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Unlimited Chapter #332  
November 16, 2020

# Project Report: Stream Habitat Improvements For The Hosensack Creek Within The Upper Hanover Township Mill Hill Preservation Area, Phase I

## 1. Public Meeting

The CHP grant for this project was approved on 04 March 2019. On 22 April 2019 at the Upper Hanover Township (UHT) Building (1704 Pillsbury Road, East Greenville PA 18041), the CHP funding announcement was presented at the UHT Parks and Recreation Committee monthly meeting. This meeting is a public meeting and meeting minutes are recorded. I and/or our PVTU Chapter President Tom Smith continued to attend the committee's monthly meetings to provide updates on the project. Attendees at the committee meetings include the township's Chairman of Supervisors, the Park & Recreation Committee, Perkiomen Valley Trout Unlimited, plus local residents.

Because this project was executed during the Covid-19 period which restricted public meetings, the following announcement was published in the local newspaper TOWN AND COUNTRY on 20 August 2020 to help inform the public of the project before the fieldwork began:

Perkiomen Valley Trout Unlimited Conservation Project:  
Stream Bank Restoration on the Hosensack Creek within Upper Hanover Township's Mill Hill  
Preservation Area

Perkiomen Valley Trout Unlimited (PVTU), in partnership with Upper Hanover Township, has been awarded funding from the Coldwater Heritage Partnership to implement a conservation project for the Hosensack Creek within the Township's Mill Hill Preservation Area. The Coldwater Heritage Partnership is a collaborative effort between the PA Fish and Boat Commission, PA Department of Conservation and Natural Resources, Foundation for Pennsylvania Watersheds, and the Pennsylvania Council of Trout Unlimited. As a consequence of past land use of properties bordering the Hosensack Creek, several stream banks are eroding sediment into the creek during significant rain events. This eroded sediment negatively impacts the overall biological productivity of the creek. Stream bank restoration work for a section of the creek is scheduled to occur on September 3 and 4, 2020. Contingency dates are planned for the third week of September should weather conditions delay the scheduled work. The following agencies have reviewed and approved this conservation project; Montgomery County Conservation District, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation and Natural Resources, US Fish and Wildlife Service, and the PA Department of Environmental Protection. An example of the restoration work that will be performed can be seen on the Perkiomen Creek at the American Legion Post 184. Questions about this project can be sent to Mark Stannard, Board Member of PVTU, via email address [markjstannard@icloud.com](mailto:markjstannard@icloud.com).

## 2. Pre and Post Project Photographs are included in Attachment 1

## 3. Project Summary

The overall length of this project site is approximately 180 linear feet. The project site consists of a severely-eroded bank with an average height of approximately 4.5 feet. Availability and quality of instream habitat is significantly reduced in this area, particularly in regard to a scarcity of large woody material.

A modified mud sill structure incorporating an upstream log-vane deflector and brace logs were installed in the upper end of the treatment area. This type of structure allows for protection of the bank toe and significant reduction of bank erosion potential, while at the same time introducing structural habitat diversity and overhead cover. Further downstream, five root wad deflectors were installed to further enhance instream habitat and reduce bank erosion. Live stake installations along the length of the treated bank will enhance bank protection and overhead shading. A drawing of the design is included in Attachment 2.

Fieldwork was initiated on 03 September 2020. All fieldwork with the exception of live stake plantings was completed in two 2-day segments, 03-04 September and 22-23 September. One hundred live tree stakes were installed on 07 and 08 November. A timeline extension until 30 November 2020 was approved for this project due to a prolonged period to achieve clearance of USFWS Avoidance Measures for PNDI-683483.

To ensure compliance with Covid-19 personal protection measures, the project team was limited to 7 persons, our project designer (Shaun McAdams, a TU employee), our contracted logger/excavator and his two associates, and three PVTU member volunteers.

The work was performed at the stream location specified in our application. The project site is identified as Hosensack Creek Project Site 03. Logs (Larch), rock and soil were provided by the logger/excavator team. The 7 person project team built the modified mud sill and installed the root wad deflectors. Per agreement with the landowner, Upper Hanover Township, the root wads were sourced from dead ash trees that were adjacent to the creek. Also, as per agreement with the township, some rocks were also sourced from their property. The project area was seeded with a riparian buffer mix and rye. The tree stakes installed were silky dogwood and shining willow.

