Montana Department of Fish, Wildlife & Parks

1420 E. 6th Ave, Helena, MT 59620

Environmental Assessment

Elkhorn Mountains Westslope Cutthroat Trout Recovery Program: McClellan Creek Westslope Cutthroat Trout Restoration Project

PART I. PROPOSED ACTION DESCRIPTION

1. Type of Proposed State Action:

The proposed project is designed to help secure a native and genetically pure westslope cutthroat trout (WCT) population in the upper McClellan Creek drainage (above Willard Creek) by reducing competition from nonnative trout. Nonnative trout would be removed from the project reach using mechanical removal methods including electrofishing and trapping. A barrier to upstream migration would also be constructed at the lower end of the project to prevent nonnative trout reinvasion. The project is part of the overall Elkhorns Cutthroat Trout Recovery Program (FWP 1999a) that is intended to ensure the long-term persistence of the seven remaining WCT populations in the Elkhorn Mountain Range.

2. Agency Authority for the Proposed Action

Montana Fish, Wildlife & Parks "…is hereby authorized to perform such acts as may be necessary to the establishment of and conduct of fish restoration and management projects…" under statue 87-1-702.

3. Name of Project

McClellan Creek Westslope Cutthroat Trout Restoration Project

4. If Applicable:

Estimated Construction/Commencement Date:

- Barrier construction – July 2002
- Non-native trout removal – July/August 2002.

Estimated Completion Date:

- Barrier construction – July/August 2002
- Non-native trout removal – 5 years pending monitoring results and internal review

Current Status of Project Design (% complete): 100%

5. Location Affected by Proposed Action (county, range and township)

Jefferson County, R2W, T8N

6. Project Size: Estimate the number of acres that would be directly affected that are currently:

1. Developed/ residential – 0 acres
2. Industrial – 0 acres
3. Open space – 0 acres
4. Wetland/ riparian – < 1 acre
5. Floodplain – < 1 acre
6. Irrigated cropland – 0 acres
7. Dry cropland – 0 acres
8. Forestry – < 1 acre
9. Rangeland – < 1 acre
10. Other – 0 acres

7. Map/site plan: See figure 2.

8. Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction.

The U.S. Forest Service manages lands adjacent to McClellan Creek. Along with the State, the Forest Service is a cosigner of a Memorandum of Understanding (FWP 1999b) that outlines the agreement between agencies regarding recovery and management of WCT in the Elkhorn Mountains. The Memorandum of Understanding states, "The purpose of the Elkhorn Mountains Cutthroat Trout Restoration Program is to secure existing populations of Missouri River westslope cutthroat trout within the streams flowing within and from the Elkhorn Mountains, and to expand cutthroat trout distribution in suitable barren habitats".

(a) Permits:

Agency Name	Permit	Date Filed/#
Fish, Wildlife & Parks	FG-124	To be filed

(b) Funding:

Agency Name	Funding Amount
Montana Fish, Wildlife & Parks National Bring Back the Natives Program Helena National Forest Bureau of Land Management Trout Unlimited	The McClellan Creek WCT Project is part of the larger WCT recovery program in the Elkhorn Mountains that annually expends $75,000 – $90,000. Cost is detailed on page 15.

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name	Type of Responsibility
US Forest Service, Helena National Forest	Management of federal lands within the Elkhorn Mountain Range

9. Narrative summary of the proposed action or project including the benefits and purpose of the proposed action:

BACKGROUND

Statewide WCT Status: Westslope cutthroat trout have declined in abundance and distribution throughout Montana, and in the Missouri River Basin pure populations are relatively rare (Shepard et al. 1997). Major factors contributing to this decline include competition with nonnative trout (brook, brown, rainbow, and Yellowstone cutthroat trout) that were first introduced to Montana in the 1890's, hybridization with rainbow and Yellowstone cutthroat trout, habitat changes, over-exploitation, and isolation to small headwater streams. Brook trout displacement of WCT is common where the species range overlap, and along with hybridization it is currently the greatest risk to many remaining pure WCT populations in the Missouri River drainage. The competitive advantage brook trout have over WCT can be attributed to a size advantage their young incur due to timing of reproduction. Most WCT populations in the Missouri River drainage are considered to have a low likelihood of long-term persistence (100 years) under current conditions.

