

# **Culvert Replacement and Stream Restoration in Wolfden Run, Garrett County, Maryland**

**Project Location (State, County, Town):** Maryland, Garrett, Kitzmiller

**Congressional District of Project:** Maryland's 6<sup>th</sup> district

**Congressional District of Applicant:** West Virginia's 1<sup>st</sup> district

**NFHP/EBTJV Funding Request: \$50,000**

**Total of Other Federal Funding Contributions: \$60,000**

**Total of Non-Federal Funding Contributions: \$46,000**

**Total Project Cost: \$156,000**

## **Applicant: Trout Unlimited**

Project Officer: Gary Berti  
Organization: Trout Unlimited  
Street: PO Box 239  
City, State, Zip: Davis WV 26260  
Telephone Number: 304-704-2731  
Fax Number: NA  
Email Address: GBerti@tu.org

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

Project Officer: Julie Devers  
Fish and Wildlife Service Office: Chesapeake Bay Fisheries Office  
Street: 177 Admiral Cochrane Drive  
City, State, Zip: Annapolis, MD 21409  
Telephone Number: 410-573-4508  
Fax Number: 410-269-0832  
Email Address: julie\_devers@fws.gov

**Coordination Completed with Sponsoring U.S. Fish and Wildlife Service Office  
(Check One):**

  X   Yes                        May 22, 2018   Date Coordination Began

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

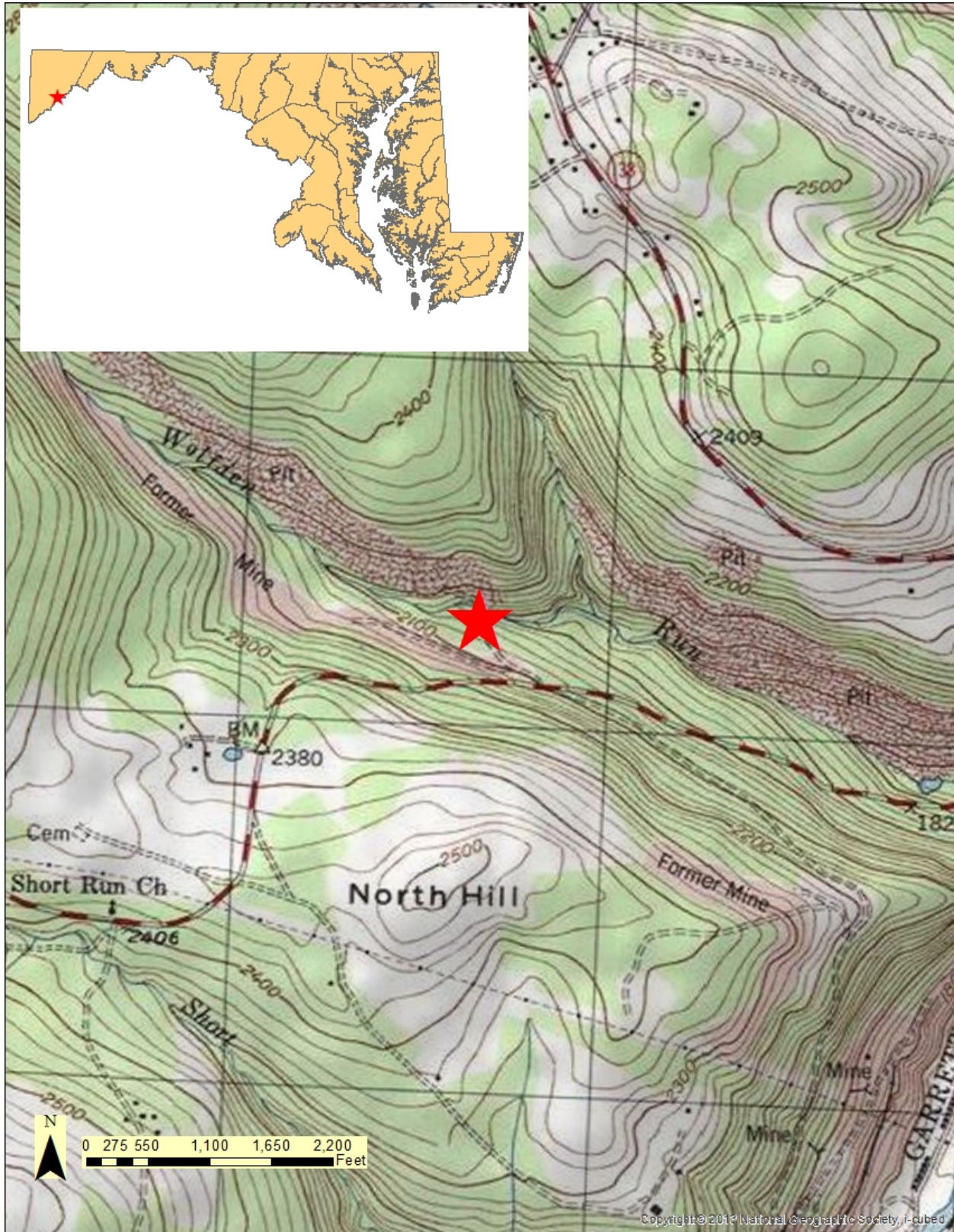
- A. Project Goal:** Increase connectivity within and among wild Brook Trout catchments. Specifically to remove fish passage barriers and improve habitat conditions in Wolfden Run watershed in Maryland. The project will reconnect 2.76 miles of stream corridor which provide migratory and spawning habitat to Brook Trout.
- B. Project Description:** Brook trout are the only trout species native to Maryland and due to population declines are listed as a Species of Greatest Conservation Need (SCGN) in the Maryland Department of Nature Resources' (MD DNR) Wildlife Action Plan. Once likely found in the millions, the population of brook trout has decreased to just under 200,000 statewide (Dew-Baxter & Southerland 2013). Brook trout are now extirpated from 62% of historically occupied sub-watersheds in Maryland, a 5% increase since the initial assessment (57%) completed in 2005 (MD DNR 2006). Brook Trout population decline is attributed to hot water runoff from roofs, roadsides, and other impervious surfaces, loss of trees along streams, and climate change. Trout Unlimited in collaboration with U.S. Fish and Wildlife, MD DNR, and Western Maryland Resource Conservation and Development Council (WMD RC&D) are proposing work on public land in order to reconnect a historically important brook trout stream through passage improvement activities (removal of failed culverts and or installation of a bridge).
- C. Project Methods/Design (Max Characters: 350):** Methods employed will include, removal of man-made impediments (dams, undersized culverts), and installation of aquatic organism passage structure(s) to provide unimpeded passage for fish and other aquatic species. Where appropriate, we will eradicate non-native species adjacent to the project area.
- D. Project Timeline:** Project will be completed over a two year timeframe. Site design, project planning and permitting will occur in year one, while project construction will occur in year two. Trout Unlimited and MD DNR will undertake biological assessment of conservation actions in year 3 and 4, and provide population monitoring.
- E. Describe the Problem and Specific Cause of the Problem (Max Characters: 350):** Project will address impediments to fish passage (removal of dams, larger culverts, etc.) through road-stream crossings for all native aquatic and riparian species over all of their life stages to provide for robust communities and resilience to climate change stresses.