## 4. Project Outcomes

All field installation objectives of the project were met. The objective to complete pre- and post-project stream habitat conditions using the RPB Habitat Assessment methodology described within Appendix C of PA Fish and Boat Commission's Sampling Protocols for PA's Wadeable Streams (2011) was not pursued due to the unavailability of subject matter experts as a result of Covid-19 impacts on workload and travel. In place of the RPB assessment, ongoing photographic record of the

post project conditions will be added to the project record to provide a qualitative assessment of habitat improvements at the project site. This project is considered complete.

## 5. Project Sustainability/Next Steps

A photographic record of the site will document the sustainability of the log structures as well as the riparian seed mix and tree plantings. Potential threats to project sustainability are realistically limited to damage of the log structures by severe flood conditions. These log structures, being PA Fish & Boat Commission best management practices, are designed with the expectation of periodic flood conditions, thus the probability of remaining intact over time is expected to be high. The remediation methods used in this project are proven long-term strategies and require minimal monitoring. The Hosensack Creek, being a wild trout stream, will be routinely visited by PVTU members during fishing season and thus will receive routine monitoring for sustainability. Future efforts that would increase the benefits of the current project would be the expansion of riparian zone improvements along the Hosensack Creek. Project designs have been completed for two additional locations along the creek and funding for these projects is anticipated to be pursued in the future.

## 6. List of Partners and Volunteers

Partners/Volunteers	Role	# of People
Upper Hanover Township	Land owner, Sponsor	Multiple
PVTU Chapter Board	Sponsor, Project Funding	9
PVTU Project Leaders and Volunteers	Project Leadership, Planning, Preparation and Submission of Permit Applications, Public Communications, Coordination of Field Work, Project Documentation, General Management, Field Labor	3
TU Stream Restoration Specialist	Project Design & Budget, E&S Plan, Documentation Support, Wetlands & Bog Turtle Habitat Assessments, Coaching of Volunteers, Fieldwork Oversight	1
Montgomery County Conservation District	Technical and regulatory oversight, documentation support and coaching of PVTU Leaders	1
David J Schneck Logging, Inc.	Supply of Materials, Equipment & Field Labor	3

Details of cash and in-kind contributions by the Partners and Volunteers are listed in the Project Budget Report

## 7. Accomplishments and Outputs

The Hosensack Creek is a tributary to the Perkiomen Creek, the largest sub-watershed within the Schuylkill River network. Naturally-reproducing (wild) brown trout inhabit the Hosensack Creek. The project site is approximately 180 linear feet. As demonstrated by the attached photographs, the installed modified mud sill structure with its upstream log-vane deflector and the five root wad deflectors have corrected the eroding stream bank which was the primary objective of this project. The potential for future erosion beyond what is natural has been mitigated. The stream channel within the project site has been restored to an appropriate width and a downstream deep pool feature has been preserved. The riparian seed mix and rye seed germinated quickly and has held in-place the soil that caps the log sill. The planting of tree stakes was held until November when the stakes were in a dormant state to maximize survivability. 100 tree stakes were planted on both sides of the project site. The trees will in-time enhance bank protection and overhead shading. The Larch logs used to build the log sill plus the root wads deflectors will significantly enhance habitat for vertebrate and invertebrate organisms along this stretch of the creek. In fact, within one day of installing the mud sill, a trout was seen exiting the base of the mud sill as we resumed construction of the sill. Previous to this sighting, trout were not known to be seen in this section of the creek.

An article describing this project was published in the fall issue of Upper Hanover Township's News Letter. A copy of the text is included in Attachment 3.

