

Distribution

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

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

WATER: Little Dent Run (308A) Cameron County

EXAMINED: October 15, 2013

BY: Jason Detar, Dave Kristine, Dave Nihart, and WCO Crisp

Bureau Director Action: _____ Date: _____

Division Chief Action: _____ Date: _____

CW Unit Leader Action: _____ Date: _____

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AREA COMMENTS: Little Dent Run is a small, coldwater, mountain stream located near the community of Mix Run, Cameron County. The stream was found to support an excellent wild Brook Trout population. Multiple age-classes of trout were present including legal-size fish. The biomass for wild Brook Trout was estimated at 43.27 kg/ha and met the minimum biomass criteria for listing as a Class A wild Brook Trout stream. Ten percent of the total stream length was sampled.

AREA RECOMMENDATIONS:

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

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**

Little Dent Run (308A)
Fisheries Management Report

Prepared by
Dave Kristine and Jason Detar

Fisheries Management Database Name: Little Dent Run
Lat/Lon: 41°19'47"/78°10'15"

Date Sampled: October 15, 2013 Date Prepared: December 19, 2013

Introduction

Little Dent Run is a small, coldwater mountain stream located in Cameron County and flows into Bennett Branch Sinnemahoning Creek between the small towns of Mix Run and Castle Garden at River Mile (RM) 2.43 (41°19'47" latitude and 78°10'15" longitude). The stream has a total length of 3.61 km (2.24 mi) as depicted on the Driftwood, PA United States Geological Survey 7.5 minute quadrangle. Little Dent Run drains an area of 3.99 km² (1.54 mi²) (Figure 1).

Most (76 percent) of the riparian land along Little Dent Run is publicly owned by the Commonwealth of Pennsylvania as part of the Elk State Forest. Human activity in this forested watershed consists of a few camps near the mouth, past logging, and a few conventional gas well sites located atop the ridges and beside the stream. Little Dent Run is currently included on the PFBC's list of stream sections that support natural reproduction of trout.

Little Dent Run was surveyed during 2013 to gather initial information on the wild trout population for management and protection purposes as part of the Unassessed Waters Program.

Methods

The habitat, water chemistry, and fish communities of Little Dent Run were examined on October 15, 2013 at one sample site according to procedures outlined by Weber et al. (2011). Rapid bioassessment protocols (RBP) were used to assess the habitat in this stream (Barbour et al. 1999). Fish were captured using a pulsed DC battery backpack electrofisher and identified to species. All wild trout captured were enumerated by measuring their total length (TL) 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 for wild trout and their densities were determined

by using the number of fish captured in a single electrofishing pass. Scientific and common fish names reference the Integrated Taxonomic Information System (<http://www.itis.gov>).

Results

Site River Mile: 0.13

Sample site RM 0.13 (41°19'50" latitude and 78°10'19" longitude) was located 50 m upstream of the SR 0555 Bridge near the mouth. The 361 m long station averaged 1.3 m in width and covered ten percent of the section length (Table 1). This portion of the stream primarily flowed through a mature forest and was paralleled by a grass-covered road used to access a gas well. Cover for trout was mainly provided by pools containing woody debris, undercut banks, and rootwads. Bank erosion was moderate and the RBP habitat analysis yielded a final score of 145 (Table 2). Several parameters including sediment deposition, channel flow status, and channel alteration were scored as suboptimal.

Water chemistry parameters and their associated values measured under low flow conditions were as follows: water temperature 14.5°C, specific conductance 107 umhos, pH 6.7 standard units, and total alkalinity 28 mg/l (Table 3).

Wild Brook Trout *Salvelinus fontinalis* and Fantail Darter *Etheostoma flabellare* were the only fish species captured within the sample site (Table 4).

Seventy wild Brook Trout ranging from 50 mm to 324 mm in total length (TL) were captured with seven (10 percent) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total Brook Trout biomass was estimated to be 43.27 kg/ha. Brook Trout abundance was estimated at 196 trout/km (315 trout/mi) with 21 trout/km (34 trout/mi) being of legal length or longer (Table 5).

