National Fish Habitat Action Plan
Eastern Brook Trout Project Proposal
Fiscal Year 2007

Project Title: Whitethorn Creek Restoration, Puffenberger property

Amount of NFHAP funding requested: $41, 410.00

Project Location: Approximately two miles south of the confluence with Thorn Creek of the South Branch of the Potomac, Pendleton County, West Virginia, Sugar Grove district.
Latitude: 38° 30'00.98" N
Longitude: 79° 22'19.64" W

Congressional District: Second District, West Virginia

Applicant Information:
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Date Submitted: October 11, 2006

Sponsoring Fish and Wildlife Service Fisheries Office:
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White Sulphur Springs, WV 24986
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Executive Summary:

Trout Unlimited (TU) requests a grant of $41,410.00 from the NFHAP/EBTJV program to support the Whitethorn Creek - Puffenberger Riparian Restoration Project. Whitethorn Creek, which is the most significant tributary in the Thorn Creek drainage of the South Branch of the Potomac, is historically recognized as supporting one of the best brook trout populations in West Virginia. This population has been significantly reduced in recent years as a result of land use impacts and two devastating flood events. The flood events altered instream habitat quality and washed away a large portion of riparian cover in the watershed. Following the loss of the relatively stable vegetated riparian corridor, livestock grazing has prevented re-growth and has caused widespread bank instability as a result of unregulated stream access.

The impacted stream segments will be restored by Trout Unlimited in partnership with private landowners, US Fish & Wildlife Service Partners for Fish and Wildlife Program, Natural Resources Conservation Service, Farm Services Agency, WV Department of Natural Resources, WV Division of Environmental Protection, local schools, other non-governmental organizations and other partners.

Trout Unlimited will install livestock exclusion fencing and related infrastructure in conjunction with the Partners for Fish and Wildlife program and the farm agencies to control and restrict livestock access to the stream and riparian area. After the fencing is installed, TU and volunteer groups will plant trees in the newly protected riparian area to revegetate the corridor. Alternative livestock watering sources will be developed to offset stream access. Two hardened crossings will be installed for livestock movement between grazing paddocks. There are two areas of bank incursion which will be addressed through filling and sloping of bank cuts, vegetative plantings for stabilization and installation of instream j-hook structures to divert stream pressure away from banks which will also serve to establish a more natural channel definition.

There will be a strong, active volunteer and educational component associated with the project. The local middle school science classes, with the assistance of TU staff and grassroots volunteers, will participate in field activities such as stream surveys, habitat surveys, tree plantings, invasive species eradication and ongoing site monitoring.

The total hard cost of the project is estimated to be approximately $92,295.00. Trout Unlimited is committed to raising matching funds from other sources to implement the project. Overall, this portion of the Whitethorn Creek Riparian Restoration Project will restore over one mile of stream habitat and reestablish over 16 acres of riparian vegetation.

Project Summary

Field Priority:

Title of the project: NFHAP and EBTJV Project Proposal to Protect and Restore Brook Trout Habitat on Whitethorn Creek in the Potomac Headwaters

Proposed Accomplishments: This project, in meeting the objectives of the NFHAP and EBTJV, will result in the restoration and protection of approximately one mile of degraded brook trout habitat. The project will result in the reconnection of upstream spawning and rearing habitat to the mainstem of Thorn Creek. Reestablishment of the riparian corridor will provide lower overall water temperatures in addition to refuge areas during lower flows. The instream restoration will create habitat zones and a more stable hydrology through this reach and downstream.

Description:

1) *Importance of the project to the resource:* The project will restore and protect a degraded section of critical brook trout habitat on Whitethorn Creek of Thorn Creek of South Branch Potomac.

2) *The problem and the cause of the problem:* The segment of Whitethorn Creek lies within private agricultural land. Historic livestock access has resulted in eroding streambanks, lack of riparian vegetation and direct input of pollutants. Flooding, and post-flood stream manipulation, has resulted in bank failure, loss of natural stream dynamics and habitat, and excessive sediment entry during bank-full flow events.

