

March 18, 2005
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
Bozeman Office

Montana State Library, Helena
MT Environmental Information Center
Montana Audubon Council
Jefferson Valley Conservation District
U.S. Army Corp of Engineers, Helena
U.S. Fish and Wildlife Service, Helena
State Historic Preservation Office, Helena
Lewis and Clark Chapter Trout Unlimited
KG Ranch, 110 KG Ranch Road, Three Forks, MT 59752
Bruce Rehwinkel, Montana Trout Unlimited, 101 Manor Drive, Townsend, MT 59644
Kingfisher Consulting, Inc., P.O. Box 1827, Bozeman, MT 59771

Ladies and Gentlemen:

Please find enclosed an Environmental Assessment prepared for the Future Fisheries Improvement Program. The Program tentatively plans to provide partial funding for a stream channel restoration project on an altered reach of Antelope Creek, a tributary to the Jefferson River. The intent of this project is to restore proper channel function and improve spawning habitat for brown trout and rainbow trout. This proposed project is located on the KG Ranch approximately 6 miles north of the town of Harrison in Madison and Gallatin counties.

Please submit any comments that you have by 5:00 P.M., April 18, 2005 to the Department of Fish, Wildlife and Parks in Helena at the address listed above. Funding for this project through the Future Fisheries Improvement Program 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. Please note that this draft EA will be considered as final if no substantive comments are received by the deadline listed above.

Sincerely,

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

ENVIRONMENTAL ASSESSMENT

Fisheries Division
Montana Fish, Wildlife and Parks
Antelope Creek Channel Restoration Project

General Purpose: The 1995 Montana Legislature enacted statute 87-1-272 through 273 which 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 purpose of improving wild fisheries. The legislature established an earmarked funding account to help accomplish this goal.

The Future Fisheries Improvement Program is proposing to provide partial funding for a project calling for the restoration of a 5,400-foot altered reach of Antelope Creek, a tributary to the Jefferson River. The altered channel would be restored to a proper dimension, pattern and profile and the stream corridor would be fenced to create a riparian pasture that would be rested from grazing until the riparian vegetative community adequately recovered. As part of the proposed project, but independent of the Future Fisheries Improvement Program, the landowner also is proposing to modify the adjacent irrigation system from flood to sprinkler and move the point of diversion downstream to enhance in-stream flow in the lower 2,600 feet of the channel. The intent of this project is to enhance the recruitment of fish to the Jefferson River by improving spawning and rearing habitat in Antelope Creek. The project site is located on the KG Ranch approximately six miles north of the town of Harrison in Madison and Gallatin counties (Attachment 1).

I. Location of Project: This project will be conducted on Antelope Creek, a tributary to the Jefferson River, located approximately six miles north of the town of Harrison within Township 1 North, Range 2 West, Sections 35 and 36 in Madison and Gallatin counties. .

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

Rainbow trout and brown trout populations in the Jefferson River are, in part, limited by inadequate recruitment of fish from the tributaries. Due to past alterations, Antelope Creek currently recruits few fish to the river. However, Antelope Creek has been identified as a good candidate for restoration because of the potential for developing high quality salmonid spawning habitat due to adequate stream flow comprised of high quality water and to the willingness and interest of the landowner. The lower one-mile reach of Antelope Creek was altered and straightened historically for agricultural purposes and for a railroad grade, creating an incised, unstable channel with poor fish habitat. Past grazing practices and possible brush removal also have resulted in a significant loss of riparian vegetation for cover, shading and bank stability. High annual sediment loads currently produced in the drainage are not being adequately transported or sorted by the altered channel, resulting in low pool frequency and spawning gravel clogged with fine sediment. Additionally, irrigation practices have substantially dewatered the lower 3,000 feet of stream channel during the summer.

III. Scope of the Project:

The project proposes to restore a 5,400-foot altered reach of lower Antelope Creek (Attachment 2). The proposal calls for constructing meanders, riffles and pools into two new 500-foot stream sections by moving the creek out of the currently entrenched and straightened reaches along the railroad grade. The project also would create or enhance pool-riffle sequences along the remaining portion of stream reach by restoring the dimension, pattern and profile of the channel. The cross-sectional area of the channel would be modified and bed control structures would be installed in appropriate locations to encourage scour, transport and sorting of streambed material. The project also calls for creating a 70-acre riparian pasture. This pasture would be managed with complete rest from livestock grazing for an appropriate period of time to allow for the recovery of the riparian vegetative community. Once recovered, this pasture would be managed with short duration, high intensity grazing in a manner that would protect or enhance the riparian vegetation. This project is expected to cost \$162,092.00. Of this total, the Future Fisheries Improvement Program would be contributing up to \$71,501.00 to complete the project.

IV. Environmental Impact Checklist:

Please see attached checklist.

