

Distribution

Pennsylvania Department of Environmental Protection,
Northcentral Regional Office, Attention: Steve Means, 208 West
Third St. Suite 101, Williamsport, PA 17701 smeans@pa.gov

PFBC Division of Environmental Services, Attention: Mark Hartle,
Chief mhartle@pa.gov

PFBC Northcentral Regional Law Enforcement Office, Attention:
WCO Dunbar, 1150 Spring Creek Road, Bellefonte, PA 16823
rdunbar@pa.gov

PA FISH AND BOAT COMMISSION
COMMENTS AND RECOMMENDATIONS

February 22, 2018~~January 10, 2017~~~~December 1, 2015~~

WATER: Patchin Run (308B) Clearfield County

EXAMINED: July 14, 2015

BY: D. Kristine, J. Detar, Z. Salada

Bureau Director Action: _____ Date: _____

Division Chief Action: _____ Date: _____

CW Unit Leader Action: _____ Date: _____

=====
AREA COMMENTS: Patchin Run flows into the West Branch Susquehanna River in Clearfield County. Patchin Run, Section 01, was surveyed in 2015 to reinventory the wild Brook Trout population. The estimated biomass of wild Brook Trout was 43.24 kg/ha and met the minimum biomass criteria for listing as a Class A wild Brook Trout stream. Eleven percent of the stream length was sampled.

AREA RECOMMENDATIONS:

1. Add Patchin Run (08B), Section 01, (from the headwaters to the mouth) to the Commission's Class A Wild Trout Streams program.
2. Manage Patchin Run (08B), Section 01, as a Class A Wild Trout Stream under Commonwealth Inland Waters regulations with no stocking.
3. Continue to list Patchin Run from the headwaters downstream to the mouth on the PFBC's list of stream sections that support natural reproduction of trout.
4. Request the Department of Environmental Protection designate Patchin 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**

Patchin Run (08B)
Section 01
Fisheries Management Report

Prepared by
David Kristine and Jason Detar

Fisheries Management Database Name: Patchin Run
Lat/Lon: 40°46'55"/78°46'47"

Date Sampled: July 14, 2015 Date Prepared: November 12, 2015

Introduction

Patchin Run is located in Clearfield County and is a 2.48 km (1.54 mi) long tributary to the West Branch Susquehanna River at River Mile (RM) 219.77, 40°46'55" latitude and 78°46'47" longitude. This stream has a drainage area of 2.99 km² (1.15 mi²) and can be found on the Burnside, PA United States Geological Survey 7.5 minute quadrangle (Figure 1). All of the riparian lands along the stream are privately owned.

Patchin Run was initially examined in 2014 and was found to support a dense population of wild Brook Trout. Patchin Run was re-examined in 2015 to properly classify the wild Brook Trout population.

Methods

The examination of Patchin Run was conducted on July 14, 2015. All procedures were carried out according to those outlined by Detar et al. (2011). One representative sampling station was sampled in 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 a electrobackpack equipped with a Appalachian Aquatics electrofisher set at 150 volts 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 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: 0.50

Sampling site RM 0.50 was located approximately 120 m downstream of Harmony Road, 40°46'50" latitude and 78°46'19" longitude. The 285 m long station averaged 1.9 m in width and comprised 11 percent of the total stream length (Table 1). This portion of Patchin Run primarily flowed through a forested riparian buffer with Harmony Road closely paralleling the stream. Bank erosion was moderate and the stream substrate consisted primarily of rubble, gravel, and silt. The RBP analysis yielded a final score of 136 (Table 2).

Physical-chemical parameters and their associated values measured under normal flow conditions were as follows: water temperature 16.4°C and specific conductance 129 umhos (Table 3).

Five fish species were captured at the site, including Blacknose Dace *Rhinichthys atratulus*, Brook Trout *Salvelinus fontinalis*, Creek Chub *Semotilus atromaculatus*, Slimy Sculpin *Cottus cognatus*, and White Sucker *Catostomus commersonii* (Table 4).

