

**AYERS BROOK CORRIDOR RESTORATION PROJECT**

**NFHAP funding requested:** \$24,000  
**Project Location:** Orange County of Vermont  
**Congressional District:** VT00

**APPLICANT**

**Organization:** White River Partnership  
**Project Officer:** Mary Russ  
**Street:** 99 Ranger Rd.  
**City, State, Zip:** Rochester, VT 05767  
**Telephone Number:** 802-767-4600  
**Facsimile Number:** 802-767-4777  
**Electronic Mail Address:** mary@whiteriverpartnership.org

**SPONSORING FISH AND WILDLIFE SERVICE FISHERIES OFFICE**

**Fish and Wildlife Service Office:** Lake Champlain Fish and Wildlife Resources Office  
**Street:** 11 Lincoln Street  
**City, State, Zip:** Essex Junction VT 05452  
**Project Officer:** Christopher Smith  
**Telephone Number:** 802-872-0629  
**Facsimile Number:** 802-872-9704  
**Electronic Mail Address (if available):** chris\_e\_smith@fws.gov

**Date Submitted:** August 17, 2007

## PROJECT DESCRIPTION, SCOPE OF WORK, AND PARTNER INFORMATION

### A. Project Description and Scope of Work

Ayers Brook is a highly unstable stream that runs 11 miles through the towns of Brookfield, Braintree, and Randolph in central Vermont, and is the main tributary to the Third Branch of the White River. The brook trout (*Salvelinus fontinalis*) population in Ayers Brook watershed is listed as greatly reduced by the Eastern Brook Trout Joint Venture (EBTJV). The degraded condition of Ayers Brook is a serious problem since it has forced brook trout to move out of the main stem and into the tributaries, while at the same time reducing connectivity between these tributaries. The White River Partnership (WRP) is working to improve brook trout habitat along the main stem of Ayers Brook, in order to increase the population in Ayers Brook and restore connectivity between the tributaries. Increased brook trout populations in the Ayers Brook Watershed will support the goals and objectives of the EBTJV.

In 2006 and 2007, the White River Partnership (WRP) developed a River Corridor Management Plan (RCMP) to define a strategy for prioritizing restoration and protection efforts needed to effectively restore Ayers Brook. We selected Ayers Brook as the focus of a RCMP for several key reasons:

- The Ayers Brook Watershed has brook trout populations characterized as greatly reduced by the Eastern Brook Trout Joint Venture.
- Ayers Brook is among the streams experiencing the most instability and erosion in the White River watershed and demonstrates numerous water quality problems, including sedimentation, elevated temperatures, turbidity, *E. coli*, and other non-point source pollutants.
- Ayers Brook has been the focus of several scientific studies and assessments, resulting in a wide-ranging data set regarding habitat condition and restoration possibilities. These studies include Phase 1 and Phase 2 assessments deploying the Vermont River Management Program's *Stream Geomorphic Assessment Protocols*.

The goals of the Ayers Brook Corridor Restoration Project (ABCRP) are to:

- 1) Restore riparian and associated aquatic habitats and floodplain access along a 6.8-mile stretch of Ayers Brook
- 2) Prioritize the replacement and/or retrofitting of undersized structures on Ayers Brook.

To accomplish the first goal, the WRP has engaged 6 state and federal partners to restore Ayers Brook through the Conservation Reserve Enhancement Program (CREP), and the Vermont River Management's River Corridor Easement Program (RME). The WRP is working with RME to permanently conserve the river corridor along a 6.8-mile stretch of Ayers Brook, and with CREP to plant native trees and shrubs along this belt-width corridor. We are presently working with 9 contiguous landowners 3 of which have signed CREP/easement agreements. To accomplish the second goal, the WRP will be working with the Vermont Fish & Wildlife Department to apply prioritization guidelines to an existing bridge & culvert survey.

CREP and RME will provide substantial financial incentives to land owners by purchasing easements and covering 90% of the cost of restoration practices. We are therefore seeking EBTJV funding to cover the remaining 10% of the cost of restoration practices, and to help with the administrative costs of managing the bridge and culvert project.

