

North Branch Bear Run Restoration Project
Final Report



Coldwater Heritage Partnership
Implementation Grant
October 2015



Figure 1 - Pre-project electrofishing on the reach planned for streambank stabilization and habitat improvement.



Figure 2 - Young of Year native brook trout from a Bear Run tributary.



Before Photographs



Figure 3 is the abandoned railroad bridge. This perspective is looking upstream from the confluence of the North and South Branches of Bear Run. The unstable, eroding streambank is to the right of this photograph.



Figure 4 depicts the bridge pier that was removed as well as the eroding bank that was addressed by our project.



Figure 5 shows the collapsing bridge pier from the perspective of standing on the eroding bank.

Project Activity Photographs



Figure 6 - Removing the old railroad bridge pier.



Figure 7 - Deconstructing the stone abutment.



Figure 8 - Installing the rock cross vane.



Figure 9 - Constructing the mud sill.



After Photographs



Figure 10 - View of the mud sill and cross vane one month after project completion



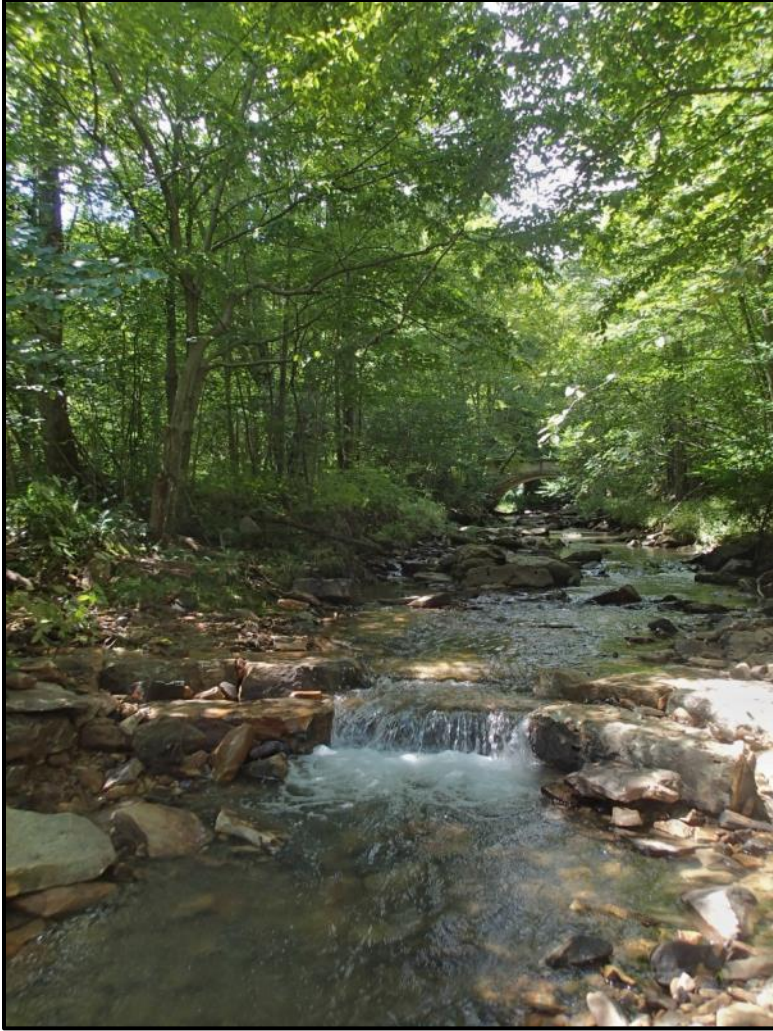


Figure 11 - Rock cross vane constructed from cut sandstone salvaged from bridge pier.

