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Montana Department of Fish Wildlife and Parks

1420 E. 6th Ave P.O. Box 200701, Helena, MT 59620-0701

Environmental Assessment

Project: Eastern brook trout suppression in Jumping Creek (Smith River basin)

Division: Fisheries Division

Description of Project: Eastern brook trout will be suppressed in 2 miles of Jumping Creek with backpack electrofishing gear from 2005 to 2010. This action will benefit the remnant pure westslope cutthroat population that resides in the headwaters of Jumping Creek.

Potential Impact on the Physical Environment

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats			X			X
2. Water quality, quantity & distribution				X		
3. Geology & soil quality, stability and moisture				X		
4. Vegetative cover, quantity & quality				X		
5. Aesthetics				X		
6. Air quality				X		
7. Unique, endangered, fragile or limited environmental resources		X				X
8. Demands on environmental resources of land, water, air & energy				X		
9. Historical & archaeological sites				X		

DRAFT

Potential Impacts on the Human Environment

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Social structures & mores				X		
2. Cultural uniqueness & diversity				X		
3. Local & state tax base & tax revenue				X		
4. Agricultural or industrial production				X		
5. Human health				X		
6. Quantity & distribution of community & personal income				X		
7. Access to & quality of recreation and wilderness activities			X			X
8. Quantity & distribution of employment				X		
9. Distribution and density of population & housing				X		
10. Demands for government services				X		X
11. Industrial and commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flow				X		

Other groups or agencies contacted or which may have overlapping jurisdiction: U.S. Forest Service; Public notification via the State of Montana web site (<http://fwp.state.mt.us/publicnotices/>).

List of Individuals or groups contributing to this EA: Travis Horton, MFWP, Great Falls, MT; Michael Enk, Fisheries Biologist, Lewis and Clark National Forest, Great Falls, MT

Recommendation concerning preparation of EIS: No EIS Required. Action expected to be minor.

EA prepared by: David Moser, Fisheries Biologist, Montana Fish, Wildlife & Parks Date: March 11, 2005

Comments will be accepted until: May 31, 2005

Comments should be sent to: David Moser, MFWP, c/o USFS, P.O. Box 869, Great Falls, MT 59403; dmoser@fs.fed.us

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ENVIRONMENTAL ASSESSMENT EASTERN BROOK TROUT SUPPRESSION IN JUMPING CREEK

I. Description of proposed action

A. Description of water body and action.

Name: Jumping Creek, Water Code 17-3872
Location: T12N R7E Sec. 8
County: Meagher County

Jumping Creek is a tributary to Sheep Creek in the Smith River drainage. Jumping Creek enters Sheep Creek near Highway 89 between Neihart and White Sulphur Springs Montana. Sheep Creek enters the Smith River about nine miles north of Fort Logan, Montana. Eastern brook trout (*Salvelinus fontinalis*) will be suppressed for 1-5 years in approximately 2 miles of stream in Jumping Creek using electrofishing equipment. Suppression efforts will enhance the survival of a small population of genetically pure westslope cutthroat trout (*Oncorhynchus clarki lewisi*).

B. Need for Action

The cutthroat trout is the Montana State Fish and is a Class A Species of Special Concern in Montana. Genetically pure WCT are thought to occupy about 8% of their historical range in the western United States (Shepard et al. 2003) and less than 3% of their historical range in northcentral Montana within the Missouri River drainage (Moser 2003). The Smith River drainage in Montana currently supports 3 to 4 pure populations of pure WCT (Moser 2003). Surviving populations are relegated to very short headwater sections of stream (<5 miles). Major threats to WCT include competition and hybridization with non-native rainbow trout (*Oncorhynchus mykiss*) (Leary et al. 1987; Allendorf et al. 2001) and competition with brook trout (Dunham 2003; Peterson et al 2004).

Surveys in 2004 indicated that Jumping Creek was supporting a small population of WCT in its headwaters. Fin clips were taken from fish sampled in 2004 and results from genetic testing (Leary and Wright 2004) indicated WCT in Jumping Creek were genetically pure. Brook trout currently outnumber WCT by 4 to 1 in upper Jumping Creek. Suppression efforts are a temporary measure until the feasibility of other restoration options, specifically barrier construction and movement to more protected habitats, are analyzed. Without suppression this population will likely be completely displaced by brook trout in the near future (Dunham 2003).

