

DEP Stream Code: 27822

Wasp Branch

Distribution

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WATER: Wasp Branch (405C) Luzerne County
EXAMINED: June 13, 2001
BY: Fisheries Management Area 4

Bureau Director Action: _____ Date: _____
Division Chief Action: _____ Date: _____
CW Unit Leader Action: _____ Date: _____
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AREA COMMENTS:

The Pennsylvania Fish and Boat Commission conducted the initial inventory of Wasp Branch in June 2001. This stream supported a biomass Class A wild brook trout population.

AREA RECOMMENDATIONS:

1. Add Wasp Branch to the Pennsylvania Fish and Boat Commission's listing of Class A wild trout waters.
2. Upgrade the Wasp Branch basin to High Quality - Cold Water Fishes, Migratory Fishes (HQ-CWF, MF) in the 25 PA Code Chapter 93 Water Quality Standards.

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

Wasp Branch (405C)
Section 01
Fisheries Management Report

Prepared by
Robert Wnuk

Date Sampled: June 13, 2001

Date Prepared: April 12, 2011

Introduction

Wasp Branch is located in Luzerne County and is a 3 km (1.86 mi) long tributary to Pine Creek at River Mile (RM) 9.74, 41°14'51" latitude and 76°17'07" longitude. This stream has a drainage area of 2 km² (0.77 mi²) and flows south to its confluence with Pine Creek in Fairmount Township. Wasp Branch can be found on the Stillwater and Red Rock, PA United States Geological Survey 7.5 minute quadrangles.

Wasp Branch was surveyed as part of an inventory of the entire Pine Creek (5C) basin. This work was the first time that the Pennsylvania Fish and Boat Commission (PFBC) has surveyed the stream.

Methods

The examination of Wasp Branch was conducted on June 13, 2001. All procedures were carried out according to those outlined by Marcinko et al. (1986). One representative sampling station totaling 11 percent of the section length was sampled in Section 01.

Physical characteristics, physical-chemical values, and fish communities were examined. The fish communities were sampled using an electrobackpack equipped with a Smith-Root backpack electrofishing unit (Model 12-A POW, 300 volts pulsed direct current. Wild trout were measured and recorded in 25 mm (1.0 in) 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 (Ricker 1975). Scientific and common fish names reference the Integrated Taxonomic Information System (<http://www.itis.gov>).

Site River Mile: 0

Sample site RM 0 was examined beginning at the mouth of the stream. The 300 m long station averaged 2.1 m in width (Table 1). This portion of the stream primarily flowed through a forested riparian zone.

Physical-chemical parameters and their associated values measured under normal flow conditions were as follows: air temperature 31°C, water temperature 19°C, specific conductance 54 umhos, pH 7.0 standard units, total alkalinity 12 mg/l, and total hardness 15 mg/l (Table 2).

Seven fish species were captured at the site including wild brook trout (Table 3). One hundred forty-nine wild brook trout ranging from 25 mm to 224 mm total length (TL) were captured during the survey. Three (two percent) were greater than or equal to the legal harvestable length (175 mm: 7 in). Total brook trout biomass was estimated to be 43.94 kg/ha. Brook trout abundance was estimated at 830 trout/km (1336 trout/mi) with 10 trout/km (16 trout/mi) being of legal length or longer (Table 4).

Discussion

Section 01 of Wasp Branch supported natural reproduction of brook trout. Brook trout density determined from the survey met the PFBC's minimum biomass criteria for a Class A wild brook trout population.

The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes, Migratory Fishes (CWF, MF) for the Wasp Branch basin does not adequately protect the existing flora and fauna within the basin. The Wasp Branch basin should be upgraded to High Quality - Cold Water Fishes, Migratory Fishes (HQ-CWF, MF).

Management Recommendations

1. Add Wasp Branch to the Pennsylvania Fish and Boat Commission's listing of Class A wild trout waters.
2. Upgrade the Wasp Branch basin to High Quality - Cold Water Fishes, Migratory Fishes (HQ-CWF, MF) in the 25 PA Code Chapter 93 Water Quality Standards.

Literature Cited

Marcinko, M., R. Lorson, and R. Hoopes. 1986. Procedures for stream and river inventory information input. Pennsylvania Fish and Boat Commission files, 450 Robinson Lane, Bellefonte, PA.

Ricker, W.E. 1975. Computation and interpretation of biological statistics of fish populations. Fisheries Research Board of Canada Bulletin 191.

Table 1. DEP Stream Code: 27822 Luzerne County. Site sampling Wasp Branch length surveyed, average site width and site area.

Site Date	Rivermile	Downstream limit description	Length (m)	Ave. Width (m)	Site Area (ha)
6/13/2001	0	Mouth	300	2.1	0.06

Table 2. Chemistries collected in Wasp Branch (05C), Luzerne County. Sample site(s) are within Section 01 in 2001 sample year.

Parameter	Site 1
Site RM	0.00
Sample Date	06/13/2001
Time (24 hour)	1545
Total Hardness Field EDTA (MG/L)	15
Total Alkalinity Field Mixed Indicator (MG/L)	12
Air Temperature (C)	31.0
pH Field Colorimetric (SU)	7.0
Water Temperature (C)	19.0
Specific Conductance (UMHOS)	54

Table 3. Fish species occurrence Wasp Branch (05C), Luzerne County at sample site RM 0 on June 13, 2001.