# Attachment 1

## Pre & Post Project Photographs



HOSENSACK CREEK

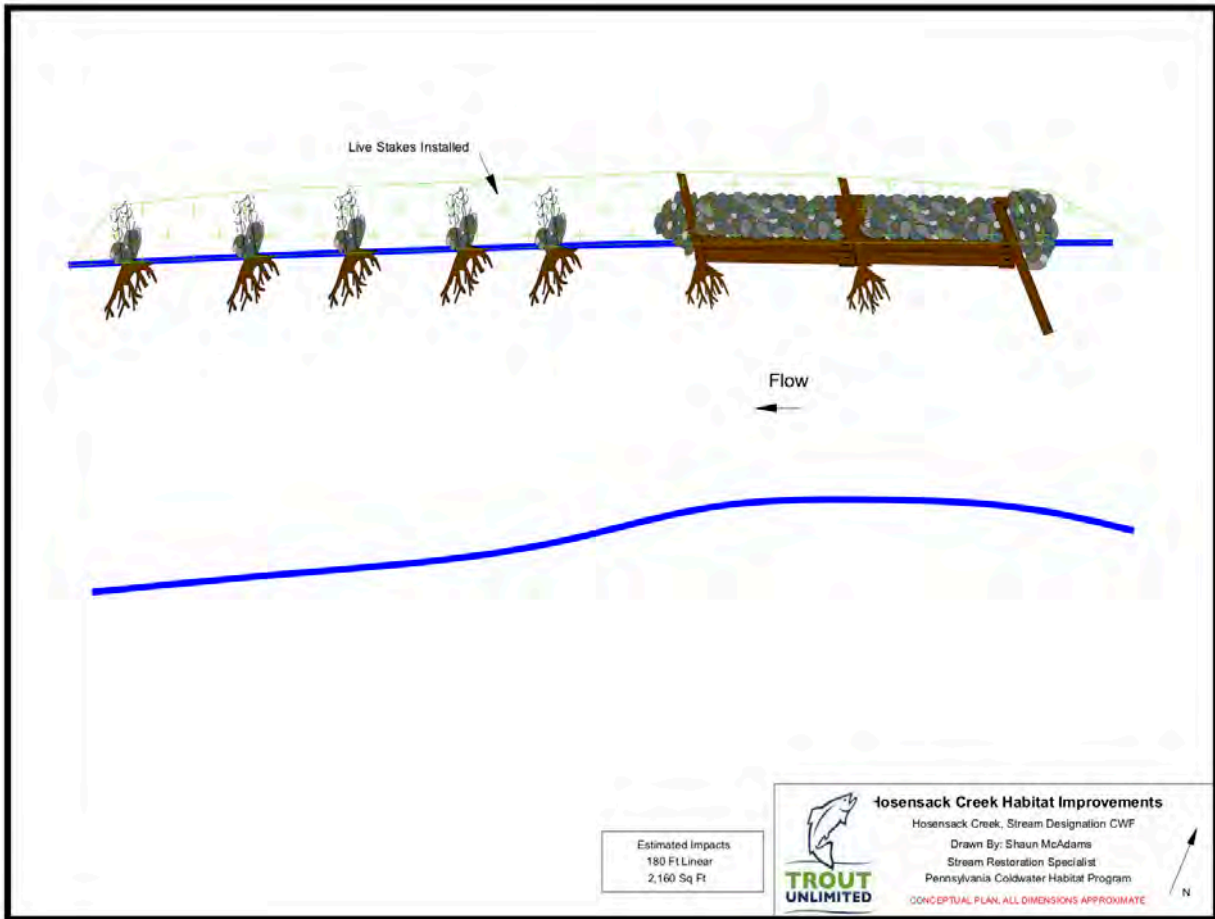


HOSENSACK CREEK





# Attachment 2 Project Design



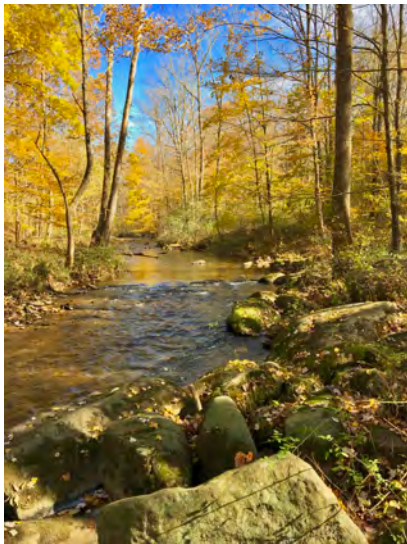
Attachment 3  
Text For Upper Hanover Township Fall Newsletter

# Stream Restoration Project on the Hosensack Creek within the Mill Hill Preservation Area

Our local Perkiomen Valley Trout Unlimited Chapter #332 (PVTU, [www.pvtu332.org](http://www.pvtu332.org)), and the Upper Hanover Township partnered to sponsor the rebuilding of an eroding stream bank along the Hosensack Creek within the Mill Hill Preservation Area. PVTU is dedicated to the conservation, protection, and restoration of streams within our Perkiomen Valley. The restoration work on the Hosensack Creek was funded by the Coldwater Heritage Partnership ([www.coldwaterheritage.org](http://www.coldwaterheritage.org)), the PVTU Chapter, and PVTU Board members. The project was approved by the Montgomery County



Conservation District, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation and Natural Resources, US Fish and Wildlife Service, and the PA Department of Environmental Protection. PVTU Board members and two local logging firms performed the field work.