Brook Trout

One hundred and forty-one wild Brook Trout ranging from 50 mm to 224 mm in total length (TL) were captured during the survey. Eight (six percent) were greater than or equal to the legal harvestable length (175 mm: 7 in). Total Brook Trout biomass was estimated to be 43.24 kg/ha. Brook Trout abundance was estimated at 779 trout/km (1,253 trout/mi) with 28 trout/km (45 trout/mi) being of legal length or longer (Table 5).

Discussion

Patchin Run, Section 01, supported a robust wild Brook Trout population. 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 Patchin Run basin does not adequately protect the existing flora and fauna present within the basin. Due to the significant wild trout resource, which meets Class A criteria, Patchin 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 Patchin Run (08B), Section 01, (from the headwaters to the mouth) to the Commission's Class A Wild Trout Streams program.
2. Manage Patchin Run (08B), Section 01, as a Class A Wild Trout Stream under Commonwealth Inland Waters regulations with no stocking.
3. Continue to list Patchin Run from the headwaters downstream to the mouth on the PFBC's list of stream sections that support natural reproduction of trout.
4. Request the Department of Environmental Protection designate Patchin 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. SEPA. Report 814-99-002 Washington, DC.

Detar, J., R. Wnuk, R.T. Greene, and M. Kaufmann. 2011. Standard electrofishing protocols for sampling Pennsylvania wadeable streams. Pages 5-24 in D. Miko, editor. Sampling protocols for Pennsylvania's wadeable streams. Pennsylvania Fish and Boat Commission. Harrisburg, PA.

Table 1. Patchin Run (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)
07/14/15	0.50	120 m downstream Harmony Road	285	1.88	0.05

Table 2. High Gradient Rapid Bioassessment Protocol ratings for Patchin Run (08B), Clearfield County, conducted at RM 0.50 on July 14, 2015.

Habitat Parameter Reported	Score	Habitat Parameter Reported	Score
1. Epifaunal Substrate / Available Cover:	15	8. (LB) Left Bank Stability (LB):	6
2. Embeddedness:	15	8. (RB) Right Bank Stability (RB):	5
3. Velocity / Depth Regime:	14	9. (LB) Left Bank Vegetative Protection:	7
4. Sediment Deposition:	13	9. (RB) Right Bank Vegetative Protection:	7
5. Channel Flow Status:	13	10. (LB) Left Bank Riparian Vegetative Width:	7
6. Channel Alteration:	13	10. (RB) Right Bank Riparian Vegetative Width:	7
7. Frequency of Riffles (or bends):	14		
Total Score: 136			

Table 3. Chemistries collected in Patchin Run (08B), Clearfield County. Sample site(s) are within Section 01 in 2015 sample year.

Parameter	Site 1
Site RM	0.50
Sample Date	07/14/2015
Time (24 hour)	1305
Specific Conductance (umhos)	129
Water Temperature (C)	16.4

Table 4. Fish species occurrence from Patchin Run (08B), Clearfield County, at sample site RM 0.50 on July 14, 2015.

Common Name	Scientific Name
Blacknose Dace	<i>Rhinichthys atratulus</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Creek Chub	<i>Semotilus atromaculatus</i>
Slimy Sculpin	<i>Cottus cognatus</i>
White Sucker	<i>Catostomus commersonii</i>

Table 5. Wild Brook Trout Petersen abundance and biomass estimates at sample site RM 0.50 on Patchin Run (08B), Clearfield County, on July 14, 2015.

