



Cumberland Valley Chapter
Trout Unlimited
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**Stream Habitat Improvement on the Yellow Breeches Creek at the
Wittlinger Nature Preserve**

**Final Project Report
September 30, 2019**

General Information

Chapter or Council Name & State:

Cumberland Valley Trout Unlimited (CVTU), PA

Project, Stream, or Watershed:

Yellow Breeches Creek near Boiling Springs, PA

Chapter or Council Point of Contact:

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Financial Information

The project was originally scheduled to commence in August 2018. At that time, CVTU took delivery of stream construction material and attempted to deliver the material to the construction site. The construction site was inaccessible because of the tremendous amount of rain the area received in 2017 and 2018. The Pennsylvania Fish and Boat Commission official in charge of the project determined that the project should be postponed until early 2019 or August 2019. CVTU requested an extension to complete the project from the Cold Water Heritage Partnership and TU's Embrace-A-Stream program offices, which was granted.

CVTU determined that because of the challenges associated with moving equipment and materials to the construction site, it would be prudent to complete phase II of the project at the same time. The total estimated cost of phase II was \$19,000, which CVTU decided to fund from its own resources.

Following is a summary of the funding for the project:

Embrace-A-Stream

Date of Award: **October 2, 2017** Grant Amount: **\$ 7,000**

Cold Water Heritage Partnership

Date of Award: **February 20, 2018** Grant Amount: **\$ 8,000**

PA Department of Transportation

Date of Award: **January 2019** Grant Amount: **\$ 4,000**

Total Grant Amount **\$19,000**

Cumberland Valley Trout Unlimited contributed **\$16,948** of its own funds toward the total cost of the project.

Total Project Cost: **\$35,948** Total Volunteer Hours: **191.5**

The following chart shows the actual cost breakdown of the project.

| <u>Category</u> | <u>Actual</u> | <u>In-Kind</u> |
|--|-----------------|----------------|
| Contractor Labor | \$ 4,153 | |
| Materials | \$16,097 | |
| Heavy Equipment | \$10,106 | |
| Site Preparation | <u>\$ 5,592</u> | |
| In-Kind Labor from PA Fish and Boat | | \$3,000 |
| In-Kind Volunteer Labor (191.5 hours @23.07) | | <u>\$4,418</u> |
| Totals | <u>\$35,948</u> | <u>\$7,418</u> |

Outcomes and Evaluation

The goals of the project were to improve the natural reproduction of brown trout, increase the survival rate of adult trout in the stream, and introduce cold water conservation to people not normally exposed to Trout Unlimited. The objectives of the project were to stabilize the stream bank, provide additional structure in the stream channel, and significantly reduce the estimated 2.6 tons of silt annually entering the stream at the project location.

CVTU, along with Gleim Environmental and volunteers built six Log Framed Stone Deflectors and a J-Hook Structure to provide current breaks and reduce the impact of the stream current on the impoundment bank of the Yellow Breeches Creek. These permanent structures provide habitat for the naturally reproducing trout population, expand opportunities for fishermen, and garner support for future CVTU cold water conservation efforts in the Yellow Breeches Creek watershed.

Evaluation Indicators

The primary evaluation indicators are the visual comparison of the project area before and after CVTU's efforts. The following photo looking downstream from the beginning of the project shows the stream before the project started.



The stream channel was straight, wide, and somewhat shallow with the type of structure, cover, and water flow that most benefits the fish population. The stream channel offered little in the way of protecting the bank from soil erosion.



The stream bank to the right in the photo consists of five to six feet of silt that covered most of the impoundment area after the dam was removed downstream. The silt is extremely fine and susceptible to erosion, especially high water events that flow unimpeded by the absence of any protective stream channel structure.

The following photos show the positive impacts of the project. A J Hook structure built at the top of the channel, Six Log Framed Stone Deflectors, and large rocks placed strategically throughout the stream channel in the project area all serve to protect the stream bank, enhance the stream environment, and contribute to the future health of the aquatic life in and around the project area.



CVTU Volunteers building the first Log Framed Stone Deflector



Backfilling the Log Framed Stone Deflectors



Placement of random rocks throughout the stream in the project area



Completed J Hook Structure at the head of the stream channel

Other Evaluation Indicators

CVTU accomplished significant outreach as a result of this project. Through CVTU's webpage and Facebook, the objectives and scope of the project were available to all visitors to CVTU's social media sites.

The land that the Yellow Breeches flows through in the project area is owned by South Middleton Township. Township officials were highly supportive of the project and granted CVTU unlimited access to the property during planning and actual construction. The South Middleton Township Manager was given a tour of the proposed construction site along with a local news reporter.

The news reporter wrote a very complimentary article about the project. Credit was given to the Embrace-A-Stream TU program and the Cold Water Heritage Partnership for the grant money both organizations provided to help pay for the project. CVTU obtained permission to access the project area from a field owned by Dickinson College. Officials at Dickinson College were excited by the CVTU project because it complimented riparian

projects the College had completed on its property. The College was supportive and cooperative in allowing CVTU volunteers and Gleim Environmental (CVTU's contractor) to stage much of the material used during construction and transit the property to get to the actual project site. Lastly, the Central Pennsylvania Conservancy was very supportive of the project.

During the project, a volunteer, representing the Yellow Breeches Anglers and Conservation Association, was part of the volunteer force helping with the construction. The Association is responsible for the well being of the Yellow Breeches throughout Cumberland County. He quickly appreciated the improvements to the stream and recognized the benefits that would accrue to the many users of the stream. His presence on the project and positive experience will strengthen the relationship between the various environmental groups associated with the Yellow Breeches.

Lastly, at local public events, CVTU representatives explained the scope and objectives of the project, grants received from Embrace-A-Stream and the Cold Water Heritage Partnership, and the partnership with local environmental groups. People who attended these events were impressed with the results and strongly supportive of the investment made by CVTU to improve the stream in an area that is well known to the community.