

February 20, 2009  
1420 East 6<sup>th</sup> Avenue  
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  
Montana Wildlife Federation  
Wayne Hadley, 1016 East Side Road, Deer Lodge, MT 59722  
Montana River Action, 304 N 18<sup>th</sup> Ave., Bozeman, MT 59715  
Madison Conservation District, P.O. Box 606, Ennis, MT 59729  
Madison-Gallatin Trout Unlimited, P.O. Box 52, Bozeman, MT 59771  
U.S. Army Corp of Engineers, Helena  
U.S. Fish and Wildlife Service, Helena  
State Historic Preservation Office, Helena  
Oasis Environmental, P.O. Box 582, Livingston, MT 59047  
Madison Ventures, LLC, P.O. Box 506, Locust Valley, New York 11560

Ladies and Gentlemen:

Please find enclosed an Environmental Assessment (EA) prepared for the Future Fisheries Improvement Program. The Program tentatively plans to provide partial funding for a stream channel restoration project on a reach of Jack Creek, a tributary to the Madison River. An EA originally was prepared for this project in 2005 when it called for returning the channelized stream to its historic location to the south of an existing ranch road, which acts as a floodplain berm. A design change recently was made calling for the new channel to be constructed to the north of both the ranch road and the existing channelized reach of stream. This EA addresses the proposed changes in design. This proposed project is located on property owned by the Jack Creek Ranch near the town of Ennis in Madison County.

Please submit any comments that you have by 5:00 P.M., March 23, 2009 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  
Jack Creek Channel Relocation 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 to a project calling for the re-location of a 1,290-foot channelized reach of Jack Creek to the north of its existing location. Jack Creek is a significant tributary to the Madison River. The original project and an associated EA drafted in 2005 called for returning the channel to its historic signature located to the south of an existing ranch road. The ranch road acts a floodplain berm. However, hydraulic calculations found that the proposed channel slope would be insufficient to transport the current sediment supply. As a result, a new alignment is being proposed to the north side of the ranch road that would meet hydraulic needs and, at the same time, add stream length and habitat diversity as previously proposed. This EA addresses proposed changes in design. The intent of this project is to improve salmonid habitat in lower Jack Creek and to possibly enhance the recruitment of fish to the Madison River. The project site is located on property owned by the Jack Creek Ranch approximately 4 miles northeast of the town of Ennis in Madison County (Attachment 1).

I. Location of Project: This project will be conducted on Jack Creek, a tributary to the Madison River, located approximately 4 miles northeast of the town of Ennis within Township 5 South, Range 1 West, Sections 25 and 26 in Madison 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 habitat restoration projects and administering the Future Fisheries Improvement Program to restore important habitats on public and private lands. This proposed project would help meet this goal.

Jack Creek supports populations of brown trout, rainbow trout, brook trout, mountain whitefish and mottled sculpin. More than 50 years ago, in an effort to reduce the impact of flooding on a home site and ranch buildings, a 1,290-foot reach of Jack Creek was diverted into a ditched channel located on the north side of a ranch road. The ranch road acts as a dike and effectively disconnects the channel with the floodplain on the south bank of the stream. The existing straightened channel is almost uniformly 30 feet in width and displays very low habitat complexity. Currently, overall aquatic habitat on this reach of stream is poor for both resident and migrant species of fish.

III. Scope of the Project:

The design plan-form for the relocated channel would be based both on reference reach conditions and hydraulic analyses. The proposed design plan form would increase sinuosity and create conditions that would encourage the maintenance of lateral scour pools (Attachment 2). The project would increase total channel length from 1,290 feet to 1,518 feet. The proposed plan form traverses well-vegetated areas for about one third of its proposed length. Cross section geometry would be narrowed and deepened in

comparison to the existing channel. Construction and shaping of streambed features predominately will consist of native alluvium. Quality wetland sod and willows are readily available throughout the adjacent riparian corridor and will be used for bank construction. Borrow materials would be collected in a patchwork method to avoid creation of large contiguous disturbed areas. Newly constructed stream banks located on the outside of meander bends would be armored with a brush and cobble toe treatment (Attachment 3). Construction of the new channel will be completed in the dry with flow remaining in the straightened channel during construction. Once the new channel is completed, channel plugs throughout the decommissioned channel would be constructed by borrowing from excess cut materials produced from the new channel. Plugs would be reinforced with logs and brush in the same manner as the outside stream bank protection.

