Montana Fish, Wildlife & Parks

1400 South 19th Avenue
Bozeman, MT 59718

October 12, 2005

To: Governor's Office, Mike Volesky, State Capitol, Room 204, P.O. Box 200801, Helena, MT 59620-0801
Environmental Quality Council, State Capitol, Room 106, P.O. Box 201704, Helena, MT 59620-1704
Dept. of Environmental Quality, Metcalf Building, P.O. Box 200901, Helena, MT 59620-0901
Dept. of Natural Resources & Conservation, P.O. Box 201601, Helena, MT 59620-1601
Montana Fish, Wildlife & Parks:

Director's Office	Parks Division	Lands Section	FWP Commissioners
Fisheries Division	Legal Unit	Wildlife Division	Design & Construction

MT Historical Society, State Historic Preservation Office, P.O. Box 201202, Helena, MT 59620-1202
MT State Library, 1515 E. Sixth Ave., P.O. Box 201800, Helena, MT 59620
James Jensen, Montana Environmental Information Center, P.O. Box 1184, Helena, MT 59624
Janet Ellis, Montana Audubon Council, P.O. Box 595, Helena, MT 59624
George Ochenski, P.O. Box 689, Helena, MT 59624
Jerry DiMarco, P.O. Box 1571, Bozeman, MT 59771
Bob Raney, 212 South 6th, Livingston, MT 59047
Glenn Hockett, Gallatin Wildlife Association, 745 Doane Road, Bozeman, MT 59715
Headwaters Fly Fishers, PO Box 10372, Bozeman, MT 59719
Anaconda Sportsman Club, #2 Cherry, Anaconda, MT 59711
Skyline Sportsman Association, PO Box 173, Butte, MT 59701
Prickly Pear Sportsman Association, 21 S Hills Road, Clancy, MT 59634
George Grant Chapter TU, PO Box 563, Butte, MT 59703
Lewis and Clark Chapter TU, PO Box 432, Twin Bridges, MT 59754
Madison –Gallatin Chapter TU, PO Box 52, Bozeman, MT 59715
Tom Sathers, Headwaters Fish & Game Association, PO Box 1941, Bozeman, MT 59771-1941
Dick Oswald, 730 N Montana, Dillon, MT 59725
State Land Coalition, Jack Atcheson Pres., 3210 Ottawa Street, Butte, MT 59701
Big Hole River Foundation, PO Box 3894, Butte, MT 59701
Steve Egeline, District Ranger, USDA Forest Service, 1820 Meadowlark Lane, Butte, MT 59701
Silver Bow County Commissioners, 155 West Granite, Butte, MT 597011
Montana Tech Fly Fishing Club, Montana Tech, 1300 West Park Street, Butte, MT 59754
Montana Wildlife Federation, P.O. Box 1175, Helena, MT 59624
Wayne Hurst, P.O. Box 728, Libby, MT 59923
Butte/Silver Bow Water Utilities, 129 W. Galena, Butte, MT 597011

Ladies and Gentlemen:

The enclosed Environmental Assessment (EA) has been prepared for the proposed Introduction of Westslope Cutthroat Trout into a Fishless Reach of Basin Creek. This project proposes to obtain a combination of live fish and fertilized eggs from fish residing in lower Basin Creek to establish approximately 300 westslope cutthroat trout in a barren reach of the headwaters of Basin Creek. The objective of the project is to enhance the existing cutthroat trout population in Basin Creek.

This Draft EA is available for review in Helena at FWP's Headquarters, the State Library, and the Environmental Quality Council. It also may be obtained from FWP at the address provided above, or viewed on FWP's Internet website: http://www.fwp.mt.gov .

Montana Fish, Wildlife & Parks invites you to comment on the attached proposal. The public comment period will be accepted until 5pm on November 15, 2005. Comments should be sent to the following:

Ron Spoon
Montana Fish, Wildlife & Parks
c/o Basin Creek Project
P.O. Box 1137
Townsend, MT 59644

Or e-mailed to: rspoon@mt.gov

Sincerely,

Patrick J. Flowers
Region Three Supervisor

Attachment

Montana Department of Fish, Wildlife & Parks
1420 E. 6th Ave, Helena, MT 59620

Draft **Environmental Assessment**

Westslope Cutthroat Trout Recovery Program: Introduction of Westslope Cutthroat Trout into a Fishless Reach of Basin Creek

PART I. PROPOSED ACTION DESCRIPTION

1. Type of Proposed State Action:

The proposed project is designed to increase the distribution of pure westslope cutthroat trout (WCT) by introduction of fertilized WCT eggs and/or live fish into a reach of fishless stream. The project is part of an overall strategy to enhance native Westslope Cutthroat Trout in Montana.

