April 2, 2008
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
Water Resources Program Manager
Missoula Office
Montana Department of Natural Resources and Conservation
MT Environmental Information Center
Montana Audubon Council
Montana Wildlife Federation, P.O. Box 1175, Helena, MT 59624
State Historic Preservation Office
North Powell Conservation District
U.S. Army Corp of Engineers, Helena
U.S. Fish and Wildlife Service, Helena
Montana State Library, Helena
Watershed Restoration Coalition, ATTN: Renee Myers, 1002 Hollenback Road, Deer Lodge, MT 59722
Bruce Thomas, P.O. Box 330012, Gold Creek, MT 59733
John Hollenback, P.O. Box 33025, Gold Creek, MT 59733
John Schmucker, 465 Gold Creek Road, Gold Creek, MT 59733

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 that would reduce the amount of water diverted from Gold Creek, a tributary to the Clark Fork River, for irrigation purposes by converting an inefficient irrigation system to a more efficient sprinkler system. The sprinkler irrigation system would be installed on the Thomas Hereford Ranch located approximately one mile southeast of the community of Gold Creek in Powell County. The intent of the project is to enhance fish and wildlife habitat on the stream and improve recruitment of trout to the resident fishery and to the Clark Fork River.

Please submit any comments that you have by 5:00 P.M., May 2, 2008 to Montana Department of Fish, Wildlife and Parks in Helena at the address listed above. The project funding is contingent upon Fish, Wildlife and Parks documenting proposed benefits to the stream. 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
Gold Creek Irrigation Conversion and In-stream Flow Enhancement 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 a funding account to help accomplish this goal.

Montana's Water Use Act encourages "the water resources of the state…be protected and conserved to assure adequate supplies for public recreational purposes and for the conservation of wildlife and aquatic life" (85-1-101(5), MCA).

This project is being proposed to provide partial funding through the Future Fisheries Improvement Program to undertake a water conservation project on Gold Creek. The proposed project would reduce the amount of water diverted from the stream for irrigation purposes by converting an inefficient flood irrigation system to a more efficient sprinkler system. The project site is located on the Thomas Hereford Ranch approximately 1.5 miles upstream from the confluence with the Clark Fork River. The intent of the project is to improve in-stream flow in this reach of Gold Creek during the irrigation season. Funding would be contingent upon Montana Fish, Wildlife and Parks documenting proposed benefits to the stream.

I. Location of Project: This project will be conducted on Gold Creek located on property owned by the Thomas Hereford Ranch located approximately 1 mile southeast of the community of Gold Creek within Township 10 North, Range 10 West, Section 31 and Township 10 North, Range 11 West, Section 36 in Powell County (see Attachment 1).

II. Need for the Project: One goal within Montana Fish, Wildlife and Parks (MFWP) 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 achieve this goal.

Gold Creek is a tributary to the Clark Fork River with the potential for providing a significant recruitment source for brown trout and rainbow trout. However, stream flow within the lower reach of Gold Creek has been significantly diminished by irrigation diversions during the growing season, resulting in increased water temperatures and degraded aquatic habitat. Fish populations within this reach of stream historically have been limited by dewatering during the irrigation season. The diversions associated with this proposed project also act as source of entrainment for fish.

III. Scope of the Project: The proposed project calls for converting an existing flood irrigation system servicing about 233 acres of cropland to a more efficient sprinkler system (Attachment 2). The proposed sprinkler system will be powered by gravity flow and a series of booster pumps servicing three pivot sprinkler systems. The existing flood irrigation system consists of two ditches. The upper west side ditch is shared with another water user. The Thomas Ranch currently utilizes an estimated 3.0 cubic feet of water per second (cfs) from this ditch. The proposed west side sprinkler system would utilize about 1.24 cfs, resulting in an estimated water savings of up to 1.76 cfs. However, another existing diversion located

immediately downstream of this west side ditch, as well as the shared ditch user, likely would utilize most, if not all, of the water saved by this west side project. The lower east side diversion currently utilizes an estimated 7.6 cfs from Gold Creek. The proposed east side sprinkler system would utilize approximately 2.9 cfs, resulting in an estimated water savings of up to 4.7 cfs. The water savings created by this project are expected to benefit aquatic habitat within the lower one mile of Gold Creek and may enhance fish passage into upstream waters. In association with this proposed irrigation efficiency project, the ranch will be relocating an existing feedlot outside of the stream corridor and will fence approximately one mile of the riparian corridor to improve grazing management and enhance the riparian vegetative community. The Future Fisheries Improvement Program would contribute up to $4,050.00 toward completion of the riparian fencing, with outside funding sources funding the remainder. The estimated total cost of this proposal is $477,048.00. Of this total, MFWP would contribute up to a total of $130,007.00 through the Future Fisheries Improvement Program towards completion of the project, with $125,957.00 going towards the proposed new sprinkler systems.

IV. Environmental Impact Checklist:

Please see attached checklist.

