

## **Bowman Creek Eastern Brook Trout Habitat Restoration**

**Project Location (State, County, Town): PA, Luzerne County, Fairmont & Ross Twps.**

**Congressional District of Project: District 11, Congressman Lou Barletta**

**Congressional District of Applicant: District 11, Congressman Lou Barletta**

**NFHP/EBTJV Funding Request: \$9,059.00**

**Total of Other Federal Funding Contributions: \$0**

**Total of Non-Federal Funding Contributions: \$10,120.00**

**Total Project Cost: \$19,179.00**

### **Applicant:**

Project Officer: John Levitsky, Watershed Specialist

Organization: Luzerne Conservation District

Street: 325 Smiths Pond Road

City, State, Zip: Shavertown, PA 18708

Telephone Number: 570-674-7991 X 5

Fax Number: 570-674-7989

Email Address: john@luzcd.org

### **U.S. Fish and Wildlife Service Sponsoring Office:**

Project Officer: Thomas Kehler

Fish and Wildlife Service Office: U.S. Fish and Wildlife Service Northeast Fishery Center

Street: PO Box 75, 308 Washington Avenue

City, State, Zip: Lamar, PA. 16848

Telephone Number: 570-726-4247 ext. 117

Fax Number: 570-726-7247

Email Address: Thomas\_Kehler@fws.gov

**USFWS FONS Database Project Number: 52230-2017-412**

**Coordination Completed with Sponsoring U.S. Fish and Wildlife Service Office**

**(Check One):**

☒ Yes

☐ No

9/05/2017

**Date Coordination Began**

## **I. PROJECT DESCRIPTION, SCOPE OF WORK, AND PARTNER INFORMATION**

- A. Project Goal:** The goals of this application are to restore, improve and increase connectivity of wild EBT numbers through riparian restoration and water quality pH improvements to the former Mountain Springs Lake bottom in the South Branch Bowman Creek headwater system.
- B. Project Description:** A combination of riparian restoration plantings and limestone supplements restoring the former Mountain Springs Lake bottom to an accelerated vegetated riparian zone (2,300 Ft.) will reduce water temperatures, sedimentation and increase water pH levels. The impoundment removal was completed 9/14/2017 by the PA Fish and Boat Commission.
- C. Project Methods/Design (Max Characters: 350):** The project design includes riparian restoration with native seed mixtures, seedlings and green cuttings replicating the watershed vegetative composition. Included with the planting will be limestone sand soil amendments to improve stream alkalinity. Coir logs will be installed at critical points of erosion to reduce sedimentation.
- D. Project Timeline:** The project timeline is based on award and release of funding. The anticipated plan is for ordering materials in February 2019 with planting work to be completed in March-May 2019. Assessment of vegetative establishment will occur in June 2019 and verification of growth in September 2019. Water quality monitoring will occur monthly.
- E. Describe the Problem and Specific Cause of the Problem (Max Characters: 350):** The Mountain Springs Lake dam removal was completed 9/14/2017 allowing EBT to travel the former lake bottom between S. Br. & N. Br. Bowman Creeks. New streambanks lacking vegetative cover increase sedimentation and water temperatures. The low alkalinity soils/geology increase acid deposition impacts to the EBT without limestone improvements.
- F. Summarize the Project's Expected Outcomes (Max Characters: 350):** The riparian restoration project plans to improve EBT habitat, water temperature and pH quality. This project will restore EBT use through the former lake bottom. Past studies by PA F&BC (2003) show increases in wild trout numbers through limestone applications in this watershed. Parallel results are expected.

**G. Partner Information:**

<b>Partner Name</b>	<b>In-Kind Contribution</b>	<b>Cash Contribution</b>	<b>Federal or Non- Federal Contribution</b>	<b>Partner Category</b>
Luzerne Conservation District-Designer-Applicant-Project Director	Labor \$4,600		Non-Federal	Conservation Group-Local Government
Stanley Cooper Chapter Trout Unlimited	Labor \$3,680		Non-Federal	Conservation Group
Keystone Creek Walkers	Labor \$1,840		Non-Federal	Conservation Group
PA F&BC Post Improvement Surveys	Study		Non-Federal	State Agency
PA Game Commission Land Access	Access		Non-Federal	State Agency