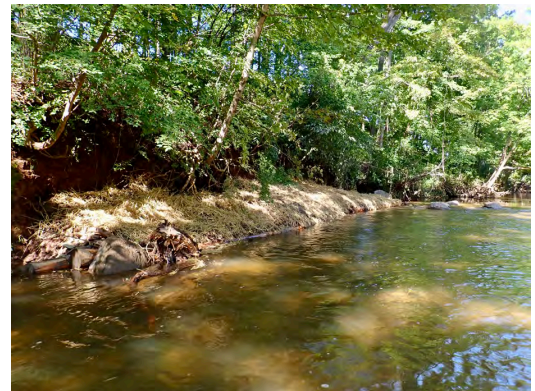
The Hosensack Creek is a tributary to the Perkiomen Creek. It joins the Perkiomen Creek at the Rt 29 bridge in Palm, near the American Legion building. The Perkiomen Creek and its many tributaries make up the Green Lane Reservoir, which ultimately flows into the Schuylkill River. The Hosensack Creek is a beautiful stream and approximately a mile of it flows through our Township's Mill Hill Preservation Area.

The stream banks along the Hosensack Creek, the Perkiomen Creek and many other streams within our township and across our country are increasingly eroding soil into the streams during significant rain events. This erosion is a consequence of land management practices where trees and shrubs along the streams, called the riparian zone, are removed for agricultural purposes, housing, the installation of dams, etc. Without an adequate amount of roots from trees and other plants, the riparian zones cannot hold the stream banks in place during rain events. Consequently, soil erodes into the stream and this ongoing erosion causes the streams to become wider and more shallow over time and the eroded soil covers the

natural rocky stream beds. In such conditions, in-stream rocks and woody debris, which are natural habitats for fish and other organisms, are more easily swept out of the streams during rain events, which lessens the number of organisms that live within the stream. Additionally, these conditions reduce the quality and clarity of the stream water, called turbidity. Because the streams within our Township and the Green Lane Reservoir are sources of drinking water it is important that we maintain the water quality of our streams. Additionally, ensuring that our streams remain beautiful and have an abundance of aquatic and terrestrial creatures in and around them enhances the recreational pleasures that we can experience along these streams.



The Hosensack Creek project team used log structures to rebuild the stream bank. Logs, anchored into the bedrock and covered by rocks and soil, were used to extend the stream bank back to its proper location. Natural root wad brace logs were also installed into the bank. Both structures will significantly reduce erosion potential and create habitat for aquatic and terrestrial organisms that live within and along the creek. In November, trees will be planted on top of these structures to further stabilize the stream bank and provide proper shade over the creek which is necessary to maintain ideal water temperatures during the summer months.



The project site is easily seen just upstream of the Mill Hill Preservation Area's White Trail. A map of the hiking trails is available on the Township's website and a map is posted at Zeigler Road parking lot.

Similar conditions exist elsewhere along the Hosensack Creek and the Perkiomen Creek. Our Township and PVTU are developing plans to expand this work along both creeks in 2021 and beyond. For additional information on this project and the future initiatives, you are encouraged to contact PVTU via their website. At their monthly meetings they will be discussing these initiatives and the other activities that the chapter manages. With additional members and volunteers, the work that the chapter does within our community can be greatly expanded.

For over 40 years, the PVTU has lead and participated in numerous environmental initiatives that include stream restoration, dam removal, reforestation, invasive plant

species removal, stream bank fencing and installation of cattle crossings within farm fields, pond management, trash removal, fly tying and casting instruction, and trout stocking. PVTU also works with six schools across the Perkiomen Valley (elementary through high school), facilitating the Trout in the Classroom program. In this program the students raise trout from eggs until they are released into local streams, a hands-on training on the importance of our water resources.