

**Final Grant Report  
Tubmill Trout Club, Eleanor Clark Farm Phase- I  
August 04, 2017 completion**

**Project summary**

**Project Name:** Eleanor Clark Farm, Phase – I  
**Project Address:** 298 Midget Camp Road, Bolivar Pa 15923  
**Project Location:** Westmoreland County, Fairfield Township  
**Project Description:** 1000 feet of habitat renewal within Hendricks Creek

**Project outcomes**

All Clark Farm Phase – I project objectives have been met and the project is considered complete. Project started as scheduled on July 31 and finished August 04, 2017. Project partners Greg Schaetzle, Watershed Project Manager with the Western Pennsylvania Conservancy (WPC) and Mark Sausser, Habitat Manager with the Pennsylvania Fish & Boat Commission (PFBC) began with a preconstruction safety meeting informing and instructing all volunteer participants about work to be done and safe and proper procedures while working. All volunteers received safety glasses, hard hats, gloves and hi-visible vests before work began. The scope of work description defers to the Fish Habitat Plan by Mark Sausser, included in the original grant submittal. The first day of the 5-day project started at location 0' and ended at 85' and included the construction of 1- framed log deflector and bank stabilization with boulders. The second day's work included the installation of a "Modified Mud Sill" at location 100' to 160' followed with a cross vane at location 160' to 200'. Also completed by day's end were four additional framed deflectors placed at location 200 to 550'. Day three continued with constructing four deflectors and two cross vanes from location 550' to 1000' with all device framing being completed on day three. Framed devices from location 0 – 750 were rock filled on day four with remaining devices and random boulders placed to project end at 1000' on day five. Restoration backfill seeding, mulch and site cleanup were completed on day five.

Outcomes achieved:

- a. Arresting road encroachment at project beginning, achieved by placing modified mudsill and stabilizing bank boulders.
- b. Reducing stream width by 15- 20 feet in over widened areas that approached widths of 50 feet.

- c. Increasing stream rate of flow by narrowing width.
- d. Increasing oxygenation percentages and lower stream temperatures by constructing cross vanes and plunge holes.
- e. Decreasing sediment choking of streambed with the increased rate of flow.
- f. Creating sustainable trout habitat for future trout recruitment.
- g. Creating usable habitat for more diverse insect and stream inhabitant life..

### **Project sustainability**

- a. **Long-term sustainability of the project as implemented.** Presently no funded sustainability account exists. As agreements expire our partner group will evaluate long-standing success of a particular project and design upgrades and additions as needed. Signed agreements exist with all parties involved. Establishing a maintenance account will be included in future funding requests.
- b. **What are potential threats to sustainability?** Natural flooding is always considered a potential problem. Other possibilities include pipe-line construction and Marcellus drilling debacles.
- c. **Monitoring, operation and maintenance plans.** The landowner is our first monitor. Secondly Tubmill Trout Club Unlimited members stock trout in all our completed projects. Feedback concerning repair or future modifications is encouraged from both parties. Landowner and TTCU have signed operation and maintenance agreements for a period of ten years, in which the landowner will not alter or disturb the installed devices.

### **Next phase or future projects**

- a. **Would this project benefit from an additional “phase?” Describe any future efforts that would increase the benefits of current project.** Additional Eleanor Clark Farm phase – II plans are being developed for landowner consideration. There have been many inquiries from landowners along Hendricks Creek. Along with additional phases being developed within the Clark Farm, TTCU has approximately  $\frac{3}{4}$  mile of stream immediately upstream going through our commitment and design process.

### **List partners and volunteers and describe their involvement in the project including number of people, number of donated or in-kind hours, etc.**

Partners included:

- a. Tubmill Trout Club: 3-4 volunteers each donated 8-10 hours on all 5 days.

- b. Western Pennsylvania Conservancy provided 4 paid personnel and 3 contracted personnel each working 10 hours on all 5 days.
- c. Pennsylvania Fish and Boat Commission provided 4 paid personnel each working 10 hours on all 5 days.

### **Accomplishments and Outputs**

#### **a. Observed or measured improvement to overall condition of the stream or watershed:**

As mentioned in the grant application, this section of stream was totally void of suitable habitat. Now there exists a stream with exceptional habitat potential with a narrowed, deepened, faster flowing channel. We expect 50-60 tons annually of sediment will be removed from the channel and deposited onto stream edges. We also expect anglers to welcome the many changes created to accommodate the stocked trout in this stream.

