February 20, 2009
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
Montana Wildlife Federation
Wayne Hadley, 1016 Eastside Road, Deer Lodge, MT 59722
Montana River Action, 304 N 18th Ave., Bozeman, MT 59715
Ruby Valley Conservation District, P.O. Box 295, Sheridan, MT, 59749
U.S. Army Corp of Engineers, Helena
U.S. Fish and Wildlife Service, Helena
State Historic Preservation Office, Helena
Big Hole Watershed Committee, P.O. Box 931, Butte, MT 59703
Kalsta Ranch Co., P.O. Box 320104, Glen, MT 59732
Lewis and Clark Chapter Trout Unlimited, P.O. Box 475, Twin Bridges, MT 59754
The Complete Fly Fisher, P.O. Box 127, Wise River, MT 59762
MT DNRC, Resource Development Bureau, P.O. Box 200601, Helena, MT 59620
Marni Thompson, NRCS, P.O. Box 295, Sheridan, MT 59749

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 spawning channel enhancement project on Kalsta Spring Creek, a small tributary to the Big Hole River located near the community of Glen. The intent of the project is to create spawning, rearing and thermal refuge habitat for rainbow trout and brown trout residing in the Big Hole River. This proposed project is located on the Kalsta Ranch approximately 2.5 miles north of the community of Glen 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 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. 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
Kalsta Spring Creek Spawning Habitat Enhancement 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 designed to enhance spawning habitat on a 1,650-foot reach of Kalsta Spring Creek, a small tributary to the Big Hole River. The intent of the project is to create spawning, rearing and thermal refuge habitat for rainbow trout and brown trout residing in the Big Hole River. The project site is located approximately 2.5 miles north of the community of Glen in Madison County (Attachment 1).

I. Location of Project: This project will be conducted on Kalsta Spring Creek, an small tributary to the Big Hole River, located approximately 2.5 miles north of Glen within Township 4 South, Range 9 West, Section 3 in Madison County.

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.

Kalsta Spring Creek is one of a few sites in a 44-mile reach of the lower Big Hole River that offers a potential to contribute cool spring-fed flows to a part of the river that chronically suffers from thermal loading during the heat of the summer. Kalsta Spring Creek flows between 4 and 10 cfs during the summer, with the head of the springs producing a constant flow of cool 45 F to 52 F water. This quantity of cool water has the potential to moderate temperatures in the lower Big Hole River during the summer, when flows can get as low as 100 cfs. This consistent cool flow also offers an opportunity to create much needed spawning and rearing habitat for trout residing in this reach of the river.

Currently, the springs feed an over-widened and shallow slough/pond complex, which warms the water to approaching 70 F. As a result, exiting spring flows are commonly warmer than river flows, resulting in additional thermal loading in the river. The slough complex consists of three branches of Kalsta Spring Creek originating on or near the floodplain in a historic channel of the Big Hole River. The landowner has used the system to sub-irrigate an adjacent pasture and this sub-irrigation is accomplished by back-watering the spring creek system above the confluence with the river. This backwatering effort creates a barrier to upstream fish migration and has resulted in the accumulation of fine sediment into the bed of the stream. This accumulation of fine sediment makes habitat unsuitable for resident and fluvial fish populations. Additionally, the existing warm and muddy conditions create suitable habitat for tubeficids and associated whirling disease. This proposed project calls for enhancing approximately 1,650 feet of the spring creek by restoring channel morphology, bypassing existing slough areas and re-connecting spring flows to the river.

III. Scope of the Project:

The project calls for connecting the two westernmost channels of the spring creek into a single channel that would be routed around the existing slough system and directly into the river (Attachment 2). The dimension, pattern and profile of the channel would be restored by excavating a more narrow and deep channel. Approximately 250 cubic yards of cobble would be imported to create the riffles and grade control points. An additional 350 cubic yards of washed gravel would be imported to enhance spawning habitat. The existing slough area, containing the easternmost channel, would be reconfigured into a series of smaller, deeper and inter-connected impounded areas to reduce thermal loading. Small fish-passable channels would be constructed to connect the reconfigured ponds with each other. Rock weirs would be constructed in a manner that will control water levels for each pond and create enough head to allow for sub-irrigation to the pasture area. Construction would be undertaken outside of the irrigation season to minimize saturated soil conditions. All disturbed areas would be re-vegetated with placement of salvaged sods, sowing a mix of native grass seeds and transplanting salvaged and borrowed willow clumps.

The landowner recently installed riparian fencing to protect the spring creek system from livestock grazing and is in the process of developing a grazing management plan. This project is expected to cost $190,300.00. Of this total, the Future Fisheries Improvement Program would be contributing up to $83,030.00 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.

Enhancing 1,650 feet of spawning habitat in Kalsta Spring Creek is expected to improve trout populations in both the spring creek system and in the lower Big Hole River.

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. 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 Streambed 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 the requirements to meet the federal clean Water Act (404 permit).

3. Geology and soil quality, stability and moisture.

Soils within the footprint of the restored channel would be disturbed during construction of the new channel and pond system. All areas disturbed during the construction phase will be re-vegetated with salvaged sod, native grass seed mix, and willow clump transplants. Additionally, riparian

fencing and implementation of a grazing management plan is expected to enhance overall health of the stream-wetland complex.

4. Vegetation cover, quantity and quality.

Riparian vegetation would be disturbed during the period of construction. However, proposed re-vegetation efforts and the implementation of a grazing management would result in an overall improvement to the riparian vegetation.

5. Aesthetics.

During the period of construction, aesthetics would be adversely impacted due to on-site construction activities and the presence of heavy equipment. Construction is expected to occur over a three to four week period.

6. Historic and archaeological sites

The proposed project may 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. Funding will not be released until a cultural clearance is granted.

VI. Explanation of Impacts on the Human Environment.

1. Access to & quality of recreational activities.

This project intends to create new spawning, rearing and thermal refuge habitat for rainbow trout and brown trout residing in the lower Big Hole River. As a result, the recreational fisheries within nearby reaches the river are expected to improve.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no action is taken, the potential to moderate thermal loading in the lower Big Hole River and enhance spawning habitat for trout would remain unrealized. Recruitment of additional rainbow trout and brown trout to the lower Big Hole River would not occur and recreational fishing opportunities likely will remain reduced.

2. The Proposed Alternative

The proposed alternative is designed to restore the channel morphology of the spring creek, reclaim an over-widened and shallow slough complex and reconnect cool springs flows directly to the river. This restored aquatic habitat would help moderate thermal loading in the lower Big Hole River during the summer. The project also is expected to increase recruitment of rainbow trout and brown trout to the Big Hole River and ultimately enhance recreational fishing opportunities.

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 Fish, Wildlife and Parks Commission also will review the proposed project 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: 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
   Telephone: (406) 444-2432
   e-mail: 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 Kalsta Spring Creek Spawning Habitat Enahncement 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 designed to enhance spawning habitat on a 1,650-foot reach of Kalsta Spring Creek, a small tributary to the lower Big Hole River. The intent of the project is to create spawning, rearing and thermal refuge habitat for rainbow trout and brown trout residing in the Big Hole River. The project site is located approximately 2.5 miles north of the community of Glen 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 Ruby Valley Conservation District, US Fish and Wildlife Service, US Army Corp of Engineers, Montana Department of Environmental Quality, State Historic Preservation Office, Natural Resources and Conservation Service
Individuals or groups contributing to this EA Noorjahan Parwana, Big Hole Watershed Committee; PBS&J
Recommendation concerning preparation of EIS No EIS required.
EA prepared by: Mark Lere

Date: February 2, 2009