Discussion

Little Dent Run was found to support an excellent population of wild Brook Trout. Stream flows were very low during the survey and the sample site likely included the entire flowing length of the stream. The stream should continue to be listed on the PFBC's list of stream sections that support natural reproduction of wild trout based on the presence of both young-of-the-year and multiple year classes of trout, as outlined in 58 PA Code §57.11., Listing of Wild Trout Streams. In addition, the estimated biomass of wild Brook Trout met the PFBC's minimum biomass criteria of 30 kg/ha for listing Little Dent Run as a Class A wild Brook Trout stream as outlined in 58 PA Code §57.8a., Class A Wild Trout Streams. Thus, based on the wild trout biomass and sampling 10 percent of the section length, Little Dent Run should be managed as one section from the headwaters to the mouth as a Class A Wild Trout Stream under Commonwealth Inland Waters regulations with no stocking.

Little Dent Run is not currently listed in the 25 PA Code Chapter 93 Water Quality Standards. Due to the significant wild trout resource which meets Class A criteria, Little Dent Run should be classified as High Quality-Cold Water Fishes and Migratory Fishes (HQ-CWF, MF) by the PA Department of Environmental Protection (DEP) upon listing by the Commission as a Class A wild trout stream.

Management Recommendations

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

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. Little Dent Run (08A), Cameron County. Site sampling locations, lengths surveyed, average site widths and site areas.

Site Date	Rivermile	Downstream limit description	Length (m)	Ave. Width (m)	Site Area (ha)
10/15/2013	0.13	50 m upstream SR 0555 Bridge	361	1.3	0.05

Table 2. High Gradient Rapid Bioassessment Protocol ratings for Little Dent Run (08A), Cameron County, conducted at RM 0.13 on October 15, 2013.

Habitat Parameter	Score	Habitat Parameter	Score
Epifaunal Substrate / Available Cover	17	Left Bank Stability	8
Embeddedness	17	Right Bank Stability	8
Velocity / Depth Regime	15	Left Bank Vegetative Protection	8
Sediment Deposition	14	Right Bank Vegetative Protection	9
Channel Flow Status	5	Left Bank Riparian Vegetative Width	10
Channel Alteration	15	Right Bank Riparian Vegetative Width	7
Frequency of Riffles or bends	12	Total Score	145

<u>Habitat Condition</u>	<u>Total Score</u>
Optimal	151-200
Suboptimal	101-150
Marginal	51-100
Poor	0-50

Table 3. Water chemistries collected in Little Dent Run (08A), Cameron County.

Parameter	Site 1
Site RM	0.13
Sample Date	10/15/2013
Time (24 hour)	1400
pH Field Colorimetric (SU)	6.7
Specific Conductance (UMHOS)	107
Total Alkalinity Field Mixed Indicator (MG/L)	28
Water Temperature (C)	14.5

Table 4. Fish species occurrence in Little Dent Run (08A), Cameron County, during 2013.

Common Name	Scientific Name
Brook Trout	<i>Salvelinus fontinalis</i>
Fantail Darter	<i>Etheostoma flabellare</i>

Table 5. Wild Brook Trout catch and biomass estimates at sample site RM 0.13 on Little Dent Run (08A), Cameron County, on October 15, 2013.

Size Group	Catch	Mean Wt (g)	Wt Source	Kg/ Ha	Num/ Ha	Num/ Km
50	4	2.46	StateMeanWt	0.21	85	11
75	32	5.95	StateMeanWt	4.06	682	89
125	23	24.43	StateMeanWt	11.98	490	64
150	4	41.09	StateMeanWt	3.5	85	11
175	2	63.92	StateMeanWt	2.73	43	6
225	2	130.87	StateMeanWt	5.58	43	6
250	1	179.45	StateMeanWt	3.83	21	3
275	1	225.56	StateMeanWt	4.81	21	3
300	1	308.14	StateMeanWt	6.57	21	3
Totals				43.27	1,491	196