Common Name	Scientific Name
Blacknose Dace	<i>Rhinichthys atratulus</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Chain Pickerel	<i>Esox niger</i>
Creek Chub	<i>Semotilus atromaculatus</i>
Pumpkinseed	<i>Lepomis gibbosus</i>
Sculpin species	<i>Cottus</i>
White Sucker	<i>Catostomus commersonii</i>

Table 4. Wild Brook Trout Petersen abundance and biomass estimate collected at sample site RM 0 on Wasp Branch (405C), Luzerne County on June 13, 2001.

Size Group	Estimate	low95CI	High95CI	NumHa	KgHa	NumKm
25	70	33	162	1111	1.16	233
50	26			413	1.0	87
75	18	7	45	286	1.7	60
100	93	51	186	1476	20.18	310
125	34	15	84	540	13.14	113
150	5	2	13	79	3.26	17
175	2			32	2.03	7
200	1			16	1.47	3
Totals	249			3953	43.94	830

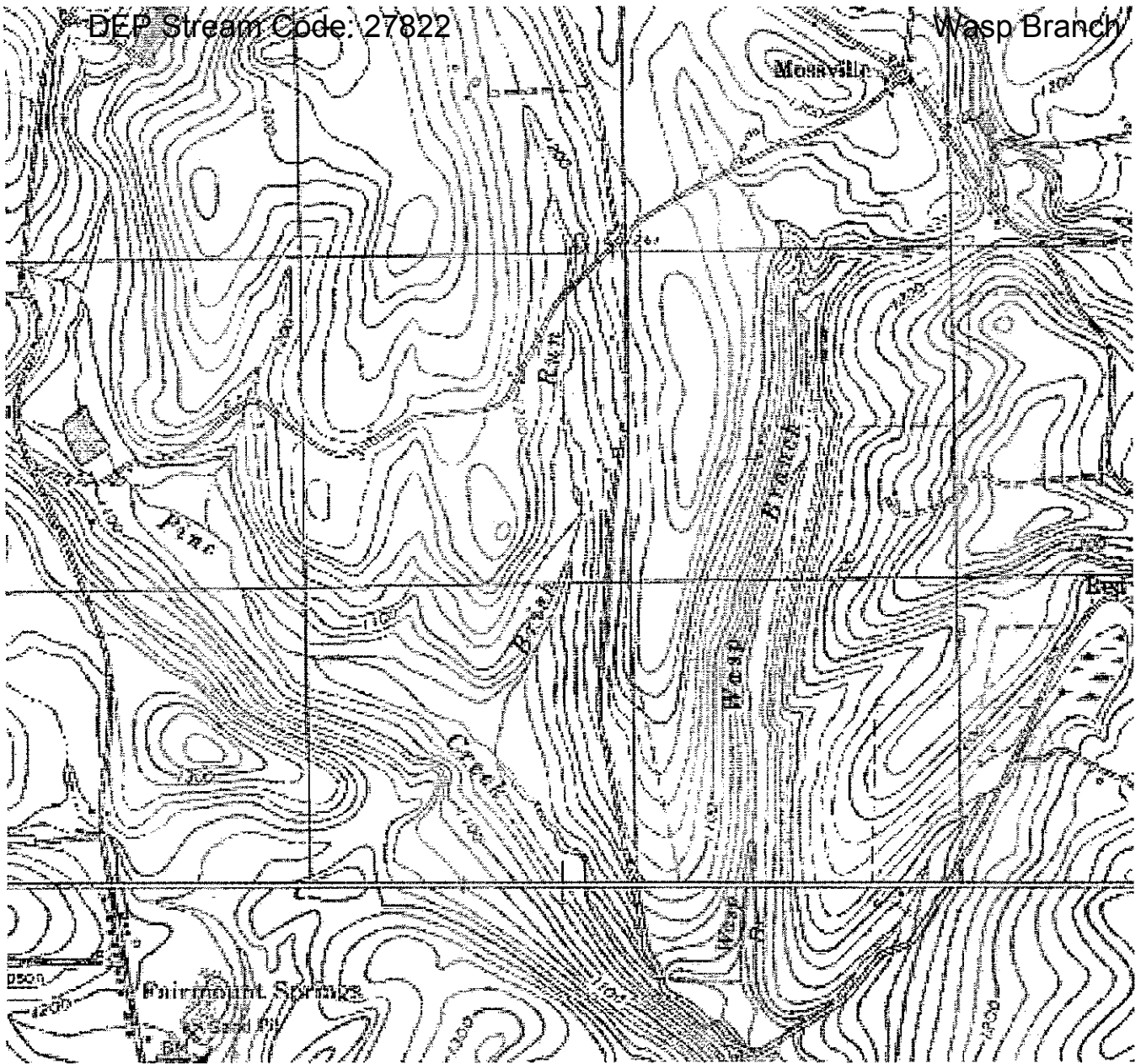


Figure 1. Location map for Wasp Branch (405C), Luzerne County.