All disturbed areas would be re-vegetated with native plant species. The re-vegetation of the woody shrub community would rely on locally salvaged whole willows, live willow cuttings and live willow root balls. Herbaceous species will be restored using sod transplants and distribution of native grass seed.

This project is expected to cost \$119,733.00. Of this total, the Future Fisheries Improvement Program would be contributing up to \$20,000.00.

#### IV. Environmental Impact Checklist:

Please see attached checklist.

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

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

Restoring an existing straightened reach of Jack Creek to a more natural dimension, pattern and profile is expected to create healthier habitat for aquatic life by creating greater environmental complexity and by re-establishing better connectivity between the stream and riparian corridor. Expected improvements in the aquatic habitat may enhance salmonid recruitment to the Madison River, as well as resident populations in the stream.

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

Short-term increases in turbidity will occur during project construction. To minimize turbidity, new channel construction will occur in the dry and operation of equipment in the stream channel will be minimized to the extent practicable. Excavation of the new channel will be completed before water is turned in from the old 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 (Natural Stream and Land Preservation Act) will be obtained from the local Conservation District and the U.S. Army Corp of Engineers will be contacted to determine requirements needed to meet the federal Clean Water Act (404 permit).

3. Geology and soil quality, stability and moisture.

Soils would be disturbed during construction of the new channel, but would be stabilized with proposed re-vegetation efforts.

4. Vegetation cover, quantity and quality.

Riparian vegetation and cover would be disturbed during the period of construction. However, proposed re-vegetation efforts are expected to offset those disturbances.

5. Aesthetics.

Aesthetics would be negatively impacted during project construction due to ground disturbance and the presence of heavy equipment. The restoration work is expected to be completed over a period of about 2 months. In the long term, aesthetics would be enhanced by restoring a channelized reach of stream to a healthier and more natural stream environment.

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 will be 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. Access to & quality of recreational activities.

The intent of the project, in part, is to improve recruitment of salmonids to the Madison River. As a result, the recreational fishery on the river may be improved. The project does not intend to provide a recreational fishery on Jack Creek proper since the landowners currently do not allow public access to the stream, although the public does have access to the stream via the county road crossing.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no action is taken, this reach of Jack Creek will remain channelized and will continue to provide simplified aquatic habitat. This ditched reach of the stream likely provides only minimal recruitment of salmonids to the Madison River. Recreational opportunities associated with fisheries resources will remain reduced and aesthetics will continue to be impaired.

2. Conduct habitat restoration within the existing channelized stream reach

This alternative would not resolve the loss of floodplain connectivity with the active channel nor would the alternative create additional stream length. Overall, aquatic habitat likely would be improved but the quantity of those improvements likely would not be as great as in the proposed alternative.

3. The Proposed Alternative

The proposed alternative is designed to restore the dimension, pattern and profile of a straightened reach of Jack Creek. This alternative would improve the diversity of aquatic habitat in the stream. The intent of the project is to improve habitat for spawning, rearing and adult fish. This alternative is expected to improve aesthetics within the project area and may increase trout populations both in the creek and the Madison 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 also will be published on Montana Fish, Wildlife and Parks webpage: [fwp.mt.gov](http://fwp.mt.gov).

3. Duration of comment period?

Public comment will be accepted through 5:00 PM on March 23, 2009.

4. Person responsible for preparing the EA.

Mark Lere, Program Officer  
Habitat Protection Bureau  
Fisheries Division  
Montana Department of Fish, Wildlife and Parks  
1420 East 6th Avenue  
Helena, MT 59620

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e-mail: [mlere@mt.gov](mailto:mlere@mt.gov)

**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 Jack Creek Channel Relocation 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 re-location of a 1,290-foot channelized reach of Jack Creek to the north of its existing location. The intent of the project is to improve spawning, rearing and adult fish habitat and to potentially enhance recruitment of fish to the Madison River. The project site is located on property owned by the Jack Creek Ranch approximately 4 miles northeast of the town of Ennis in Madison 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		
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 Madison 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 Oasis Environmental.

Recommendation concerning preparation of EIS No EIS required.

EA prepared by: Mark Lere

Date: February 2, 2009