V. Explanation of Impacts to the Physical Environment:

1. Terrestrial and aquatic life and habitats.

There will be no adverse impacts to fish or wildlife as a result of the proposed project. Implementation of this project would provide up to an estimated 4.7 cfs of additional flow in Gold Creek during the irrigation season. This additional flow is expected to benefit the lower one-mile of the stream by enhancing aquatic habitat and reducing water temperature. This additional in-stream flow also may improve fish passage into upstream waters. The project also would install trash screens at the head of each diversion, reducing the potential for entrainment of fish into the irrigation system. The installation of riparian fencing would improve grazing management and allow for recovery of riparian vegetation, further benefiting aquatic resources and riparian dependent wildlife.

2. Water quantity, quality and distribution.

No changes in drainage pattern or natural surface run-off would occur as a result of the proposed project. There would be an increase in the amount of in-stream flow found in the lower one mile of Gold Creek during the irrigation season. Groundwater returns to the basin may be slightly reduced due to an expected increased consumption of water associated with better crop production produced by the more efficient sprinkler irrigation system, although a reduction in irrigated acreage likely would offset that loss.

3. Geology and soil quality, stability and moisture.

Soils will be disturbed by the installation of several thousand feet of pipeline but would be stabilized by re-seeding. Conversion from flood to sprinkler irrigation would provide for a more uniform distribution of water onto the fields.

4. Vegetation cover, quantity and quality.

Existing vegetation and cover, primarily alfalfa and pastureland grasses, will be disturbed by the installation of the buried pipeline. Areas disturbed by construction will be re-seeded.

5. Aesthetics.

Aesthetics would be negatively impacted during project construction due to ground disturbance and the presence of heavy equipment. In the long term, augmenting stream flow in Gold Creek during the irrigation season would enhance aesthetics.

8. Demands on environmental resources of land, water, air and energy.

The ditch system presently used for flood irrigation requires no energy resources. Conversion to a sprinkler system will require the use of diesel pumps, creating a greater demand for energy. Conversion to a sprinkler system is expected to result in a more efficient use of water.

9. Historic and archaeological sites

Because of the minimal ground disturbance associated with the proposed project in areas that have been previously leveled and cultivated, there is a very low likelihood that cultural properties could be impacted. Should cultural materials be inadvertently discovered during the project, the State Historic Preservation Office will be contacted and the site will be investigated.

VI. Explanation of Impacts on the Human Environment.

4. Agricultural or industrial production.

There are no anticipated adverse impacts to agricultural production as a result of the proposed project. The proposed conversion from flood to sprinkler irrigation will slightly reduce the area of land under irrigation. Conversion to a sprinkler system will make more efficient use of water and is expected to provide for a higher yielding crop.

7. Access to & quality of recreational activities.

It is anticipated that augmenting in-stream flow in Gold Creek would improve overall aquatic habitat and, as a result, would improve recruitment of trout to the stream and to the Clark Fork River.

12. Demands for energy.

Fuel will be needed to run the pumps for the new sprinkler irrigation system.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no action is taken, the landowners will continue to flood irrigate their cropland. The use of flood irrigation will remain inefficient and crop yield will not be improved. The lower reach of Gold Creek will continue to suffer from dewatering and higher water temperatures during the irrigation season. Additionally, fish will continue to be entrained into the ditch system and the recruitment of juvenile trout and other fish will remain suppressed.

2. The Proposed Alternative

The proposed alternative is designed to augment in-stream flows and reduce the potential for entrainment of fish by converting to a more water efficient irrigation system. This alternative is expected to improve fish and wildlife habitat in Gold Creek and increase trout populations in the stream and in the Clark Fork River. A more efficient irrigation system is expected to produce a higher yielding crop. The associated relocation of an existing corral system away from the stream corridor and the installation of riparian fencing will allow for the recovery of riparian vegetation.

3. Alternatives considered but not recommended

Other means of increasing in-stream flows in Gold Creek are not feasible at this time for the following reasons:

- There are no existing or planned water storage projects within the Gold Creek drainage.
- There are no other known water users in the basin interested in converting or leasing existing waters rights to enhance in-stream flow.

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 is contingent upon approval by the Fish, Wildlife and Parks Commission. 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.

3. Duration of comment period?

   Public comment will be accepted through 5:00 P.M. on May 2, 2008.

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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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 Gold Creek Irrigation Conversion and In-stream Flow Project

Division/Bureau Fisheries Division-Future Fisheries Improvement

Description of Project This project is being proposed to undertake a water conservation project on Gold Creek, a tributary to the Clark Fork River. The Future Fisheries Improvement Program is proposing to provide partial funding to a project that would reduce the amount of water diverted from Gold Creek for irrigation by converting an inefficient flood irrigation system to a more efficient sprinkler system. The proposed project is located on the Thomas Hereford Ranch approximately 1 mile southeast of the community of Gold Creek in Powell 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			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			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 Montana Department of Natural Resources and Conservation, North Powell Conservation District, US Fish and Wildlife Service, US Army Corp of Engineers, Montana Department of Environmental Quality, State Historical Preservation Office

Individuals or groups contributing to this EA: Watershed Restoration Coalition

Recommendation concerning preparation of EIS: No EIS required.

EA prepared by: Mark Lere

Date: March 12, 2008