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 MCA § 87-1-702.

3. Name of Project

Westslope Cutthroat Trout Recovery Program: Introduction of Westslope Cutthroat Trout into a Fishless Reach of Basin Creek.

4. If Applicable:

Estimated Construction/Commencement Date: November 2005

Estimated Completion Date: 2005 – 2008

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

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

Basin Creek, Highland Mountains, Silver Bow County R8W, T1N

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 – pure WCT would be introduced to about 2 or 3 miles of stream
5. Floodplain – 0 acres
6. Irrigated cropland – 0 acres
7. Dry cropland – 0 acres

8. Forestry – 0 acres
9. Rangeland – 0 acres
10. **Other – 0 acres**

7. Map/site plan: **See figure 1.**

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 Basin Creek and Silver Bow County has ownership of the streamside area.

(a) Permits: N/A

(b) Funding:

Agency Name	**Funding Amount**
Montana Fish, Wildlife & Parks	$2,000 per year
U. S. Forest Service	$1,000 per year

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name	**Type of Responsibility**
US Forest Service, BH/DL National Forest	Management of federal lands in the watershed.
Silver Bow County	Ownership of streamside area

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 (Shepard et al. 1997). Major factors contributing to this decline include competition with nonnative trout (brook, brown, and rainbow 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. Several WCT populations in the Silver Bow Creek drainage are considered to have a low likelihood of long-term persistence (100 years) under current conditions.

Silver Bow Creek WCT Status: Four native populations of WCT are known to inhabit streams in the Silver Bow Drainage (Blacktail Creek, German Gulch, Browns Gulch, Basin Creek). In total, these populations occupy less than 20 miles of stream, whereas nonnative trout (brook, rainbow, brown, and hybrid cutthroat trout) occupy considerably more stream mileage in the upper Clark Fork. In addition to competition with nonnative trout, threats to remaining 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 in the Silver Bow Creek Drainage is much reduced than what would be expected without nonnative competition and habitat changes. The likelihood of WCT continuing to persist in the drainage is considered low unless restoration activities secure and increase the number and distribution of

remaining populations. To date, WCT restoration efforts in the Silver Bow Creek drainage consists of brook trout removal in Norton Creek, plans to enhance WCT habitat in German Gulch, and placement of woody debris in Blacktail Creek. In 1999 the State of Montana, along with several federal agencies and non-government organizations, signed a Memorandum of Understanding (MOU) and Conservation Agreement for WCT (FWP 1999) to provide direction in conserving WCT populations throughout their historic range in Montana

The proposed action described in this Environmental Assessment (EA) seeks to expand the distribution of WCT in the Basin Creek by placing eggs and/or live fish into a currently fishless reach of stream in the headwaters of Basin Creek. Success of this proposed action would increase the current distribution of WCT in the Silver Bow Creek drainage by about 3 stream miles, and would provide a genetic reserve for locally adapted WCT populations. Accordingly, this project will help achieve the goal and objectives listed in the conservation agreements for restoration of WCT both statewide and in the Silver Bow Creek drainage.

HISTORY OF FISH SAMPLING IN BASIN CREEK

Fish Distribution Mapping in Upper Basin Creek by the U.S. Forest Service

This report documents fish distribution mapping efforts conducted in the headwaters of Basin Creek, tributary to Silver Bow Creek in Silver Bow County. Field efforts based on backpack electrofishing methods were applied in two separate years (2002 and 2004) to map fish distribution.

The original purpose of initial sampling in 2002 was to determine what fish species were present in Basin Creek and their approximate distributions. This work was in support of preparing an Environmental Impact Statement for the Basin Creek Hazardous Fuels Reduction project. Initial sampling in 2002 revealed the presence of a genetically pure westslope cutthroat trout (WCT) population apparently limited at the downstream end of its distribution by the Lower Basin Creek Reservoir, and at the upstream end of its distribution by a steep boulder cascade reach. Habitat upstream of the apparent upstream barrier appeared to be suitable for WCT but fish seemed to be absent.

