

## Distribution

### DISTRIBUTION

D. Arnold, Area 5 Fisheries Manager

WCO S. Christman, Carbon County

Deluca, C. Environmental Group Manager  
Northeast Regional Office  
Department of Environmental Protection  
Division of Watershed Management  
2 Public Square  
Wilkes-Barre, PA 18711  
[cdeluca@state.pa.us](mailto:cdeluca@state.pa.us)

D. Woolf, Delaware River Basin Commission  
[donna.woolf@drbc.state.nj.us](mailto:donna.woolf@drbc.state.nj.us)

Chris Storm  
District Manager  
Carbon County Conservation District  
5664 Interchange Road  
Lehighton, PA 18235  
[carbmgr@ptd.net](mailto:carbmgr@ptd.net)

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

February 22, 2018

**WATER:** Wash Creek Section 01 (502B) Schuylkill County  
**EXAMINED:** 24 June, 2015  
**BY:** Fisheries Management Area 5

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

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

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

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**AREA COMMENTS:** Wash Creek is a moderately fertile stream. Section 01 supports natural reproduction of Brook Trout and Brown Trout, with Brook Trout being the dominant salmonid. The combined wild trout biomass of 45.42 kg/ha (Brook Trout 27.51 kg/ha; Brown Trout 17.91 kg/ha) met the PFBC's minimum biomass criteria for a Class A population. Furthermore, the presence of young-of-the-year and/or multiple age classes of both Brook Trout and Brown Trout supported entering the stream on the PFBC's Listing of Wild Trout Streams. Twelve percent of the section length was sampled.

The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes, Migratory Fishes (CWF, MF) as part of the Mahoning Creek basin does not adequately protect the streams flora and fauna based on the presence of a Class A mixed wild Brook and Brown Trout population. Thus, it is recommended to be upgraded to High Quality - Cold Water Fishes, Migratory Fishes (HQ-CWF, MF). The presence of American Eel and Sea Lamprey ammocoetes supported the retention of the Migratory Fishes (MF) designation.

**AREA RECOMMENDATIONS:**

1. Add Wash Creek, (02B), Section 01, (headwaters to mouth) to the Commission's Class A Wild Trout Streams program.
2. Add Wash Creek, (02B), from the headwaters to the mouth, to the PFBC's list of stream sections that support natural reproduction of trout.
3. Request the Pennsylvania Department of Environmental Protection upgrade the 25 PA Code Chapter 93 Water Quality Standards for Wash Creek to High Quality-Cold Water Fishes, Migratory Fishes (HQ-CWF, MF) based on the Class A qualifier found in 93.4b(2)(ii).
4. Continue management of Wash Creek, (02B), Section 01, under Commonwealth Inland Waters regulations with no stocking.

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**

Wash Creek (02B)  
Section 01  
Fisheries Management Report

Prepared by  
David Arnold

Fisheries Management Database Name: Wash Creek  
Lat/Lon: 40°45'47"/75°53'36"

Date Sampled: June 24, 2015

Date Prepared: July 6, 2015

### **Introduction**

Wash Creek is 4.26 km (2.65 mi) long and flows in a southeasterly direction entering Mahoning Creek at RM 14.20, 40°45'47" latitude and 75°53'36" longitude (Figure 1). It is classified as Cold Water Fishes, Migratory Fishes (CWF, MF) as part of the Mahoning Creek basin in the Pennsylvania Department of Environmental Protection's (DEP's) Chapter 93 Water Quality Standards. The basin is located within State Game Lands 257 (upper 0.82 km, 0.51 mi) and in West Penn Township in Schuylkill County. The drainage area consists of forested and agricultural areas interspersed with residential houses. The stream is primarily closed to public access. Wash Creek can be found on the Tamaqua, PA United States Geological Survey 7.5 minute Topographic quadrangle.

Wash Creek is managed as one section from the headwaters (downstream 4.26 km (2.65 mi) to the mouth (Figure 1). Section 01 is managed under Commonwealth Inland Waters angling regulations with no stocking.