3) *Objective(s) of the project with reference to the problem:* a) To restrict livestock access, b) correct and stabilize streambanks, c) restore natural stream dynamics, d) increase and enhance native brook trout habitat, and e) divert bank-full flow pressure from degrading streambanks.

4) *Methods applied to accomplish objective(s):*
   1) Construct 10,600 linear-feet of 3-strand high-tensile, non-electric fence @ $2.50/LF = $26,500.00;
   2) Construct 2 rock-armored access ramps and 2 water troughs = $17,475.00;
   3) Plant stakes and tree seedlings in riparian area = $30,820.00;
   4) Install five J-hooks using native stone, fill and vegetate failure areas = $12,500.00;
   5) **TOTAL = $87,295.00**

5) *Additional Information:*
   The majority of coldwater trout streams on private land in the Potomac watershed are impaired due to nutrients and sediment from non-point sources. This project, in conjunction with future long-term restoration projects, will significantly reduce non-point source runoff effecting high-quality streams. This project will also provide community and volunteer opportunities and educational outreach. If this restoration site is funded for implementation it will be adopted as a project site by Pendleton County middle-school science classes. The students will perform habitat assessment, stream surveys, tree plantings, and long-term site monitoring.

Fish passage barriers to be removed by this project:
There are no fish passage barriers associated with this site.

Funding Information:

Fund	Year					Total
	1	2	3	4	5	
NFHAP	$41,410					**$41,410**

Estimated duration of project:
Five years.

Anticipated first year partner contributions:

Partner	Cash Matching	In Kind
Eastern Brook Trout Joint Venture	$41,410.00	
Trout Unlimited/Partners	$45,885.00	$20,525.00
Total	**$87,295.00**	**$20,525.00**

Anticipated new FTEs:

	Manager		Administrative / Assistant
	Biologist		Outreach Specialist
	Other Specialist / Scientist		Maintenance Worker
	Technician / Fish Culturist		

Congressional District:
West Virginia, Second District

Project Description, Scope of Work, and Partner Information

A) Project description and scope of work:

- *Need for the project:* Whitethorn Creek has historically been recognized as a high-quality brook trout stream, producing brook trout in the 18-20" size-range. As a result of chosen land management practices and incidents of unnatural flooding, the overall stream and riparian habitat has been degraded. These impairments have led to greatly reduced refuge habitat, increased water temperatures and nutrient loaded sheet runoff. This project will serve to exclude livestock from stream access, reestablish the riparian corridor, improve instream habitat, filter non-point runoff and decrease average thermal charging. The project will also provide more extensive habitat for spawning, rearing and feeding zones by improving the habitat and reconnecting the segment to the larger waters downstream. The project will fence approximately one-mile of stream, and protect and reestablish approximately 14 acres of riparian buffer corridor.
- *Purpose, goals and objectives:* The project purpose is to protect and restore a significant section of a high-quality brook trout stream. The goals of the project are to improve water quality and expand usable brook trout habitat. These goals serve to advance the mission and goals of the EBTJV. The project objectives will be to install livestock exclusion fencing, reestablish a mature riparian corridor, provide education and outreach, and to increase community understanding and participation.
- *Work to be done and by whom:* The work will be managed by Trout Unlimited under the Potomac Headwaters Home Rivers Initiative. The project will be an important part of the larger Potomac Headwaters program which has the broader watershed goal of reconnecting isolated brook trout populations. The work will be accomplished through a combination of TU staff and grassroots volunteers, USFWS Partners for Fish and Wildlife program, state and federal agencies, outside contractors, landowner participation, local school groups and other NGOs.
- *Who owns or will own and manage affected lands:* Current landowner, Mr. Puffenberger, will own and manage the project area, with assistance from TU and other state and federal agencies.
- *Duration of benefits, including length of any land and management contracts, easements or other agreements:* This project will be partially funded through a blend of Environmental Quality Incentive Program (EQIP) and Wildlife Habitat Incentive Program (WHIP). These programs require a minimum 10 year management commitment to acquire funding. After project implementation and outreach, it is highly probable the project will be placed under the Conservation Reserve Enhancement Program (CREP).
- *Expected results and how they will be monitored:* The expected project will result in improved water quality, expanded desirable habitat, decreased average water temperatures, an increased brook trout population, more diverse stream insects, and a maturely vegetated riparian corridor. The water quality, water temperature and riparian growth will be monitored by the TU program director with assistance from agency personnel and volunteers. The brook trout population will be monitored by fisheries biologists from the WV Division of Natural Resources. The insects and habitat will be surveyed and evaluated twice a year by local school science classes, with assistance from the WV Department of Environmental Protection.

