

## **Distribution**

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Susquehanna River Basin Commission, 1721 N. Front Street Harrisburg, PA 17102

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

February 22, 2018

**WATER:** Council Run (309C) Centre County

**EXAMINED:** June 22, 2012

**BY:** D. Kristine, J. Keslar, B. Tryon

Bureau Director Action: \_\_\_\_\_ Date: \_\_\_\_\_

Division Chief Action: \_\_\_\_\_ Date: \_\_\_\_\_

CW Unit Leader Action: \_\_\_\_\_ Date: \_\_\_\_\_

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**AREA COMMENTS:**

Council Run is a small, coldwater stream located near the town of Orviston, Centre County, which supports a robust, allopatric wild brook trout population. Results of the 2012 survey showed multiple age-classes of brook trout were present including a good abundance of legal-size fish. The estimated total biomass of wild brook trout at site river mile(RM) 1.08 was 30.00 kg/ha and at site RM 2.01 was 82.65 kg/ha. Both sites met the minimum biomass criteria for Class A designation and 12% of the section was sampled.

**AREA RECOMMENDATIONS:**

1. Add Council Run, Section 01 (from the headwaters to the mouth), to the Commission's Class A Wild Trout Streams program.
2. Manage Council Run as a Class A Wild Trout Stream under Commonwealth Inland Waters regulations with no stocking.
3. Request the Department of Environmental Protection upgrade the designation of the entire length of Council Run to 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. Request the Department of Environmental Protections examine the macroinvertebrate community inhabiting Council Run for consideration of a 25 PA Code Chapter 93 designation upgrade to Exceptional Value and Migratory Fishes (EV, MF) if it meets their criteria.
5. Continue to include Council Run from the headwaters downstream to the mouth on 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**

Council Run (309C)  
Fisheries Management Report

Prepared by  
David Kristine and Jason Detar

Fisheries Management Database Name: Council Run  
Lat/Lon: 41°05'55"/77°48'18"

Date Sampled: June 22, 2012

Date Prepared: January 11, 2013

### **Introduction**

Council Run is a small, third order, coldwater stream located in Centre County that flows south from its source then east through the Sproul State Forest to the confluence with Beech Creek at River Mile (RM) 16.00 (41°05'55" latitude and 77°48'18" longitude) near the small town of Orviston (Figure 1). The stream has a total length of 5.0 km (3.1 miles) and a drainage area of 16.0 km<sup>2</sup> (6.2 square miles). The current 25 PA Code Chapter 93 designated use for water quality protection is Cold Water Fishes (and Migratory Fishes (CWF, MF) for the entire stream. Council Run can be found on the Snow Shoe SE, PA United States Geological Survey 7.5 minute quadrangle.

All of the riparian land along Council Run and almost the entire watershed is publically owned by the Commonwealth of Pennsylvania as part of Sproul State Forest. While mostly forested and undisturbed, the Council Run watershed has seen a great deal of natural resource extraction activities both past and present from coal and gas well operations. A review of Pennsylvania Fish and Boat Commission (PFBC) files found a 1932 survey by Sorenson and a 1935 survey by Snyder who both found the stream to be polluted from mining and recommended no stocking of trout. From 1949 to 1966 the stream was stocked by the PFBC on numerous occasions with fingerling brook trout. Arway (1982) conducted a biological survey of Council Run and found the stream to support wild brook trout at various densities but also documented impairments to the stream from past coal mining operations. More recently, the stream was investigated by Hartle (2011) as part of a sediment pollution which occurred during drilling of a well for a proposed water withdrawal for natural gas development in the watershed. The stream is currently managed as one section from the headwaters to the mouth under Commonwealth Inland Waters regulations with no stocking and

is currently included on the PFBC's list of stream sections that support natural reproduction of trout.

Council Run was surveyed during 2012 at two sites to gather contemporary information on the wild trout population for management and protection purposes.

### **Methods**

The examination of Council Run was conducted at two sites on June 22, 2012. Procedures were carried out according to those outlined by Detar et al. (2011). Physical characteristics, water chemistry, and fish communities were examined. Rapid bioassessment protocols (RBP) were used to assess the habitat in this stream (Barbour et al. 1999). Fish communities were sampled using a pulsed-DC battery backpack at the upstream site (RM 2.01) and a gas powered AC electrobackpack at the downstream site (RM 1.08). Wild trout were measured and recorded in 25 mm (1.0 inch) length groups. Wild trout were given an identifying 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. Statewide average weights calculated for each length group were used to generate the biomass estimate. Scientific and common fish names reference the Integrated Taxonomic Information System (<http://www.itis.gov>).

