

**DECISION MEMO****For****GREAT BROOK PROJECT  
TOWN OF STONEHAM  
OXFORD COUNTY  
MAINE**

USDA Forest Service  
Saco Ranger District  
White Mountain National Forest  
33 Kancamagus Highway  
Conway, NH 03818

**I. DECISION****A. Description of Decision**

It is my decision to restore and improve fish habitat and watershed conditions of Great Brook, its tributaries Shirley Brook, Red Rock Brook, and several other unnamed drainages (See Figures 1 and 2). This is to be implemented over the next 5 years through the following actions:

1. Restore stream habitat by increasing pool habitat and woody cover in approximately 7000' of Great Brook and its tributaries above the gated bridge using whole trees, root wads, and boulders.
2. Remove deteriorating bridge abutments at a former Great Brook crossing.
3. Accelerate succession of adjacent young forest stands by removing trees from dense areas and placing trees in the tributaries to create pools, store organic material and create spawning habitat.
4. Restore stream habitat and floodplain features in ¼ mile sections of an upper and lower un-named tributary to Great Brook.

The project would occur in the headwaters of the Great Brook watershed, which flows more than 6 miles into Kezar Lake. All work would occur on National Forest land more than two stream miles upstream of private land. The project area lies within Management Area (M.A.) 3.1, designated in the WMNF Plan (III-36). This project is designed to meet one goal of the WMNF, which is to restore and maintain the biological diversity of indigenous aquatic species and their associated habitats. This stream restoration project would not compromise other resource goals of the area.

A portion of the trees used will be from the perimeter of the Shirley Valley wildlife opening and hauled to the structure sites. Other trees will be removed from along Forest Road 721 (See Figure 3). These trees will be removed with the roots intact using heavy equipment and hauled to specific sites on the stream. Some trees also will be cut and hand carried to the stream for structure creation or laid down in the riparian zone adjacent to the stream to increase floodplain stability. The entire project will be implemented over a span of 5 years with different sections of the watershed worked on each year. Each section will be

implemented in a two to three week time period during the summer.

## B. Purpose of Decision

The purpose of this project is to restore and improve fish habitat and watershed conditions of Great Brook, its tributaries Shirley Brook, Red Rock Brook, and several other unnamed drainages. Historical land use practices have affected watershed functions and stream habitat conditions in many of the streams on the WMNF. Research has shown that many rivers and brooks were altered from turn-of-the-century logging drives and also subsequent agricultural practices. In New England, wood was removed from streams, boulders were blasted, riparian forests were cleared, and various farming practices occurred within these cleared areas. The Great Brook watershed was once home to a small community of sheep farms and spruce sawmills. Today these logged and farmed areas are once again forested, although much of the area is dominated by young hardwood stands. Removal of the forest and farming of the area resulted in stream channels which were over-widened, a loss of stream fish habitat diversity, and old roads serving as run-off channels. The input of downed trees and boulders into the brooks, and the elimination of old road features serving as drainage routes is needed to improve high quality habitat conditions for self-sustaining wild brook trout populations and other aquatic/riparian dependent species.

Eastern brook trout has been identified as the Management Indicator Species for coldwater streams on the WMNF (Forest Plan VII-B-9). The Forest Plan identifies habitat standards for coldwater streams and the native brook trout. Habitat inventories were conducted during 1991-93 in Great Brook and its tributaries. Due to the young age of the surrounding forests, habitat conditions have changed very little since the formal inventories. Habitat conditions documented from inventories are compared to desired habitat conditions below:

Stream Habitat Standards (Desired Future Condition)	Great Brook	Red Rock Brook	Shirley Brook	Beaver Brook	Willard Brook
Water Temperature (< 72° F Daily Maximum)	74°	63°	57°	57°	70°
Stream Canopy Cover (>50%)*	50-75%	50-75%	>75%	>75%	50-75%
Pool Area (> 20%)	4%	7%	7%	3%	2%
Instream Cover (> 20%)	11-20%	11-20%	11-20%	20-30%	11-20%
Large Woody Material >12" diameter (> 50 pieces per mile of stream)*	3	6	2	35	10

\*Currently not goals in the Forest Plan but are being considered for plan revision.

