

September 22, 2006  
1420 East 6th Ave.  
P.O. Box 200701  
Helena, MT 59620-0701

Environmental Quality Council  
Montana Department of Environmental Quality  
Montana Department of Fish, Wildlife and Parks  
Fisheries Division  
Endangered Species Coordinator  
Native Species Coordinator, Fisheries  
Missoula Office  
Bozeman Office

Montana State Library, Helena  
Montana Department of Justice, Natural Resource Damage Program  
MT Environmental Information Center  
Montana Audubon Council  
Montana Wildlife Federation  
Mile High Conservation District, P.O. Box 890, Whitehall, MT 59759  
U.S. Army Corp of Engineers, Helena  
U.S. Fish and Wildlife Service, Helena  
Beaverhead-Deerlodge National Forest, Pintlar Ranger District, 88-10A Business Loop,  
Philipsburg, MT 59858  
State Historic Preservation Office, Helena  
George Grant Chapter Trout Unlimited

Ladies and Gentlemen:

Please find enclosed an Environmental Assessment prepared for the Future Fisheries Improvement Program. The Program tentatively plans to provide partial funding to a project calling for the restoration of a 1,020-foot degraded reach of German Gulch Creek, a tributary to Silver Bow Creek. The intent of the project is to enhance an important genetically pure population of westslope cutthroat trout. The proposed project is located approximately 13 miles west of the city of Butte in Silver Bow County.

Please submit any comments that you have by 5 P.M., October 22, 2006 to the Department of Fish, Wildlife and Parks in Helena at the address listed above. Completion of this project is contingent upon approval being granted by the Fish, Wildlife and Parks Commission. If you have any questions, feel free to contact me at (406) 444-2432.

Sincerely,

Mark Lere, Program Officer  
Habitat Protection Bureau  
Fisheries Division  
e-mail: mlere@mt.gov

**ENVIRONMENTAL ASSESSMENT**  
Fisheries Division  
Montana Fish, Wildlife and Parks  
German Gulch Creek Pilot Channel Restoration Project

General Purpose: The 1995 Montana Legislature enacted statute 87-1-272 through 273 that directs the Department to administer a Future Fisheries Improvement Program. The program involves physical projects to restore degraded fish habitat in rivers and lakes for the purposes of improving wild fisheries. The legislature established an earmarked funding account to help accomplish this goal. Additionally, the 1999 Montana Legislature amended statute sections 87-1-273, 15-38-202 and Section 5, Chapter 463, Laws of 1995 to create a bull trout and cutthroat trout enhancement program. The program calls for the enhancement of bull trout and cutthroat trout through habitat restoration, natural reproduction and reductions in species competition by way of the Future Fisheries Program.

The Future Fisheries Improvement Program is proposing to provide partial funding for a project calling for restoring a 1,020-foot degraded reach of German Gulch Creek, a tributary to Silver Bow Creek. The project would involve reconstructing the channel to increase length and sinuosity, enhancing fish habitat by adding large woody debris and boulders to form pools and re-vegetating the floodplain with native grasses, forbs and shrubs. The intent of the project is to enhance a genetically pure population of westslope cutthroat trout. Additionally, this proposed project would act as a pilot project to evaluate restoration activities that, if proven successful, may be used on additional reaches of the stream in the future. The project site is located on private property approximately 13 miles west of the city of Butte in Silver Bow County (Attachment 1).

I. Location of Project: This project will be conducted on German Gulch Creek located approximately 13 miles west of the city of Butte within Township 3 North, Range 10 West, Section 35 in Silver Bow County.

II. Need for the Project: One goal within Montana Fish, Wildlife and Parks six-year operations plan for the fisheries program is to “restore and enhance degraded habitats” by implementing the Future Fisheries Improvement Program to restore important habitats on public and private lands. This proposal would help achieve this goal.

German Gulch Creek supports a significant population of genetically pure westslope cutthroat trout, a species of special concern in Montana. Historic activities in the basin, including extensive placer mining, timber harvest, and grazing have significantly degraded aquatic habitat and riparian conditions. These past activities, combined with competition with non-native brook trout and ongoing water quality problems associated with mining activities in the headwaters, threaten the vitality and existence of this westslope cutthroat trout population. The proposed restoration activities are intended to enhance westslope cutthroat trout habitat. These activities would then be evaluated for their effectiveness and if proven successful, may be used on other reaches of German Gulch Creek in future years.