**II. PROVIDE A MAP OF THE PROJECT AREA**

**III. PROVIDE PHOTOGRAPH(S) OF THE PROJECT AREA**

**IV. PROJECT BUDGET** (see next page for Project Budget Table)

**Project Budget Table IV**

Partner Name	Partner Category *	Activity of Partner **	Budget Category**	EBTJV NFHAP Request	Non-Federal Contribution		Federal Contribution		Total Contribution	Acres/Miles Affected
					In-Kind	Cash	In-Kind	Cash		
Luzerne CD	Local Government	Restoration	Tech. Service		\$3,580				\$3,580	
		Restoration	Construction Supervision		\$920				\$920	
Stanley Cooper Trout Unlimited	Local Conservation Group	Restoration	Construction Labor		\$3,680				\$3,680	
Keystone Creek Walkers (Keystone University)	Local Conservation Group	Restoration	Construction Labor		\$1,840				\$1,840	
Limestone Sand	NA	Acquisition	Construction Materials	\$2,300						
Seeding & Planting	NA	Acquisition	Construction Materials	\$3,960						
Coir Logs	NA	Acquisition	Construction Materials	\$2,799						
Total Contribution				\$9,059	\$10,020	\$0	\$0	\$0	\$19,079 Total Project Cost	3.7 Acres / 0.4 Miles Riparian Zone

\*Partner Categories - Federal Agency, State Agency, Local Government, Conservation Group (Local), Conservation Group (National), Native American Tribe, Private Landowners, Corporations/Businesses  
 \*\*Activity - Acquisition, Fish Ladder, Dam Removal, Culvert Removal, Restoration, Monitoring  
 \*\*\*Budget Categories – Administration/Technical Services, Construction Material, Construction Labor, Equipment, Contractual, Travel, Supplies, Other.



# Mountain Spring Lake

EBTJV Riparian Restoration Grant Request  
Fairmount & Ross Twp., Luzerne Co., PA

North Branch Bowman Creek EBTJV Fig.#4201082.0

Former Lake

70' Wide x 2,300 Long Riparian Restoration

Dam Removed by PA F&BC 2017

South Branch Bowman Creek - EBTJV Fig.#4201090.0







PHOTO 20170913 - Mountain Spring Lake Bottom  
South Branch Bowman Creek

# Agreement for Use of Non-Service Products (Copyright)

## Instructions

A signed release is required from Non-Service photographers, videographers, and artists stipulating conditions for use of each product obtained by the Service. Completed forms are maintained at the originating office and copies are sent to the Regional External Affairs Office prior to use in any Service Product.

Service Representative: Thomas Kehler, USFWS - NE Fishery Center

Office and Phone: PO Box 75, 308 Washington Ave., Lamar, PA 16848 Telephone: 570 726 7247 x117

I hereby grant permission to the U.S. Fish and Wildlife Service to use my photograph, artwork, graphic design, image, or video product in official Service publications, productions, displays, the Internet and its World Wide Web Site without further consideration. I acknowledge the Service's right to crop, edit, or treat the product at its discretion. These images are for public domain use, or with the restrictions noted below. They are for general information uses, media, education, and the Internet. I also understand that a computer user in or out of the Service can download the product. Where appropriate the product will be credited to the source and to the U.S. Fish and Wildlife Service unless otherwise noted below.

Therefore, I agree to indemnify and hold harmless from any claims the following:

- U.S. Fish and Wildlife Service
- U.S. Department of the Interior
- All employees or agents of the Department of the Interior

I agree to the above full copyright release:  (Signature)

or

Special Agreement Instructions (purchase information, usage restrictions, etc.):

Photograph 20170913 ... Location: 41.339264°N -76.226286°W

Product Description (image number, subject, horizontal/vertical, location, title, etc.):

View of Mountain Springs Lake bottom looking West from former dam.