### **Results**

#### **Site River Mile: 1.08**

Sample site RM 1.08 (41°05'31" latitude and 77°49'03" longitude) was located 300 meters downstream of the Kato Orviston Road Bridge. The 300 m long station averaged 2.8 m in width (Table 1). The stream was densely shaded and substrate consisted of boulders, rubble, and gravel. The RBP habitat assessment for the site received a total score of 182 with all parameters being found to score in the optimal range (Table 2).

Water chemistry parameters and their associated values measured under normal flow conditions were as follows: water temperature 15°C, specific conductance 50 umhos, pH 6.4 standard units, and total alkalinity 10 mg/l (Table 3).

Three fish species were captured in Council Run at this site including brook trout *Salvelinus fontinalis*, slimy sculpin *Cottus cognatus*, and one brown trout *Salmo trutta* of hatchery origin (Table 4).

Seventy-six wild brook trout ranging from 50 mm to 224 mm in total length (TL) were captured during the survey at this site with 13 (17 percent) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total brook trout biomass was estimated to

be 30.00 kg/ha. Estimated brook trout abundance was 297 trout/km (478 trout/mile) with an estimated 50 trout/km (80 trout/mile) being of legal length or longer (Table 5).

#### **Site River Mile: 2.01**

Sample site RM 2.01 (41°05'07" latitude and 77°49'48" longitude) was located 65 m upstream of the confluence with an unnamed tributary and began just upstream of an old camp bridge crossing and extended upstream 300 m averaging 1.7 m in width (Table 6). The stream was densely shaded at this site and substrate consisted mainly of rubble and sand. The RBP habitat assessment for the site received a total score of 187 with all parameters being found to score in the optimal range (Table 7).

Water chemistry parameters and their associated values measured under normal flow conditions were as follows: water temperature 12.4°C, specific conductance 32 umhos, pH 6.2 standard units, and total alkalinity 7 mg/l (Table 3).

Wild brook trout and slimy sculpin were the only species captured at this site (Table 4). One hundred and sixty-nine wild brook trout ranging from 25 mm to 224 mm in total length (TL) were captured during the survey at this site with nine (five percent) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total brook trout biomass was estimated to be 82.65 kg/ha. Estimated brook trout abundance was 778 trout/km (1,252 trout/mile) with an estimated 34 trout/km (55 trout/mile) being of legal length or longer (Table 8).

### **Discussion**

Council Run supported an excellent, allopatric wild brook trout population. Based on the presence of both young-of-the-year and multiple year classes the stream qualified for the PFBC's list of stream sections that support natural reproduction of trout, as outlined in 58 PA Code §57.11., Listing of Wild Trout Streams. In addition, the estimated wild trout biomass met the Pennsylvania Fish and Boat Commission's minimum biomass criteria of 30 kg/ha for a Class A wild brook trout stream at both sites, as outlined in 58 PA Code §57.8a., Class A Wild Trout Streams. Thus, based on the wild trout biomass and sampling 12 percent of the total stream length, we recommend Council Run be managed as one section from the headwaters to the mouth as a Class A wild trout stream with no stocking under Commonwealth Inland Waters regulations.

The current 25 PA Code Chapter 93 Water Quality Standards designation of Cold Water Fishes and Migratory Fishes (CWF, MF) for Council Run is an inadequate level of protection for this stream. Due to the significant wild trout resource which meets Class A criteria, Council Run should be upgraded to the High Quality-Cold Water Fishes and Migratory Fishes designation (HQ-CWF, MF) by the PA Department of Environmental Protection (DEP) upon

listing by the Commission as a Class A wild trout water. Because of the superior and stable coldwater habitat which supports an overall excellent wild brook trout population, we also recommend that DEP evaluate Council Run to determine if it meets invertebrate criteria for a further upgrade to Exceptional Value and Migratory Fishes (EV, MF).

### **Management Recommendations**

1. Add Council Run, Section 01 (from the headwaters to the mouth), to the Commission's Class A Wild Trout Streams program.
2. Manage Council Run as a Class A Wild Trout Stream under Commonwealth Inland Waters regulations with no stocking.
3. Request the Department of Environmental Protection upgrade the designation of the entire length of Council Run to 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. Request the Department of Environmental Protections examine the macroinvertebrate community inhabiting Council Run for consideration of a 25 PA Code Chapter 93 designation upgrade to Exceptional Value and Migratory Fishes (EV, MF) if it meets their criteria.
5. Continue to include Council Run from headwaters downstream to the mouth on PFBC's list of stream sections that support natural reproduction of trout.