Based on these findings, the possibility arose of moving fish from within the known WCT distribution into unoccupied habitat upstream of the boulder cascade reach. Such a project could potentially increase the length of stream occupied by this WCT population from approximately 1.5 miles to 3.5 miles or more, thereby increasing the likelihood of long-term persistence of this population. In support of pursuing this possibility, more field sampling was done in the headwaters of Basin Creek in summer 2004 to more thoroughly determine whether fish are already present upstream of the apparent boulder cascade reach barrier. This report documents both the 2002 and 2004 sampling efforts.

Summary of 2002 Methods and Results

In summer 2002 (July 25 and July 30, 2002), upper Basin Creek was “spot-shocked” using a Coffelt Mk X electroshocker to map approximate fish distributions (Figure 1). Six sites ranging in length from 75 to 120 feet were sampled upstream of the Upper Basin Creek Reservoir. Shocking times ranged from 233 to 686 seconds per site. Fish were found in the two downstream-most sites sampled above the reservoir but no fish were found in four sites sampled further upstream. Westslope cutthroat trout was the only species of fish found in the two downstream-most sites sampled above the upper reservoir. The upstream-most fish found was located immediately downstream of an approximately 0.25-mile long, steep (25 to 35 percent gradient),

boulder cascade reach on the stream. Upstream of the boulder cascade reach, channel gradient flattens (1 to 10 percent) and habitat
appears to be of suitable size and quality to support WCT. No fish were found in any of the four sites sampled upstream of the cascade. Based on this result, it appeared likely that the cascade reach represents a barrier to upstream fish movement and limits WCT use of Basin Creek to areas downstream of this cascade

Table 1. Reach lengths, effort, and electroshocking settings used in 2004 upper Basin Creek electrofishing sampling.

Reach Number	Length (in feet)	Effort (seconds)	Voltage (in volts)	Shocker Setting
Reach 1	758	1,513	200-300	P16
Reach 2	1,007	1,299	200	P16
Reach 3	879	1,317	200-300	F4/G4
Reach 4	2,694	828	400	F4

Summary of 2004 Methods and Results

On July 20, 2004, several reaches of upper Basin Creek upstream of the known fish distribution were more thoroughly electrofished to determine fish presence or absence upstream of the boulder cascade reach. Nearly all pools and riffles with "pockets" were sampled in each reach. A Smith-Root Model 12B backpack shocker was used with settings of 200 to 500 volts in four distinct reaches (Table 1, Figure 1). A total of approximately 4,678 feet (0.89 mile) of stream were sampled. A total of 4,957 seconds of shock time were applied. No fish were found in any of the sampled reaches.

Particular focus was placed on Reach 4 where a fish sighting was recorded during an amphibian survey in summer 2003 near the downstream end of this reach in a beaver pond (Bryce Maxell, University of Montana PhD candidate, personal communication). While the pond was not feasible to sample with a backpack shocker, approximately 30 minutes were spent walking the perimeter of the beaver pond (and other smaller ponds in the vicinity) in search of fish. No fish were seen in any of the ponds. Approximately 300 feet of stream were electrofished downstream of the pond but no fish were found. No fish were found in electrofishing sampling upstream of the ponds either.

Fish habitat conditions immediately upstream of the beaver ponds in Reach 4 are marginal as the stream channel becomes non-distinct and flow is widely dispersed as it flows through this wetland area. As a result only about 2,034 feet of this reach as mapped in Figure 1 were actually sampled out of a total of 2,694 feet in the reach. Further upstream of Reach 4, the channel becomes single-threaded again and is more suitable for fish. This area was not sampled in 2004 but was "spot" shocked in 2002 with no fish found.

Conclusion

Based on these results, it appears that there are no fish present in upper Basin Creek upstream of the boulder cascade reach described above and mapped in Figure 1. Biologists continue to believe this area is suitable for WCT and that the possibility of moving fish from within the known distribution in Basin Creek, into

areas upstream of the boulder cascade, appears to have potential for securing the westslope cutthroat trout population in Basin Creek.

PROPOSAL

The proposed action is to introduce pure WCT eggs and/or live fish from a local WCT population in lower Basin Creek to the upstream reach of Basin Creek above a natural barrier. Base flow of the stream is about 2 ft^3/s, and about 3 stream miles would provide adequate fish habitat for spawning, over-wintering and drought refuge. Natural and man-made barriers do fragment the stream into three reaches, but each reach is long enough to support a viable population.