Name: John J. Levitsky, Luzerne Conservation District

Address: 325 Smith Pond Road, Shavertown, PA 18708

Phone: 570 674 7991 x 5

Signature: 

Date: 9/20/2017







PHOTO 20170901 - South Branch Bowman Creek  
Drained Mountain Spring Lake in Background



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Therefore, I agree to indemnify and hold harmless from any claims the following:

- U.S. Fish and Wildlife Service
- U.S. Department of the Interior
- All employees or agents of the Department of the Interior

I agree to the above full copyright release:  (Signature)

Special Agreement Instructions (purchase information, usage restrictions, etc.):

Photograph 20170901... Location: 41.335394°N -76.234060°W

Product Description (image number, subject, horizontal/vertical, location, title, etc.):

View of S. Branch Bowman Creek entering Mountain Springs former Lake bottom.

Name: John J. Levitsky, Luzerne Conservation District

Address: 325 Smith Pond Road, Shavertown, PA 18708

Phone: 570 674 741 x 5

Signature: 

Date: 9/19/2017







## V. PROJECT EVALUATION QUESTIONS

1. **What are the GPS Coordinates for the Project site (please use UTM NAD 83):**  
4577148.242 N, 397407.436 E
2. **List the type of Project that will be implemented (protection, enhancement, restoration; see definitions in the Appendix A). The project includes protection, restoration and enhancement as the stream course will be restored to EBT habitat from a lake bottom to a watercourse with native riparian vegetation enhancement, protected from erosion and acid deposition and enhanced with the use of limestone sand throughout the activities. Removal of the dam restored connectivity of EBT catchments.**
3. **Are Brook Trout currently present at the Project site or have access to the Project site?**  
Yes, native brook trout are found upstream and downstream of the former Mountain Springs Lake bottom.
4. **Please describe how the Project will conserve Brook Trout and/or its habitat?** The project conserves/restores brook trout habitat on public lands including the entire watershed that is on public lands including Ricketts Glen State Park, State Game Lands 57 and Pennsylvania Fish and Boat Commission properties. The measures requesting funds include limestone sand to implement in the riparian restoration to improve long-term-buffering from acid deposition.
5. **Is the Project site located on/along private or public land? Is the land currently under any form of protection (e.g. conservation easement)?** The entire project is on public land owned by PA Fish and Boat Commission. The watershed area supporting EBT through the project site is on Ricketts Glen State Park, State Game Lands 57 and PA Fish and Boat Commission lands creating long term protection by Conservation Agencies.
6. **What percentage of the watershed above the Project site is protected in perpetuity?** 100%
7. **List the specific EBTJV range-wide habitat goal(s) and objective(s) addressed by the Project and describe how the Project will contribute towards achieving them (refer to the list of EBTJV range-wide habitat goals and objectives in the Appendix B).** The project goals and accomplishments thoroughly aid the EBTJV goals. 1) Increase the average size of wild Brook Trout patches from 8.266 Km<sup>2</sup> to 10.063 Km<sup>2</sup>. 2) Restore EBT to the unlabeled catchment that included the former Mountain Spring Lake. 3) Removal of the Mountain Springs Lake dam with restoration of riparian habitat along the former lake bottom improves connectivity from 7.5 Km to 8.6 Km of stream supporting EBT.
8. **List the EBTJV key conservation action(s) the Project addresses (refer to the list of EBTJV key conservation actions in the Appendix C).** The riparian restoration and limestone sand addition in the former Mountain Spring Lake bottom will accomplish the following:
  - Increase recreational fishing opportunities for wild Brook Trout
  - Conserve and/or increase habitats that support robust wild Brook Trout populations
  - Restore and reconnect suitable habitats adjacent to wild Brook Trout populations