## Literature Cited

- Arway, J. A. 1982. Biological survey of Council Run. Pennsylvania Fish and Boat Commission files, 450 Robinson Lane, Bellefonte, PA.
- 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.
- 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.
- Hartle, M. A. 2011. Review of draft docket 20110901 for September 2011 SRBC meeting. Pennsylvania Fish and Boat Commission files, 450 Robinson Lane, Bellefonte, PA.
- Snyder, R. S. 1935. Stream survey report for Council Run. Pennsylvania Fish and Boat Commission files, 450 Robinson Lane, Bellefonte, PA.
- Sorenson, D. 1932. Stream survey report for Council Run. Pennsylvania Fish and Boat Commission files, 450 Robinson Lane, Bellefonte, PA.

Table 1. Council Run (309C), Centre 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)
6/22/2012	1.08	Site located 300 m downstream Kato Orviston Road	300	2.8	0.08

Table 2. High Gradient Rapid Bioassessment Protocol ratings for Council Run (309C), Centre County, conducted at RM 1.08 on June 22, 2012.

Habitat Parameter	Score	Habitat Parameter	Score
Epifaunal Substrate / Available Cover	19	Left Bank Stability	9
Embeddedness	18	Right Bank Stability	9
Velocity / Depth Regime	17	Left Bank Vegetative Protection	10
Sediment Deposition	16	Right Bank Vegetative Protection	10
Channel Flow Status	19	Left Bank Riparian Vegetative Width	10
Channel Alteration	16	Right Bank Riparian Vegetative Width	10
Frequency of Riffles or bends	19	<b>Total Score</b>	<b>182</b>

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



Table 3. Chemistries collected in Council Run (309C), Centre County. Sample site(s) are within Section 01.

Parameter	Site 1	Site 2
Site RM	1.08	2.01
Sample Date	06/22/2012	06/22/2012
Time (24 hour)	1310	1000
pH Field Colorimetric (SU)	6.4	6.2
Specific Conductance (UMHOS)	50	32
Total Alkalinity Field Mixed Indicator (MG/L)	10	7
Water Temperature (C)	15.0	12.4

Table 4. Fish species occurrence in Council Run (309C), Centre County, during 2012.

Common Name	Scientific Name	RM 1.08	RM 2.01
Brook Trout	<i>Salvelinus fontinalis</i>	X	X
Brown Trout- Hatchery	<i>Salmo trutta</i>	X	
Slimy Sculpin	<i>Cottus cognatus</i>	X	X

Table 5. Wild brook trout Petersen abundance and biomass estimates at sample site RM 1.08 on Council Run (309C), Centre County, on June 22, 2012.

Size Group	Estimate	low95CI	High95CI	NumHa	KgHa	NumKm
50	23			274	0.67	77
100	20	9	50	238	3.26	67
125	18	9	38	214	5.23	60
150	13	6	30	155	6.36	43
175	6	3	15	71	4.57	20
200	9	4	20	107	9.91	30
Totals	89			1059	30.00	297

Table 6. Council Run (309C), Centre County. Sample site location, length surveyed, average site width and site area.

Site Date	Rivermile	Downstream limit description	Length (m)	Ave. Width (m)	Site Area (ha)
6/22/2012	2.01	Site located 65 m upstream of confluence with Unt at old camp bridge crossing	300	1.7	0.05

Table 7. High Gradient Rapid Bioassessment Protocol ratings for Council Run (09C), Centre County, conducted at RM 2.01 on June 22, 2012.

Habitat Parameter	Score	Habitat Parameter	Score
Epifaunal Substrate / Available Cover	20	Left Bank Stability	10
Embeddedness	16	Right Bank Stability	10
Velocity / Depth Regime	16	Left Bank Vegetative Protection	10
Sediment Deposition	16	Right Bank Vegetative Protection	10
Channel Flow Status	20	Left Bank Riparian Vegetative Width	10
Channel Alteration	20	Right Bank Riparian Vegetative Width	10
Frequency of Riffles or bends	19	<b>Total Score</b>	<b>187</b>

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

Table 8. Wild brook trout Petersen abundance and biomass estimates at sample site RM 2.01 on Council Run (309C), Centre County, on June 22, 2012.

