

DEP Stream Code: 51342

PA FISH AND BOAT COMMISSION
COMMENTS AND RECOMMENDATIONS

February 16, 2012

WATER: Bear Run (216G) Venango County

EXAMINED: July 20, 2005

BY: Allen Woomer and Tim Wilson

Bureau Director Action: _____ Date: _____

Division Chief Action: _____ Date: _____

WW Unit Leader Action: _____ Date: _____

CW Unit Leader Action: _____ Date: _____

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AREA COMMENTS:

An initial inventory of Bear Run was performed to characterize and document the wild brook trout fishery. An excellent Class A abundance of brook trout was sampled in this small 1st order stream with biomass estimated at 55.11 kg/ha. Bear Run is part of the South Sandy Creek drainage basin which is classified Cold Water Fishes (CWF) in Chapter 93 Water Quality Standards. Given the Class A wild brook trout population this classification should be upgraded to High Quality Cold Water Fishes (HQ-CWF) for Bear Run.

AREA RECOMMENDATIONS:

1. Manage this stream as a Class A wild brook trout fishery under Commonwealth Inland Waters regulations with no stocking.
2. Based on the presence of a Class A wild brook trout population, the DEP 25 Pa Code, Chapter 93 Water Quality Standards should be upgraded to HQ-CWF. The special protected use classification should apply to the entire Bear Run basin. Provide a copy of this report to John Arway, PFBC Environmental Services.

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

Bear Run (216G)
Section 01
Management Report

Prepared by
Allen Woomer and Tim Wilson

Fisheries Management Database Name: Bear Run
Lat/Lon: 412115/795451

Date Sampled: July 20, 2005

Date Prepared: August 2007

Introduction

Bear Run (216G) is a very small first order headwater stream located in Venango County. It flows into South Sandy Creek at River Mile (RM) 0.62 and is found on the Polk 7.5 minute USGS quadrangle. It has a total length of 1.40 km, a drainage area of 1.37 km² and has a stream gradient of 73.1 m/km. Around 47% of the stream is located on State Game Lands No. 39 and the remaining 53% is on private lands open to fishing.

The purpose of this survey was to initially inventory Bear Run for management purposes and to characterize and document the wild brook trout *Salvelinus fontinalis* population. In addition, the South Sandy Creek Watershed Association was interested in showing the capacity of streams in the South Sandy Creek drainage unaffected by pollution or habitat degradation to produce high quality wild trout fisheries. Their group is attempting to gain funds to perform remediation of streams in a watershed polluted by acid mine drainage.

Methods

This survey was conducted using standard Pennsylvania Fish and Boat Commission (PFBC), Fisheries Management procedures (Marcinko et al. 1986). A single site was sampled on July 20, 2005, at RM 0.01 located 10 m upstream from the mouth (Figure 1). A Coffelt model BP-1C backpack set at 200 VAC was used to electrofish the site. Biomass and abundance estimates were based on the number of trout obtained in a single electrofishing pass.

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Fisheries Assessment

The sampling site was densely shaded by a mature forest and relatively remote and undeveloped by human activities. Substrate was composed of gravel, sand, silt and rubble and bank erosion was light. Water chemistry results indicate Bear Run is slightly acidic under low flow conditions and has a low level of total alkalinity and hardness typical of small headwater streams in this region of Pennsylvania (Table 1).

Six fish species were identified in the 130 m backpack electrofishing site (Table 2). Wild brook trout ranged in size from the 25-49 to 175-199 mm size groups and biomass was estimated at 55.11 kg/ha (Table 3). This Class A estimate was the product of two strong year classes produced in 2004 and 2005 and the very small size of the stream. Mean width was measured at 1.01 m at the site. Abundance of legal size (≥ 175 mm) brook trout was estimated at 15/km. This was quite a good density for such a small stream. Based on a section length of 1.4 km (0.87 mi.) this translated into an estimated abundance of 21 legal size (\geq seven inches) wild brook trout in Bear Run, Section 01.

Bear Run (216G) should be managed as a single section encompassing headwaters to the mouth. It is recommended that Bear Run be added to the list of Class A trout streams and managed under Commonwealth Inland Waters with no stocking. Bear Run is part of the South Sandy Creek drainage basin which is classified Cold Water Fishes (CWF) in Chapter 93 Water Quality Standards. Given the Class A brook trout population identified on Bear Run, this stream should be reclassified High Quality Cold Water Fishes (HQ-CWF).

Management Recommendations

1. Manage this stream as a Class A wild brook trout fishery under Commonwealth Inland Waters regulations with no stocking.
2. Bear Run was added to the list of streams supporting natural reproduction of trout in 2006.
3. Based on the presence of a Class A wild brook trout population, the DEP 25 Pa. Code, Chapter 93 Water Quality Standards should be upgraded to HQ-CWF. The special protected use classification should apply to the entire Bear Run basin. Provide a copy of this report to John Arway, PFBC Environmental Services.

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Literature Cited

Marcinko, M., R. Lorson and R. Hoopes. 1986. Procedures for Stream and River Inventory Information Input. Pennsylvania Fish and Boat Commission, 450 Robinson Lane, Bellefonte, PA.

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Table 1. Chemistries collected from Bear Run (216G) at Site RM 0.01 with Site Lat/Lon 412116/795452 on July 20, 2005.