V. Explanation of Impacts to the Physical Environment

1. Terrestrial and aquatic life and habitats.

Restoring the altered channel to a proper dimension, pattern and profile is expected to create healthier habitat for aquatic life by creating much greater environmental complexity and by enhancing the capability of the channel to scour, sort and transport streambed material. These actions should augment spawning habitat in Antelope Creek and improvements in the aquatic habitat should enhance salmonid recruitment to the Jefferson River, as well as resident populations in the stream. Habitat for riparian dependent wildlife also would be improved by enhancing the riparian vegetative community by protecting the corridor with the creation of a riparian pasture and associated changes in grazing management.

2. Water quantity, quality and distribution.

Short-term increases in turbidity will occur during project construction. To minimize turbidity, operation of equipment in the stream channel will be minimized to the extent practicable. Construction of new channel reaches would be completed in segments before water is turned in from the existing active channel. 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 to determine requirements to meet the federal Clean Water Act (404 permit). In the long term, restoring the existing channel would reduce the sediment and nutrient contributions to downstream areas, thereby improving the overall quality of downstream waters.

3. Geology and soil quality, stability and moisture.

Soils along the stream margin would be disturbed during project construction, but would be stabilized with re-vegetation efforts and improved grazing management through the creation of a riparian pasture. Overall, the project is expected to reduce bank erosion and improve channel stability by returning the stream to a natural meander pattern and restoring the riparian vegetative community.

4. Vegetation cover, quantity and quality.

Some riparian vegetation would be disturbed during the period of construction. However, proposed re-vegetation efforts, in conjunction with implementing improved livestock grazing management and the development of a riparian pasture, would result in a significant overall improvement to the riparian vegetation.

5. Aesthetics.

During the period of construction, estimated to be about 40 days in length, aesthetics would be adversely impacted due to on-site construction activities and the presence of heavy equipment. In the long term, aesthetics would be enhanced by restoring an altered reach of Antelope Creek to a healthier and more natural stream environment. Additionally, the riparian vegetative community would be enhanced with the creation of a riparian pasture and associated improvements in grazing management.

6. Historic and archaeological sites

The proposed project likely will require an individual Army Corp of Engineers 404 permit. Therefore, the State Historic Preservation Office has been contacted to determine the need for compliance with the federal historic preservation regulations. The project will not begin until a cultural clearance is granted.

VI. Explanation of Impacts on the Human Environment.

1. Agricultural or industrial production

Fencing the riparian corridor to protect the vegetative community is expected to temporarily remove approximately 70 acres from livestock grazing. Following approximately 2 to 3 years of complete rest, this riparian pasture would be managed with short-term, high intensity grazing.

2. Access to & quality of recreational activities.

The Jefferson River provides for a popular recreational fishery. The intent of the project is to improve recruitment of salmonids to the Jefferson River and to lower Antelope Creek. As a result, the recreational fishery on the river is expected to improve. The project does not intend to provide for a recreational fishery on Antelope Creek proper since the landowners currently do not allow public access to the stream.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no action is taken, this reach of Antelope Creek will remain altered, resulting in continued bank erosion, simplified aquatic habitat and a sparse riparian vegetative community. This stream will continue to provide only minimal recruitment of salmonids to the Jefferson River. Additionally, habitat for riparian dependent wildlife will remain in a degraded condition. Recreational opportunities associated with fish and wildlife resources will remain reduced and aesthetics will continue to be impaired.

2. The Proposed Alternative

The proposed alternative is designed to restore an altered 5,400-foot reach of Antelope Creek that would provide for more diverse aquatic habitat and a more functional channel for scouring, sorting and transporting streambed material. The intent of the project is to improve spawning and rearing habitat for resident and migratory fish and to improve the vegetation within the riparian corridor. This alternative would improve fish and wildlife habitat, aesthetics and water quality within the project area and would be expected to increase trout populations both in the creek and in the Jefferson River.

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 will be published on Montana Fish, Wildlife and Park's web page.

3. Duration of comment period?

Public comment will be accepted through 5:00 PM on April 18, 2005.

4. Person responsible for preparing the EA.

Mark Lere, Program Officer
Habitat Protection Bureau
Fisheries Division

Montana Department of Fish, Wildlife and Parks
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Helena, MT 59620
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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 Antelope 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 for a project calling for the restoration of a 5,400-foot altered reach of Antelope Creek, a tributary to the Jefferson River. The altered channel would be restored to a proper channel dimension, pattern and profile and the riparian corridor would be rested from livestock grazing until the riparian vegetative community adequately recovered. The intent is to restore channel function and improve salmonid spawning habitat to enhance recruitment of brown trout and rainbow trout to the Jefferson River. The project site is located on the KG Ranch approximately 6 miles north of the town of Harrison in Madison and Gallatin counties.

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		
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			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 Jefferson Valley Conservation District, 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 Kingfisher Consulting, Inc.

Recommendation concerning preparation of EIS No EIS required.

EA prepared by: Mark Lere
Date: March 1, 2005