All of the project sites are in private ownership and will be managed by the private landowners in accordance with CREP/RME easement agreements. All CREP agreements will be for a minimum of 15 years, and RME easements will be permanent. Projects will be assessed, planned, and managed by state and federal agency and WRP staff. Implementation of projects will be conducted by landowners, local contractors, and WRP volunteers in cooperation with agency staff.

The project will restore and protect riparian habitat at up to 9 contiguous sites encompassing 6.8 miles of stream (13.6 miles of stream frontage) and 147-acres of riparian habitat.

### B. Partner Information

Partner Name	Contribution In Kind	Contribution Cash	Federal or Non-Federal	Partner Category	Role of Partner
VT DEC Dept of Environ Cons	\$10,000	\$175,000	Non-Federal	State Agency	Purchase Easement, Geomorphic Expertise, Culvert Prioritization
VT FWD Fish and Wildlife Dept	\$10,000		Non-Federal	State Agency	Brook trout monitoring Brook trout stocking, Culvert Prioritization Project planning
VT AAFM Agency of Agriculture	\$2,000	\$35,000	Non-Federal	State Agency	Project planning, CREP Land Rental Payments
USDA FSA	\$2,000	\$225,000	Federal	Federal Agency	Project planning, 50% cost share fencing and trees (\$50,000), CREP Land Rental Payments (\$55,000)
USDA NRCS	\$2,000		Federal	Federal Agency	Project planning
USFWS	\$2,000	\$11,000	Federal	Federal Agency	Project planning, 5% cost share fencing and trees,
WRP White River Partnership	\$4,000	\$11,000	Non-Federal	Local Conservation Group	Project planning, Administration, Volunteer Coordination
Landowner		\$88,000	Non-Federal	Private Landowner	40% cost share fencing and trees
<b>Total</b>	<b>\$32,000</b>	<b>\$545,000</b>			<b>\$577,000</b>

The Vermont Department of Environmental Conservation will assist with project planning and will provide project funding. The Vermont Fish & Wildlife Department will assist with project planning. The Vermont Agency of Agriculture will provide project funding and assist with project planning. The Farm Service Agency will provide project funding and administration. The Natural Resources Conservation Service will assist with project planning, administration, and monitoring. The Partners for Fish and Wildlife Program will assist with project planning and implementation oversight, and will provide project funding. The White River Partnership (local watershed group) and private landowners will assist with project implementation by providing in-kind and cash contributions.