F. **Summarize the Project’s Expected Outcomes (Max Characters: 350):**This project will result in in-stream habitat improvement and restore upstream fish passage to 2.76 miles of habitat to support the wild native brook trout population and reduce habitat fragmentation in the Upper Potomac River watershed.

**G. Partner Information:**

<b>Partner Name</b>	<b>In-Kind Contribution (In-hand or Requested)</b>	<b>Cash Contribution (In-hand or Requested)</b>	<b>Federal or Non- Federal Contribution</b>	<b>Partner Category</b>
U.S. Fish and Wildlife Service	\$25,000 (in-hand)		Federal	Federal Agency
WMD RC&D		\$35,000 (in-hand)	Federal from the Service Partners for Fish and Wildlife Program	Conservation Group (regional)
Maryland DNR	\$6,000 (in-hand)	\$30,000 (will request)	Non-federal	State Agency
Trout Unlimited	\$10,000(in-hand)		Non-federal	Conservation Group (national)

## II. MAP OF THE PROJECT AREA



Project location in Garrett County Maryland

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



Up Stream of 3 culverts with wooden bridge deck on top of the culverts



Downstream of the 3 culverts, one of the culverts is visible beyond the bridge deck.



Another view looking further downstream from the crossing

We did not have a good photo showing the 3 failed culverts with the bridge deck on top.

**IV. PROJECT BUDGET**

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		
MD DNR	State Agency	Monitoring	Other		\$6,000	\$30,000			\$36,000	2.76 Miles
USFWS	Federal Agency	Culvert Removal Replace with Bridge	Survey, Design, Permits, Construction cost				\$25,000		\$25,000	2.76 Miles
WMD RC&D	Conservation Group (Regional)	Culvert Removal Replace with Bridge	Construction cost, oversight					\$35,000	\$35,000	2.76 Miles
Trout Unlimited	Conservation Group (National)		Administration							2.76 Miles
			Technical Services							
		Culvert Removal	Contractual	\$50,000	\$10,000				\$60,000	
Total Contribution				\$50,000	\$16,000	\$30,000	\$25,000	\$35,000	\$156,000	2.76 Miles

\*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.