This project is being proposed because habitat conditions on Great Brook and its tributaries do not meet the Forest Plan Standard and Guidelines for pool habitat in brook trout streams (Forest Plan III 15b), there is less large woody material per mile than undisturbed stream systems on the Forest. The Forest Plan recommends that brook trout streams provide at least 20% pool area. Great Brook and its tributaries all measured below this level. Studies in the White Mountain National Forest have indicated that large woody material in streams create pool habitat (Underwood et al 1998). Counts of large woody material in Great Brook and its tributaries were less than the 50 pieces per mile desired. Counts of large woody material on an undisturbed stream on the White Mountain National Forest approached 300 pieces per mile (Underwood et al 1998). Increases in habitat diversity are needed to increase production of wild brook trout in the Great Brook watershed

## II. REASONS FOR CATEGORICALLY EXCLUDING THE DECISION

Decisions may be categorically excluded from documentation in an environmental impact statement or environmental assessment when they are within one of the categories identified by the U.S. Department of Agriculture in 7 CFR part 1b.3 or one of the categories identified by the Chief of the Forest Service in Forest Service Handbook (FSH) 1909.15 sections 31.1b or 31.2, and there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative environmental effect.

### **A. Category of Exclusion**

The project is within the category of exclusion 31.2(7) that includes, "Modification or maintenance of stream or lake aquatic habitat improvement structures using native materials or normal practices."

Based on the review of specialist's reports and other analysis information contained in the project file, and on past experience implementing similar projects on the White Mountain National Forest and the Green Mountain National Forest, I have determined the environmental effects associated with this project are not significant. I have made this decision because it will initiate restoration of a watershed impacted by past human activities and it will help enhance instream habitat for eastern brook trout in the Great Brook watershed. This action fully complies with Forest Plan Standards and Guidelines for resident fisheries (Forest Plan III 15b - 15c.) Past monitoring indicates a self-sustaining brook trout population is present in Great Brook and its tributaries. The stream channel in the area of the project is considered stable.

### **B. Relationship to Extraordinary Circumstances**

The following is a summary of our analysis of extraordinary circumstances in the project area.

**Steep Slopes or highly erosive soils** There are no steep slopes in the project area. This is supported by topographical map review and field visits as described in the Project File. Soils in the streamside zone could be erosive. However, locations where the excavator would enter or exit the stream are gentle and flat so the likelihood of erosion is substantially lessened. Sections of the stream banks themselves may be eroding due to past human farming and logging practices, however an objective of the project is to restore and stabilize these areas. Field review (monitoring) of similar projects on the White Mountain National Forest and the Green Mountain National Forest validates acceptable resource effects from similar activities.

**Threatened or Endangered Species** The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered, or result in adverse modification to such species' designated critical habitat. In accordance with Section 7(c) of this Act it was determined this project would have no effect on Canada lynx and is consistent with the Conservation Measures outlined in the Canada lynx Conservation Assessment (United States Forest Service (USFS) 2000). It also was determined this project may affect but is not likely to adversely affect Indiana bat. The project is consistent with the Terms and Conditions outlined in the Biological Opinion (United States Fish and Wildlife Service (USFWS) 2000) (Biological Evaluation in Project File).

A copy of the Biological Evaluation was sent to USFWS on November 23, 2002 for concurrence with effects determinations on Indiana bat and Canada lynx, compliance with the Terms and Conditions for Indiana bat and consistency with the Conservation Measures outlined in the Canada Lynx Assessment and Strategy. The USFWS concurred with our determinations and agreed the project is in compliance with the Terms and Conditions listed for Indiana bat and consistent with the Conservation Measures outlined for

Canada lynx (December 23, 2002, Letter in Project File).

It was determined the project may affect individuals of the eastern small-footed bat and northern bog lemming but would not likely cause a trend toward federal listing or loss of viability. This project would have no effect on any other listed species on the White Mountain National Forest (BE 2002).