- Minimize threats to wild Brook Trout populations due to degraded water quality
9. **What are the EBTJV Feature ID# and Classification Code for the catchment(s) where the Project work will be implemented (see Appendix D for a description on how to determine both items)?** The former Mountain Spring Lake was not classified as a EBTJV Feature
    - **Catchment Feature ID#:** Between 4201090.0 upstream and 4201082.0 downstream
    - **Catchment Classification Code:** 1.1 and 1.1 consecutively
  10. **Will the Project result in re-establishing wild Brook Trout within the catchment?** Yes
  11. **Is/are the catchment(s) where the Project work will be implemented located in a Wild Trout Patch; if so what is the Wild Trout Patch Feature ID# and Classification Code (see Appendix E for a description on how to determine both items)?** No see attached map
    - **Wild Trout Patch Feature ID#:** Between Feature 420109.0 upstream and 4201082.0 downstream. This project should expand 420109.0 by 1.06 Sq. Kilometers connecting it to Wild Trout Patch #4201082.0
    - **Wild Trout Patch Classification Code:** 1.1p upstream and 1.1p downstream
  12. **Will the Project benefit any federally listed threatened or endangered species or FWS priority species (refer to the list of FWS priority species for Region 4 and Region 5 in Appendix F)?** No known Federal species are present based on a PNHP Species of Concern Review.
  13. **Will the Project benefit any state listed threatened or endangered species or species of greatest conservation need?** No State species are known at the present time to be benefited by this project.
  14. **What are the root causes of degradation in the catchment(s) where the Project is located and which of these are addressed by the Project?** The site was an impounded lake for 125 years with the dam now removed. Degradation included high water temperatures in summer conditions and low pH levels from acid deposition. Elevated summer water temperatures will be alleviated through restored riparian vegetation shading and low pH addressed through the application of limestone sand.
  15. **Describe the plans for measuring the Project's success in meeting its goals and objectives.** The Luzerne Conservation District will continue tracking water temperature and pH values as part of the water quality monitoring. PA F&BC will periodically evaluate brook trout numbers within the project area and PA DEP can conduct periodic entomology reviews.
  16. **Does the Project support any goals in existing action plan(s) (e.g. state fish & wildlife, watershed protection, water quality improvement, land or water-use plan(s), or other regional plan(s))?** The restoration of the watercourse riparian zones is



in direct alignment with Chesapeake Bay restoration efforts to reduce sediments, Nitrogen and Phosphorus. The project is located within the Chesapeake Bay watershed.

- 17. Are there invasive fish species within the Project site or have access (no barrier) to it?** No known invasive species of fish are present within the project site or the Bowman Creek watershed. No barriers are present to the confluence with the Susquehanna River ~22 miles downstream.
- 18. Are hatchery-reared salmonids stocked at the Project site or that have access (no barrier) to it?** The project is 6 miles upstream of a section stocked with hatchery reared salmonids. No barriers are present.
- 19. Please describe the current status of the Project. Is it planned, permitted, and ready to begin?** The project is designed, planned and permitting will be secured from PA DEP within 60 days.
- 20. Will public access be allowed at the Project site? If so, what kinds of recreational activities are allowed – fishing, hiking, camping, wildlife viewing, etc.?** The project area is open to the public for fishing, hiking, hunting and wildlife viewing on State managed and protected lands.
- 21. Will the Project improve recreational fishing opportunities for wild Brook Trout? Yes If so, please describe the improvement and how the improvement will be measured?** The project will benefit the EBT fishery through habitat improvements. The improvements can be measured through PA F&BC electro-shock surveys conducted on the Bowman Creek watershed.
- 22. Please describe the outreach or educational components associated with the Project.** The Stanley Cooper Trout Unlimited chapter has adopted the Bowman Creek watershed as their protected waters for >20 years. The TU chapter continues to conduct education and outreach throughout the watershed in conjunction with the Luzerne Conservation District and this project can be a major accomplishment if funded. The chapter chairman is bringing the project's attention to the PA TU board as an example of possible improvements on 9/23/2017.
- 23. Please describe how this Project lessens the effects of climate change on Brook Trout.** Removal of impounded waters and restoration of riparian vegetation is a direct protection of EBT by the removal of detained, elevated water temperatures during summer weather, through carbon uptake in the re-established vegetation and shading of the restored water course. Since the dam removal, fish can traverse a total of 8.6 Kilometers of South Branch Bowman Creek and Cherry Run from the Bowman Creek during weather extremes. Habitat restoration along the former lake bottom can increase use by EBT.
- 24. Please explain how this Project is a good investment of funds, particularly in terms of its recreational and/or economic value.** The investment of EBTJV funds in this project will create additional tourism through the interest of the Brook Trout fishing community as the project is adjacent to Ricketts Glen State Park, State Game Lands 57

and is on PA Fish and Boat Commission lands. Public access is freely used by sports people in the fishing and hunting community and hiking groups throughout the region. People from outside of the region frequent the area due to the large expanse of public lands and camping facilities on Ricketts Glen State Park.