**NOTE: This is not a Federal Grant program and therefore does not exclude non-federal match used here from being matched to other Federal Grant sources to leverage funds for the project.** Indicate if partnering contributions are in-kind or cash along with which funds are in-hand (committed) and which have been requested but are still pending. NFHAP requests should illustrate how the dollars will be spent and by what organization. Overhead such as utilities, office space, and salary to prepare applications and develop partnerships will not be funded with NFHAP funds and should not be a line item or built into the project. Activities that directly relate to completion of the project such as travel and salary to do design work let and/or monitor contracts are allowable expenses with NFHAP funds but should not constitute more than 10% of the funding request. For more information on the use of NFHAP funds, please see the FWS [guidelines](#).



## V. PROJECT EVALUATION QUESTIONS

**1. What are the GPS Coordinates for the Project site (please use UTM NAD 83):**

Wolfden Run Project: 39°23'47.83"N 79°12'57.10"W

39.396611, -79.215861

**2. List the type of Project that will be implemented (protection, enhancement, restoration; see definitions in the Appendix A).** Enhancement activities will include removal of fish passage impediments and installation of a fish friendly crossing consistent with current AOP standards.

**3. Are Brook Trout currently present at the Project site or have access to the Project site? If not, were Brook Trout historically present?**

Yes, brook trout are currently present.

**4. Please describe how the Project will conserve Brook Trout and/or its habitat?**

Native brook trout habitat will be enhanced by improving aquatic organism passage at Wolfden Run. The improved crossing will ensure aquatic organism passage, or the ability for fish and other aquatic creatures to move up or downstream under the road. Project activities will result in improved instream habitat and water quality.

**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 project is on public land, the lands were purchased by the State of Maryland in 2018 and will be open to the public shortly, once park access is improved, and are preserved in perpetuity (future Wolfden Run State Park).

**6. What percentage of the watershed above the Project site is protected in perpetuity?**

Prior to Maryland DNR purchasing the land where the project occurs, 2.6% of the watershed above the project was protected in perpetuity. At the time of this application we did not have an updated acreage for the newly acquired DNR property.

**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).**

GOAL	OBJECTIVE	PROJECT
Increase the average size (km <sup>2</sup> ) of wild Brook Trout patches, which is currently 19 km <sup>2</sup>	Increase the size (km <sup>2</sup> ) of 30 wild Brook Trout patches by the year 2022.	Improved crossing at Wolfden Run will allow for mixing of wild brook trout that are currently impeded from moving upstream past the blockage. This will assist in maintaining high genetic diversity within patches and may result in

		increased population size.
Maintain the current number of wild Brook Trout patches (i.e. no net loss)	Retain at least 6,022 allopatric wild Brook Trout patches (1.1) across the EBTJV geographic range by the year 2022.  Retain at least 3,838 sympatric wild Brook Trout patches (1.2, 1.3, and 1.4) across the EBTJV geographic range by the year 2022.	By enhancing instream habitat in a wild Brook Trout patch, this collaborative project will help to maintain and likely increase the current number of native brook trout patches. Habitat improvements will come as a byproduct of removal of the existing fish passage blockage.
Increase connectivity within and among wild Brook Trout catchments	Complete Aquatic Organism Passage projects within 45 wild Brook Trout catchments by 2022.	This project will result in restoration and protection of 2.76 miles of wild brook trout habitat and reduces fragmentation of brook trout populations in the upper Potomac River watershed.

**8. List the EBTJV key conservation action(s) the Project addresses (refer to the list of EBTJV key conservation actions in the Appendix C).**

<b>Action</b>	<b>Project result</b>
Increase recreational fishing opportunities for wild Brook Trout	In improving passage in Wolfden Run at a strategic location within the future Wolfden Run State Park, this project will increase the opportunity for anglers to catch wild brook trout. The park will be open to public fishing and the instream improvements will occur along one of the park's main roads.
Conserve and/or increase habitats that support robust wild Brook Trout populations	The project will improve habitat/ passage in a stream that supports wild brook trout populations.
Restore and reconnect suitable habitats adjacent to robust wild Brook Trout populations	By creating improved passage, partners will increase connectivity in a wild brook trout patch.
Conserve genetic diversity of wild Brook Trout populations	The Wolfden Run watershed supports an important native brook trout population that has persisted in the face of tremendous historic coal mining pressures. The MD DNR Brook Trout Program considers this an extremely important resource to protect because it supports a pure

	strain of native Maryland brook trout.
Conserve unique wild Brook Trout life history strategies (e.g., lacustrine populations, large river populations, and coastal populations).	This watershed feeds into the upper North Branch Potomac river. MD DNR studies have demonstrated the importance of headwater brook trout populations in supporting large river populations, and such a population does occur in the upper North Branch Potomac river.
Minimize threats to wild Brook Trout populations (e.g., degraded water quality, invasive species, altered hydrologic regimes)	Removing this barrier will restore the natural run of the stream and allow full fish passage and additional associated hydrological and biological benefits of an unimpeded stream reach.

