

WATER STANDARDS &
FACILITY REGULATION

2008 SEP -2 AM 10:18

WATER: Rock Run (309A)

Tioga County

EXAMINED: August 16, 2005

BY: Bruce Hollender and Jason Detar

Bureau Director Action: [Signature] Date: 1/26/06

Division Chief Action: [Signature] Date: 12/8/05

WW Unit Leader Action: _____ Date: _____

CW Unit Leader Action: R. Thomas Greene Date: 12/17/05

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CWU COMMENTS:

Rock Run (309A), Sections 01 and 02, were initially examined during August 2005 to collect baseline data on the resource.

Section 01

This segment of stream can be characterized as a small, infertile, coldwater stream. The 2005 examination captured only wild brook trout within a 300 meter sample site, and wild brook trout biomass was estimated at 36.16 kg/ha. The estimated abundance of legal size (≥ 7 inches) wild brook trout was 57/km. Based on a section length of 1.97 km (1.22 miles) this translated into an estimated total of 112 legal size wild brook trout ranging from seven to nine inches in length in Rock Run, Section 01.

Section 02

Section 02 can be characterized as a small, coldwater stream heavily influenced by mine acid drainage. No fish species were captured during the 2005 examination over 100 meters of electrofishing in Section 02.

CWU RECOMMENDATIONS:

1. Rock Run (309A), Section 01, should be managed as a Class A wild brook trout water. Statewide regulations should apply with no stocking.
2. Based on the presence of a Class A wild brook trout population the DEP Chapter 93 Water Quality Standards should be upgraded to HQ-CWF. The special protected use classification should be extended to the Rock Run basin from the headwaters downstream to the confluence with the Unnamed Tributary located at River Mile 2.12 (413816 771435).
3. No further management actions are recommended for Rock Run (309A), Section 02, at this time.

DEP Stream Code: 21758

Rock Run

DIVISION CHIEF COMMENTS:

I agree with the recommendations of the Area Fisheries Manager and Coldwater Unit Leader. The stream should be added to the Class A list by way of Commission action, and added to the list of streams that contain wild trout. The report should be forwarded to DEP by way of DES for official upgrade to HQ-CWF designation in 25 PA Code Chapter 93.

PENNSYLVANIA FISH AND BOAT COMMISSION
BUREAU OF FISHERIES
DIVISION OF FISHERIES MANAGEMENT

Management Report
Rock Run (309A)
Section 01 and 02
Tributary to Babb Creek
Tioga County

Prepared by
Bruce Hollender and Jason Detar

Fisheries Management Database Name: ROCK RN
Lat/Lon: 405959/780011

Date Sampled: August 16, 2005

Date Prepared: October 2005

Introduction

Rock Run (309A) is a small stream depicted on the USGS Cherry Flats and Antrim 7.5 minute quadrangle maps (Figure 1). The stream arises near the village of Brownlee, Tioga County, and flows south-southeast for 5.38 km to enter Babb Creek at River Mile (RM) 9.24. The 11.34 sq km drainage is mostly forested private lands with a small portion on the Tioga State Forest. The only road access to the stream is near the mouth and in the extreme headwaters. Current DEP Chapter 93 designation is Cold Water Fishes (CWF). PFBC file records indicate that between 1937 and 1961 Rock Run received fingerling brook trout stockings on 12 occasions plus fingerling brown trout on two occasions. A 1932 survey reported brook trout present and no pollution (Snyder 1932), but no other biological information on the stream was available from the files. However, current topographic maps indicate strip mining along the western side of the Rock Run basin. We were requested to survey Rock Run to document the wild trout population prior to an anticipated expansion of a landfill located on the mine site.

Rock Run was divided into two sections based on the entrance of acid mine drainage (AMD) from an unnamed tributary located at RM 2.12. Rock Run, Section 01, extends 1.97 km from the source to the unnamed tributary at RM 2.12 (UNT 21760) and Section 02 extends from UNT 21760 downstream 3.41 km to the mouth. On August 16, 2005, one site was sampled in each section of Rock Run and a water chemistry site on the unnamed tributary. During

the survey, stream flows were very low due to an extended drought. We were assisted by D. Spotts, PFBC Environmental Services, and J. Ryder, DEP Williamsport. All data was entered into the agency resource database.