## **VI. SUPPORTING DOCUMENTATION:**

- **Literature Cited**

Bowmans Creek Basin Fisheries Management Report, Wnuk, Moase, Chavez and Vitale; December 2003.

- **Letters of Support**

PA Fish and Boat Commission, PA EBTJV Representative, Area Fisheries Manager, Jason E. Detar

PA Game Commission, Land Management Supervisor- State Game Lands 57, James F. Jolley  
State Representative Karen Boback, Ph.D.





## Pennsylvania Fish & Boat Commission

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**Bureau of Fisheries**  
**Division of Fisheries Management**  
450 Robinson Lane  
Bellefonte, PA 16823  
(814) 359-5118

September, 18 2017

Mr. John Levitsky  
Watershed Specialist  
Luzerne County Conservation District  
325 Smiths Pond Road  
Shavertown, PA 18708

Dear Mr. Levitsky,

This letter acknowledges that I have reviewed your EBTJV project proposal for restoration in the Bowmans Creek watershed, Luzerne County, Pennsylvania. The project will focus on conducting riparian restoration along a total of 2,500 linear feet of Bowman's Creek, a stream that supports a naturally reproducing population of Brook Trout. The project will be located on the reach of Bowman's Creek that flows through the former Mountain Springs Lake bed. A dam removal project was conducted at this location in summer 2017 and this project will conduct the follow-up restoration work. Benefits include reducing stream temperatures and sedimentation impacts on the Wild Brook Trout population. The project will also create improvements to water quality through the use of limestone sand.

In closing, the PFBC supports the project's objectives to improve riparian and instream habitat in the Bowmans Creek watershed to benefit the wild Brook Trout population as well as provide for improved recreational angling opportunities.

Sincerely,

Jason E. Detar  
Area Fisheries Manager  
PA EBTJV Representative



COMMONWEALTH OF PENNSYLVANIA  
**PENNSYLVANIA GAME COMMISSION**

3917 Memorial Highway  
Dallas PA 18612

Northeast Region  
(570) 675-1143

September 7, 2017

Luzerne Conservation District  
325 Smith Pond Road  
Shavertown, PA 18708  
Attention: John Levitsky, Watershed Specialist

**RE: EBTJV Stream Stabilization on Bowmans Creek, Luzerne County, Noxen, PA FY18**

Dear John,

I am writing to express the PA Game Commission's support for the Bowmans Creek Brook Trout Stream Stabilization Project on State Game Lands 57. This project is a continuing example of cooperation between the PA Game Commission and Luzerne Conservation District to improve habitat for naturally reproducing brook trout on the Bowmans Creek basin. Our continued success through cooperation between our programs benefits the wildlife and fisheries on the State Game Lands for public recreation.

We hope that the Eastern Brook Trout Joint Venture grant review staff will look favorably upon this project and approve it for funding. If you or the grant reviewer staff have any questions or need additional information, please call me at (570)675-1143.

Sincerely,

James F. Jolley  
Land Management Group Supervisor SGL 57

**KAREN BOBACK, MEMBER  
117<sup>TH</sup> LEGISLATIVE DISTRICT**

**HARRISBURG OFFICE:**

☐ ROOM 314-C, MAIN CAPITOL BUILDING  
P.O. BOX 202117  
HARRISBURG, PA 17120-2117  
PHONE: (717) 787-1117  
FAX: (717) 705-1889

**DISTRICT OFFICES:**

☒ 1108 TWIN STACKS DRIVE  
DALLAS, PA 18612  
PHONE: (570) 675-6000  
FAX: (570) 255-0133

☐ 133 WEST TIOGA STREET, SUITE 4  
TUNKHANNOCK, PA 18657  
PHONE: (570) 836-4777  
FAX: (570) 836-4772



**House of Representatives**

Commonwealth of Pennsylvania  
Harrisburg

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POLICY, DEPUTY CHAIR  
TOURISM & RECREATIONAL DEVELOPMENT  
CHAIRMAN, SUBCOMMITTEE ON ARTS AND ENTERTAINMENT  
VETERANS AFFAIRS & EMERGENCY PREPAREDNESS  
SPEAKER APPOINTEE, GINO J. MERLI VETERANS  
CENTER ADVISORY COUNCIL