**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)?**

**Wolfden Run**

- Catchment Feature ID#: 14365162
- Catchment Classification Code: 1.1

**10. Will the Project result in re-establishing wild Brook Trout within the catchment?**

Brook trout are already located within the catchment where habitat improvement projects will take place.

**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:**

**Wolfden Run**

- Wild Trout Patch Feature ID#: 1.436517E7
- Wild Trout Patch Classification Code: 1.1

**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)?** The following USFWS Region 5 priority species will benefit from improved instream habitats: *Anguilla rostrata*, American Eel, and *Salvelinus fontinalis*, Brook Trout.

**13. Will the Project benefit any state listed threatened or endangered species or species of greatest conservation need?** Yes, species listed below. In addition, cold water sensitive macroinvertebrates and freshwater mussels will all benefit from improve water flow and quality.

Species	Status	Benefit
Brook Trout	State SGCN	
American Brook lamprey	State Threatened	

**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?**

Fish barriers that impact brook trout populations in Maryland range from physical structures (i.e. dams, impounded water upstream of a dam) to water conditions (acid inputs, thermal barriers) to biological barriers (exotics such as brown trout). This project will address physical structures in order to improve brook trout passage. The improved fish passage will allow for better population mixing.

**15. Describe the plans for measuring the Project's success in meeting its goals and objectives.**

Maryland DNR Western Region I Fisheries staff will conduct pre and post monitoring above and below the removed culverts to determine brook trout presence and density following their standard procedures for assessing brook trout populations.

**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 project supports several plans and goals including:

- Chesapeake Watershed agreement includes an outcome to “Restore naturally reproducing brook trout populations in Chesapeake headwater streams with an 8 percent increase in occupied habitat by 2025.” This project will assist in meeting this goal by opening 2.76 miles of head water streams.
- The Chesapeake Bay Programs, Habitat Goal Implement Team, Fish Passage Outcome endeavors to open 1,000 miles of stream to improve migratory routes. This project will support this outcome by opening 2.76 miles of stream for brook trout
- The State of Maryland's 2015 State Wildlife Action Plan lists the Brook Trout as a Species of Greatest Conservation Need and sites barrier removal and encourages state of the art crossing designs as conservation actions to help the species. This project helps to advance the plans goals by replacing culverts with a bridge.

**17. Are there invasive fish species within the Project site or have access (no barrier) to it? No**

**18. Are hatchery-reared salmonids stocked at the Project site or that have access (no barrier) to it? No**

**19. Please describe the current status of the Project. Is it planned, permitted, and ready to begin?** The proposed project is planned but not yet permitted. We anticipate permitting to occur during a two month window after funds are received. Contracting and site prep will take another month depending on weather and construction will take another three months. We have allowed for a year to complete permitting through construction in order to allow time for weather or permit related slowdowns.

- 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.?** Yes, the project will be completed on land managed by the State of Maryland as the future Wolf Den Run State Park. The area was purchased by the State in February 2018 and access points are being improved. Once the trail and access infrastructure is complete, public access will be allowed and the public can enjoy hiking, camping and fishing.
- 21. Will the Project improve recreational fishing opportunities for wild Brook Trout? If so, please describe the improvement and how the improvement will be measured?** Yes, the projects will increase the miles of stream that are occupied by brook trout in a state park which is open to fishing. Removing the culverts will allow fish to move up stream and will provide anglers miles of stream that can be fished. Brook trout abundance both pre and post restoration will be assessed by MD DNR and will be the metric by which project success is measured.
- 22. Please describe the outreach or educational components associated with the Project.** Projects partners and NRCS will use the completed projects as demonstration projects to provide outreach to nearby landowners and farmers in order to showcase the types of activities that can be undertaken on private lands and farms in order to improve Brook Trout habitat and water quality. Because the Wolfden run project will take place on a main road in a State Park, partners plan to place signage near the installed crossing in order to educate park visitors about brook trout conservation and the opportunities to undertake actions on private lands to help improve habitat for the species.
- 23. Please describe how this Project lessens the effects of climate change on Brook Trout.** By improving road-stream crossings for all native aquatic and riparian species this project will provide improved habitat for robust communities and resilience to climate change stresses.
- 24. Please explain how this Project is a good investment of funds, particularly in terms of its recreational and/or economic value.** This project will act as a catalyst/ demonstration project on recently acquired public lands at Wolfden Run, where public access and fishing will be allowed. The new crossing will be on a main road through the Park and project partners intend to place a sign by the crossing to educate visitors about brook trout and the types of projects which can help to improve their habitat.

