protect the resource. Based on the presence of a Class A wild Brook Trout population, the stream should be upgraded to High Quality - Cold Water Fishes.
4. Manage the UNT to Stonycreek River (rm 20.29) as a Class A wild Brook Trout water with no supplemental stocking.
5. We request PA DEP to review mining activities in this watershed based on this Class A Brook Trout finding to determine impacts to this resource.

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 Stonycreek River (rm 20.29) (18E), Somerset County. Site 0101 sampling location, length surveyed, average site width and site area.

Site Date	Rivermile	Downstream limit description	Length (m)	Ave. Width (m)	Site Area (ha)
8/14/2013	0.15	Site begins upst of culvert at house at 147 Blough Road	336	2.3	0.08

Table 2. High Gradient Rapid Bioassessment Protocol ratings for the UNT to Stonycreek River (rm 20.29) (18E), Somerset County, conducted at site 0101 at RM 0.15 on August 14, 2013.

Habitat Parameter	Score	Habitat Parameter	Score
Epifaunal Substrate / Available Cover	16	Left Bank Stability	8
Embeddedness	12	Right Bank Stability	8
Velocity / Depth Regime	17	Left Bank Vegetative Protection	8
Sediment Deposition	9	Right Bank Vegetative Protection	7
Channel Flow Status	17	Left Bank Riparian Vegetative Width	8
Channel Alteration	15	Right Bank Riparian Vegetative Width	6
Frequency of Riffles or bends	19	Total Score	150

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 Stonycreek River (rm 20.29) (18E), Somerset County. Sample site(s) are within Section 01 in 2013 sample year.

Parameter	Site 0101
Site RM	0.15
Sample Date	08/14/2013
Time (24 hour)	1345
Water Temperature (C)	15.0
pH Field Colorimetric (SU)	7.0
Specific Conductance (UMHOS)	184
Total Alkalinity Field Mixed Indicator (MG/L)	23
Total Dissolved Solids (MG/L)	129
Total Hardness Field EDTA (MG/L)	62

Table 4. Fish species occurrence in the UNT to Stonycreek River (rm 20.29) (18E), Somerset County, at sample site 0101 at RM 0.15 on August 14, 2013.

Common Name	Scientific Name
Blacknose Dace	<i>Rhinichthys atratulus</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Brown Trout	<i>Salmo trutta</i>
Creek Chub	<i>Semotilus atromaculatus</i>

Table 5. Wild Brown Trout Petersen abundance and biomass estimates at sample site 0101 at RM 0.15 on the UNT to Stonycreek River (rm 20.29) (818E), Somerset County, on August 14, 2013.

Size Group	Estimate	low95CI	High95CI	NumHa	KgHa	NumKm
50 mm	5			65	0.16	15
75 mm	9	4	22	116	0.74	27
Totals	14			181	0.90	42

Table 6. Wild Brook Trout Petersen abundance and biomass estimates at sample site 0101 at RM 0.15 on the UNT to Stonycreek River (rm 20.29) (818E), Somerset County, on August 14, 2013.

Size Group	Estimate	low95CI	High95CI	NumHa	KgHa	NumKm
50 mm	27	15	54	349	0.86	80
75 mm	7	3	18	91	0.54	21
100 mm	8	3	19	103	1.42	24
125 mm	39	27	59	505	12.33	116
150 mm	23	13	44	298	12.22	68
175 mm	3			39	2.48	9
225 mm	6	3	14	78	10.15	18
250 mm	2			26	4.63	6
Totals	115			1489	44.63	342

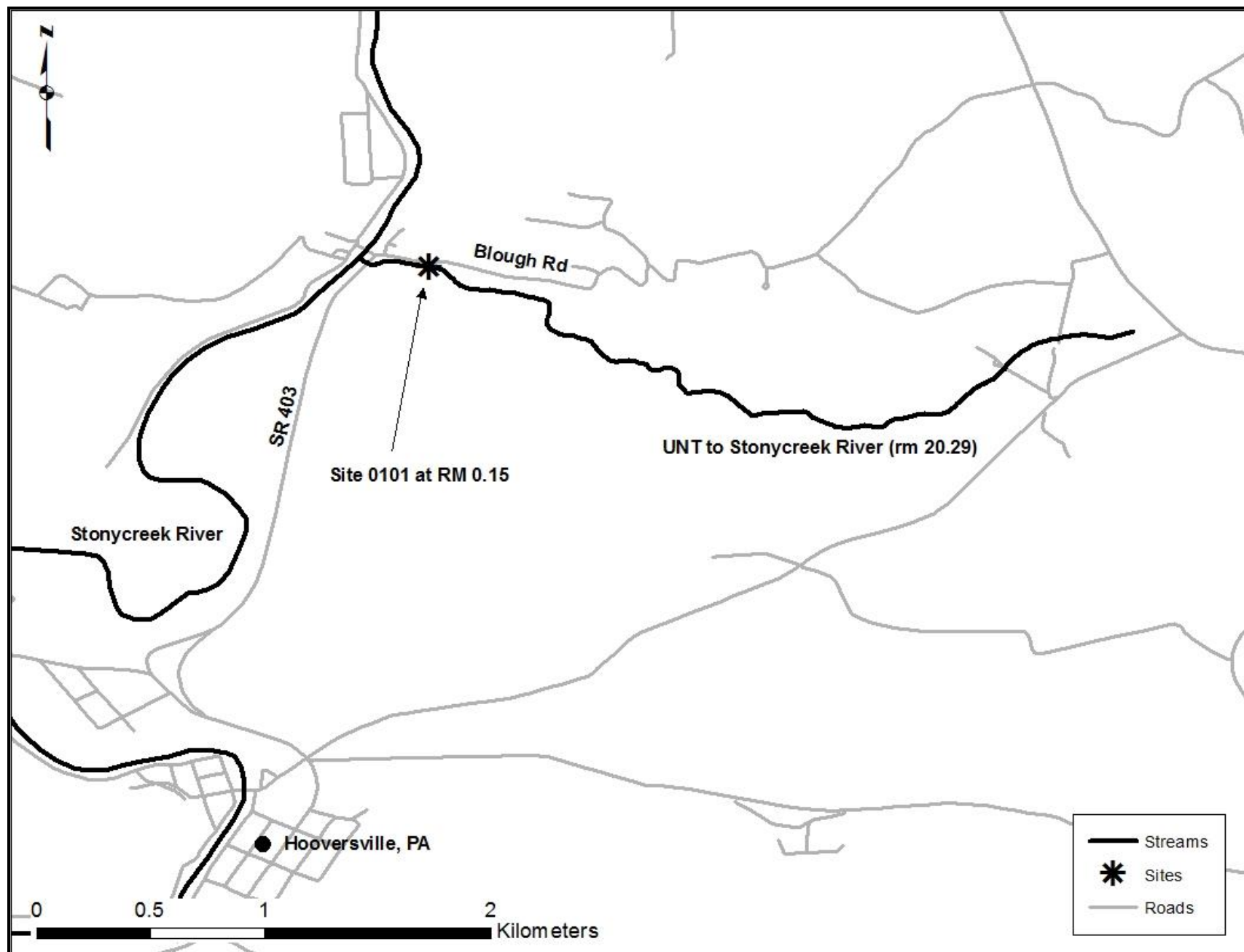


Figure 1. Location map for sample site 0101 at river mile 0.15 on the UNT to Stonycreek River (rm 20.29) (818E), Somerset County.