

March 13, 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  
    Water Resources Program Manager  
    Great Falls 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  
Lewis and Clark County Conservation District  
U.S. Army Corp of Engineers, Helena  
U.S. Fish and Wildlife Service, Helena  
Montana State Library, Helena  
Pat Barnes Chapter, Trout Unlimited, 62 Last Chance Gulch, Helena, MT 59601  
Zachary and Patricia Wirth, 2020 Sieben Canyon Road, Wolf Creek, MT 59648  
Donald and Nancy Johnston, 2450 Sieben Canyon Road, Wolf Creek, MT 59648  
Sieben Ranch, 1600 Sieben Canyon Road, Wolf Creek, MT 59648

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 the stream for irrigation purposes by converting an inefficient irrigation system to a more efficient sprinkler system in a reach of Little Prickly Pear Creek located upstream of Wolf Creek Canyon on the Rocking Z Ranch. 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 Missouri River.

Please submit any comments that you have by 5:00 P.M., April 13, 2006 to Montana Department of Fish, Wildlife and Parks in Helena at the address listed above. The project is contingent upon Fish, Wildlife and Parks Commission approval of funding through the Future Fisheries Improvement Program. 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

Upper Little Prickly Pear 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 Little Prickly Pear 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 in a reach of Little Prickly Pear Creek upstream of Wolf Creek Canyon. The intent of the project is to improve in-stream flow in this reach of Little Prickly Pear Creek during the irrigation season.

**I. Location of Project:** This project will be conducted on Little Prickly Pear Creek on property owned by Zachary and Patricia Wirth located approximately 3 miles west of the Sieben Interchange on Interstate Highway 15 within 13 North, Range 4 West, Sections 19 and 20 in Lewis and Clark 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.

Little Prickly Pear Creek is an important tributary to the very popular Missouri River fishery, providing a recruitment source for brown trout and rainbow trout. Upstream of Wolf Creek Canyon, where this proposed project is located, Little Prickly Pear Creek becomes somewhat less important for the recruitment of river fish but continues to provide for a resident fishery. However, stream flow in this reach of Little Prickly Pear Creek has been 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 diversion associated with this project acts as source of entrainment for fish. Also, the channel configuration around this heading has been manipulated in the past to obtain adequate water into the ditch, leading to the loss of additional aquatic habitat.

**III. Scope of the Project:** The proposed project calls for converting an existing flood irrigation system servicing about 76 acres of hay land to a more efficient sprinkler system (Attachment 2). The proposed sprinkler system will be powered by a diesel or bio-fuel pumping station, providing water to one traveling hard hose reel. The 76 acres of hay land are broken into 3 narrow irregularly shaped fields making

standard pivot sprinkler systems impractical. The existing flood irrigation system utilizes between 2 and 8 cubic feet of water per second (cfs) while the proposed sprinkler system would utilize about 0.75 cfs, resulting in a water savings of up to 7.25 cfs. The new pumping station would be metered to insure no more than 0.75 cfs was diverted from the stream. The water savings created by this project are expected to benefit aquatic habitat within the lower 18 miles of Little Prickly Pear Creek. Although there are three or four points of diversion located downstream of the proposed project site, only one of these takes a significant quantity of water. Fortunately, this diversion recently converted from flood to sprinkler irrigation with the salvaged water being dedicated to in-stream flow. The estimated cost of this proposal is \$119,040.00. Of this total, MFWP would contribute up to \$15,000.00 through the Future Fisheries Improvement Program towards completion of 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.

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 7.25 cfs of additional flow in Little Prickly Pear Creek during the irrigation season. This additional flow is expected to benefit the lower 18 miles of the stream by enhancing aquatic habitat and reducing water temperature. The project also would install a trash screen at the newly constructed pumping station, reducing the potential for entrainment of fish into the irrigation system. Additionally, the project would eliminate the need for periodically manipulating the channel configuration at the ditch heading in an effort to obtain adequate water.

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 18 miles of Little Prickly Pear 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.

Short-term increases in turbidity may occur during the installation of the irrigation pump and pipeline crossing. To minimize turbidity, construction will occur during a low flow period and operation of equipment in the active 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. 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 will be disturbed by the installation of several thousand feet of 6-inch pipeline but would be stabilized by re-seeding. Conversion from flood to sprinkler irrigation would provide for a more even distribution of water onto the fields.

4. Vegetation cover, quantity and quality.

Riparian vegetation and cover, primarily 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 Little Prickly Pear Creek during the irrigation season would enhance aesthetics.

6. 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 a diesel or bio-fuel powered pump, creating a greater demand for energy. Conversion to a sprinkler system is expected to result in a more efficient use of water.

7. 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.**

1. 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 not significantly change 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.

2. Access to & quality of recreational activities.

It is anticipated that augmenting in-stream flow in Little Prickly Pear Creek would improve overall aquatic habitat and, as a result, would improve recruitment of trout to the stream and to the Missouri River.

3. Demands for energy.

Diesel or bio-fuel will be needed to run the pump for the new sprinkler irrigation system.

## **VII. Discussion and Evaluation of Reasonable Alternatives.**

### **1. No Action Alternative**

If no action is taken, the landowner's will continue to flood irrigate their hay land. The use of flood irrigation will remain inefficient and crop yield will not be improved. Little Prickly Pear 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 Little Prickly Pear Creek and increase trout populations in the stream and in the Missouri River. A more efficient irrigation system is expected to produce a higher yielding crop.

### **3. Alternatives considered but not recommended**

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

- There are no existing or planned water storage projects within the Little Prickly Pear Creek drainage.
- Montana Law prevents the purchase of water rights for in-stream flows.
- The existing narrow and uneven fields prevent the use of other potential types of sprinkler irrigation, including lower pressured systems that would use less energy to operate.

## **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](http://fwp.mt.gov).

3. Duration of comment period?

Public comment will be accepted through 5:00 P.M. on April 13, 2006.

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](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 Upper Little Prickly Pear 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 Little Prickly Pear Creek with Zachary and Patricia Wirth. The Future Fisheries Improvement Program is proposing to provide partial funding to a project that would reduce the amount of water diverted from Little Prickly Pear Creek for irrigation by converting an inefficient flood irrigation system to a more efficient sprinkler system. The proposed project is located approximately 3 miles west of the Sieben Interchange on Interstate Highway 15 in Lewis and Clark 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, Lewis and Clark County 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: None  
 Recommendation concerning preparation of EIS: No EIS required.  
 EA prepared by: Mark Lere  
 Date: March 9, 2006