**Flood plains, wetlands or municipal watersheds.** General Direction in the Forest Plan for floodplains and wetland protection is related to the two Executive Orders on floodplains (11988) and wetlands (11990). These Executive Orders state that construction or rehabilitation of structures and facilities in riparian areas will be designed to maintain or enhance the beneficial value of floodplains and wetlands and minimize the risk of investment loss by flood proofing or modifying the structure or facility. The project is designed to improve the functioning of the floodplain and riparian area that was previously affected by land-use practices. Increased amounts of woody material are beneficial to the stream and riparian area by adding roughness to dissipate flood energies and encouraging the formation of diverse stream habitat features, which are lacking in this watershed.

The proposed action will not result in degradation to the floodplain, associated wetlands, or riparian area. Short-term effects will quickly be restored through mitigation during and after project implementation. Long-term effects are expected to be beneficial. Monitoring will occur and if deleterious effects are observed, corrective actions will be prescribed and implemented in a timely manner. By improving conditions in the floodplain and associated wetland and riparian area, this project meets the objectives of the above stated Executive Orders.

All necessary permits (Maine Department of Environmental Protection and if necessary the Army Corps of Engineers) will be obtained prior to project implementation. Forest Service personnel will follow Forest Plan Standards and Guidelines (Forest Plan III 19-20), and any other mitigation measures required by the permitting agencies during project implementation to minimize impacts to the floodplain and associated wetlands.

Neither Great Brook nor its tributaries are used as municipal water sources. (See Map A). This decision will not affect municipal watersheds.

The Forest has several years of experience implementing instream habitat improvements on the White Mountain National Forest at Evans Brook in Batchelders Grant and at Bog Brook in Gilead, Maine. The post-monitoring data collection is still in the initial phases however a review of thirty sites (15 sites where large woody material was added to a streams and 15 paired-control sites) on nine stream systems on the Green Mountain National Forest had successful results (Green Mountain National Forest Monitoring Report 2000, available in Supervisors Office, Rutland, VT). This review found streams that had been treated had increases in pool area and quality, instream large woody material, aquatic insect diversity, and brook trout abundance and size. These monitoring results are applicable to instream habitat work on the White Mountain National Forest as we are treating similar sized stream systems.

The Great Brook restoration project will serve as a demonstration area for local, state, and federal government agencies, as well as watershed groups, to learn about various stream restoration techniques, the value of downed wood in stream channels and floodplains, and the tradeoffs encountered when planning developments along stream courses. The Forest has been working with researchers to establish long term monitoring sites on 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> order stream sections of the project, as well as control sites on nearby brooks. Physical studies will focus on stream channel and floodplain changes through the use of cross sectional measurements and longitudinal profiles. Various measures of sediment storage, habitat diversity,

wood and organic storage, stream macroinvertebrate diversity, and coldwater fish production will also be documented.

**Congressionally designated areas such as wilderness, wilderness study areas, or National Recreation Areas.**

- The project is not located within a designated Wilderness Area. The Caribou-Speckled Wilderness Area (Map of Wilderness Areas on the White Mountain National Forest in Project File) is located at the upper-most sections of the Great Brook watershed within ¼ mile of the Great Brook project. All project activities are downstream of the Wilderness Area, therefore no resource impacts to the wilderness are expected. This decision, with impacts limited to the immediate area of activity, will not affect the Wilderness Area.
- There are no designated National Recreation Areas on the White Mountain National Forest.
- The project area is not within a roadless area. The Caribou-Speckled Inventoried Roadless Area, the closest roadless area, is just north of the project area (Map in the Project File). This decision will not affect roadless areas.
- There are no Research Natural Areas in the decision area. (Map of Research Natural Areas in Project File). This decision will not affect Research Natural Areas.