### **C. Milestones and Timeline**

October 2007 – March 2008: Project assessment, planning and administration

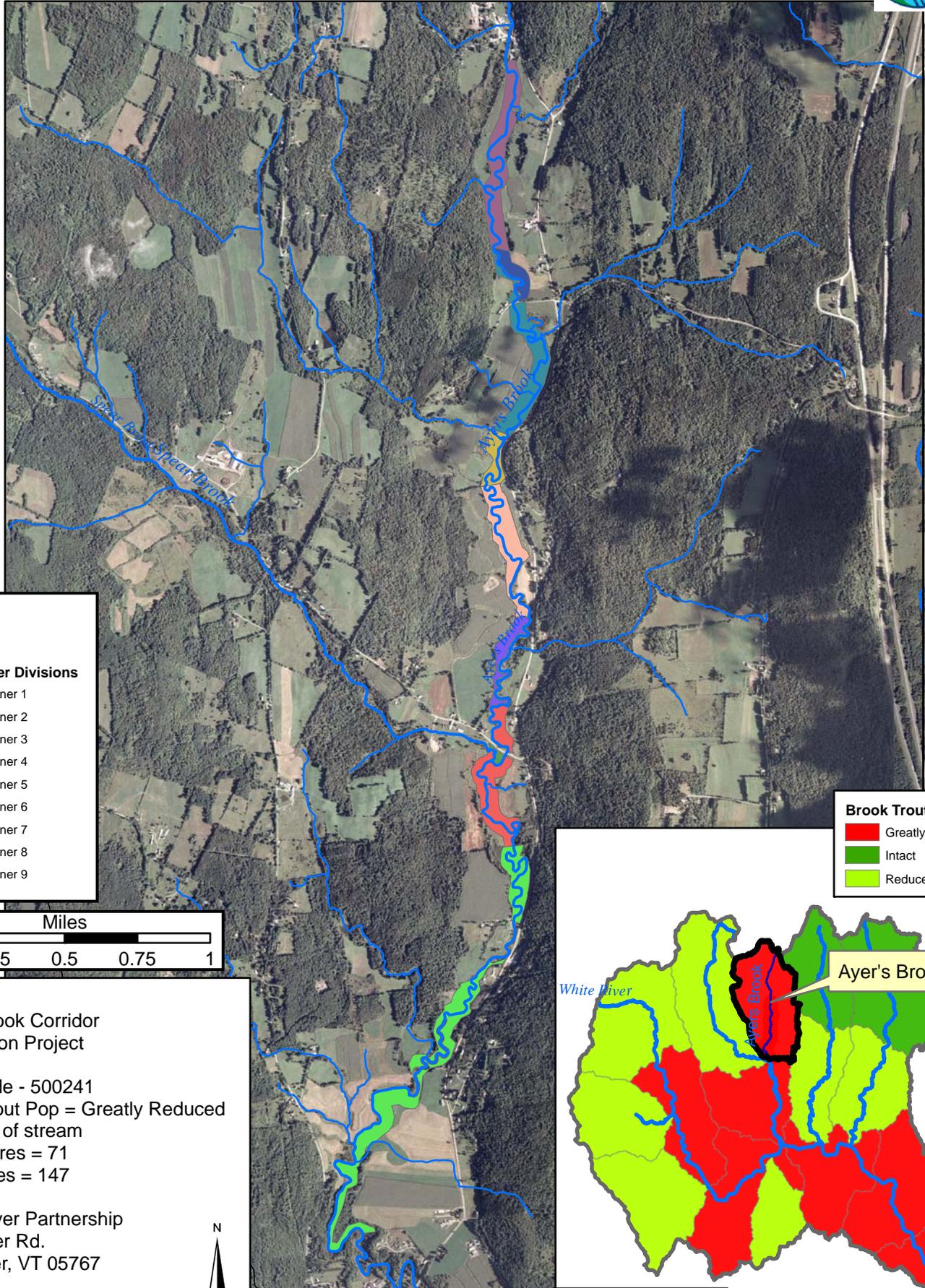
April – June 2008: Install fencing and plant trees on 3 project sites

July – September 2008: Conduct fish assessments

October 2008 – March 2009: Project assessment, planning and administration

April – June 2009: Install fencing and plant trees on 6 project sites

July – September 2009: Conduct fish assessments



**Legend**

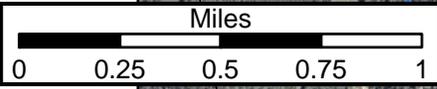
**RME**

**Landowner Divisions**

- Landowner 1
- Landowner 2
- Landowner 3
- Landowner 4
- Landowner 5
- Landowner 6
- Landowner 7
- Landowner 8
- Landowner 9