Elkhorn Mountains WCT Status: Seven native and one introduced populations of WCT remain in the Elkhorn Mountains (Figure 1). **In total, these populations occupy about 12 miles of stream, whereas nonnative trout (brook, rainbow, brown, and hybrid cutthroat trout) occupy about 112 miles of stream.** In addition to competition with nonnative trout, threats to remaining Elkhorn WCT populations include small population sizes (about 60 to 500 WCT per population) and restricted distribution (0.1 to 3 miles) within each stream. Overall, current WCT distribution and abundance (2,000 – 3,000 total WCT) in the Elkhorn Mountains is much reduced than what would be expected without nonnative competition and habitat changes (e.g., historic placer mining). The likelihood of WCT continuing to persist in the mountain range is considered low unless restoration activities secure and increase the number and distribution of remaining populations. To date, WCT restoration efforts in the Elkhorn Mountains have included reducing nonnative competition in Muskrat and Staubach creeks by capturing brook trout with electrofishing and placing them below barriers constructed to prevent their upstream migration. The range of WCT in the mountain range has also been increased through the introduction of eggs from Prickly Pear Creek WCT into a previously fishless reach of Eureka Creek.

McClellan Creek Drainage WCT Status: The McClellan Creek drainage maintains one of the seven native WCT populations in the Elkhorn Mountains (Figure 2). Recent surveys, however, indicate that the population is declining in both abundance and distribution. A population assessment in 1988 found that the ratio of WCT to brook trout was about 1:1 in the section of stream between Willard and Tepee creeks (U.S. Forest Service data files, Helena). By 1993, in the same stream reach the ratio of WCT to brook trout had dropped to 1:20 (U.S. Forest Service data files, Helena). Brook trout expansion into new areas is expected where no migratory barriers exist, but it is believed their rapid increase in this section of stream was aided by channel changes and the resulting loss of natural barriers due to the 1988 Warm Springs fire. While brook trout were expanding their distribution in McClellan Creek, WCT remained the only species present in Tepee Creek through 1995. It is believed a temporary log barrier was preventing brook trout dispersal into this small stream. However, the most recent surveys conducted in 2001 indicate that brook trout now occupy most of Tepee Creek, and they continue to increase in McClellan Creek where the ratio of WCT to brook trout has dropped to 1:30 in the

stream between Willard and Tepee creeks (FWP data files, Townsend). The underlying reason brook trout are increasing in the McClellan Creek drainage is due to the competitive advantage young brook trout have over young WCT because of their larger size. In addition, recent drought conditions have likely intensified this competition because of reductions in available habitat. In total, WCT occupy about 2.5 miles of stream in the upper McClellan Creek drainage, including Tepee Creek.

Below Willard Creek, McClellan Creek and the four major tributaries maintain populations of native sculpins, nonnative brook trout, and WCT hybridized with nonnative Yellowstone cutthroat trout (Figure 1). The lower mainstem channel, Jackson Creek, Crystal Creek, and Maupin Creek, are dominated by brook trout; pure or hybrid cutthroat trout are rare or non-existent in these areas. Brook trout and low numbers of hybrid cutthroat trout (11% Yellowstone cutthroat trout) are present in the East Fork of McClellan Creek. A population of slightly hybridized WCT (5% Yellowstone cutthroat trout) in Crystal Creek has disappeared over the last 7 years, and brook trout are now the only species remaining in this stream.

Without removal of nonnative trout, and the placement of a barrier to prevent their reinvasion, it is expected that pure WCT cutthroat trout will continue to decline in the McClellan Creek drainage through competition with brook trout and potentially through hybridization with hybrid cutthroat trout from the East Fork of McClellan Creek. Loss of this population would significantly reduce the distribution and genetic diversity of pure WCT in the Elkhorn Mountains, and would delay efforts to expand WCT in the McClellan Creek drainage and other areas of the mountain range.

PROPOSED ACTION

Overview

The proposed action is to place a migratory barrier to upstream moving fish near the confluence of McClellan and Willard creeks (Figure 2). Nonnative brook trout would then be removed from the stream sections upstream of the barrier with electrofishing and trapping methods. The removal efforts would reduce the competitive influence of brook trout and allow the WCT population to expand in distribution and abundance. Furthermore, the migratory barrier would prevent further invasions on nonnative trout including potentially hybridizing species. The project would greatly increase the likelihood of persistence of this population, lower the risk of extinction of the species in the Missouri River drainage, and provide increased angling opportunity for a State Species of Special Concern and Montana's State Fish. The project also fulfills the State's obligation to protect all remaining pure WCT populations (FWP 1999c), and reduces threats that may encourage requests for listing under the Endangered Species Act.

