



**2017 COLDWATER
HERITAGE PARTNERSHIP
IMPLEMENTATION GRANT**

Leggetts Creek Habitat Enhancement
and Streambank Stabilization Project

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Lackawanna County Conservation District



Coldwater Heritage Partnership Grant
Final Report
January 9, 2018

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I. Project summary

As a result of our *2013 Coldwater Conservation Planning Grant-Lackawanna River Tributaries Study/Plan* the District found that due to the high volume of water Leggetts Creek contributes to the Lackawanna River and the less than desirable results we found after the yearlong chemistry testing, the stream required some attention. Our objective was to improve aquatic habitat and water quality by installing three log vanes along the banks of the stream. These structures serve the dual purpose of, improving trout habitat by creating deep pools, further cooling the water and providing cover for aquatic life while stabilizing streambanks by diverting the flow toward the center of the stream. This diversion helps to minimize silt deposition in the stream.



The photos to the left show some examples of the streambank erosion that was occurring prior to the installation of the log vanes.

Bare roots were becoming more and more exposed as the soil was being washed away adding to the degradation of the stream and the Lackawanna River.

This section of stream runs through an urban park. To one side of the stream is a paved walking path and to the other, a parking lot. Fallen trees and streambank erosion would have a continuous, detrimental effect on the park and the stream.



Above we show the potential loss of trees if erosion continued. Trees help to shade the water allowing it to remain a cold water stream.



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*The photo above shows one of the three log vanes installed immediately after installation.
The conditions were at low flow as required by the GP1 permit.*

I. Project Outcomes

A. Were all project objectives met?

Yes, all project objectives were met. We diverted the stream flow away from the banks by installing the log vanes and added rip-rap between the log vanes and on the adjacent bank. The combination of log vanes and rip-rap will both redirect the flow toward the center of the stream channel and protect the soil remaining on the banks. This will also allow vegetation to begin to grow along the banks, protecting them further.

B. If not, which ones and why not?

N/A

C. Is project considered complete? If not, what remains to be accomplished?

The only remaining item is installing the educational sign. We purchased the sign and we are holding on to it until spring when we can install it at the project site.



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The above photo shows the second of the three log vanes installed also at low flow conditions.



This photo is taken from the adjacent bank and shows one of the three log vanes at high flow conditions.



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These photos show the addition of rip-rap on both banks.





II. Project Sustainability

A. *Discuss the long term sustainability of the project as implemented. What are potential threats to sustainability?*

Once these structures are installed monitoring is required to ensure that they stay permanently in place. However, the longer they stay in place, the longer they are likely to stay in place as silt tends to fill in around the structures. The only potential threat would be that they would become dislodged during an extremely severe storm. This would be unlikely however, the District will be monitoring the site regularly and especially after any severe rain event. If they would become dislodged, the township would be able to reinstall the log to its original location and make improvements by providing added stability.

B. *Monitoring, operation and maintenance plans.*

As mentioned above, the District will be monitoring the site seasonally and as weather events dictate, to verify the stability of the structures. The District would have any necessary repairs performed.

III. 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.*

These three log vanes are actually part of a multi-phase plan that the District had drawn up in the last quarter of 2016. We have additional structures that we plan to install in the coming years. We plan to add in-stream boulders, half logs and a cross vane in the same section of Leggetts Creek to add additional habitat and help minimize erosion (see Appendix A).

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

A. – D. *Partners, Volunteers, Number of people and Number of in-kind hours*

1. **Lackawanna River Conservation Association** - We had approximately **20** individuals from this organization planting trees along Leggetts Creek contributing approximately **60** man-hours. In addition, Paul Bechtel, the landscape architect that drew-up the long range plan, volunteered approximately 8 hours putting the plan together.
2. **Trout Unlimited** – We had approximately **3** individuals from TU planting trees and helping to promote the project at various community events, for a total of approximately **12** volunteer hours.
3. **Keystone College Creek Walkers** – This is a fishing/conservation club that works closely with our local TU chapter. They also helped with tree planting. They had **4** members volunteering for a total of **10** volunteer hours. They also helped promote the project by inviting the District to a local outreach event that they organized.



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VII. Accomplishments and Outputs

A. Observed or measured improvement to overall condition of the stream or watershed

1. The observed improvements include the armored banks which will minimize erosion and allow for vegetation to take-hold along approximately 100 feet of stream bank, from above the first upstream log vane to well below the third. The opposite bank is also armored, so an additional 100 feet of stream bank is protected.