Fishery Assessment

Section 01 sample site, located at RM 2.14 just upstream of the confluence with the UNT 21760, can be characterized as high gradient and was dominated by boulder-rubble substrate. RBP habitat scores were optimal except for flow, bank stability, and protection which received only moderate scores (Table 1). Water chemistry results (Table 2) indicated Rock Run was cool (18 C), weakly buffered (total alkalinity 4 mg/l, and slightly acidic (pH 6.3 SU). Wild brook trout were the only fish species seen or captured in the 300 m sample site. Estimated biomass of brook trout totaled 36.16 kg/ha with 57 legal-size trout/km (Table 3). Size of brook trout ranged from 50 mm size class young-of-the-year to a 225 mm size-class adult. We found a fisherman's pliers along the stream bank at the site indicating the stream section was fished by an angler.

Section 02 was represented by one sample site located 275 m downstream of the confluence with the unnamed tributary at RM 1.95. No fish were seen or captured in 100 m of electrofishing. The pH here was 4.6 SU and the rubble-gravel stream substrate was highly embedded.

The pH in the unnamed tributary was 3.9 SU and the specific conductivity was 660 umhos.

Management recommendations

Rock Run Section 01 supports a healthy wild brook trout population with multiple age-classes present and should be managed for wild trout with no stocking and Commonwealth Inland Waters regulations. Section 01 should be added to the list of Class A Wild Trout Stream sections and to the list of Streams with Documented Reproduction of Trout. Also, the DEP Chapter 93 classification should be upgraded from CWF to HQ-CWF.

No additional fish management action is needed on Section 02 until the AMD pollution is remediated.

Literature Cited

Snyder, A. S. 1932. Stream Survey Report: Rock Run. PFBC Files,
450 Robinson Lane, Bellefonte, PA.

Table 1. Rock Run (309A) Section 01 habitat assessment scores using U. S. EPA's Rapid Bioassessment Protocols (RBP; October 1996 version for high gradient streams).

Sample site 1 was located at Latitude 413816 Longitude 771435 at RM 2.14 on August 16, 2005.

Habitat Parameter	Score 20-0, * 10-0	Site 1
Epifaunal substrate/Available cover		18
Embeddedness		18
Velocity/Depth regime		18
Sediment deposition		18
Channel flow status		10
Channel alteration		20
Frequency of riffles		18
Left Bank stability*		9
Right Bank stability*		9
Left Bank Vegetation protection*		9
Right Bank Vegetation protection*		9
Left Bank Riparian zone*		10
Right Bank Riparian zone*		10
TOTAL SCORE		176

Table 2. Chemistries collected from ROCK RN at site RM 2.14 with Site Latitude 413816 Longitude 771435. Site established 08/16/05 by Fisheries Management Area 3. This site is currently located within Section No. 01, subbasin 09A.

General Chemistries Sample Time Of Day: 1310

Alkalinity Test: Total Alkalinity Field Mixed Indicator

Hardness Test: Total Hardness Field EDTA

pH Test: pH Field Colorimetric

Sample Depth (m)	Water Temp (°C)	Dissolved Oxygen (ml/g)	Alkalinity (mg/l)	Hardness (mg/l)	Specific Conductance (umhos/cm@25°C)	pH (SU)
0	18		4	7	36	6.3

Table 3. Estimated Abundance and Biomass of brook trout from ROCK RN (09A), using a Zippin 3-pass estimator. Site located at RM 2.14 with a site Lat/Lon of 413816/771435. Site currently located within Section No. 01. Survey Date: 08/16/05.

Size Group	Population Estimate	Capture Probability	Low 95% CI	High 95% CI	Estimated Number /Ha	Estimated Kg/Ha	Estimated Number /Km
50	80	0.6766	77	84	1063	2.44	266
75	5	0.6783	5	6	69	0.48	17
100	34	0.8678	34	35	454	6.41	114
125	19	0.9031	19	19	254	6.14	63
150	9	0.9968	9	9	120	4.47	30
175	14	0.8713	14	14	187	12.56	47
200	2	0.9968	2	2	27	2.36	7
225	1	0.9968	1	1	13	1.31	3
Totals:	164				2186	36.16	546

Figure 1. Rock Run (09A) tributary to Babb Creek, Tioga County, PA. August 16, 2005 sample sites depicted on the Cherry Flats and Antrim USGS 7.5 minute quadrangle.