Size Group	Estimate	low95CI	High95CI	NumHa	KgHa	NumKm
25	7			137	0.14	23
50	26			510	1.25	87
75	41	19	95	804	4.81	137
100	81	49	139	1588	21.73	270
125	42	22	88	824	20.1	140
150	26	13	57	510	20.95	87
175	8	4	18	157	10.04	27
200	2			39	3.63	7
Totals	233			4569	82.65	778

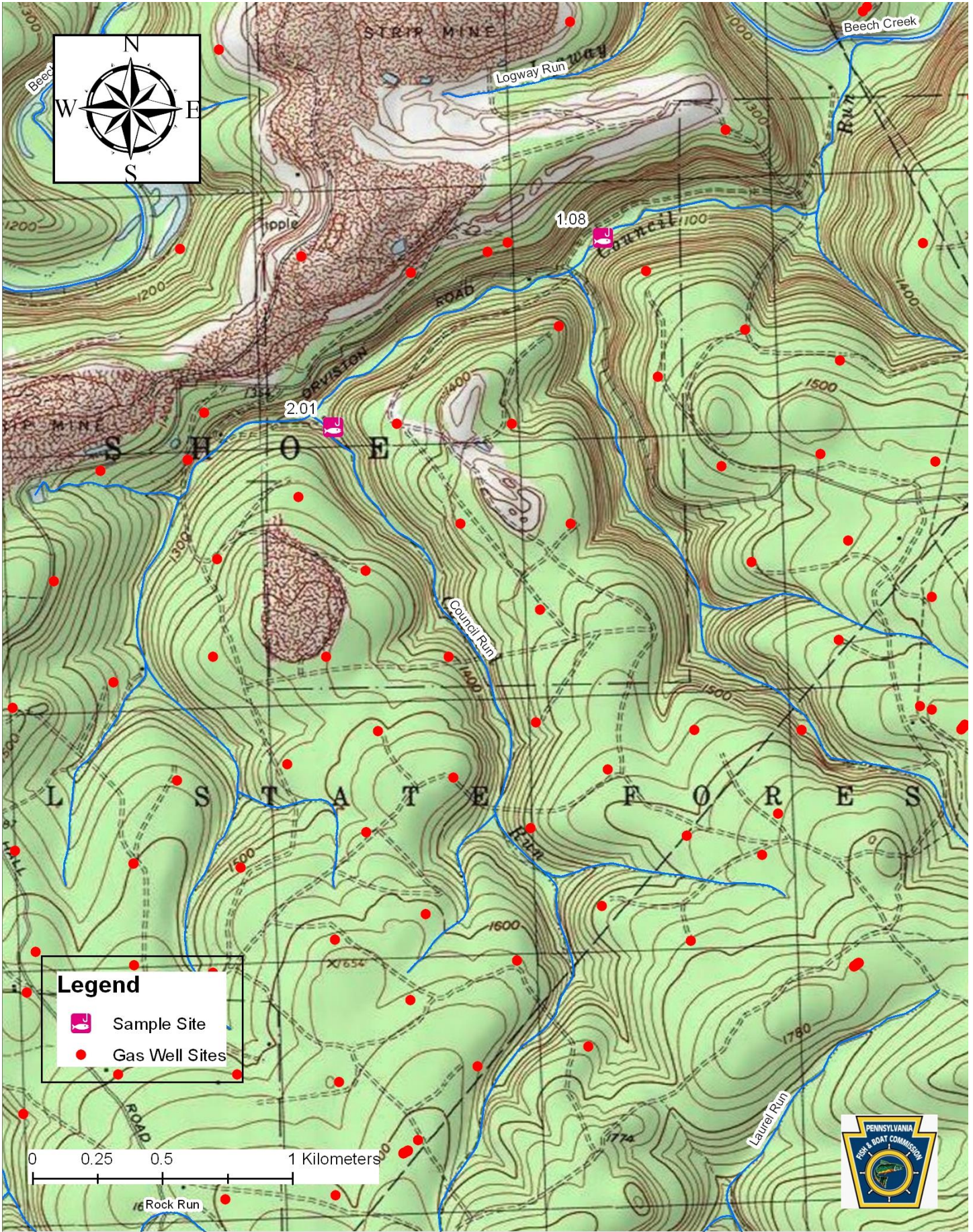


Figure 1. Location map for two sample sites on Council Run (309C), Centre County.