Air Temperature (°C): 30
 General Chemistries Sample Time Of Day: 1215
 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	18.3		6	15	46	6.5

No Additional Chemistries Collected

Table 2. Fish collected from Bear Run (216G) at Site RM 0.01 with Site Lat/Lon 412116/795452 using electrobackpack gear on July 20, 2005.

Common name	Scientific name
Blacknose Dace	<i>Rhinichthys atratulus</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Creek Chub	<i>Semotilus atromaculatus</i>
Fantail Darter	<i>Etheostoma flabellare</i>
Longnose Dace	<i>Rhinichthys cataractae</i>
Mottled Sculpin	<i>Cottus bairdii</i>

Table 3. Length/frequency distribution and catch biomass statistics for brook trout from Bear Run (216G). Site located at RM 0.01 with a site Lat/Lon of 412116/795452. Survey Date: July 20, 2005. Collection gear electrobackpack.

Size Group	Catch	Mean Wt (g)	Wt Source	Kg/ Ha	Num/ Ha	Num/ Km
25	7	1.04	StateMeanWt	0.55	534	54
50	58	2.4	StateMeanWt	10.64	4427	446
75	3	5.91	StateMeanWt	1.35	229	23
100	10	13.68	StateMeanWt	10.44	763	77
125	7	24.31	StateMeanWt	12.99	534	54
150	3	41.01	StateMeanWt	9.39	229	23
175	2	63.88	StateMeanWt	9.75	153	15
Totals	90			55.11	6869	692

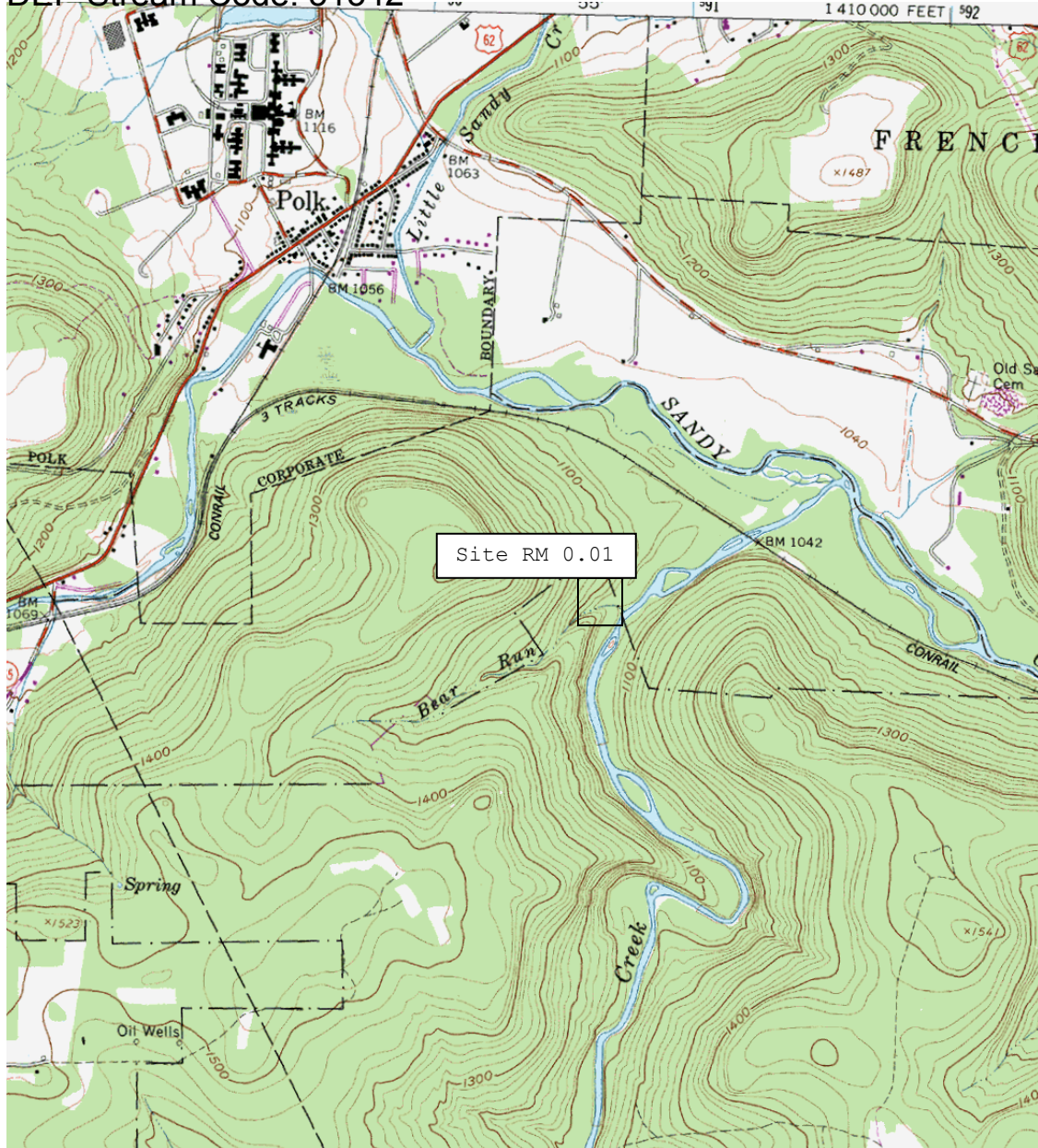


Figure 1. Bear Run (216G) sample site location, Polk 7.5 minute quadrangle.

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Distribution

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