Electrofishing has been used in Montana and elsewhere to reduce the abundance of nonnative brook trout. Westslope cutthroat trout have typically responded to brook trout removal with increases in abundance and distribution (Brad Shepard, FWP, Bozeman, and Mike Enk, U.S. Forest Service, Great Falls, personal communications). Most electrofishing removal projects are considered a "stop-gap" measure to reduce nonnative competition until highly effective and cost efficient fish toxicants can be used to completely remove the competing species. Several recent

studies though have suggested that with significant amounts of electrofishing efforts nonnative trout species can be eliminated from short stream reaches. The proposed McClellan Creek project would include 6 to 9 intensive electrofishing efforts over a two year period to significantly reduce the brook trout population. Thereafter, periodic electrofishing would be used to maintain low numbers or remove remaining brook trout. A small number of brook trout would also be removed from the stream using traps. Failure to completely remove all brook trout from this stream reach with electrofishing and trapping would still allow increases in the WCT population, but efforts to maintain low brook trout abundance would have to continue indefinitely with these methods.

This would be considered the first phase of WCT restoration in the McClellan Creek drainage. As outlined in the overall strategy for WCT restoration in the Elkhorn Mountains (FWP 1999a), the McClellan Creek drainage is 1 of 2 opportunities (the other being above Crow Creek Falls) in the mountain range to restore WCT to a drainage with several connected streams. Reestablishing WCT in McClellan Creek from Crystal Creek to the headwaters, including all the tributaries, would create a population that is much less prone to disturbances (e.g., fires or floods) that may cause a population only occupying the headwaters to go extinct. This long-term goal can only be achieved with the use of fish toxicants. The department understands that the current use of toxicants in the McClellan Creek drainage, the municipal watershed of East Helena, could be controversial, and will only go forward with such a project in this stream when public concerns over their safe use are satisfied.

Specific actions

Barrier construction: A migratory barrier to upstream moving fish would be constructed near the confluence of McClellan and Willard creeks (R2W, T8N, section 21) (Figure 2). The general location of the barrier is based on our ability to effectively remove nonnative trout upstream of the barrier with electrofishing. Due to lack of vehicle access, on-site materials would mostly be used to construct the barrier.

The proposed barrier construction method would be to place several large logs across the width of the stream that would create a plunge high enough (4 – 5 feet) to prevent fish from jumping the structure (Figure 3). Dead trees are abundant in the McClellan Creek drainage due to the 1988 Warm Springs fire, and would be used to create the barrier. Logs would be joined together similar to log home construction, and bolts would be used to add strength including attachment to streamside boulders. Rock from the surrounding area would be placed upstream and to the height of the logs to help allow floating trees and other debris to roll over the top of the structure. Wire-mesh baskets filled with rocks (rock gabions) would be used to help secure the structure to the stream bank, to direct flow over the barrier, and to create a "splash-pad" that prohibits the formation of a downstream pool that would help fish jump over the structure. Rocks collected on site would be used to fill the gabions. Water resistant material would also be placed between the logs and the streambed to help seal the barrier. The barrier would be designed to restrict the stream channel as little as possible, and to allow at least a 50-year flood event (about 110 ft^3/s) to flow within the rectangular opening. Durability of such a log structure, with periodic maintenance, is likely to be 15 to 20 years.

Nonnative trout removal: Once the migratory barrier is complete, nonnative trout will be removed from upstream of the barrier with electrofishing. Benefits of nonnative removals for WCT are well known, however, most attempts to control nonnative trout in Montana and elsewhere with electrofishing have failed to completely remove the entire population. Failure to remove all fish with electrofishing is related to the size of the stream and the complexity of the habitat including substrate type and the presence of woody debris. In general, electrofishing is inefficient at capturing small fish that often remain hidden under large rocks, tree roots, and undercut banks. In addition, a small number of adult fish typically also escape capture and are able to reproduce to maintain the species in the coming years. To overcome some of these electrofishing limitations we will include in this project several new methodologies that should help us significantly reduce nonnative abundance.

First, the upper McClellan Creek drainage will be electrofished 3 to 4 times during different periods each year. This high amount of effort will lead to greater catch rates, and by electrofishing during different periods we will be able to capture more brook trout as they grow in length and as they use habitats that are more easily electrofished (e.g., pools during cold weather). The overall goal will be to remove all adult brook prior to spawning in September, then remove younger brook trout as they become larger and more vulnerable to electrofishing during late fall. This high effort methodology was used in the Staubach Creek, near Winston, Montana, to remove 99% of the brook trout from a 1.6 mile stream reach in 2 years (FWP data files, Townsend). Similarly, Kulp and Moore (2000) were able to completely remove a rainbow trout population from a 0.5 mile stream reach with five removal efforts over a 2 year period in Tennessee.