II. Impacts of the proposed action

Please review the attached checklist. The impacts of this action are included in the Environmental Assessment checklist and the following text addresses the impacts.

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A. Impacts to the Physical Environment

1) Terrestrial and Aquatic Habitat

Brook trout numbers will be temporarily reduced in approximately 2 miles of stream at the headwaters of Jumping Creek. Brook trout will rapidly recolonize (1-2 years) the suppressed reach of stream but repeated suppression efforts should help WCT persist in the presence of brook trout (Peterson et al. 2004). Brook trout will be suppressed in Jumping Creek until other measures can be implemented to protect or restore WCT. Brook trout are common in tributaries to Sheep Creek and in the Lewis and Clark forest streams in general. Approximately four miles of stream downstream of the area of suppression will be unaffected and will continue to provide ample opportunities to catch brook trout.

7) Unique, endangered, fragile or limited environmental resources.

This proposed action should have a positive impact on the WCT population. WCT is a species of special concern and any efforts to improve its status will help in delaying or preventing future listing under the Endangered Species Act.

B. Impacts to the Human Environment

7) Access to and Quality of Recreational Activities

Angler harvest in Jumping Creek may be reduced since WCT cannot be harvested. However, opportunities for harvest will exist in more easily accessible downstream areas of Jumping Creek and Sheep Creek. Restoration of WCT will provide the opportunity for anglers to catch an increasingly rare fish species native to northcentral Montana.

8) Demands on Government Services

This action will be undertaken by fisheries staff as part of normal field operations. Other fisheries projects involving WCT may be postponed because of the immediate threat to WCT persistence in Jumping Creek.

III. Discussion of Reasonable Alternatives

1) No Action

The “No Action” Alternative would result in a higher probability that the WCT population in Jumping Creek will become extinct in the near future. There would be no impacts on angler harvest of brook trout under the “No Action” Alternative. The MFWP and USFS have agreed to take actions to benefit WCT as signatories to the Memorandum of Understanding and Conservation Agreement (MFWP 1999). Small isolated populations such as Jumping Creek contain the remaining genetic legacy of upper Missouri River cutthroat trout. Potentially valuable heritable genetic traits will be lost forever if these populations are not preserved by suppressing invading brook trout.

DRAFT

IV. Environmental Assessment Conclusion Section

- 1) **Is an EIS required?** No, the action is expected to be minor and beneficial.

References

- Allendorf, F.W., R.F. Leary, P. Spruell, and J.P. Wenburg. 2001. The problems with hybrids: setting conservation guidelines. *Trends in Ecology and Evolution* 16:613-622.
- Dunham, J.B., S.B. Adams, R.E. Schroeter, and D.C. Novinger. 2003. Alien invasions in aquatic ecosystems: toward an understanding of brook trout invasions and potential impacts on inland cutthroat trout in western North America. *Reviews in Fish Biology and Fisheries*. 12:373-391.
- Leary, R.F., and B. Wright. 2004. University of Montana Genetics Lab. Report to Anne Tews, dated December 3, 2004.
- Leary, R.F., F.W. Allendorf, S.R. Phelps, and K.L. Knudsen. 1987. Genetic divergence and identification of seven cutthroat trout subspecies and rainbow trout. *Transactions of the American Fisheries Society*. 116:580-587.
- Moser, D., A. Tews, M. Enk., S. Dalbey, A Harper, T. Horton, D. Yerk. 2003. Northcentral Montana cooperative cutthroat restoration project; 2003 Annual Report. Montana Fish, Wildlife & Parks, Great Falls, Montana.
- Peterson, D.P., K.D. Fausch, and G.C. White. 2004. Population ecology of an invasion: effects of brook trout on native cutthroat trout. *Ecological Applications*. 14(3):754-772.
- Shepard, B.B., B.E. May, W. Urie. 2003. Status of westslope cutthroat trout (*Oncorhynchus clarki lewisi*) in the United States: 2002. Westslope Cutthroat Interagency Conservation Team.
- Shepard, B.B., B.E. May and W. Urie. 2002. Status of westslope cutthroat trout (*Oncorhynchus clarki lewisi*) in the United States: 2002. Westslope Cutthroat Interagency Conservation Team. 94 pp.