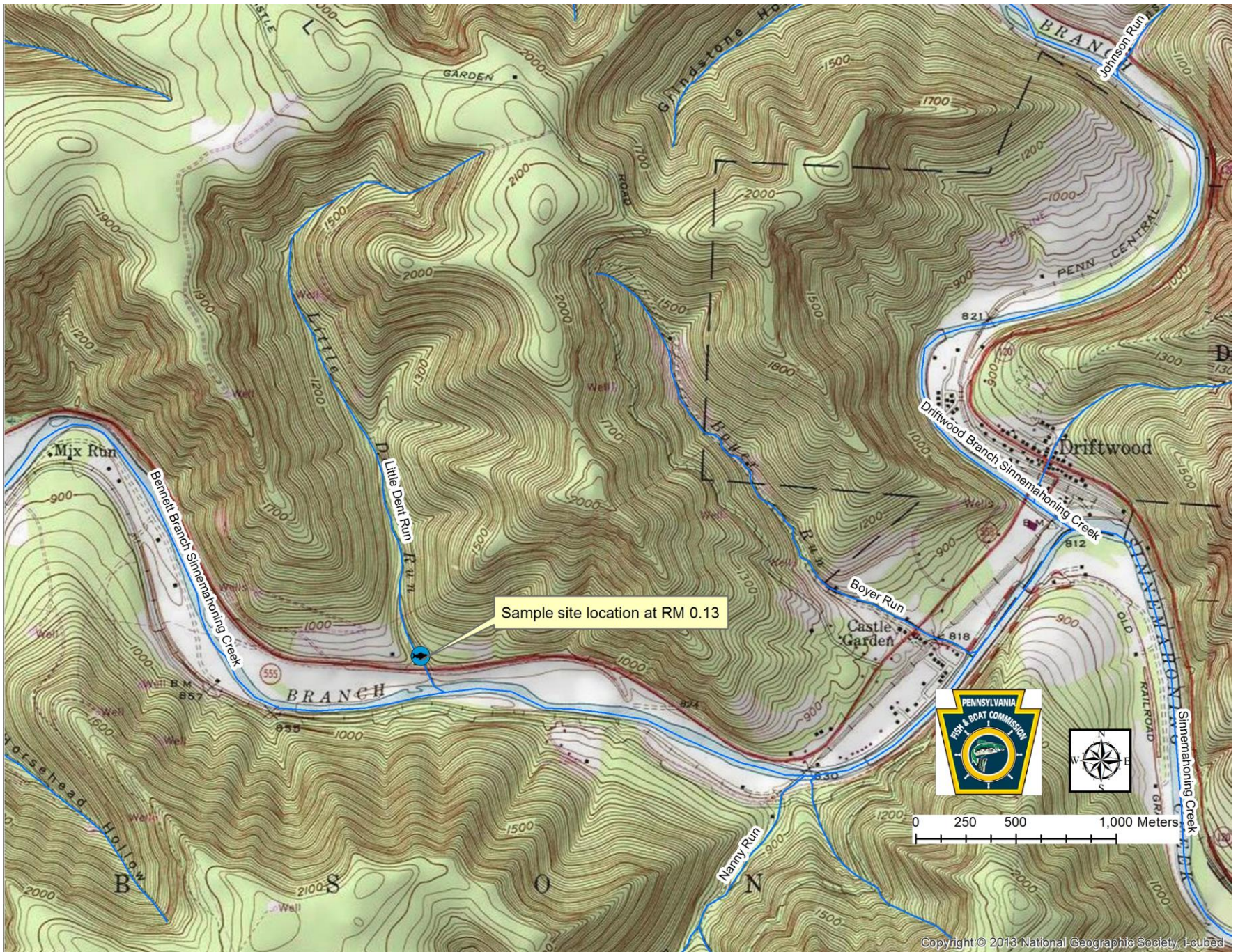


Figure 1. Location map for sample site river mile 0.13 on Little Dent Run (08A), Cameron County.