Because Basin Creek is secure from nonnative trout, and because it's headwaters are currently fishless, the stream provides good opportunity for expanding the range of WCT as a conservation project. Based on experience with similar sized streams containing isolated cutthroat trout populations in the Elkhorn Mountains, Basin Creek could support 1000 to 2000 trout. A majority of these fish would occupy the upper sections of the stream where habitat quality is highest. Isolating barriers would prevent upstream mixing of fish; however, the length of stream between barriers (about 1 mile each reach) should support enough individuals to prevent genetic problems associated with inbreeding depression in small populations. Many WCT populations isolated to similar habitat conditions as those found in Basin Creek have been self-sustaining for decades in the upper Missouri River drainage.

In addition to expanding the overall WCT distribution in the Silver Bow Creek Drainage, this project would also create a genetic reserve for an "at risk" populations within the local area. The project would involve introducing fertilized eggs or fish from a local donor population in the downstream reach of Basin Creek that have adapted to habitat conditions in the upper Clark Fork River drainage; by this means, the introduced population will have a better chance for long-term persistence, and will perpetuate locally adapted genetic characteristics. This project would use pure WCT from downstream reaches of Basin Creek, which has the advantage of eliminating risk of transferring fish with disease from outside drainages. The proposed project simply moves WCT from lower Basin Creek upstream of a natural barrier in upper Basin Creek, and therefore, poses less genetic and/or disease risk than projects that involve moving fish between drainages. Specifically, the proposal is to introduce fertilized WCT eggs and or live fish for at least three years (2005, 2006, 2007). The project duration dependent on availability of eggs and fish from downstream areas, and a minimum number of individuals introduced that will provide a strong genetic base to the population. Specific introduction methods and donor populations are discussed in Appendix 1.

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

- Montana Fish, Wildlife & Parks, Townsend, Bozeman, Great Falls, and Helena
- U.S.D.A. Forest Service, Butte
- University of Montana, Wild Trout and Salmon Genetics Laboratory – Missoula

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				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?		X				
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				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other:						

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:						

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				
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				
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				
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:						

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				
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				
f. ∗∗∗∗For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		X				
g. Other:						

∗∗ 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		No	5c
d. Introduction of new species into an area?			X		No	5d, 5b
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				5c
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		No	5b, 5d
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 project would increase the abundance and range of pure WCT, a rare and unique resource with limited distribution in the Upper Clark Fork River drainage. This is a minor impact because no displacement of other game fish is expected, and the distribution of a game fish (WCT) in the Silver Bow drainage would increase.

Comment 5c: The proposed action will introduce WCT into a stream that is currently barren of fish. A potential impact of any fish introduction into a fishless stream is on resident aquatic invertebrates and amphibians. To address aquatic invertebrate concerns, invertebrates were collected by FWP and identified prior to introduction of any fish or eggs. Dr. Dan Gustafson (Montana State University) will analyze the collections to determine the presence of any threatened or endangered species. In previous WCT introduction projects, Dr. Gustafson's collections from fishless streams found: 1) no threatened or endangered invertebrate species, 2) species found are common and widespread in the Rocky Mountains, and 3) all species collected occur at other sites where fish are present. Based on the invertebrate communities, his conclusion was that there is no reason why fish transfers should not take place. No threatened or endangered invertebrate species were identified in Basin Creek during sampling in November, 2004.

The introduction of WCT into fishless streams in Basin Creek is unlikely to impact native amphibians. Species sensitive to fish introductions generally breed in lakes or ponds, and would not be affected by the proposed Basin Creek introduction. The only stream breeding species common to the area, the Columbia spotted frog, has co-evolved and coexists elsewhere with native WCT. Amphibian surveys were conducted in 2003 and 2004 by Tim La Marr of the U.S Forest Service. La Marr concluded that long-toed salamanders were not present in the fish introduction reach. Columbia spotted frogs and boreal toads are present in the introduction reach but are not expected to be impacted by the proposed project. Furthermore, slow water areas (e.g., beaver ponds and old side-channels) that are preferred by amphibians, are also uncommon in Basin Creek.

Comment 5d: This project would introduce WCT into a stream that is currently barren of fish. While WCT are native to upper Clark Fork drainage, it is unknown if they historically occupied the headwaters of Basin Creek. Also see comment 5c.

