

**Distribution**

Pennsylvania Department of Environmental Protection, Northcentral Region Office, Attention: Steve Means, 208 West Third St. Suite 101, Williamsport, PA 17701

PFBC Northcentral Region Law Enforcement Office, Attention: WCO Beers, 1150 Spring Creek Road, Bellefonte, PA 16823

Department of Conservation and Natural Resources, Bald Eagle State Forest, Attention: Amy Giffith, 18865 Old Turnpike Road, Millmont, PA 17845

Scott Carney, Chief Division of Habitat Management

February 16, 2012

**WATER:** Harveys Run (309C) Clinton County

**EXAMINED:** June 30 and July 6, 2011

**BY:** Fisheries Management Area 3

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

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

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

=====  
**AREA COMMENTS:**

Harveys Run is a small, coldwater stream located near the town of Castanea, Clinton County which supports a fine allopatric wild brook trout population in the headwaters and a healthy mixed wild brook and brown trout fishery in the lower reaches. Multiple age-classes for both species were present and a good abundance of legal-size fish were collected in the lower reaches. Results of the 2011 survey estimated the total biomass of wild brook trout at site RM 1.18 at 34.90 kg/ha and at site RM 0.38 total biomass of wild brook trout was 38.89 kg/ha and wild brown trout 27.46 kg/ha. Both sites met the minimum biomass criteria for Class A designation.

**AREA RECOMMENDATIONS:**

1. Manage Harveys Run as two management sections, with Section 01 located from headwaters to the inflow of Upper Castanea Reservoir and Section 02 from the outflow of the reservoir to the mouth. Both sections should be managed as Class A wild trout waters under Commonwealth Inland Waters angling regulations with no stocking.
2. Add Harveys Run, Sections 01 and 02, to the Commission's Class A Wild Trout Waters program.
3. Continue to include Harveys Run from headwaters downstream to the mouth on the wild trout waters list.
4. Based on the presence of a Class A mixed wild brook trout and brown trout fishery, petition the Department of Environmental Protection to upgrade the 25 PA Code Chapter 93 Water Quality Standards designation of Harveys Run, Section 02, from Cold Water Fishes and Migratory Fishes (CWF, MF) to High Quality-Cold Water Fishes and Migratory Fishes (HQ-CWF, MF).
5. Request the Department of Environmental Protection examine the macroinvertebrate community inhabiting Harveys Run for consideration of a 25 PA Code Chapter 93 designation upgrade to Exceptional Value (EV) if it meets their criteria.

DEP Stream Code: 22413

Harveys Run

6. Provide copy of this report to Division of Habitat Management for investigation into the feasibility for removal of Upper Castanea Reservoir. This is a Class C1 (high hazard) reservoir that is no longer used as a water supply.

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

Harveys Run (309B)  
Fisheries Management Report

Prepared by  
David Kristine, Jason Detar, and David Nihart

Fisheries Management Database Name: Harveys Run  
Lat/Lon: 41°07'39"/77°25'56"

Date Sampled: 6/30 and 7/6, 2011 Date Prepared: October 21, 2011

### **Introduction**

Harveys Run is a small, second order, coldwater stream located in Clinton County that flows east from its source then north through a gap in Bald Eagle mountain to the confluence with Bald Eagle Creek at River Mile (RM) 1.94 (41°07'39" latitude and 77°25'56" longitude) in the town of Castanea (Figure 1). The stream has a total length of 4.02 km (2.5 mi) and a drainage area of 8.21 km<sup>2</sup> (3.17 mi<sup>2</sup>). There is an approximate 9 m (27 ft) high by 84 m (274 ft) long earthen dam (Upper Castanea Reservoir) across Harveys Run creating a 0.9 ha (2.4 acre) impoundment located upstream of the town of Castanea (RM 1.05) which is owned by the City of Lock Haven and has been used in the past for water supply. The current 25 PA Code Chapter 93 Water Quality Standards designated use for water quality protection is High Quality-Cold Water Fishes) and Migratory Fishes (HQ-CWF, MF) from the source of Harveys Run to the inflow of Upper Castanea Reservoir and Cold Water Fishes and Migratory Fishes (CWF, MF) from the outflow of Upper Castanea Reservoir to the mouth. Harveys Run can be found on the Lock Haven and Mill Hall, PA United States Geological Survey 7.5 minute quadrangles.