Electrofishing removals will include 2 or 3, 3-man crews using backpack electrofishing equipment to capture fish. Each crew will electrofish about 2000 to 5000 feet of stream each day. To increase efficiency, each section of stream will generally only be electrofished once each day, but for up to 4 days in row. By electrofishing only once per day, over multiple days, we should increase removal efficiency by allowing unseen stunned fish time to move away from hiding structure. The project would include 3 or 4 intensive removal efforts (1 week long) for two consecutive years, with reduced effort thereafter to maintain a low abundance of brook trout, or remove all remaining brook trout. Electrofishing removals would take place during all ice-free and low water periods of the year, with efforts made not to disturb spawning WCT during early summer. Cutthroat trout will either be returned immediately to the stream, held until the removal effort is complete, or moved upstream away from the electrofishing activities. All brook trout captured during the initial removal efforts (more than 50% of the population) will be moved to below the barrier. Thereafter, collected brook trout will be euthanized. Continued relocation of brook trout would be more detrimental than beneficial to the population below the barrier as the capacity for the stream to sustain fish is limited by available space already occupied by the existing brook trout population.

Brook trout would also be removed from the stream using traps. Small, funnel-shaped trap-nets will be placed in the stream during September and October when brook trout are spawning. A mature brook trout would be placed in each trap to help attract other mature fish.

The efficiency of electrofishing removal projects can be limited by the complexity of the stream. In particular, the greater the amount of woody debris (e.g., snags, roots, willows) that is present

the more opportunities there are for fish to remain hidden even when stunned by electrofishing. The proposed project will include removal of some brush and a large number of fire killed trees that have fallen over about a mile of the stream. Without removal of these logs, access to the stream for electrofishing would be limited and the relative efficiency of the removals would be decreased in some areas. Care will be taken not to remove any living trees, or logs that would affect structure and integrity of the stream channel. A considerable numbers of standing snags also remain next to the stream from the 1988 Warm Springs fire and will in a short period of time replace any logs removed.

10. List of agencies consulted during preparation of the EA:

- Montana Fish, Wildlife & Parks, Townsend, Bozeman and Helena
- U.S.D.A. Forest Service, Helena and Townsend

PART II. ENVIRONMENTAL REVIEW

1. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated*	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. **Soil instability or changes in geologic substructure?			X		Yes	1a
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?			X		Yes	1a
c. **Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			X		No	1d
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

Comment 1a. Some areas near the stream would be disturbed through construction of the migratory barrier including collection of rock to construct gabions and to fill in behind the barrier structure. Approximately 10 cubic yards of rock would be required. Rocks would be collected from outside of the stream channel near the location of the barrier, or from the stream channel where the barrier is constructed. Rocks along the stream bank may have to be moved to help secure barrier logs into the bank. Areas that are disturbed by rock collection will be reseeded with native grasses, and soil exposed along the stream bank would be protected with erosion-control fabrics.

A large number of dead overhanging logs and some brush would be removed from about 1 mile of McClellan and Tepee creeks to permit access to the stream and increase electrofishing efficiency. Care would be taken not to remove any living trees or logs that would affect stream channel stability. After completion of the project, recruitment of logs to the stream will continue to occur as the large number of standing fire killed trees fall into the stream.

Comment 1d. For a short period, the constructed barrier would create a slow water area upstream that would promote substrate deposition until the streambed reaches the level of the barrier outflow. The affected area would be less than 50 feet of stream. Care would be taken to construct the barrier in a location where large boulders predominate along the stream bank. This will help reduce the chance of any stream channel modification or erosion during high flow periods.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

2. AIR **Will the proposed action result in:**	**IMPACT ***				**Can Impact Be Mitigated***	**Comment Index**
	Unknown *	**None**	**Minor ***	**Potentially Significant**		
a. **Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))		X				
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. ***For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regs? (Also see 2a)		X				
f. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Air Resources (Attach additional pages of narrative if needed):

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

3. WATER Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated*	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. *Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X		No	3a
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of floodwater or other flows?		X				3c
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				3h
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. ****For P-R/D-J, will the project affect a designated floodplain? (Also see 3c)		X				
m. ***For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a)		X				
n. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Water Resources (Attach additional pages of narrative if needed):

Comment 3a. Some increases in turbidity will occur over a short period of time during barrier construction. Because the stream substrate is primarily larger gravel and boulder any increases in turbidity will be small.

Comment 3c. The barrier will be constructed to pass a 50-year flood event (about 110 ft^3/s) through the rectangular opening. Flows exceeding this may move around or over the sides of the barrier.

Comment 3h. Only materials commonly used for other structures placed in streams (e.g., irrigation head gates, flumes, etc) will be used in the construction of the barrier, and any leaching of metal would be minimal.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

4. VEGETATION Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				
b. Alteration of a plant community?			X		Yes	4b
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				4e
f. ****For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		X				
g. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

Comment 4b. Collection rock for barrier construction will disturb some areas, potentially resulting in small changes in the plant community. Disturbed areas will be seeded with native grasses.