**CAUCUSES**

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AUTISM  
ALZHEIMERS  
ANTIQUE & CLASSIC CAR, CHAIRMAN  
EAST CENTRAL  
LADIES OF THE HOUSE, CHAIRMAN  
2ND AMENDMENT  
CANCER  
PRAYER  
TROOP PA GIRL SCOUT, CHAIRMAN  
EARLY CHILDHOOD EDUCATION  
MANUFACTURING

September 13, 2017

To Whom It May Concern,

I am pleased to write this letter of support for the Luzerne Conservation District's application for funding from the Eastern Brook Trout Joint Venture (EBTJV). Monies would be used for continued improvements for Brook Trout Habitat Restoration on Bowmans Creek in Fairmount, Ross, and Lake Townships in Luzerne County, Pennsylvania.

It is my understanding that regional sportsmen and sportswomen, the Pennsylvania Game Commission, Pennsylvania Fish and Boat Commission, Trout Unlimited and others are working in conjunction with the Luzerne Conservation District on this vital project. Maintaining a sustainable brook trout fishery benefits everyone. Plans include providing 2,500 feet of riparian vegetation restoration and limestone sand applications to reduce the impact of acid rain on the trout habitat.

As a Legislator, I have supported this project for the past ten years. The Eastern Brook Trout Joint Venture partners with state and federal agencies, local governments, businesses, scientific organizations, conservation groups and private citizens. All are working toward a common goal: to protect, restore and enhance brook trout populations and their habitats in their native range. Funding and completion of this project will also allow the Luzerne Conservation District to reach Chesapeake Bay riparian restoration effort requirements which support watersheds in the Susquehanna River Basin.

Thank you for supporting Luzerne Conservation District's request for funding from the Eastern Brook Trout Joint Venture.

Sincerely,

A handwritten signature in cursive script that reads "Karen Boback".

KAREN Boback, Ph.D.  
State Representative  
KB: cs



Mountain Springs Lake Riparian Restoration Fairmont and Ross Townships, Luzerne County, PA										19-Sep-17	
		# 8 Hr. Days	Costs Each/Hour	Number Volunteers	Material Costs	Match Valuation					
Match Labor											
TU Volunteers		2	\$ 23.00	10		\$ 3,680.00					
***District Watershed Spec. Design, Ordering, Coordination, Supervision		25	\$ 23.00	1		\$ 4,600.00					
Keystone Creek Walkers Volunteers		2	\$ 23.00	5		\$ 1,840.00					
			Per Ton	Number							
Limestone Sand Purchase and Delivery			Cost	Tons	Total Cost						
			\$ 23.00	100	\$ 2,300.00						
**Riparian Vegetation Establishment 70 wide X 2,300 LF.											
			Unit	Units							
Ernst Seed ERNMX-243 stream edge 35 ft both sides @ 20 Lbs/Acre		Seed	\$ 45.00	64	\$ 2,880.00						
Pinelands Nursery - Tublings Seedlings of riparian species		Plants	\$ 1.35	800	\$ 1,080.00						
Green Cuttings - On site labor		Cuttings	Free	>200	\$ -						
**Coir Logs - Bank Stabilization:											
			Cost Each	Number							
12" Coir Logs - 10 Ft Length		Cost / 10'	\$ 64.60	25	\$ 1,615.00						
Coir Log Shipping					\$ 1,000.00						
Stakes for Log Anchoring		3 ft. stakes 25 per bundle	\$ 14.00	12	\$ 168.00						
Jute Twine for Coir Log Tie		800 LF Twine	\$ 4.00	4	\$ 16.00						
					\$ 9,059.00	\$ 10,120.00	\$ 19,179.00	Total Costs			
					EBTJV Funds	Match					

\* Seed mix to be applied to 35 ft wide band along left and right banks of stream.

\*\* Installation by volunteers under Watershed Specialist Supervision

\*\*\*Permits, design, ordering materials, supervision of volunteers and agreements with PA Fish and Boat to be secured by John Levitsky, Watershed Specialist