Approximately 19% of the riparian land along Harveys Run is owned by the Commonwealth of Pennsylvania as part of Bald Eagle State Forest in the upper reaches, 13% by the City of Lock Haven in the vicinity of the water supply reservoir, 34% is privately owned and closed to fishing, and 34% is privately owned and open for fishing. The watershed upstream of the town of Castanea is forested and remains mostly undeveloped. Access to the Upper Castanea Reservoir and upper part of the watershed is through a gated road. A review of PFBC files found a 1932 survey by Sorenson who recommended no stocking of trout.

We surveyed Harveys Run at one site upstream of the Upper Castanea Reservoir and one site downstream of the reservoir during 2011 as an initial inventory of the stream to verify the presence/absence of wild trout for continued listing on the list of streams supporting natural reproduction and to gather baseline information on the resource for management purposes.

### Methods

The examination of Harveys Run was conducted at one site on June 30 and July 6, 2011. Procedures were carried out according to those outlined by Weber 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 an electrobackpack equipped with an Appalachian Aquatics variable voltage electrofisher set at 250 and 350 volts Pulsed-DC (battery backpack). Wild trout were measured and recorded in 25 mm (1.0 in) length groups (total length). 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: 0.38**

Sample site RM 0.38 (41°07'22" latitude and 77°25'45" longitude) was located 130 meters upstream of Keller Road bridge directly behind the Castanea township building and downstream of the Upper Castanea Reservoir. This site represents the reach of stream which flows through backyards and woodlots of Castanea downstream of the Upper Castanea Reservoir. The 300 m long station averaged 2.6 m in width and covered 18 percent of the section length (Table 1). Stream substrate consisted primarily of rubble and gravel at the site and a large portion of the left descending bank consisted of a ~2 m (6 ft) high concrete retaining wall. The RBP habitat assessment for the site received a score of 149 indicating slightly suboptimal habitat, mostly due to partial channelization (Table 2).

While we rated most habitat parameters in the optimal category, channel alteration, left bank vegetation protection, and left bank riparian vegetative zone width scores were categorized as marginal or poor. Otherwise, instream habitat was very good.

Water chemistry parameters and their associated values measured under normal flow conditions were as follows: water temperature 17°C, specific conductance 43 umhos, pH 6.8 standard units and total alkalinity 13 mg/l (Table 3).

We captured five fish species in Harveys Run at this site including brook trout *Salvelinus fontinalis*, brown trout *Salmo trutta*, slimy sculpin *Cottus cognatus*, blacknose dace *Rhinichthys atratulus*, and white sucker *Catostomus commersonii* (Table 4).

Excluding recaptures, eighty-nine unique wild brook trout ranging from 50 mm to 224 mm in total length (TL) were captured on the initial and recapture run during the survey at this site with 19 (21%) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total brook trout biomass was estimated to be 38.89 kg/ha. Estimated brook trout abundance was 346 trout/km (557 trout/mi) with an estimated 70 trout/km (113 trout/mi) being of legal length or longer (Table 5).

We also captured 55 unique wild brown trout ranging from 50 mm to 224 mm in total length (TL) on the initial and recapture runs with six (11%) being greater than or equal to the legal harvestable length (175 mm: 7 in). Total brown trout biomass was estimated to be 27.46 kg/ha. Estimated brown trout abundance was 204 trout/km (328 trout/mi) with 24 trout/km (39 trout/mi) being of legal length or longer (Table 6).

Combined wild brook and brown trout estimated standing stock density for site RM 0.38 on Harveys Run was 66.35 kg/ha and 550 trout/km with 94 trout/km being of legal length or longer (Tables 5 and 6).

**Site River Mile: 1.18**

Sample site RM 1.18 (41°06'49" latitude and 77°25'16" longitude) was located at the inflow of Upper Castenea Reservoir just upstream of a small concrete check dam. This site represents the reach of stream upstream of the Upper Castenea Reservoir which is primarily forested and undeveloped. We encountered and bypassed a small dirt road culvert (approximately 2-3 m long) 186 meters upstream from the starting location. The 300m long station extended 114 m upstream of the culvert averaged 1.4 m in width and covered 14 percent of the section length (Table 7). Stream substrate at this site was mainly rubble and sand. The RBP habitat assessment for the site received a score of 142 indicating slightly suboptimal habitat (Table 8). Similar to the site located downstream, we found channel alteration (old road crossing), left bank vegetation protection, and left bank riparian vegetative zone width scores to be categorized as marginal or poor.