Wash Creek was surveyed 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 Stewart Creek were examined on June 24, 2015 at one sampling 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 an Electrobackpack

equipped with an Appalachian Aquatics Model 24 variable voltage electrofisher set at 200 volts AC-Alternating Current (Battery Backpack) and identified to species. Wild trout were measured 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. Wild trout densities were determined by using the number of trout 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: 0.34**

Sample site RM 0.34 (40°45'58" latitude and 75°53'46" longitude) was located at a culvert pipe 0.34 miles upstream from the mouth. The 505 m long station averaged 2.64 m in width and covered twelve percent of the total section length (Table 1). The majority of site, approximately 60 percent, consisted of a field setting, where the channel narrows from past channelization and was bordered by corn and soybean crops. The stream channel in this area was covered by dense bank vegetation (primarily tall grass with some small willows), and was undercut. A small pond in Miller's Grove was fed by the stream via a pipe intake located approximately 81 meters downstream of the Golf Road Bridge, and the pond outflow entered the stream via a pipe 144 meters below the stream intake. The forested areas upstream and in the lower reach made up the remaining 40 percent of the site. Habitat consisted of shallow riffles and runs separated by deeper pools and runs. Shading was provided by forest canopy and overhanging willow shrubs and grasses in meadow. Rocky substrate was comprised of rubble, cobble, and gravel with sediment accumulating in pools. The EPA-RBP rating of 138 ranked the stream habitat as sub-optimal (range 110-159; Table 2).

Water chemistry parameters and their associated values measured under normal flow conditions were as follows: air temperature 24.2°C, water temperature 17.0°C, specific conductance 60 umhos, pH 7.5 standard units, and total alkalinity 12 mg/l (Table 3).

Eight fish species were captured in Wash Creek at this site including Brook Trout *Salvelinus fontinalis* and Brown Trout *Salmo trutta*, and the following migratory fish species, American Eel *Anguilla rostrata* and Sea Lamprey *Petromyzon marinus* ammocoetes (Table 4).

### Brook Trout

One hundred and ten wild Brook Trout ranging from 50 mm to 249 mm in total length (TL) were captured with 18 (16 percent) being

greater than or equal to the legal harvestable length (175 mm: 7 in). Total Brook Trout biomass was estimated to be 27.51 kg/ha. Brook Trout abundance was estimated at 219 trout/km (352 trout/mi) with 36 trout/km (58 trout/mi) being of legal length or longer (Table 5).

#### Brown Trout

Thirty-six wild Brown Trout ranging from 50 mm to 299 mm in total length were captured with 14 (39 percent) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total Brown Trout biomass was estimated to be 17.91 kg/ha. Brown Trout abundance was estimated at 72 trout/km (116 trout/mi) with 28 trout/km (45 trout/mi) being of legal length or longer (Table 6).

### **Discussion**

Wash Creek is a moderately fertile stream. Section 01 supported natural reproduction of Brook Trout and Brown Trout. The combined wild trout biomass of 45.42 kg/ha (Brook Trout 27.51 kg/ha; Brown Trout 17.91 kg/ha) met the PFBC's minimum biomass criteria for a Class A Wild Trout Streams, as outlined in 58 PA Code §57.8a. Furthermore, the presence of young-of-the-year and/or multiple age classes of both Brook Trout and Brown Trout supported listing the stream on the PFBC's Listing of Wild Trout Streams, as outlined in 58 PA Code §57.11.

The current 25 PA Code Chapter 93 Water Quality Standards listing of Cold Water Fishes, Migratory Fishes (CWF, MF) for the Mahoning Creek basin does not adequately protect the stream's flora and fauna based on the presence of a Class A wild trout population. The 25 PA Code Chapter 93 Water Quality Standards should be upgraded to High Quality - Cold Water Fishes, Migratory Fishes (HQ-CWF, MF). The presence of American Eel and Sea Lamprey ammocoetes support the retention of the Migratory Fishes (MF) designation.