## **VI. SUPPORTING DOCUMENTATION:**

### **Literature Cited**

Dew-Baxter, J., and M. Southerland. 2013. Maryland Biological Stream Survey (MBSS) round 3 (2007-2009) population estimates. Prepared for Maryland Department of Natural Resources, Monitoring and Non-tidal Assessment Division, Annapolis, Maryland.

Maryland Department of Natural Resources. 2015. Maryland Wildlife Diversity Conservation Plan. Maryland Department of Natural Resources, Annapolis, MD.

Maryland Department of Natural Resources. 2006. Maryland brook trout fisheries management plan. Inland Fisheries Management Service, Fisheries Service, Annapolis, Maryland.



*Larry Hogan, Governor*  
*Boyd Rutherford, Lt. Governor*  
*Mark Belton, Secretary*  
*Joanne Throwe, Deputy Secretary*

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Alan Heft  
Brook Trout Program Manager  
Maryland DNR FABS Inland Fisheries  
UMCES Appalachian Laboratory  
301 Braddock Road  
Frostburg, MD 21532

September 21, 2018

Brian Jennings & Julie Devers  
USFWS, Chesapeake Bay Fisheries Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21409

Dear Brian and Julie,

This letter is in support of the Wolfden Run proposal being submitted to the EBTJV. Wolfden Run is a very important allopatric native brook trout resource in Garrett county, Maryland. This work would increase protection of the existing population, allow recolonization of 2.76 miles of stream upstream of the restoration site and create increased public fishing opportunity. This population has been determined to be a genetically pure stock and it is paramount to protect this resource. The Maryland Department of Natural Resources Brook Trout Program will assist with this project as needed, and will conduct pre and post restoration monitoring of the brook trout population. This work will also support the goals of the Brook Trout Outcome of the Chesapeake Bay Agreement and of the Maryland DNR's 2006 Statewide Brook Trout Fisheries Management Plan. We strongly support this project for its importance to native brook trout conservation and angling recreational opportunity.

Sincerely,

A handwritten signature in black ink that reads "Alan Heft". The signature is written in a cursive, flowing style.

Alan Heft  
Statewide Brook Trout Program Manager  
[Alan.Heft@Maryland.gov](mailto:Alan.Heft@Maryland.gov)  
301-689-7107



United States Department of the Interior  
FISH AND WILDLIFE SERVICE



Maryland Fish and Wildlife Conservation Office  
177 Admiral Cochrane Dr.  
Annapolis, MD 21401

September 27, 2018

Stephen Perry  
Eastern Brook Trout Joint Venture  
350 Hunkins Pond Road  
Sanbornton, NH 03269

Dear Mr. Perry:

The U.S. Fish and Wildlife Service, Maryland Fish and Wildlife Conservation Office supports the Trout Unlimited proposal, "Culvert Replacement and Stream Restoration in Wolfden Run, Garrett County, Maryland".

Trout Unlimited in collaboration with U.S. Fish and Wildlife, Maryland Department of Natural Resources and Western Maryland Resource Conservation and Development Council (WMD RC&D) are proposing work on public and private lands in order to reconnect historically important brook trout streams through passage improvement activities (removal of culverts and installation of bridges) and creating forested buffers in order to improve water quality and temperature. Specifically, this project will remove barriers to fish passage and improve habitat conditions in Wolfden Run watershed in Maryland. The project will reconnect 2.76 miles of stream corridor which will provide migratory and spawning habitat to Brook Trout.

Our office supports Trout Unlimited in their application to the Eastern Brook Trout Joint Venture to increase connectivity within and among wild Brook Trout catchments. If you need any additional information, please feel free to contact me at 410-573-4508.

Sincerely,

Julie L. Devers  
Fishery Biologist  
USFWS/MDFWCO



FOR WOLF DEN RUN

**U.S. Fish & Wildlife Service**

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Service Representative: Julie Devers

Office and Phone: Chesapeake Bay Field Office.

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Name: Gary Berti

Address: PO Box 239, Davis WV 26260

Phone: 304 704-2731

Signature: Gary Berti

Date: 9/28/18