Water chemistry parameters and their associated values measured under low flow conditions were as follows: water temperature 14.2°C, specific conductance 36 umhos, pH 6.6 standard units, and total alkalinity 8 mg/l (Table 9).

We captured three fish species in Harveys Run at this site including brook trout, slimy sculpin, and white sucker (Table 10).

A total of 131 unique wild brook trout were captured on the initial and recapture run ranging from 50 mm to 174 mm in total length (TL). Thus, no trout captured were greater than or equal to the legal harvestable length (175 mm: 7 in). Total brook trout biomass was estimated to be 34.9 kg/ha and brook trout abundance was estimated at 540 trout/km or 869 trout/mile (Table 11).

### **Discussion**

Harveys Run supports an excellent wild brook trout population and should continue to be listed on the list of streams supporting natural reproduction of wild trout. In addition, the estimated wild trout biomass exceeded the Pennsylvania Fish and Boat Commission's minimum biomass criteria for a Class A wild trout water at both sites. Due to the presence of Upper Castanea Reservoir, we recommend Harveys Run be managed as two sections with Section 01 located from headwaters to the inflow of Upper Castanea Reservoir (2.15 km, 1.33 mi) and Section 02 from the outflow of the reservoir to the mouth (1.69 km, 1.05 mi). Both sections should be managed as as Class A wild trout waters with no stocking.

The current 25 PA Code Chapter 93 Water Quality Standards listing for Harveys Run is HQ-CWF and MF above Upper Castanea Reservoir and CWF and MF downstream of the reservoir. Due to the significant wild trout resource in Harveys Run downstream of the reservoir (Section 02), we recommend petitioning the Department of Environmental Protection (DEP) to upgrade the 25 PA Code Chapter 93 Water Quality Standards designation of Harveys Run, Section 02, from CWF, MF to HQ-CWF, MF. Because of the superior water quality of this stream, we also recommend that DEP evaluate Harveys Run to determine if it meets their invertebrate criteria for a potential upgrade to Exceptional Value (EV) for the entire stream.

During the course of our survey, members of the Castanea Borough indicated that the Upper Castanea Reservoir may no longer be used for water supply and if so, the removal of this dam would eliminate a fish passage barrier and restore and enhance instream habitat at the dam location and downstream.

### **Management Recommendations**

1. Manage Harveys Run as two management sections, with Section 01 located from headwaters to the inflow of Upper Castanea Reservoir and Section 02 from the outflow of the reservoir to the mouth. Both sections should be managed as Class A wild trout waters under Commonwealth Inland Waters angling regulations with no stocking.
2. Add Harveys Run, Sections 01 and 02, to the Commission's Class A Wild Trout Waters program.

3. Continue to include Harveys Run from headwaters downstream to the mouth on the wild trout waters list.
4. Based on the presence of a Class A mixed wild brook trout and brown trout fishery, petition the Department of Environmental Protection to upgrade the 25 PA Code Chapter 93 Water Quality Standards designation of Harveys Run, Section 02, from Cold Water Fishes and Migratory Fishes (CWF, MF) to High Quality-Cold Water Fishes and Migratory Fishes (HQ-CWF, MF).
5. Request the Department of Environmental Protection examine the macroinvertebrate community inhabiting Harveys Run for consideration of a 25 PA Code Chapter 93 designation upgrade to Exceptional Value (EV) if it meets their criteria.
6. Provide copy of this report to Division of Habitat Management for investigation into the feasibility for removal of Upper Castanea Reservoir. This is a Class C1 (high hazard) reservoir that is no longer used as a water supply.



**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.
- Sorenson, D. 1932. Stream survey report for Harveys Run. Pennsylvania Fish and Boat Commission files, 450 Robinson Lane, Bellefonte, PA.
- 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. Harveys Run (309C), Clinton 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)
6/30/2011	0.38	Site located 130 m upstream of Keller Road bridge. Accessed site directly behind Castanea township building. Site represents reach of stream which flows thru backyards/woodlots of Castanea.	300	2.6	0.08

Table 2. High Gradient Rapid Bioassessment Protocol ratings Harveys Run (309C), Clinton County, conducted at RM 0.38 on June 30, 2011.