#### **b. Riparian buffer projects and natural stream channel projects:**

- i. Number of linear feet/acres improved: 1000 feet of stream channel, 1600 feet of stream banks.
- ii. Number of structures placed, if applicable. 2 – Log Framed Cross Vanes, 8 – Log Framed Deflectors, 1 – Rock pile deflector, 3 – Log Framed Cross Vane with rock throat, 1 – Modified Mudsill, 25-30 Random Boulder placement

This series of preconstruction photos shows a desolate stream with highly eroded banks, a silt choked stream bottom devoid of suitable habitat for aquatic life. Notice the over widened stream channel resulting in shallow slow moving current.

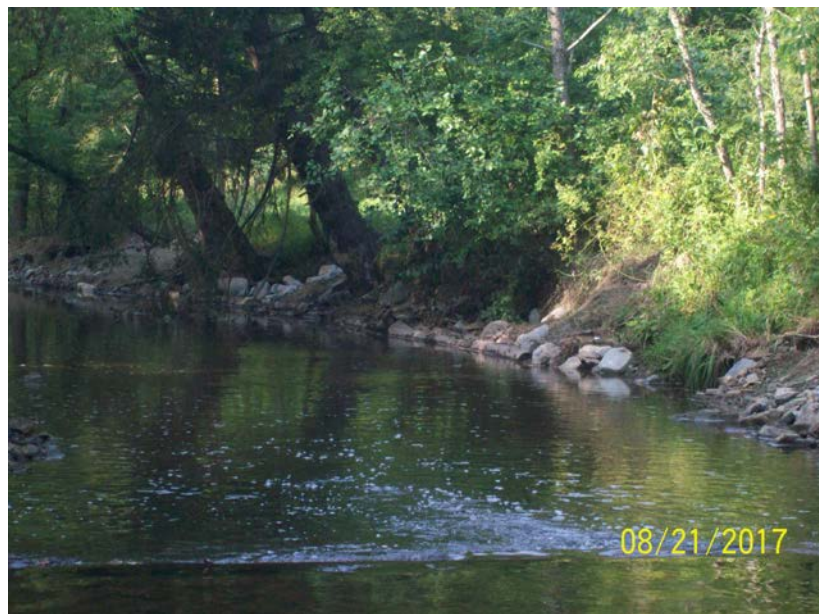


Ankle to knee deep slow moving water allows water temperatures to rise while offering no help with oxygenation. We found little minnow life but crayfish life seemed to abound with little to no insect life during preconstruction inspection. Tubmill Trout Club's habitat improvement initiative deemed this stream section to be a high priority concern. Hendricks Creek has been subject to decades of flooding, poor agricultural practices and most recently poor pipeline construction procedures resulting in sediment laden stream sections destroyed by these actions. Many future project are planned to bring this watershed back to a pristine stream to benefit and proliferate it's aquatic residents.





Above photo shows preconstruction location for device #46 a modified mudsill. Notice serious erosion between pine trees. Road right of way encroachment has occurred. The following pictures show a renewed stream vibrant and improving, providing suitable habitat and recreational opportunities for our community.



Same area after device #46 is in place. All eroded areas have been corrected with mudsill providing overhead cover for trout.

Pictures below show various plunge pools viewed from Midget Camp Road. 1,000 feet of stream now becomes a viable trout fishery as a result of these improvements. The entire project length is readily accessible and open to the fishing public.



Plunge pool created from device # 17 with random boulders. This pool has acquired a depth of 4 feet where once no more than ankle deep water slowly flowed.



Above plunge pool was created by device #14. Notice the drastic 30 foot reduction in stream width. Again increased depth is gained below log framed cross vane rock throat.



This view is taken from the project starting point device #01, one of six total cross vanes either rock throat or log framed located within this Clark Farm Phase-I project.

This next photo set shows what is involved to build these devices and create a new stream. We are very thankful for help from contributors and committed agencies and volunteers making this all happen in a few days.



...work begins at first log framed cross vane...





...log deflectors narrow and create a meandering flow....



Mud sill #46 a very labor intensive area..



Unusual silt depth requires extra long 6 foot rods being used pinning logs into streambed.