- *Timetable for accomplishment of major activities during one-year performance period:*
  1) March, 2007 – Develop alternative water supplies and hardened crossings.
  2) March, 2007 – Install livestock exclusion fencing.
  3) April, 2007 – Students perform baseline insect and habitat surveys.
  4) April, 2007 – Students and volunteers begin riparian tree plantings.
  5) June, 2007 – WVDNR electro-shocks stream to evaluate brook trout and non-game fish species.
  6) July, August – 2007 – Implement bank and instream restoration portion of project.
  7) October, 2007 – Students perform insect and habitat surveys.
  8) November – February, 2007 – Complete riparian tree planting.

B) Partner Information:

- ***General partner information:***
  1) USFWS Partners for Fish and Wildlife program - Will partner, and cost-share a portion of the fencing expenses.
  2) NRCS, EQIP and WHIP programs - Will provide a cost-share for portions of the fencing, water development, crossings, and tree planting expenses, in addition to technical support.
  3) WVDNR Fisheries – Will provide personnel for electro-shocking, population evaluation and technical expertise.
  4) WVDEP – Will provide technical support for analysis of insect and habitat surveys.
  5) Trout Unlimited – Will provide volunteers for tree plantings, surveys, invasive species eradication, and other activities.
  6) Pendleton County Middle School – Will provide science class students, transportation, and instructors, for stream surveys, habitat surveys and tree plantings. They will also provide long-term site monitoring.
  7) Dominion Foundation – Will provide cash funding for education and outreach.
  8) The Mountain Institute – Will provide technical and volunteer coordination assistance in addition to education and outreach activities.
  9) Landowner – Will provide in-kind use of equipment needed to implement portions of project.
  10) WV Conservation Agency – Will provide technical assistance for stream and habitat design.
  11) WV Division of Forestry – Will provide technical assistance for riparian plantings.

- ***Partners contributing more than the grant request:***
  None individually.

- ***Ratio of Partner contribution of the total project cost vs. the grant request:***
  1.6:1

- ***Benefit (in acres or miles) to the grant request:***
  One mile of stream and 16 acres of riparian buffer.

- ***Partner categories identified in the partnership:***
  Seven.

Map of Project Area

See attachment A

Photographs of Project Area

See attachment B

Project Budget

Partners	Salary	Equipment	Supplies	Travel	Grants/ Contracts	Total
Trout Unlimited	3000		1000	400		4400
Landowner		4000				4000
USFWS	4050	1400	4075	800		10325
NRCS	11300	16950	6910			35160
WVDNR	960	400		200		1560
WVDEP		300				300
Dominion					1000	1000
WVCA	600					600
WVDOF	200					200
TU volunteers* TMI* Students* Other*	8865					8865
Total	28975	23050	11985	1400	1000	**$66,410**

*Combined value of volunteer labor

Partner Match Cash:	*$45,885*
Partner In-Kind:	*$20,525*
Cash & In-kind total	***$66,410***

Budget: Funding Request Expenses:

Materials*	Equipment	Labor	Fencing	Trees	Crossings	**Total**
6000	3000	7000	8410	15000	2000	**$41,410**

*Combined expense for rock, gates, Tipar fabric, tree tubes, geofabric, cable

Funding Request Total:	***$41,410***
Project Total:	***$107,820***

Evaluation Questions

A) Conservation of Sustainable Brook Trout Populations:

- ***Does the project currently protect habitat to support eastern brook trout through easement of fee title ownership by a conservation organization?***
  The project does not currently have that type of protection on place.