**Brook Trout Pop Status**

- Greatly Reduced
- Intact
- Reduced

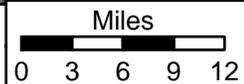
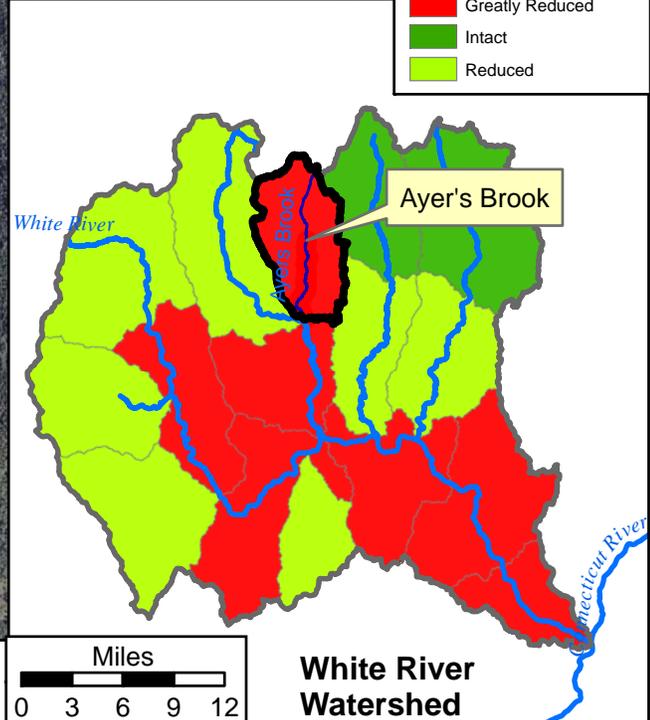


EBTJV  
Ayer's Brook Corridor  
Restoration Project

HUC Code - 500241  
Brook Trout Pop = Greatly Reduced  
6.8 miles of stream  
CREP acres = 71  
RME acres = 147

White River Partnership  
99 Ranger Rd.  
Rochester, VT 05767

USFWS  
Lake Champlain Field Office



#### IV. PHOTOGRAPH(S) OF PROJECT AREA



**View downstream from Bob Simpson's corn field. Ayers Brook is highly-sinuous with steep, eroding banks and little or no riparian buffer. Mary Russ, White River Partnership**



**View from Rte. 12 into Bob Simpson's flood-damaged corn field. Existing riparian buffer consists of invasive Japanese knotweed. Mary Russ, White River Partnership**

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

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or

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

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

2 photos on Ayers Brook, horizontal, Braintree, VT

Name: Mary Russ, White River Partnership

Address: 99 Ranger Rd., Rochester, VT 05767

Phone: 802-767-4600

Signature: Mary Russ

Date: 8-15-07



### V. PROJECT BUDGET

Partner	Activity	NFHAP Request	Non-Federal Contribution	Type	Federal Contribution	Total	Acres/Miles affected
VT DEC	Channel mgt Easement		\$175,000	cash		\$175,000	6.8
VT DEC	Salaries for Geomorphic Planning		\$10,000	in-kind		\$10,000	6.8
VT FWD	Salaries for brook trout monitoring, culvert prioritization, and planning		\$10,000	in-kind		\$10,000	6.8
VT Agency of Agriculture	CREP incentive payment		\$35,000	cash		\$35,000	6.8
VT Agency of Agriculture	Salary for planning services		\$2,000	in-kind		\$2,000	6.8
USDA FSA	Contractor services for fencing and tree planting			cash	\$110,000	\$110,000	6.8
USDA FSA	CREP Land Rental Payments			cash	\$115,000	\$115,000	6.8
USDA FSA	Salary for planning services			in-kind	\$2,000	\$2,000	
USDA NRCS	Salary for planning services			in-kind	\$2,000	\$2,000	6.8
USFWS	Contractor services for fencing and tree planting	\$11,000		cash		\$11,000	6.8
USFWS	Salary for planning services			in-kind	\$2,000	\$2,000	6.8
White River Partnership	Contractor services for fencing and tree planting	\$11,000		cash		\$11,000	6.8
White River Partnership	Salary for planning services	\$2,000	\$2,000	in-kind		\$4,000	6.8
Private landowners	Contractor services / in-kind labor for fencing and tree planting		88,000	cash		\$88,000	6.8
<b>Total</b>		<b>\$24,000</b>	<b>\$322,000</b>	<b>\$0</b>	<b>\$231,000</b>	<b>\$577,000</b>	<b>6.8 miles</b>

## VI. 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?**

CREP/easements have been signed with 3 landowners associated with the project. These agreements provide financial incentives through 2 programs: 1) the Vermont River Management Program's River Corridor Easement buys landowners' channel management rights to allow the brook to naturally restore stream processes including access to floodplains, and 2) the Conservation Reserve Enhancement Program pays landowners to take land out of production and restore fish and wildlife habitat.