**Native American religious or cultural sites, archaeological sites, or historic properties or areas.**

The project area has several known historic sites. The area was surveyed by a paraprofessional and all sites have been documented. In addition several local residents who either grew up in the area or had relatives who grew up in this area were located and information of past land uses recorded. The project proposal calls for minimal ground-disturbing activities. It is the intent of the project to retain the historical significance of the area while restoring watershed functions. Project implementation and access routes have been designed to avoid all historical sites. A letter from the Maine State Historic Preservation Officer concurs this project would have no effect on historic properties within the area. (Letter in Project File; Heritage Resource Reconnaissance Report in Permanent File).

**No other extraordinary circumstances related to the project were identified.**

### **III. PUBLIC INVOLVEMENT**

This project was listed in the White Mountain National Forest Quarterly Schedule of Proposed Actions on October 1, 2001. It has been listed in all subsequent editions. A public involvement (scoping) letter was mailed from the Saco Ranger District to 107 people or organizations on February 5, 2002. A list of those contacted through the scoping process can be found in the Project File. The letter described the proposed project and requested comments and concerns from the public. The list included individuals and groups who are interested in management activities on the Saco Ranger District and/or the White Mountain National Forest. It also included fisheries groups, state agencies, and all abutters of Great Brook or the Hut Road.

Seven responses were received concerning this project.

**1. Four respondents offered strong support for the goals and methods proposed. Two of these were from abutters who were in complete support, with one volunteering to assist during implementation. One of these was an angler who had a strong interest in supporting management to improve wild trout fisheries. In addition he requested the Forest cease all hatchery stocking of fish and put on harvest restrictions in wild trout streams. One was from the District Manager of the Oxford County**

**Soil and Water Conservation District who supported the project with the use of non-point source control methods to protect Kezar Lake.**

The support for this project is noted.

The Forest Plan supports angler use of the forest as well as stocking of trout. Great Brook is not currently stocked with hatchery-raised trout and the Maine Division of Inland Fish and Wildlife has not indicated a desire to initiate stocking this brook.

To address the concern of equipment in the channel and water, the following mitigation measures will be implemented:

- A Forest Service staff person will be present at all times during project implementation to ensure mitigation measures are followed.
- Inspection of equipment will occur prior to use and before each entry into the channel. Equipment will be checked at possible leak points for potential problems. No equipment with existing leaks will be allowed in the channel.
- Any storage of oil or petroleum products will be well away from the river or wetlands.
- Keep excavator well away from the river or wetlands when refueling or adding hydraulic fuel.
- Four spill kits will be on site at all times with the ability to absorb 30 gallons each. Spill kits contain one forty foot absorbent boom, absorbent pads, disposal bags with ties, tarp, gloves, safety glasses, eye flush, spill response guide and Hazmat Spill Plan (Plan in Project File). One kit will be located in the excavator or forwarder, two downstream and one at bottom of the project area. A boom will be set up across the stream prior to any heavy machinery entering the stream.

**One respondent was concerned about the project's impact on a nearby snowmachine trail.**

The snowmobile trail crosses the bridge at the lower end of the project area and continues in a direction that never enters the project area. This project would have no effect on the existence or use of this snowmobile trail.

2. **One respondent was hoping this project could help protect an undeveloped tract of private land on Kezar Lake.**

The WMNF has no jurisdiction on private lands.

3. **One respondent had three areas of concern:**
  - a. **That the swimming holes downstream of the project area would not be affected**
  - b. **That the summer work schedule may be disruptive during the time he visits**
  - c. **That tree removal along FR 721 would "change the character of this trail".**

Implementation of the project would not change the flow or volume into the existing swimming holes downstream of the project area. We realize that sediments will be disturbed during project implementation and there will be a temporary increase in downstream turbidity. We feel any increase in stream turbidity

will be within the natural range of disturbance that would occur during high flow events and that it is unlikely that implementation of this project will degrade aquatic habitat downstream. All necessary permits, will be obtained prior to project implementation.

The summer schedule is done to occur during low-flow periods, dry road conditions, and because there is a Forest Plan Standard and Guideline (Forest Plan III – 22) that says instream work should not occur in streams during the egg incubation period (October through April). This Standard and Guideline refers to culvert and abutment installation but is applicable to this situation too.