B. Riparian Buffer projects and natural stream channel projects:

1. Approximately 200 feet of stream bank has been protected with three log vanes, rip-rap and trees. It is difficult to approximate the contribution of the planted trees as they were not continuously planted along a bear bank. They were intermingled throughout the park along the stream, as needed. We were unable to plant directly adjacent to the log vanes as there were existing trees growing along the bank.
2. We planted approximately 40 trees along the banks of Leggetts Creek. The trees were donated by PPL through their Community Roots Program.
3. There were three structures placed.

C. Educational Sign:

1. An educational sign was designed by the District, purchased and will be installed in the spring of 2018.

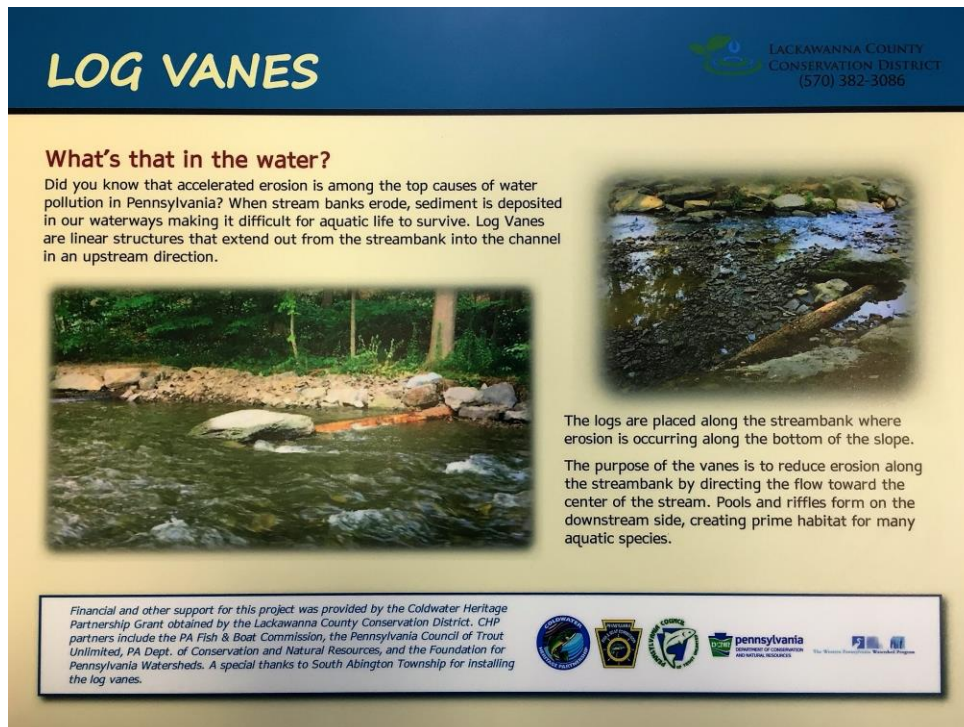


Photo of Actual Sign



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VIII. Project Expenses

ACTUAL EXPENSES				
LINE ITEM	DESCRIPTIONS/DETAILS/ EXPLANATIONS	CHP GRANT FUNDS REQUESTED	LOCAL CONTRIBUTIONS	
			CASH	IN-KIND
SALARY AND BENEFITS <small>(PLEASE BE SPECIFIC)</small>	DESIGN AND TECHNICAL SUPPORT (2 WATERSHED SPECIALISTS)			\$1000.00
	PA FISH AND BOAT-STREAM SECTION CHIEF, DIVISION OF HABITAT MANAGEMENT			\$240.00
	<i>TOTAL</i>			(\$1240.00)
TRAVEL <small>(PLEASE BE SPECIFIC)</small>	DISTRICT STAFF, TRAVEL TO AND FROM SITE			\$90.00
	<i>TOTAL</i>			(\$90.00)
EQUIPMENT & SUPPLIES <small>(PLEASE LIST EACH ITEM. ATTACH A SEPARATE SHEET IF NECESSARY.)</small>	3- HEMLOCK LOG VANES, AT \$500 EACH	\$251.22		
	STONE (RIP-RAP AT \$100/FT FOR 200 FT)	\$1748.78		\$231.22
	<i>TOTAL</i>	(\$2000.00)		(\$231.22)
CONTRACTUAL <small>(PLEASE BE SPECIFIC)</small>				
ADMINISTRATIVE <small>(POSTAGE, MAILINGS, PHONE)</small>				
CONSTRUCTION <small>(PLEASE BE SPECIFIC)</small>	CONTRACTOR TIME AND EQUIPMENT INSTALL 3 LOG VANES	\$5000.00		\$150.74
	<i>TOTAL</i>	(\$5000.00)		(\$150.74)
OTHER <small>(ITEMIZE)</small>	EDUCATIONAL/ACKNOWLEDGEMENT SIGN		\$523.00	
	PPL TREES			\$500.00
	<i>TOTAL</i>		(\$523.00)	(\$500.00)
TOTALS		\$7000.00	\$523.00	\$2211.96