- ***Does it include purchase in fee or of easement sufficient to protect brook trout habitat?***
  Riparian easement protection will be provided for a minimum of ten years through NRCS programs – EQIP and/or WHIP.

- ***Does the project address specific objectives outlined in either a state, regional, or range-wide brook trout conservation strategy?***
  The project meets the goals and objectives of the EBTJV range-wide strategy for population restoration, the goals and objectives of the West Virginia Brook Trout Restoration plan, and the goals and objectives for restoration under TU's Back the Brookie regional program.

- ***Does the project address objectives and goals outlined in state conservation management plans other than those specific to brook trout?***
  The project addresses goals and objectives for game and non-game habitat creation and enhancement under the state conservation management plan.

B) Endangered Species

- ***Will the completed project benefit any Federally listed threatened or endangered species?***
  This area contains an intricate limestone cave system which is known to be inhabited by two species of endangered bats, the Indiana bat (*Myotis sodalist*) and the Virginia big-eared bat (*Corynorhinus townsendii virginianus*). The project area is within two miles of two Indiana bat hibernacula and four Virginia big-eared bat hibernacula. Both Indiana bats and Virginia big-eared bats forage in areas that contain a patchwork of woodlands and open fields, and are known to congregate or "swarm" within five miles of a hibernaculum. There is a high likelihood that the newly established riparian buffer created by the project will provide a night- feeding and habitat area where none presently exists.
  (Portions of information above from USFWS and WVDNR documentation)

- ***Will the completed project benefit any state listed species of concern that are not also Federally listed?***
  No.

C) Economically important species not also listed as threatened and endangered species:

No.

D) Special Considerations

E) EBTJV Habitat Restoration Priority:

Restoration Policy =

F) Habitat Connectivity and Enhancing Population Mobility

- ***Does the watershed connect to a watershed identified as intact or reduced?***
  Whitethorn Ck. connects to the Thorn Creek watershed. Both are identified as reduced.

- ***Does the project expand habitat availability of existing native brook trout populations?***
  The project is located on a large tributary with seriously degraded habitat availability. The project will expand appropriate brook trout habitat and provide connectivity out from the mainstem population. Future projects in the watershed will expand connectivity both upstream through the tributaries, and in the mainstem. There are, and will be, voluntary protection projects upstream of this site on private lands.

- ***What is the probability of long-term success in supporting a sustainable fishable brook trout population in the area?***
  The project will have a minimum protection period of ten years under USDA Farm Bill programs (EQIP and/or WHIP). This project should provide perpetual protection with minimum maintenance requirements. Ongoing partnership with the landowner will insure that the protection measures are maintained or expanded. The on-site negative habitat influences will be addressed at a level of 100%. There are upstream influences that will continue to impact the stream until such time that they are also addressed and corrected.

G) Management Assets

- ***Is there an adaptive management component to the project****?*
  The project site will be continuously monitored by TU staff person and partner agencies. This will include, but not be limited to, stream and habitat surveys and evaluations, fish population surveys, riparian growth monitoring and water quality. These monitoring practices will follow established scientific protocols as established by respective agencies.

- ***Will the project area be accessible to public fishing?***
  Currently fishing access is restricted by permission from the landowner only. There may be the possibility of more expanded, managed access in the future, but will probably never be completely open to the general public due to negative past experiences.