It was explained to this respondent that the area along FR 721 may not appear exactly as it does now, but that this was a location where suitable trees for the project did exist. The Forest will make sure the road is not damaged, natural slope is maintained and that residual trees not be severely damaged. It was also explained to the respondent that what may look like a trail due to lack of recent activity is actually a road.

In summary, none of the comments received brought up extraordinary circumstances and potential effects to those resources or issues that would cause an alteration of the proposed action

#### **IV. Other Findings**

My decision will comply with all applicable laws and regulations.

The proposed action meets management direction for Management Area 3.1 to provide a balanced mix of habitats (Forest Plan III-30) as well as Forest Plan Standards and Guidelines to meet desired habitat goals for brook trout (Forest Plan III-15 a-c). The proposed action also is in accordance with the requirements of 36 CFR 219.27 (a) (6) because it provides for adequate habitat to maintain existing fish populations. It also is in compliance with all other relevant management requirements set forth in the National Forest Management Act (36 CFR 219.27 (a)-(g)).

#### **V. ADMINISTRATIVE REVIEW OR APPEAL**

This decision is not subject to a higher level of administrative review or appeal pursuant to 36 CFR 215.8. This project proposal does not fall within one of the categories recently determined appealable via the Heartwood II Settlement.

#### **VI. IMPLEMENTATION DATE**

Implementation of this project will begin in the summer 2003 and continue for approximately two to three weeks contingent on receiving all necessary permits. Additional work will occur for a two to three week period in the summers of 2004, 2005, 2006, and 2007 to complete the project.

#### **VII. CONTACT PERSON**

For further information on the decision, contact Kathy Starke, District Wildlife Biologist at the Saco Ranger District (Address: 33 Kancamagus Hwy. Conway, NH 03818); phone: 603-447-5448 (ext. 118), TTY number (hearing impaired) 603-447-3121, or Terry Miller, District Ranger at 603-466-5448 (ext. 102).

#### **VIII. SIGNATURE AND DATE**

I have concluded that this decision may be categorically excluded from documentation in an environmental impact statement or environmental assessment as it is within one of the categories identified by the U.S. Department of Agriculture in 7 CFR part 1b.3 or one of the categories identified by the Chief of the Forest Service in Forest Service Handbook (FSH) 1909.15 sections 31.1b or 31.2, and there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative environmental effect. My conclusion is based on information presented in this document and the entirety of the Planning Record.