The reach of stream proposed for restoration currently exhibits a steep gradient and straight channel. The stream splits into multiple channels within this reach and appears to have avulsed, based on the significant cobble and gravel deposited on the floodplain, a high width to depth ratio and the presence of numerous abandoned channels. Pool habitat is lacking due to the absence of woody debris and large boulders. The

adjacent floodplain is relatively broad and lacks riparian vegetation with the exception of a narrow band of shrubs and trees along the immediate bank area.

### III. Scope of the Project:

Restoration activities for this reach of German Gulch will include reconstructing the channel to increase length and sinuosity and the placement of large woody debris and boulders to increase pool habitat (Attachment 2). Additionally, the floodplain will be re-vegetated with native riparian grasses, forbs and shrubs.

The new channel will be excavated with a tracked excavator. Excavated material will be used to fill the existing channel and grade the floodplain to improve flow characteristics during over-bank flow events. Riparian shrubs along the old channel will be transplanted to the margins of the newly constructed channel. Channel reconstruction would involve an 851-foot stream reach to increase sinuosity from 1.09 to 1.26 and reduce channel slope from 3% to 2.6%. The new channel is designed to have a bank-full width of 15 feet and a bank-full depth of 0.69 feet. Additionally, approximately 300 feet of existing channel will be deepened by excavating up to 1.5 feet of material from the streambed to create proper channel dimensions for sediment transport. Approximately 100 boulders will be installed within the newly re-constructed channel to create grade drops and hardened banks to encourage lateral scour for enhance pool habitat. Additional pool habitat will be created by installing 23 pieces of large woody debris into the channel. The placed wood will have 12 inches or larger diameter stems that will be at least 30 feet in length. The large woody debris will be placed both as single stems and as aggregate logjams. This project is expected to cost \$64,500.00. Of this total, the Future Fisheries Improvement Program would be contributing up to \$15,000.00.

### IV. Environmental Impact Checklist:

Please see attached checklist.

### V. Explanation of Impacts to the Physical Environment

#### 1. Terrestrial and aquatic life and habitats.

Restoration of the existing degraded channel is expected to create a healthier habitat for aquatic life by increasing aquatic diversity and improving channel stability. The installation of boulders and woody debris will provide for an increase in overhead cover and will create hydraulic conditions for pool scour. Expected improvements in the aquatic habitat should enhance the westslope cutthroat trout population in the stream. Habitat for riparian dependent wildlife also would be improved by re-vegetation efforts proposed within the riparian corridor.

#### 2. Water quantity, quality and distribution.

Short-term increases in turbidity will occur during project construction. To minimize turbidity, construction will occur during a low flow period and operation of equipment in the stream channel will be minimized to the extent practicable. New channel construction will be conducted in the dry. The Department of Environmental Quality will be contacted to determine narrative conditions

required to meet short-term water quality standards and protect aquatic biota (318 authorization). A 310 permit will be obtained from the local Conservation District and the U.S. Army Corp of Engineers will be contacted for requirements needed to meet the federal Clean Water Act (404 permit).

3. Geology and soil quality, stability and moisture.

Soils along the stream margin would be disturbed during project construction, but would stabilize quickly following proposed re-vegetation and channel restoration efforts. Overall, the project is expected to improve channel stability.

4. Vegetation cover, quantity and quality.

Riparian vegetation and cover would be disturbed during the period of construction. However, re-vegetation efforts, in conjunction with channel restoration efforts, would result in an overall improvement to the riparian vegetative community.

5. Aesthetics.

In the short term, aesthetics would be adversely affected due to ground disturbance and the presence of heavy equipment. In the long term, aesthetics would be enhanced by restoring a degraded reach of stream to a healthier and more natural stream environment. Aesthetics would be further enhanced by proposed re-vegetation efforts within the riparian corridor.

6. Unique, endangered, fragile, or limited environmental resources

German Gulch Creek supports an important, genetically pure westslope cutthroat trout population. Restoration of a 1,020-foot stream reach should improve habitat for westslope cutthroat trout by creating stable channel morphology, enhancing pool habitat, restoring floodplain function, and enhancing vegetation within the riparian corridor and floodplain.