#### **Does it include purchase in fee or of easement sufficient to protect brook trout habitat?**

The project includes purchase of permanent river corridor easements, and provides financial incentive in the form of a land rental agreement to protect and restore brook trout habitat.

#### **Does the project address specific objectives outlined in either a state, regional, or range-wide brook trout conservation strategy?**

Both the *Vermont Trout Conservation Strategies* and the *Vermont Management Plan for Brook, Brown and Rainbow Trout* place the highest priority on managing for wild self-sustaining trout populations through habitat protection, restoration and enhancement. Specifically, riparian vegetation protection/enhancement and habitat connectivity are key considerations for maintaining healthy brook trout populations. The ABCRP also addresses sedimentation and riparian habitat objectives outlined by the Eastern Brook Trout Status and Threats document for the State of Vermont.

#### **Does the project address objectives and goals outlined in state conservation management plans other than those specific to brook trout?**

The Vermont Fish and Wildlife Department's Wildlife Action Plan (WAP) lists several goals and objectives the ABCRP will address. For example the WAP lists the anadromous Atlantic salmon (*Salmo salar*) as a species of greatest conservation need the native brook trout as a species of medium conservation need. The WAP also identifies conservation strategies to address problems impacting species in need of conservation, including protecting and restoring riparian habitat and maintaining and restoring aquatic organism passage and habitat connectivity. Both of these conservation strategies will be implemented through the ABCRP.

### B. Endangered Species:

Ayers Brook is a tributary to the Third Branch of the White River, which is the longest free-flowing tributary to the Connecticut River. A population of federally endangered dwarf wedge mussels (*Alasmidonta heterodon*) are located just down stream of the confluence of the White and Connecticut Rivers. The ABCRP will benefit the dwarf wedge mussel by reducing sediment and other pollutants flowing into the Connecticut River.

This project will also benefit the Vermont State threatened brook floater (*Alasmidonta varicose*) and eastern pearlshell (*Margaritifera margaritifera*), and the state endangered pocketbook (*Lampsilis ovata*). All of these mussels occur in the White River below the restoration project.

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

The anadromous Atlantic salmon are present in the Ayers Brook Watershed. Habitat restoration activities associated with the ABCRP would also benefit Atlantic salmon.

**D. Special Considerations:**

Are there any special considerations, outside of sections A-D above, that you feel should be factored into project evaluation, e.g., threats, historical record, opportunities, trends or outstanding resource values, or benefits not represented elsewhere? The White River is part of the 7.2 million acre Silvio O. Conte National Wildlife Refuge. This refuge encompasses the entire Connecticut River watershed and its primary action is to involve the people of the watershed, especially landowners and land managers, in cooperative management projects. With seven local organizations and government agencies partnering with up to 9 landowners, the ABCRP is a model project within the refuge. In addition, the ABCRP seeks to address multiple conservation strategies within one project, by restoring riparian habitat, aquatic organism passage, and flood plain access along a 6.8-mile stretch of Ayers Brook. Finally, the ABCRP is the first implementation of the Vermont River Management Program's River Corridor Easement Program. The Program is designed to both protect the river corridor permanently as well as give the river room and time to restore geomorphic processes naturally.

**E. EBTJV Targeted Watershed:**

Based on the EBTJV Status and Threats map for Vermont the Ayers Brook Watershed is classified as greatly reduced.

**F. Habitat Connectivity and Enhancing Population Mobility:**

**Does the project connect to a watershed identified as intact or reduced?**

The Ayers Brook Watershed drains directly into the White River, of which most downstream reaches are classified as greatly reduced.

**Does the project expand habitat availability of existing native brook trout populations?**

The project will improve habitat on the main stem, thereby connecting existing habitat in tributaries. In combination with culvert replacement/retrofit prioritization, the project will significantly expand brook trout habitat.