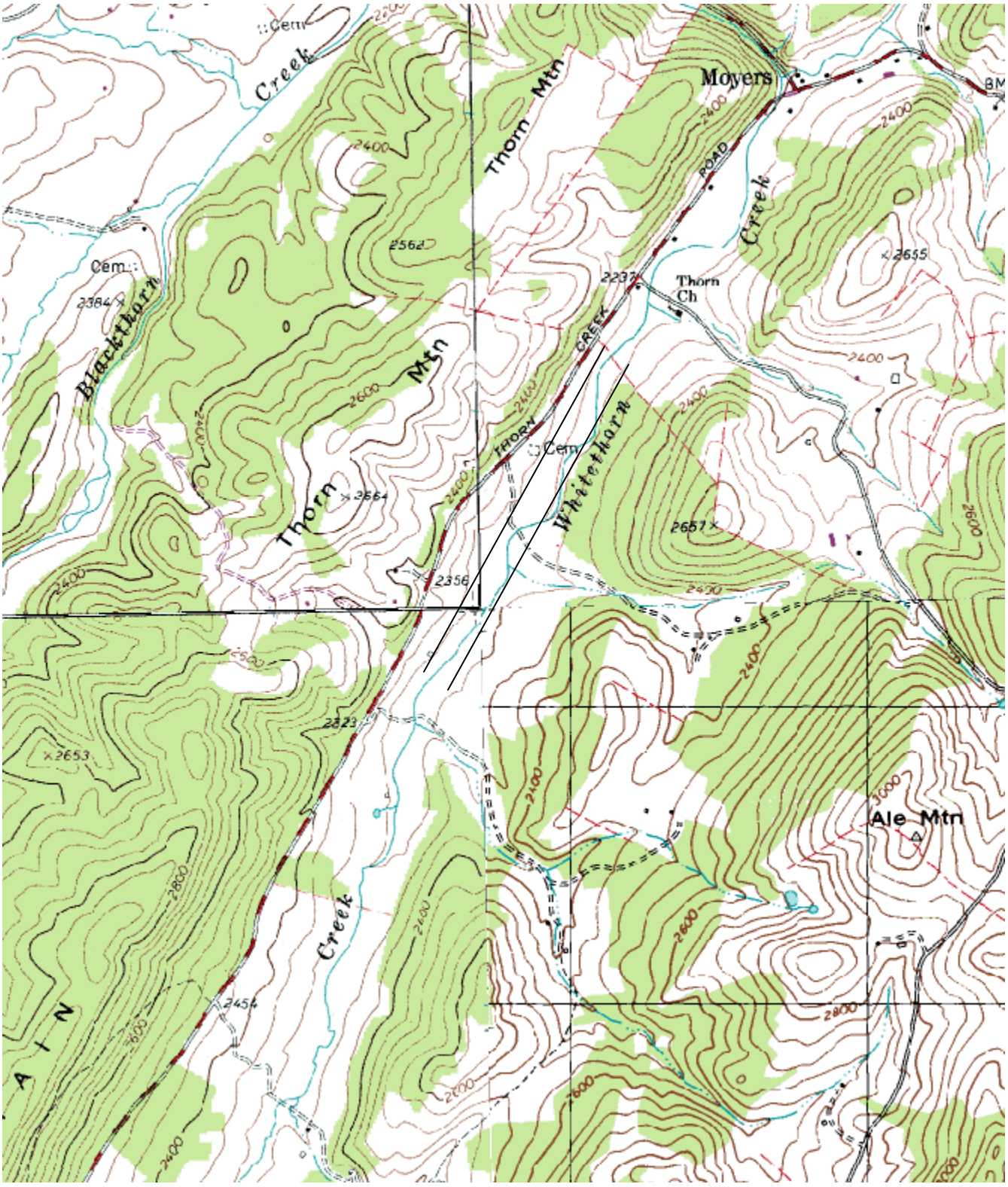
- ***Will the project have an educational component or is it being developed as a demonstration project for the Eastern Brook Trout Joint Venture?***
  The project will have a strong, ongoing educational component through TU's partnership with the local school system and The Mountain Institute. The program has been set up to provide multi-year opportunities for science classes to adopt stream restoration segments and monitor them on a regular basis. This program may be expanded to include Environmental Science classes at the high school level. All projects implemented through the Potomac Headwaters program should be considered as demonstration projects for the EBTJV.

Attachment A (1) – Puffenberger Restoration Site

GPS Coordinates: Latitude: 38˚ 30’00.98” N
Longitude: 79˚ 22’19.64” W

HUC8 - #02070001

Attachment A (2)



Attachment B (1)

Attachment B (2)