Comment 4e. Areas disturbed during barrier construction will be monitored and treated for noxious weeds if necessary.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

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*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

** 5. FISH/WILDLIFE Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X		No	5b
c. Changes in the diversity or abundance of nongame species?		X				
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?			X		No	5e
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?		X				
h. ****For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f)		X				
i. ***For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)		X				
j. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

Comment 5b. The proposed action is expected to result in an increase in native WCT, and a decrease in nonnative brook trout abundance in one reach of upper McClellan Creek and Tepee Creek. This is considered a minor impact because brook trout will continue to be abundant in the McClellan Creek drainage below Willard Creek and other streams in the Elkhorn Mountains. The project is intended to increase the abundance and range of WCT, a rare and unique resource with limited distribution in the Missouri River drainage. Westslope cutthroat trout are currently protected by catch-and-release regulations in streams in the Elkhorn Mountains, but restoration efforts like the proposed action are intended to increase overall WCT abundance to allow future harvest of the species in this and other streams.

Comment 5e. The proposed action will create a barrier to prevent upstream migration of nonnative trout into waters occupied by WCT.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

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**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

B. HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS **Will the proposed action result in:**	**IMPACT ***				**Can Impact Be Mitigated ***	**Comment Index**
	Unknown *	**None**	**Minor ***	**Potentially Significant**		
a. Increases in existing noise levels?		X				
b. Exposure of people to serve or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other:						

7. LAND USE **Will the proposed action result in:**	**IMPACT ***				**Can Impact Be Mitigated ***	**Comment Index**
	Unknown *	**None**	**Minor ***	**Potentially Significant**		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				
e. Other:						

8. RISK/HEALTH HAZARDS **Will the proposed action result in:**	**IMPACT ***				**Can Impact Be Mitigated ***	**Comment Index**
	Unknown *	**None**	**Minor ***	**Potentially Significant**		
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. ***For P-R/D-J, will any chemical toxicants be used? (Also see 8a)		X				
e. Other:						

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

9. COMMUNITY IMPACT **Will the proposed action result in:**	**IMPACT ***				**Can Impact Be Mitigated ***	**Comment Index**
	Unknown *	**None**	**Minor ***	**Potentially Significant**		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				
f. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

10. PUBLIC SERVICES/TAXES/UTILITIES Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. **Define projected revenue sources			X			10e
f. **Define projected maintenance costs.			X			10e
g. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

Comment 10e. The proposed project is part of the ongoing Elkhorn Mountains Westslope Cutthroat Trout Restoration Program (FWP 1999a). The Elkhorns Program annually expends $75,000 to $90,000 and is jointly funded by Montana Fish, Wildlife & Parks, the U.S. Forest Service (Helena National Forest and Bring Back the Natives Program), the Bureau of Land Management, and Montana Trout Unlimited.

Estimated specific costs associated with the project include:

First year:

- Barrier: $500 supplies and $2,025 for labor (120 hours), $2,525 total
- Electrofishing removals: $9,240 for labor (560 hours)

Second year:

- Electrofishing removals: $7,920 (480 hours)

Additional years of Electrofishing: $2,640 (160 hours/year)

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

** 11. AESTHETICS/RECREATION Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				11a
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. **Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report)		X				
d. ***For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		X				
e. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

Comment 11a. The barrier will be constructed in a stream area that is generally away from public view.

12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. **Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				12a
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				See 12a
d. ****For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a)		X				
e. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

Comment 12a. No historical sites are known to exist in the proposed barrier area. However, the U.S. Forest Service will evaluate specific barrier locations prior to construction. If an area was deemed to have prehistoric, paleontological, religious, or sacred importance then an alternative site would be identified.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

SIGNIFICANCE CRITERIA

13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. ***For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e)		X				
g. ****For P-R/D-J, list any federal or state permits required.						13g

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Water Resources (Attach additional pages of narrative if needed):

Comment 13g. The following permits would be required for barrier placement:

- FG 124 – Department of Fish, Wildlife & Parks (Stream Protection Act Permit)

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or can not be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM)

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

PART II. ENVIRONMENTAL REVIEW, CONTINUED

2. Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:

One alternative was considered during the preparation of this EA

1) No Action Alternative

The predicted consequences of the "No Action" alternative are:

- Risk of competition from nonnative brook trout and potential hybridization with nonnative Yellowstone Cutthroat trout would not be decreased in the upper McClellan Creek drainage, and the likelihood of pure WCT ultimately disappearing due to these risks would remain high.
- No costs associated with barrier construction and nonnative trout removal.

3. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

None

PART III. NARRATIVE EVALUATION AND COMMENT

Addressed in Part I and Part 2

PART IV. EA CONCLUSION SECTION

1. Based on the significance criteria evaluated in this EA, is an EIS required (YES/NO)? If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.

No. An EIS is not required under the Montana Environmental Policy Act (MEPA) because the project lacks significant impacts to the physical or human environment. Therefore, the impacts are appropriately addressed through an Environmental Assessment. The primary impact associated with the project is reduced abundance and distribution of nonnative trout in the upper McClellan Creek drainage, which is the intended consequence of the action.

2. Describe the level of public involvement for this project if any and, given the complexity and the seriousness of the environmental issues associated with the

proposed action, is the level of public involvement appropriate under the circumstances?

Public involvement for this project included Legal notification of this EA in the Boulder Monitor, Helena Independent Record, and Montana City Courier. The EA was mailed to local landowners and individuals and organizations that previously indicated interest in WCT projects in the Elkhorn Mountains. The EA was also available on the FWP web page (http://www.fwp.state.mt.us). Public comments can be given at the FWP web page, in writing at the address below, or in writing at public open houses concerning this project at the old Clancy school gym (School House Lane) on July 2, 2002 between 6 pm and 9 pm, and at the Montana City School Library on July 3, 2002, between 6 pm and 9 pm.

3. Duration of comment period, if any.

The public comment period for this proposal is form June 20, 2002, to July 19, 2002. Written comment can be mailed to:

Lee Nelson
Montana Fish, Wildlife & Parks
415 South Front Street
Townsend, MT 59644

4. Name, title, address and phone number of the person(s) responsible for preparing the EA:

Lee Nelson
Fisheries Biologist
Montana Fish, Wildlife & Parks
415 South Front Street
Townsend, MT 59644
Phone: 406-266-3425
E-mail: leenelson@fs.fed.us

Figure 1. Approximate location of native westslope cutthroat trout populations in the Elkhorn Mountains (heavy black lines).