### **Management Recommendations**

1. Add Wash Creek, (02B), Section 01, to the Commission's Class A Wild Trout Streams program.
2. Add Wash Creek, (02B), from the headwaters to the mouth, to the PFBC's list of stream sections that support natural reproduction of trout.
3. Request the Pennsylvania Department of Environmental Protection upgrade the 25 PA Code Chapter 93 Water Quality Standards for Wash Creek to High Quality-Cold Water Fishes and Migratory Fishes (HQ-CWF, MF) based on the Class A qualifier found in 93.4b(2)(ii).
4. Continue management of Wash Creek, (02B), Section 01, under

Commonwealth Inland Waters regulations with no stocking.

#### **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. Wash Creek (02B), Section 01, Schuylkill 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)
6/24/2015	0.34	505 m downstream from the Golf Road Bridge	505	2.64	0.13

Table 2. High Gradient Rapid Bioassessment Protocol ratings for Wash Creek (02B), Section 01, Schuylkill County, conducted at RM 0.34 on 24 June, 2015.

Habitat Parameter	Score	Habitat Parameter	Score
Epifaunal Substrate / Available Cover	15	Left Bank Stability	6
Embeddedness	14	Right Bank Stability	6
Velocity / Depth Regime	16	Left Bank Vegetative Protection	5
Sediment Deposition	13	Right Bank Vegetative Protection	5
Channel Flow Status	18	Left Bank Riparian Vegetative Width	6
Channel Alteration	10	Right Bank Riparian Vegetative Width	6
Frequency of Riffles or bends	18	<b>Total Score</b>	<b>138</b>
Habitat Condition Rating: Optimal (151-200), Suboptimal (101-150), Marginal (51-100), and Poor (0-50).			

Table 3. Water chemistries collected in Wash Creek (02B), Schuylkill County.

Parameter	Site 1
Site RM	0.34
Sample Date	06/24/2015
Time (24 hour)	1340
Air Temperature (C)	24.2
pH Field Colorimetric (SU)	7.5
Specific Conductance (UMHOS)	60
Total Alkalinity Field Mixed Indicator (MG/L)	12
Water Temperature (C)	17.0

Table 4. Fish species occurrence in Wash Creek (02B), Section 02, Schuylkill County during 2015.

Common Name	Scientific Name	Coarse Abundance
American Eel	<i>Anguilla rostrata</i>	Present (3-25)
Blacknose Dace	<i>Rhinichthys atratulus</i>	Abundant (>100)
Brook Trout	<i>Salvelinus fontinalis</i>	Common (26-100)
Brown Trout	<i>Salmo trutta</i>	Present (3-15)
Creek Chub	<i>Semotilus atromaculatus</i>	Present (3-25)
Longnose Dace	<i>Rhinichthys cataractae</i>	Rare (<3)
Sea Lamprey	<i>Petromyzon marinus</i>	Present (3-25)
White Sucker	<i>Catostomus commersonii</i>	Present (3-25)

Table 5. Length/frequency distribution and biomass statistics for Brook Trout from Wash Creek (02B), Section 01, on June 24, 2015. Site located at River Mile 0.34 with a site Lat/Lon of 404558/755346.

Length Group (mm)	Catch	Mean Weight (g)	Estimated Kg/Ha	Estimated Number/Km
50	5	2.46	0.09	10
100	23	13.69	2.36	46
125	43	24.45	7.89	85
150	21	41.09	6.47	42
175	11	63.88	5.27	22
200	5	92.57	3.47	10
225	2	130.87	1.96	4
Totals	110		27.51	219



Table 6. Length/frequency distribution and biomass statistics for Brown Trout from Wash Creek (02B), Section 01, on June 24, 2015. Site located at River Mile 0.34 with a site Lat/Lon of 404558/755346.

Length Group (mm)	Catch	Mean Weight (g)	Estimated Kg/Ha	Estimated Number/Km
50	2	2.54	0.04	4
75	1	6.37	0.05	2
100	2	14.34	0.22	4
125	9	26.27	1.77	18
150	8	43.86	2.63	16
175	3	67.18	1.51	6
200	2	97.08	1.46	4
225	7	134.92	7.08	14
250	1	182.28	1.37	2
275	1	236.71	1.78	2
<b>Totals</b>	<b>36</b>		<b>17.91</b>	<b>72</b>