A potential impact of transferring fish or eggs from lower Basin Creek to the headwaters of Basin Creek is the introduction fish pathogens. To address this concern fish samples were collected from potential donor populations – these samples have been or are currently being tested for the presence of bacterial kidney disease (BKD), enteric redmouth, whirling disease, furunculosis, infectious hematopoietic necrosis virus, infectious pancreatic necrosis virus, and viral hemorrhagic septicemia. No pathogens were found in 30 individuals collected in 2004. Thirty to sixty WCT will examined each year during the movement of fish upstream of the natural barrier. Positive results for other pathogens are unlikely; however, these would be evaluated by the FWP Fish Health Committee for importance. Donor fish populations that test positive for important pathogens (e.g., whirling disease) would not be used for the introduction effort.

A wild fish transfer permit must be approved by the FWP Fish Health Committee prior to moving any fish in Montana. The application for wild fish transfer in Basin Creek was reviewed and approved on October 4, 2005 (permit # 050208).

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				7a
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:						

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

Comment 7a. Introduction of WCT is not expected to have any impacts on current land activities in areas adjacent to Basin Creek. Current habitat quality is good to excellent under the current land management status.

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:						

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):

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			10f
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 a cooperative effort with MDFWP and the USFS. Specific costs associated with the proposed project are difficult to predict because of variable weather conditions and because the availability of WCT will change from year to year. However, based on similar introduction efforts in the Elkhorn Mountains labor allocated to project would be 10 to 20 man-days per year for using eggs and live fish transfer ($1500 – 3000), and about 2 – 5 man-days per year by using live fish transfer without egg collection ($750 – 1500). The effort will continue until a self-sustaining population is established (3 – 5 years).

Comment 10f. Maintenance costs would be minimal with successful establishment of a self-sustaining WCT population in Basin Creek after a 3 – 5 year period of introductions.

** 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				
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:						

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				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
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):

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.						

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

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:

- About 3 miles of suitable fish habitat would remain fishless.
- The likelihood of losing unique WCT genetic characteristics would remain moderate to high with the high probability that the donor WCT population will ultimately go extinct.
- Conservation goals for WCT would be more difficult to achieve.
- No costs associated with introduction efforts.

2) Preferred Alternative: Introduction of pure WCT to Upper Basin Creek (proposed action)

The predicted consequences of the Preferred Alternative were detailed and discussed in Part I and Part II.

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 II.

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 increased abundance and distribution of WCT in the upper Clark Fork 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 Butte Standard. The EA was mailed to local landowners and individuals and organizations that are interested in WCT projects in the upper Clark Fork drainage. 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 at a public open houses where questions regarding these projects can be addressed; these will be held at the BARO office in Butte Montana on October 20, 2005 between 6 and 8 pm. Please address any comments or questions to: Ron Spoon, Montana Fish, Wildlife & Parks, P.O. Box 1137, Townsend, MT 59644, (406) 266-4237. Comments on the EA's will be accepted until 5:00 pm, November 15, 2005. This level of public involvement is believed adequate for the proposed project.

3. Duration of comment period, if any.

The public comment period for this proposal is from October 12, 2005, to November 15, 2005. Written comment can be mailed to:

Ron Spoon
Montana Fish, Wildlife & Parks
P.O. Box 1137
Townsend, MT 59644
E-mail: rspoon@mt.gov

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

Ron Spoon
Fisheries Biologist
Montana Fish, Wildlife & Parks
P.O. Box 137
Townsend, MT 59644
Phone: 406-266-4237
E-mail: rspoon@mt.gov

References

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

Krueger, C. C., A. J. Gharrett, T. R. Dehring, and F. W. Allendorf. 1981. Genetic aspects of fisheries rehabilitation programs. Canadian Journal of Fisheries and Aquatic Sciences 38:1877-1881.

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Appendix 1. Proposed WCT Introduction Methodology

Two methods are being considered for introduction of WCT into Basin Creek, including the transfer of fertilized eggs and the transfer of live fish. Both methods have been used to establish WCT populations in fishless waters. The benefits of using fertilized eggs are that a large number of fish (eggs) can be introduced during a short period of time, there is a lower chance of spreading disease, and potentially, eggs that hatch in a stream may be more likely "imprinted" to that stream than a fish that was hatched elsewhere. Disadvantages of using fertilized eggs include high labor costs involved with collecting adult fish for spawning and care of fertilized eggs until they hatch, and introducing enough individuals over a short period of time to create a strong genetic base to the new population. The method has been successfully used in two on-going introduction projects (Eureka and Little Tizer creeks) in the Elkhorn Mountains.