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IX. Receipts

**SOUTH ABINGTON TOWNSHIP PARK
 LOG VEIN PROJECT – LEGGETTS CREEK**

<u>LABOR:</u>					
<u>EMPLOYEE</u>	<u>DATE</u>	<u>TOTAL HOURS</u>		<u>PAY RATE</u>	<u>WAGES</u>
Anthony Crea	August 21, 22,23 & 24	28		\$23.76	\$665.28
Dean Faraday	August 21, 22 & 23	8		\$27.44	\$219.52
Dave Osterhout	August 21, 22,23 & 24	28		\$23.76	\$665.28
Kevin Quinn	August 18, 21,22,23 & 24	32		\$23.76	\$760.32
Benefits	Medicare & Social Security			7.65%	\$176.74
TOTAL LABOR COST					\$2,487.14
<u>EQUIPMENT (FEMA RATE SCHEDULE):</u>					
<u>EMPLOYEE</u>	<u>EQUIPMENT</u>	<u>FEMA RATE</u>	<u>HRS</u>	<u>RATE</u>	<u>TOTAL</u>
Crea	Excavator, Hydraulic	8281	28	\$34.20	\$957.60
Faraday	Truck, Pick Up	8802	8	\$17.65	\$141.20
Osterhout/Quinn	Truck, Dump	8720	32	\$48.90	\$1,564.80
TOTAL EQUIPMENT COST					\$2,663.60
<u>MATERIAL:</u>					
Starks Construction Co Invoice					\$1,980.00
TOTAL COST					\$7,130.74

South Abington Township’s total cost for the project was \$7130.74 (\$2487.14 Labor, \$2663.60 for Equipment and \$1980.00 for Materials). They will be reimbursed for \$7000.00. The remainder will be In-Kind as shown in Project Expenses.



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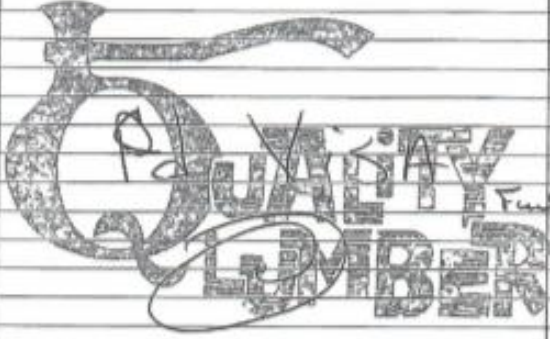


BROJACK LUMBER Co.
 350 COMMERCE DRIVE • SCOTT TOWNSHIP, PA 18447
 Phone 570 586-2281

CUSTOMER <i>Jackdawanna Community Agency</i>		DATE <i>5/17/17</i>	
ORDER BY <i>Cheryl Nolan</i>		SALES <i>Tom</i>	
QUANTITY	DESCRIPTION	DELIVER	PRICE
		<input checked="" type="checkbox"/>	<i>Tom</i>

AMOUNTS PAST DUE ARE SUBJECT TO A SERVICE CHARGE OF 1% UNLESS APPLICABLE LAWS REQUIRE A LESSER CHARGE.

ACCOUNT FORWARDED

QUANTITY	DESCRIPTION	AMOUNT OF BOARD BILLING OR LOGS PER	PRICE PER UNIT	EXTENDED
3	per. 10"-12" (Diameter) x 12' Logs Hemlock	3	59.00	177.00
				
	Full Service Charge			60.00
				237.00

ALL CLAIMS FOR DAMAGES OR SHORTAGES MUST BE MADE WHEN MATERIALS ARE RECEIVED. BROJACK LUMBER DOES NOT SELL SCAFFOLD PLANK AND DOES NOT RECOMMEND USING ANY PRODUCT FOR THIS PURPOSE.