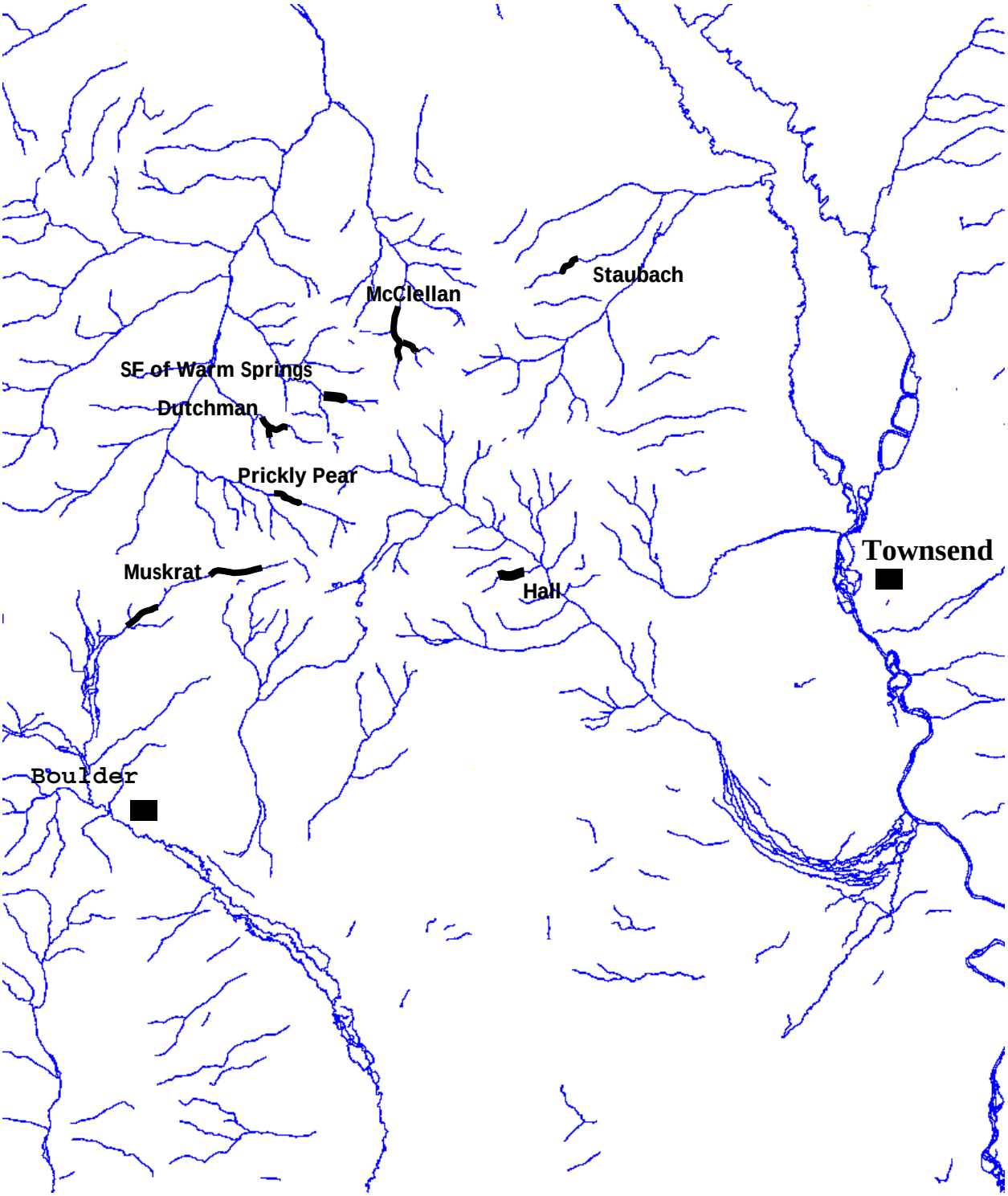


Figure 2. Current distribution of fish species in the McClellan Creek drainage, and proposed

location of a migratory barrier to prevent upstream migration of nonnative trout.