7. Historic and archaeological sites

Renewable Technologies, Inc. (RTI) conducted a cultural survey of the proposed project area and their results were presented in a report entitled: German Gulch Watershed Restoration, Silver Bow County: A Cultural Resource Inventory. In this report, RTI stated, "GMC services did not identify as an element of the historic district the band of placer gravels which will be the subject of the pilot stream restoration project. The feature is so broad, lacking lichen cover and thinly revegetated that it is difficult to recognize it as a historic feature." (Attachment 3) As a result, there is a low likelihood of adverse impacts to cultural resources associated with the channel restoration project. Should cultural materials be inadvertently discovered during the project, the State Historic Preservation Office will be contacted and the site will be further investigated.

VI. Explanation of Impacts on the Human Environment.

1. Access to & quality of recreational activities.

It is anticipated that the restoration of this reach of German Gulch Creek would improve overall aquatic habitat and, as a result, would enhance resident trout populations. Consequently, the project is expected to improve the recreational fishery in a portion of the stream.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no action is taken, this 1,020-foot reach of German Gulch Creek will remain degraded. The carrying capacity for westslope cutthroat trout will remain below potential, recreational opportunities associated with fish and wildlife resources will remain reduced and aesthetics will continue to be impaired. Additionally, the lack of pilot restoration efforts would eliminate the opportunity to evaluate techniques that, if proven successful, potentially could be used in future restoration work.

2. The Proposed Alternative

The proposed alternative is designed to restore a 1,020-foot reach of German Gulch Creek by adjusting channel morphology to a proper dimension, pattern and profile and by enhancing pool habitat with the placement of boulders and large woody debris. These activities are expected to enhance an important, genetically pure westslope cutthroat trout population. The proposed restoration work would be used as a pilot project to help determine potential enhancement activities that could be successfully used in other stream reaches in future years.

VIII. Environmental Assessment Conclusion Section

1. Is an EIS required? No.

We conclude from this review that the proposed activities will have a positive impact on the physical and human environment.

2. Level of public involvement.

The proposed project was reviewed and supported by the public review panel of the Future Fisheries Improvement Program. The proposed project also will be reviewed by the Fish, Wildlife and Parks Commission and funding will be contingent upon their approval. The Environmental Assessment (EA) is being distributed to all individuals and groups listed on the cover letter. The EA also will be published on Montana Fish, Wildlife and Parks web page: [fwp.mt.gov](http://fwp.mt.gov).

3. Duration of comment period?

Public comment will be accepted through 5 P.M. on October 22, 2006.

4. Person responsible for preparing the EA.

Mark Lere, Program Officer  
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Fisheries Division  
Montana Department of Fish, Wildlife and Parks  
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**MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS**  
 1420 E 6th Ave, PO BOX 200701, Helena, MT 59620-0701  
 (406) 444-2535

**ENVIRONMENTAL ASSESSMENT**

Project Title German Gulch Creek Channel Restoration Project

Division/Bureau Fisheries Division -Future Fisheries Improvement  
 Description of Project The Future Fisheries Improvement Program is proposing to provide partial funding to a project calling for the restoration of a 1,020-foot degraded reach of German Gulch Creek, a tributary to Silver Bow Creek. The intent of the project is to enhance an important genetically pure population of westslope cutthroat trout. The proposed project is located approximately 13 miles west of the city of Butte in Silver Bow County.

POTENTIAL IMPACT ON 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			X
3. Geology & soil quality, stability & moisture			X			X
4. Vegetation cover, quantity & quality			X			X
5. Aesthetics			X			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		X

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 recreational and wilderness activities			X			X
8. Quantity & distribution of employment				X		
9. Distribution & density of population & housing				X		
10. Demands for government services				X		
11. Industrial & commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flows				X		

Other groups or agencies contacted or which may have overlapping jurisdiction Mile High Conservation District, Montana Department of Justice, US Fish and Wildlife Service, US Army Corp of Engineers, Montana Department of Environmental Quality, State Historic Preservation Office

Individuals or groups contributing to this EA Josh Vincent, George Grant Chapter TU; Confluence Inc.

Recommendation concerning preparation of EIS No EIS required.  
EA prepared by: Mark Lere  
Date: September 20, 2006

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