Tree Planting



Figure 12 - Riparian restoration at the end of October 2015



Figure 13 - Some of our planting crew, including partners from Indiana County Conservation District and Evergreen Conservancy

2. Project Summary

Western Pennsylvania Conservancy (WPC) used Coldwater Heritage Partnership (CHP) funds to complete a streambank restoration and fish habitat improvement project on approximately 200 feet of the North Branch of Bear Run. The project site was located in Indiana County on State Game Lands 174.

Bear Run became a priority watershed for WPC with the completion of the Northern Bear Run Coldwater Conservation Plan in 2005. As a headwater watershed in the upper West Branch of the Susquehanna River, its populations of native eastern brook trout stand as a testament to the resiliency of the species after decades of isolation due to abandoned mine pollution. The North Branch of Bear Run is an exceptional native brook trout stream, likely to be listed as a Class A wild trout fishery by the PA Fish and Boat Commission (the first to receive the designation in Indiana County), and has few impairments throughout its reach.

The project site funded by the CHP is located on the route of an abandoned railroad intersecting the North Branch. This railroad crossed the creek by way of a bridge constructed from heavy steel beams and cut sandstone bridge piers. The rail line, and thus the structure, is no longer in use and the bridge has fallen into disrepair. Its condition represented a safety hazard as well as a significant barrier to stream flow, causing erosion of the streambank and contributing excessive sediment to the system.

WPC requested funding from the CHP to remove the bridge pier that was in the stream channel, and to utilize the stone to build a rock cross vane that would redirect flow. We installed a 120 foot modified mud sill to replace the eroded bank, which also restored stream access to the floodplain and adds overhead cover for fish.

CHP funds were also used to conduct an electrofishing survey the project site, as well as four tributaries to the North Branch that had not been assessed by PFBC.

3. Project Outcome

This project can certainly be considered a success, although there were several set-backs during its completion. We were able to honor our original design and stayed within the proposed budget even though some adjustments needed to be made. Our initial proposal listed the PA Game Commission as in-kind match, providing the manpower and equipment for the project. As it turns out, they did not have the heavier machinery needed to easily remove the bridge pier. To that end, it was necessary to hire a contractor. We obtained several bids and accepted one in the amount of \$2,500. We had anticipated completing the project at the end of the September 2014 however delays due to weather and permitting resulted in the project being postponed until the summer of 2015. The project was completed and has held up well over the past six months.

Remaining funds from CHP were used to complete a riparian planting of the disturbed area from the streambank project, with assistance from the Evergreen Conservancy, Indiana County Conservation District (ICCD) and Ken Sink Chapter of Trout Unlimited (KSTU). As a result of this CHP grant WPC has also partnered with the ICCD and Banks Township to develop a dirt and gravel road improvement project. Harkleroad Road intersects the North Branch adjacent to our streambank project. Poor drainage from the road has resulted in erosion of the State Game Lands parking at the site thus contributing excess sediment to Bear Run. Funding from the Indiana County dirt and gravel roads program and a \$500 contribution from KSTU will be used to address those issues.

4. Project Completeness

The project, as described in the CHP grant agreement is complete and additional work was done at the site using remaining CHP funding.

5. Sustainability of Project

WPC will be including the North Branch Bear Run streambank stabilization project in a routine sampling plan. Having the pre-project fish data and completing annual electrofishing survey can be a method of gauging project success. In addition, we will complete maintenance visits to ensure that the riparian planting is successful and address damaged or downed tree shelters. It is not expected that maintenance will be needed for the project.

6. List of Partners

Evergreen Conservancy – riparian planting

Indiana County Conservation District – permitting, project oversight, riparian planting

Ken Sink Chapter of Trout Unlimited – project outreach and riparian planting

Pennsylvania Game Commission – project site property manager, project materials

7. Accomplishments

Two tributaries of Bear Run have qualified for wild trout status due to data collected from our electrofishing surveys.

The in-stream project resulted in stabilized streambank and improved fish habitat on approximately 200 linear feet of stream.

Removal of the bridge abutment will decrease erosion and sedimentation.

The riparian restoration project planted about 35 trees in the disturbed area post-project.