Pure westslope cutthroat trout distribution

Hybrid cutthroat trout distribution

Brook trout distribution

Natural migratory barrier

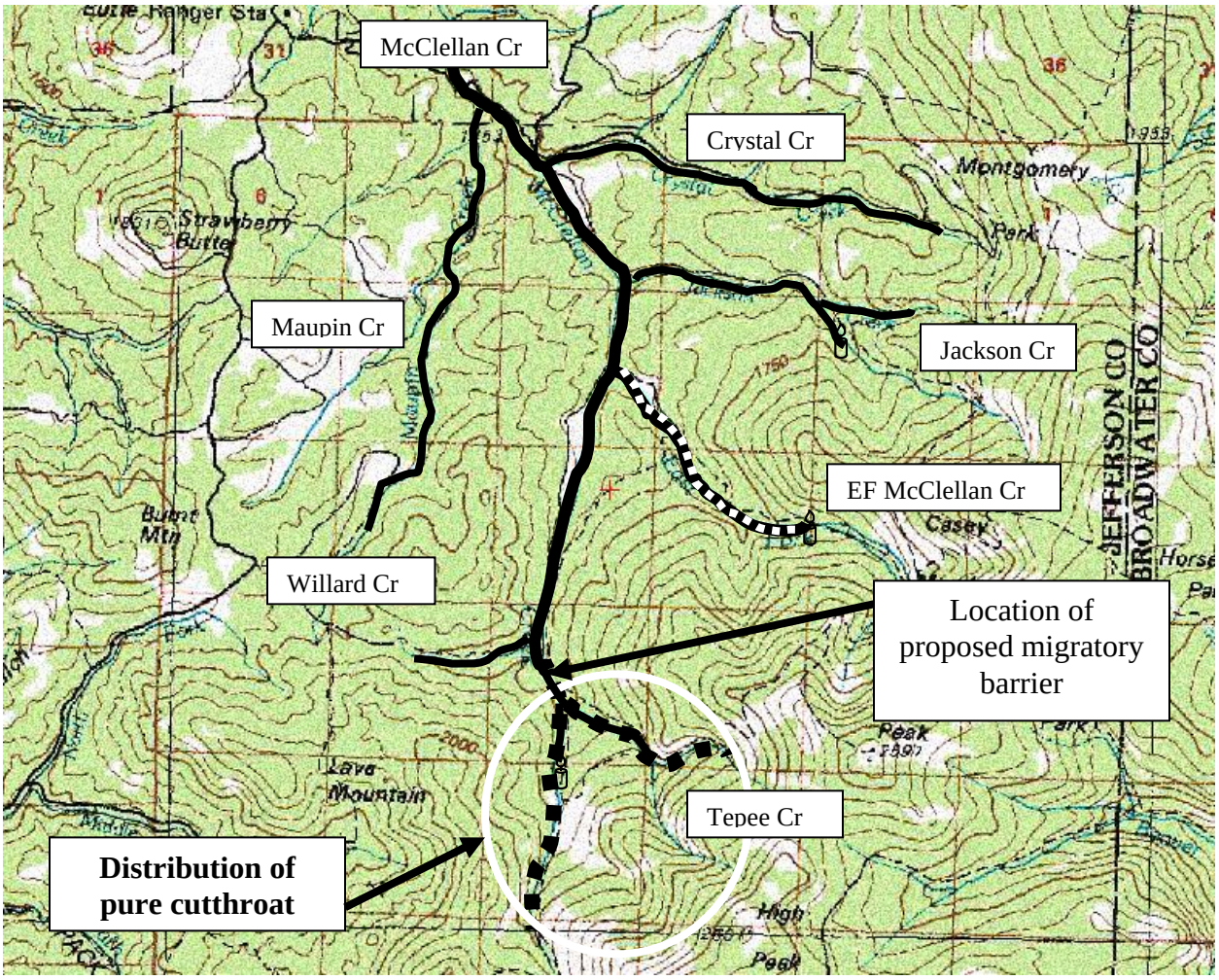
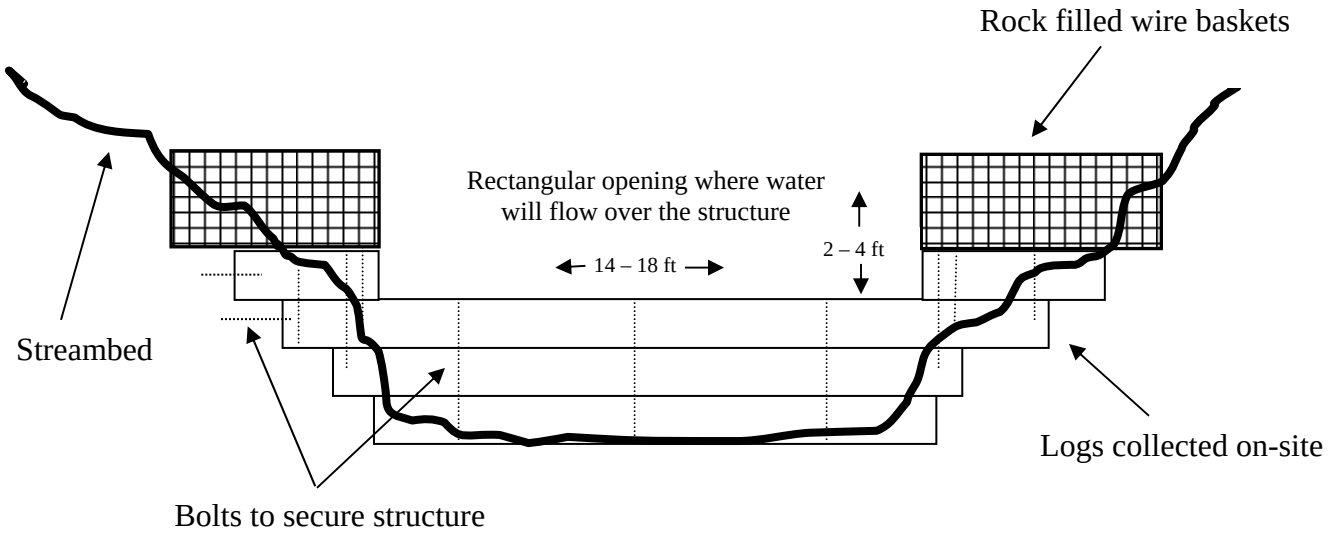


Figure 3. Diagram of migratory log barrier constructed to prevent upstream migration of nonnative trout. Rock gabions may be incorporated into the structure to help secure it to the stream bank and to create a splash pad below the outlet to prevent the formation of a pool.



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FWP. 1999a. Environmental Assessment: Elkhorn Mountains Westslope Cutthroat Trout Restoration Program, Mountain Range Programmatic Assessment. Prepared by Ron Spoon and Jodie Canfield, Montana Fish, Wildlife and Parks, Region 3, Bozeman, Montana.

FWP. 1999b. Memorandum of Understanding and Conservation Agreement for the Westslope Cutthroat Trout Restoration Program in the Elkhorn Mountains. Montana Fish, Wildlife and Parks, Helena, Montana.

FWP. 1999c. Memorandum of Understanding and Conservation Agreement for Westslope Cutthroat Trout in Montana. Montana Fish, Wildlife and Parks, Helena, Montana.

Kulp, M. A., and S. E. Moore. 2000. Multiple electrofishing removals for eliminating rainbow trout in a small southern Appalachian stream. North American Journal of Fisheries Management 20:259-266.

Shepard, B. B., B. Sanborn, L. Ulmer and D.C. Lee. 1997. Status and risk of extinction for westslope cutthroat trout in the upper Missouri River Basin. North American Journal of Fisheries Management 17:1158-1172.