The introduction of live fish has been successful at establishing a WCT population in a fishless reach of Muskrat Creek in the Elkhorn Mountains, and in several streams in the Great Fall area (Anne Tews, FWP, Lewistown). Benefits of transferring live fish include establishing a self-sustaining population over a relatively short period of time and reduced labor costs as compared to collection and introduction of eggs. Disadvantages of using live fish include potential negative impacts on the donor population if a significant percentage of the population is moved, establishing a population comprised of a high percentage of siblings, and the potential of transferring disease (see pages 8 and 9 for discussion on disease transfer).

In this proposed project we will attempt to transfer both fertilized eggs and live fish from lower Basin Creek to the headwaters of Basin Creek. The use of fertilized eggs is the favored technique to establish new populations, but it would demand a significant amount of labor to only use this method. Eggs and/or fish would be introduced from WCT in lower Basin Creek. Eggs will be taken if spawning WCT are readily available, and live fish transfer will occur when juvenile WCT are abundant. An important benefit of using both methods concurrently is that we should be able to introduce a relatively large number of fish with a high amount of genetic variability over a shorter period of time than would be possible if just one method was used.

The greatest concern of using live fish from lower Basin Creek to establish a new population in the headwaters is the potential negative impacts of removing fish from the donor populations. To reduce this threat, we would only relocate young-of-the-year or age-1 fish. In most stream-dwelling trout populations,

there is typically a "surplus" of these younger fish. This is due to the fact that available habitat is generally a limiting factor of abundance in stream populations, and competition between younger fish as they age regulates their number by increasing mortality or immigration. Thus, by moving a small number of younger fish prior to this competition the impacts of removals should be limited. An added benefit of moving younger fish is that they may be more able than adults to adapt to a new environment. However, stress and potential mortality during the actual collection and transport may be higher for younger fish compared to adults.

Timeframe and specific strategies for egg introductions:

1. Electrofish lower Basin Creek and transfer approximately 50 to100 young-of -the-year and/or yearling WCT to the barren reach during late fall of 2005.

2. **Evaluate feasibility to Collect eggs from the donor WCT population in lower Basin Creek during June/July of 2006/2007. If this practice is feasible, gametes will be collected during June and July 2006, 2007, and successive years, from female and male WCT. Fish will be captured by electrofishing or trapping at known spawning locations. In an effort to duplicate the genetic diversity of the donor populations, we will collect gametes from random adult fish without regard to their appearance (e.g., spotting pattern or coloration). Efforts will also be made in succeeding years to collect gametes from fish that spawn both early and late during the spawning period, which may be an important genetic characteristic of populations living in mountain streams with variable spring habitat conditions. Prior to being returned live to the stream, donor fish will be marked with an adipose fin-clip so they are not used as donors in following years. To lessen the chance that egg-takes will adversely affect the donor populations, only 5 – 15 females will be collected each year from donor populations for egg-take purposes.**

3. **Egg incubation will be conducted on-site using Heath Trays or other suitable egg incubators. Contributions from each female will be kept separate to help determine the relative contribution of each female and male to the new population. Eggs will be disinfected with formalin and iodine (external disinfectants to minimize possible disease transfer).**

It is anticipated that each collected female WCT will provide approximately 250 – 300 eggs. About 90% of the eggs will be used to introduce WCT in the barren reach of Basin Creek, and the remaining will be returned to the lower reach of Basin Creek to partially mitigate for lost reproduction as a result of the egg removal. The returned eggs represent about what natural reproduction would have supplied to the population, under the assumption that natural egg mortality is much higher than will be observed during the project.

Timeframe and specific strategies for live fish introductions:

Young-of-the-year and age-1 WCT would be collected from donor populations by trapping and/or electrofishing summer to late fall. Efforts would be made to capture fish throughout the distribution of WCT in lower Basin Creek to increase the probability that collected fish are from unique matings. At most 50% of the captured juvenile fish will be removed from selected reaches of lower Basin Creek to ensure that the removals will not significantly impact the population. The actual number of juvenile fish relocated would be much less than 50% of the total number residing in the donor stream as the entire population will not be sampled. Total fish moved from year to year would be variable and based on annual abundance of

young fish. Approximately 50 to 100 fish would be moved from the donor populations each year for 3 to 5 years. Collected fish would be transported to the barren reach of Basin Creek in coolers with an ample oxygen supply.