Length group (mm)	Population Estimate	Low 95% CI	High 95% CI	Estimated Number/Ha	Estimated Kg/Ha	Estimated Number/Km
50	108	51	248	2,015	4.96	379
75	39	23	70	728	4.33	137
100	39	24	66	728	9.96	137
125	26	13	56	485	11.86	91
150	2			37	1.53	7
175	6			112	7.15	21
200	2			37	3.45	7
Totals	222			4,142	43.24	779

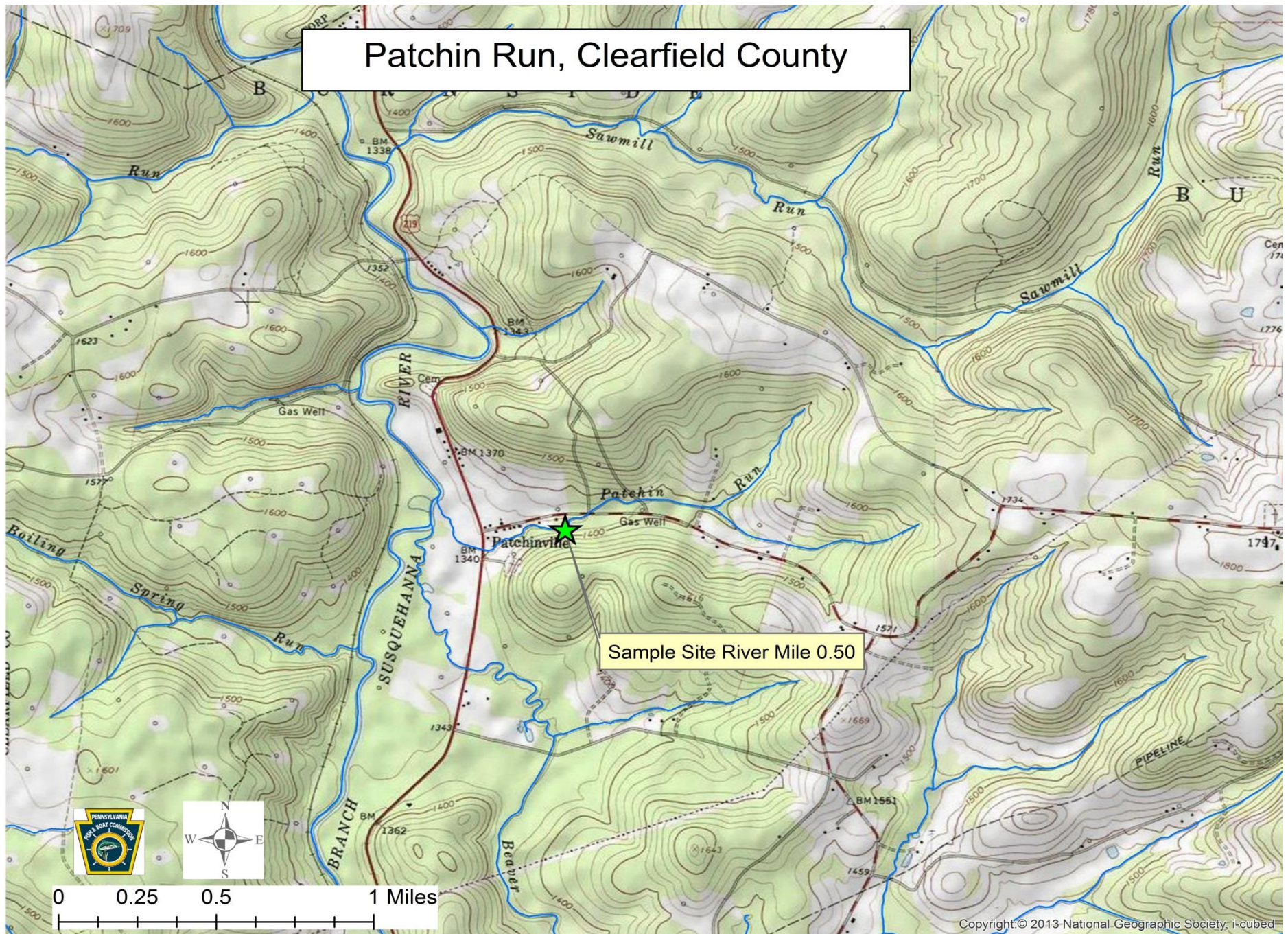


Figure 1. Location map for sample site river mile 0.50 on Patchin Run (08B), Clearfield County.