ACCOUNT BALANCE ▶

PA. SALES TAX

TOTAL ▶

14.22
 251.22



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SIGNS FOR PARKS & TRAILS
948 Sherren St. W., Roseville, MN 55113
Phone: 651.487.3100 Fax: 651.487-0304
www.vackersign.com

Invoice

Date	Invoice #
12/18/2017	1846

PAID
12-18-2017

Bill To

Lackawanna County CD
1038 Mondale Rd.
Scott Township, PA
18447

Ship To

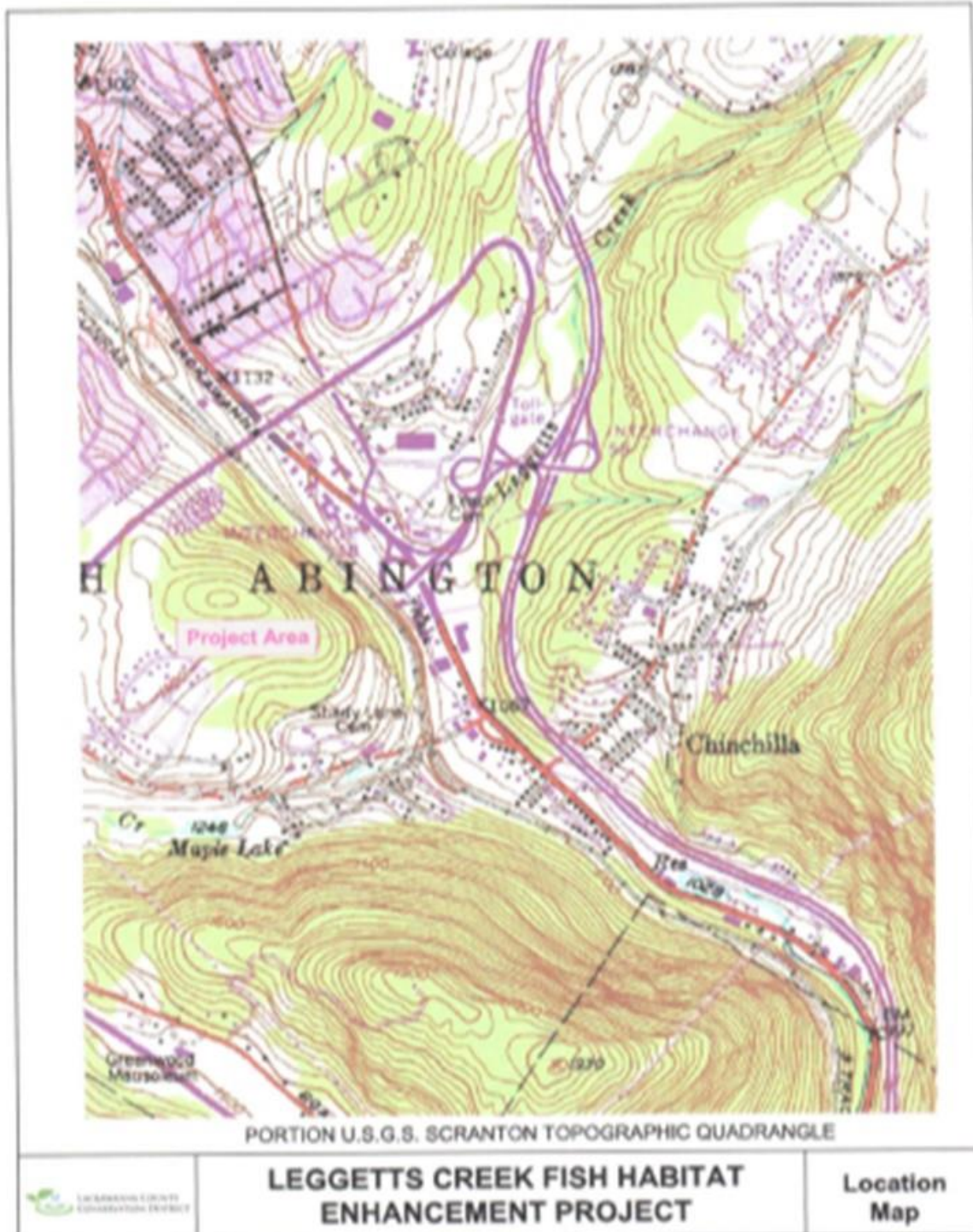
P.O. No.	Terms	Project
	Upon receipt	

Quantity	Description	Rate	Amount
1	18"x24" Standard frame with sleeve for use with client provided wood post, 45 degree angle mount, standard black texture powder coat	245.00	245.00
1	18"Hx24"W Tuff panel (premium graphic marking film with Tuff Cover protective overlaminate applied to 125" polymetal), pre-drilled holes, radius corners output from Vacker prepared file.	90.00	90.00
1	Design and file preparation services. Prepare custom 18"x24" interpretive sign panel layout with client provided edited and approved content (logos, copy, images, illustrations, etc.)	120.00	120.00
1	Shipping costs	68.00	68.00
	Sales Tax		0.00
Thanks for the project!		Total	\$523.00



Appendix A

Long Range Plan





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Additional Habitat Structures