*Terry Miller*

TERRY MILLER  
District Ranger

*May 22, 2003*

Date

enclosures

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Figure 1

# Vicinity Map Great Brook



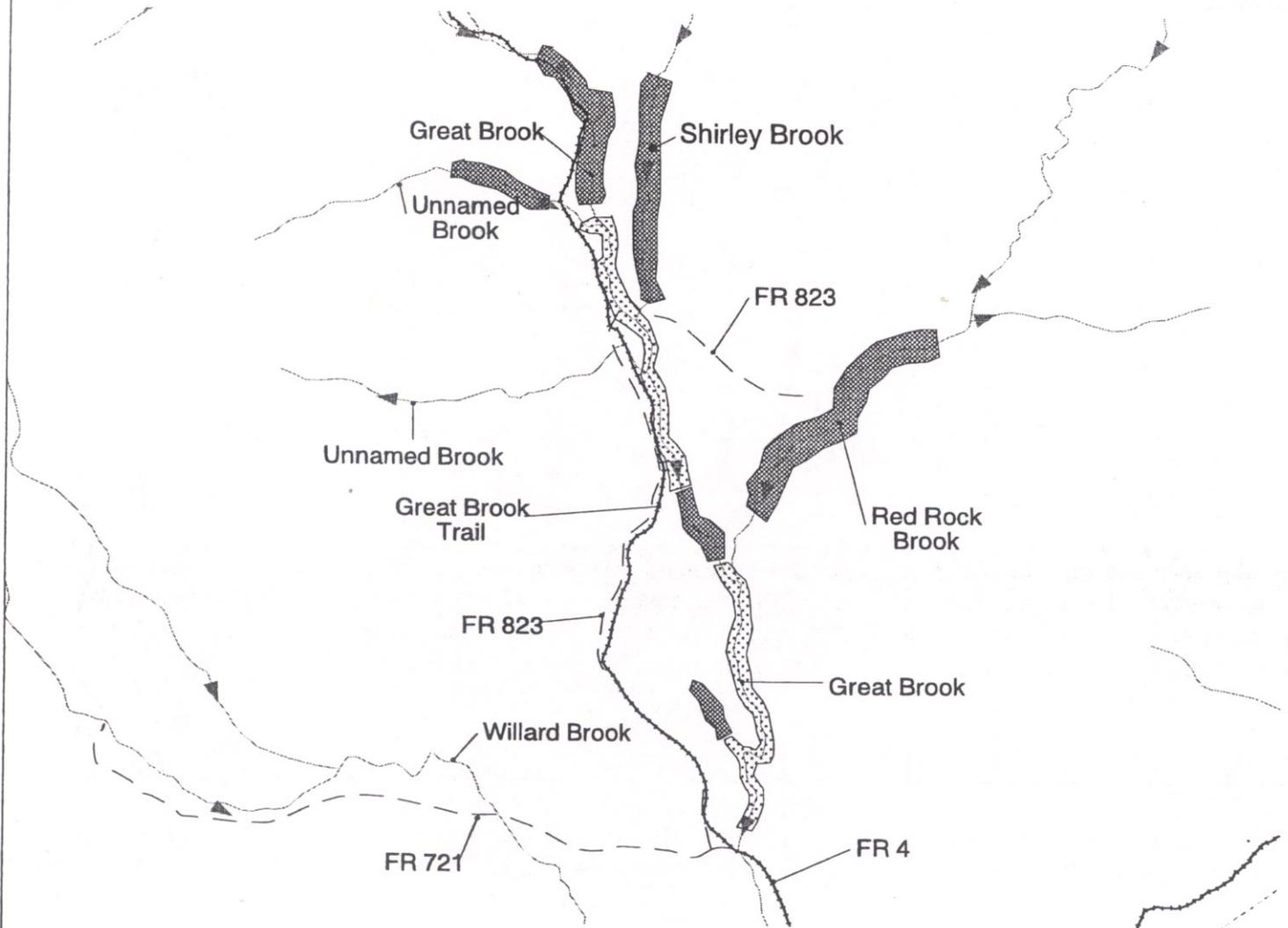
**White Mountain National Forest**



KS 1/30/02

Figure 2

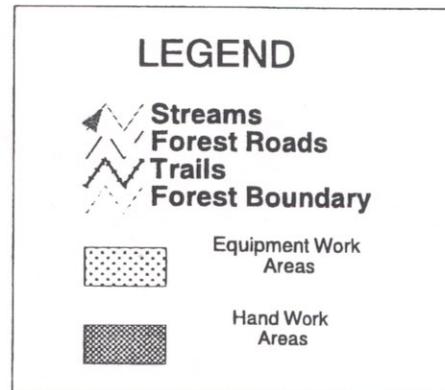
# Work Areas I



0.2 0 0.2 0.4 Miles



KS 1/30/02





# Great Brook

MAP A

Issue Locations

- Me pubwater
- municipal water
- Wmfrds
- ∩ roads
- Hydro\_clip
- ∩ streams
- Wm\_waterbody
- lakes and ponds
- Wm wetlands
- Wm wilderness
- wilderness
- inventoried\_roadless.shp
- roadless areas
- Me\_counties\_sfp.shp

0 1 2 Miles

1" = 2.0 miles



Original data was compiled from multiple source data and may not meet the U.S. National Mapping Accuracy Standard of the Office of Management and Budget.

For specific data, source dates and/or additional digital information contact the Forest Supervisor,  
WHITE MOUNTAIN NATIONAL FOREST  
LACONIA NH

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