Project Completion Objective:

The introduction will be considered complete when approximately 300 WCT have been transported to the barren reach of Basin Creek upstream of the natural barrier, and when natural reproduction has been documented. Ongoing monitoring of the population status is recommended for at least 3 years after the last introduction of live fish and/or eggs.

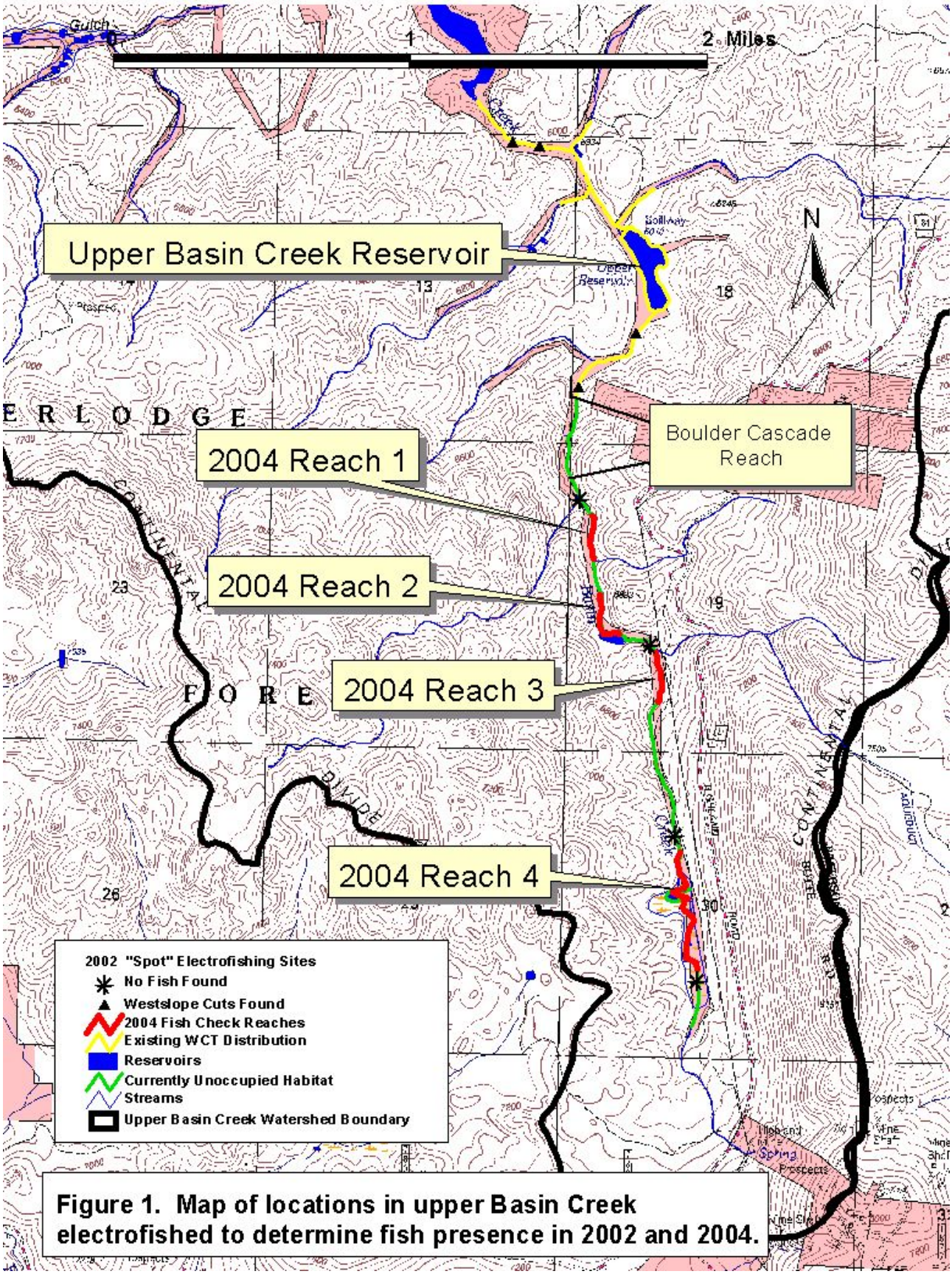

Figure 1. Map of locations in upper Basin Creek electrofished to determine fish presence in 2002 and 2004.