Habitat Parameter	Score	Habitat Parameter	Score
Epifaunal Substrate / Available Cover	18	Left Bank Stability	10
Embeddedness	17	Right Bank Stability	7
Velocity / Depth Regime	16	Left Bank Vegetative Protection	5
Sediment Deposition	15	Right Bank Vegetative Protection	7
Channel Flow Status	19	Left Bank Riparian Vegetative Width	3
Channel Alteration	8	Right Bank Riparian Vegetative Width	8
Frequency of Riffles or bends	16	<b>Total Score</b>	<b>149</b>

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

DEP Stream Code: 22413  
 Data collected at sample site RM 0.38 in Harveys Run, Clinton County. Sample site(s) are within Section 02.

Parameter	Site 1
Site RM	0.38
Sample Date	06/30/2011
Time (24 hour)	1440
Water Temperature (C)	17.0
pH Field Colorimetric (SU)	6.8
Specific Conductance (UMHOS)	43
Total Alkalinity Field Mixed Indicator (MG/L)	13

Table 4. Fish species occurrence in Harveys Run (309C), Clinton County at sample site RM 0.38 on June 30, 2011.

Common Name	Scientific Name
Blacknose Dace	<i>Rhinichthys atratulus</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Brown Trout	<i>Salmo trutta</i>
Slimy Sculpin	<i>Cottus cognatus</i>
White Sucker	<i>Catostomus commersonii</i>

Table 5. Wild brook trout Petersen abundance and biomass estimates at sample site RM 0.38 on Harveys Run (309C), Clinton County, on June 30, 2011.

Size Group	Estimate	low95CI	High95CI	NumHa	KgHa	NumKm
50	7			90	0.22	23
100	39	24	70	500	6.84	130
125	28	14	58	359	8.76	93
150	9			115	4.74	30
175	18	10	33	231	14.77	60
200	3			38	3.56	10
Totals	104			1333	38.89	346

Table 6. Wild brown trout Petersen abundance and biomass estimates at sample site RM 0.38 on Harveys Run (309C), Clinton County, on June 30, 2011.

Size Group	Estimate	low95CI	High95CI	NumHa	KgHa	NumKm
50	1			13	0.03	3
100	10			128	1.84	33
125	29	18	50	372	9.78	97
150	14	7	31	179	7.87	47
175	2			26	1.72	7
200	5	2	13	64	6.22	17
Totals	61			782	27.46	204

DEP Stream Code 22413 (Harveys Run 309C), Clinton County. Sample site location, length surveyed, average depth, and site area.

Site Date	Rivermile	Downstream limit description	Length (m)	Ave. Width (m)	Site Area (ha)
7/6/2011	1.18	Site located at inflow of Castenea Reservoir just upstream of a small concrete check dam. Most of habitat in site consisted of small pools with LWD. Stream ran through culvert 186 meters upstream from the starting location.	300	1.4	0.04

Table 8. High Gradient Rapid Bioassessment Protocol ratings Harveys Run (309C), Clinton County, conducted at RM 1.18 on July 06, 2011.

Habitat Parameter	Score	Habitat Parameter	Score
Epifaunal Substrate / Available Cover	16	Left Bank Stability	7
Embeddedness	15	Right Bank Stability	7
Velocity / Depth Regime	15	Left Bank Vegetative Protection	6
Sediment Deposition	14	Right Bank Vegetative Protection	7
Channel Flow Status	15	Left Bank Riparian Vegetative Width	5
Channel Alteration	10	Right Bank Riparian Vegetative Width	9
Frequency of Riffles or bends	16	<b>Total Score</b>	<b>142</b>

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

DEP Stream Code: 22413  
 Fish and Macroinvertebrates collected at RM 1.18 in Harveys Run (309C), Clinton County. Sample site(s) are within Section 01.

Parameter	Site 1
Site RM	1.18
Sample Date	07/06/2011
Time (24 hour)	1447
Water Temperature (C)	14.2
pH Field Colorimetric (SU)	6.6
Specific Conductance (UMHOS)	36
Total Alkalinity Field Mixed Indicator (MG/L)	8

Table 10. Fish species occurrence in Harveys Run (309C), Clinton County, at sample site RM 1.18 on July 06, 2011.

Common Name	Scientific Name
Brook Trout	<i>Salvelinus fontinalis</i>
Slimy Sculpin	<i>Cottus cognatus</i>
White Sucker	<i>Catostomus commersonii</i>

Table 11. Wild brook trout Petersen abundance and biomass estimates at sample site RM 1.18 on Harveys Run (309C), Clinton County, on July 06, 2011.

