

Final Report for the Bennett Branch Streambank Stabilization Project



Submitted by

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PUBLIC MEETING

Due to the Covid-19 pandemic, in-person public meetings weren't possible for this project. Instead, prior to construction the project details were sent 7/17/20 to stakeholders within the watershed for comment including:

- Western Pennsylvania Conservancy
- Bennett Branch Watershed Association
- Allegheny Mountain Chapter of Trout Unlimited
- PA Fish and Boat Commission
- PA DEP North Central Regional Office
- DCNR Moshannon District Office
- PA Game Commission
- Huston Township
- Clearfield County Planning & Community Development Office
- Cameron County Conservation District
- Elk County Conservation District
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There was only one suggestion/inquiry regarding the potential for a canoe/kayak launch to be developed on the project site by the Western PA Conservancy. While we couldn't change our project to suite that use, the structures we built could be used to easily access Bennett Branch. A follow up email was sent to the same list on 8/28/20 to share the as built drawings and post construction pictures.

PHOTOS OF THE PROJECT SITE

These are just two of many pictures taken during construction. More photos will be provided digitally.



Upstream prior to construction 7/27/20



Upstream nearly a month after construction 8/21/20

PROJECT SUMMARY

The Clearfield County Conservation District utilized Coldwater Heritage Partnership funding to install streambank stabilization structures within a 730-foot section of the Bennett Branch of the Sinnemahoning and at the very mouth of Wilson Run. A total of 9 structures were constructed during the week of July 27-31, 2020. The project area is situated just upstream and just downstream of the SR153 bridge in Penfield. Several years ago, when this bridge was constructed, the stream became overly widened, up to three times wider than a reference reach measured upstream of any disturbances. Because of this wideness, the stream spread out and became shallow, causing sediment to fall out and create sediment bars. Over time the stream would wind and change course through this short area causing erosion in some areas and deposition of sediment bars in others that changed year to year. The structures that were constructed will not only stabilize the banks of Bennett Branch but also shrink this overly wide area keeping the stream width closer in size to the reference reach and preventing further sediment bar build up.

The Pennsylvania Fish and Boat Commission developed the initial project design in 2017. The Trout Unlimited Coldwater Habitat Restoration Program slightly modified these designs in 2020 based on the current stream conditions just before construction began. They also provided construction oversight and labor for this project. DJ Contracting from Curwensville provided the equipment and operators. The Conservation District provided overall project management as well as additional labor. In addition to the Coldwater Heritage Partnership, we also secured funding from the Sinnemahoning Stakeholder Watershed Grant Program (SSWGP).

PROJECT OUTCOMES

Objectives

Our objectives for this project were:

- Order all project supplies
- Hire a contractor with the appropriately sized equipment for the site conditions
- Construct the 9 in-stream structures
- Narrow Bennett Branch so that base flow conditions match that of the upstream reference reach
- Monitor the changes in the stream over time

As outlined in the project summary, we have achieved all objectives and the project is considered complete. The only activity that will be ongoing is continued monitoring of the site to document changes in the stream over time in response to the installed structures.

PROJECT SUSTAINABILITY

Now that the structures are in place, nothing more needs done to this site except ongoing monitoring and potentially repairs if somehow structures were to be damaged by high water events. Monitoring will entail making sure vegetation is growing on the banks, checking for erosion around the structures, and taking pictures from specific points to document changes to the stream over time.

The biggest threats to sustaining this project are damage and possibly future bridge construction or maintenance. The structures are designed and placed in such a way to minimize damage from highwater events, but it's impossible to guarantee that no damage will ever occur. The only way to combat this potential problem in addition to the design and construction methods will be ongoing monitoring and immediate repair should anything happen. Regarding future bridge construction or maintenance, we have provided the as built drawings to PennDot District 2 to be included in the records for the SR153 bridge. They were aware of this project and provided input from the very beginning. While they are currently allowed to maintain a "clean" channel 50' upstream and 50' downstream of bridges, I was told they don't want to have to "clean" the channel because they recognize that cleaning (aka dredging) does not work and is not a long term maintenance strategy. Additionally, the installed structures were placed so that they would be outside this 50' zone regardless so even simple maintenance tasks such as clearing debris after a flood or fixing the pier should it ever need to be shouldn't affect the project. If major maintenance ever were needed, a permit would be required and potential permitting agencies including my office and DEP are very aware of this project as well and would take that into consideration during pre-application meetings.

NEXT PHASE OR FUTURE PROJECTS

We do not believe another phase of this project is currently necessary. The project goals have been met in this stretch of Bennett Branch. However, the Bennett Branch of the Sinnemahoning is sizeable containing more than 54 total stream miles upstream of the project area alone (over 665 in total from the headwaters to the confluence with the Driftwood Branch). There are likely numerous potential

restoration projects in this watershed including streambank stabilizations, passage improvements, floodplain restorations, riparian buffer plantings, dirt gravel and low volume road improvements, abandoned mine drainage restoration, and so on. With good project partners such as the Conservation Districts, Allegheny Mountain Chapter of Trout Unlimited, Trout Unlimited Coldwater Habitat Restoration Program, Bennett Branch Watershed Association, DEP, the Western Pennsylvania Conservancy and more, it's very likely future project will take place. No projects are currently being planned by the Clearfield County Conservation District though.

PARTNERS

Clearfield County Conservation District Watershed Specialist – project oversight and coordination
5 other District Staff provided labor to help install the structures as well

Trout Unlimited Coldwater Habitat Restoration Program – slight design modifications, construction oversight, labor, and necessary hand tools

PA Fish and Boat Commission – initial project design

Allegheny Mountain Chapter of Trout Unlimited – help with future monitoring, checked on project trailer and equipment on site in the evening

DJ Contracting – equipment and operation to construct structures

Huston Township - contribution of SSWGP funds

ACCOMPLISHMENTS & OUTPUTS FOR RIPARIAN BUFFER PROJECT

Linear feet improved (both streambanks): 1460 feet total

Number of structures placed: 9

- 1 log framed stone deflector
- 6 log faced stone deflectors
- 2 modified mud sill cribs