**What is the probability of long-term success in supporting a sustainable fishable brook trout population in the project area?**

Given the focus on brook trout management by the Vermont Fish and Wildlife Department in the Ayers Brook Watershed, the probability of long-term success in supporting a sustainable fishable brook trout population is very good. All of the management agreements associated with the project will be for a minimum of 15 years. Most of the practices associated with the project will be sustainable for a minimum of 20 years – native tree establishment should provide lasting improvements for many decades. And the river corridor easements are permanent.

## **G. Management Assets:**

### **Is there an adaptive management component to the project?**

As a local watershed organization, the White River Partnership can easily monitor results and work with project partners to address issues that arise.

### **Will the project area be accessible to public fishing?**

The landowners will control all rights of access. Currently all sites are open to public fishing access.

### **Will the project have an educational component or is it being developed as a demonstration project for the Eastern Brook Trout Joint Venture?**

We are hopeful that this project will become a model for how we approach other highly impaired streams within the state of Vermont. It is the first demonstration of the application of belt-width protection within USDA's Conservation Reserve Enhancement Program combined with the Vermont River Management Program's River Corridor Easement. As a result, the project will provide an invaluable educational opportunity to the entire restoration community to witness how to improve and connect habitat while giving the brook room to restore floodplain access naturally.

## **H. Supporting Documentation**

Ayers Brook River Corridor Management Plan, Towns of Brookfield, Braintree, Randolph, and Roxbury, Vermont. Bear Creek Environmental. 2007.

Eastern Brook Trout Conservation Strategy. EBTJV. 2005.

Eastern Brook Trout Status and Threats: Vermont. EBTJV. 2006.

Fichtel, C. and Smith, D. G. The Freshwater Mussels of Vermont. Tech Report 18. Nongame & Natural Heritage Program – Vermont Fish and Wildlife Department. 1995.

Vermont Management Plan for Brook, Brown and Rainbow Trout. Vermont Department of Fish and Wildlife. 1993.

Vermont's Wildlife Action Plan. Approved by U. S. Fish and Wildlife Service, 2005.



## State of Vermont

## AGENCY OF NATURAL RESOURCES

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Department of Fish and Wildlife  
Department of Forest, Parks and Recreation  
Department of Environmental Conservation

DEPARTMENT OF FISH AND WILDLIFE  
District Fisheries Office  
3902 Roxbury Road  
Roxbury, Vermont 05669  
(802) 485-7566

Lila Borge Wills, Coordinator, Fish & Wildlife Information Exchange  
Conservation Management Institute  
1900 Kraft Dr. Suite 250 MS 0534  
Blacksburg, VA 24061

Re: Ayers Brook Project Proposal (White River Partnership, VT)

The White River Partnership has developed a project proposal for funding through the Eastern Brook Trout Joint Venture which includes the protection and enhancement of riparian areas as well as improving connectivity at stream/road crossings. The Vermont Department of Fish and Wildlife heartily supports this project.

Ayers Brook supports abundant wild brook trout in its upper reaches, but these populations decline rapidly below East Granville. I expect thermal issues to be the primary reason, as agriculture and development have largely eliminated mature riparian vegetation. In addition, excessive erosion and sedimentation in the lower reaches are likely contributing factors limiting these populations.

Statewide angler surveys conducted in 1991 and 2000 indicate brook trout are the fish species most targeted by resident anglers and was their most preferred species for open-water fishing in Vermont. Ayers Brook is currently managed as wild trout water in the reach above East Granville. Limited stocking of hatchery-reared brook trout occurs in the lower 4.4 miles to provide recreational fishing opportunities. Expanding necessary habitat to support wild brook trout populations downstream will enhance the recreational fishery and eliminate the need for stocking.

The proposed project fits well with state brook trout management goals as described in the *Vermont Trout Conservation Strategies* and the *Vermont Management Plan for Brook, Brown and Rainbow Trout*. Both documents place the highest priority on managing for wild self-sustaining trout populations through habitat protection, restoration and enhancement. Specifically, riparian vegetation protection/enhancement and habitat connectivity are considered key considerations for maintaining healthy brook trout populations.

Please feel free to contact me for any additional information.

Sincerely,

Rich Kirn  
Fisheries Biologist  
Vermont Department of Fish and Wildlife