Size Group	Estimate	low95CI	High95CI	NumHa	KgHa	NumKm
50	62	34	125	1476	3.62	207
75	40	26	67	952	5.7	133
100	41	28	63	976	13.35	137
125	16			381	9.3	53
150	3			71	2.93	10
Totals	162			3856	34.9	540

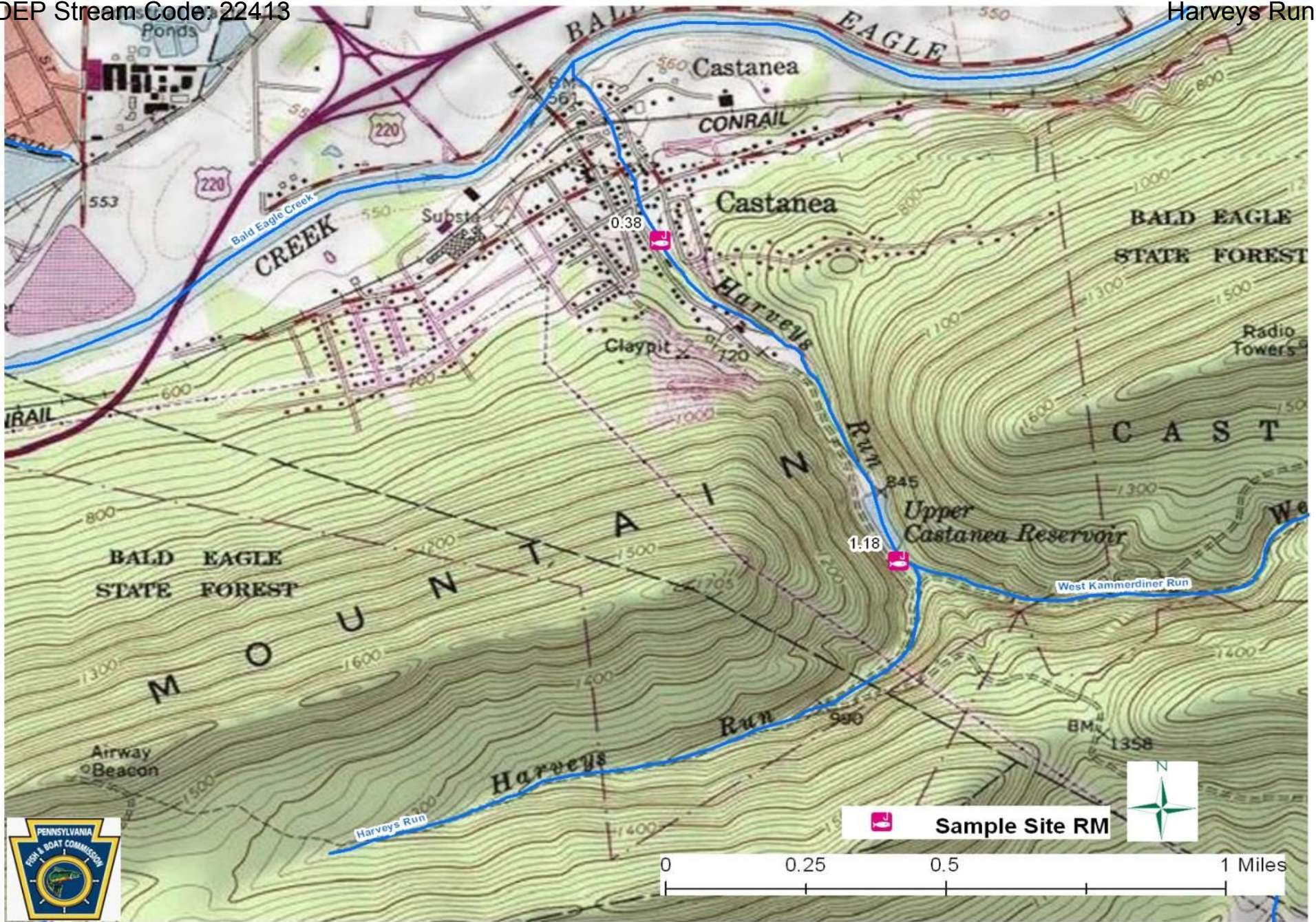


Figure 1. Location map for sample sites on Harveys Run (309B), Clinton County.