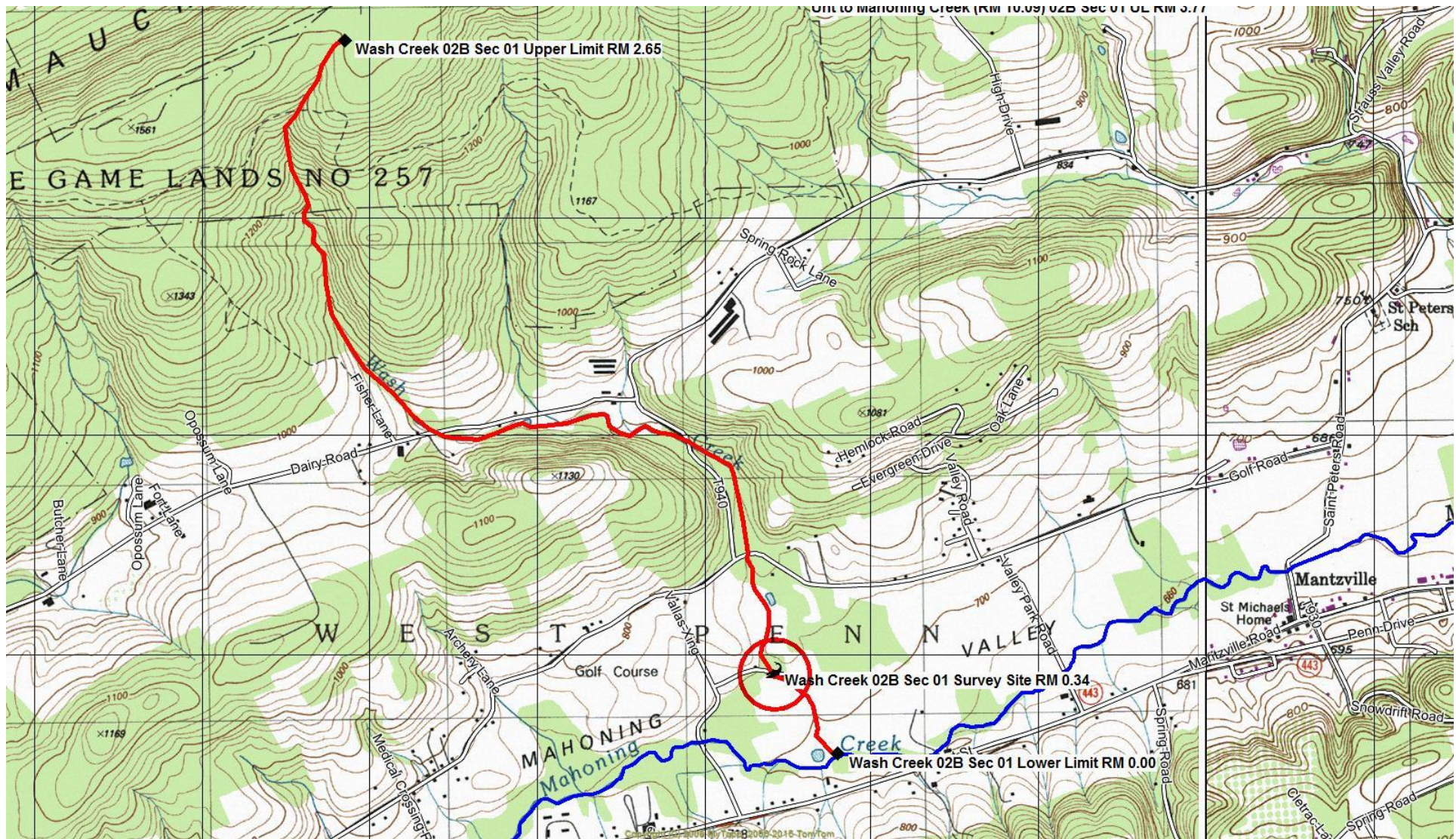


Figure 1. Location map for sample site river mile 0.34 on Wash Creek (02B) in West Penn Township, Schuylkill County. USGS Topographic 7.5' Quadrangle - Tamaqua, PA. UL=Upper Limit, LL=Lower Limit.