

July 12, 2013  
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 Bureau  
    Endangered Species Coordinator  
    Glasgow Office  
    Kathy Smith, R-6 Admin.  
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 Network, 304 N 18<sup>th</sup> Ave., Bozeman, MT 59715  
McCone Conservation District, P.O. Box 276, Circle, MT 59215  
U.S. Army Corp of Engineers, Helena  
U.S. Fish and Wildlife Service, Helena  
State Historic Preservation Office, Helena  
Montana Department of Natural Resources and Conservation, 321 Main Street, Miles City, MT 59301  
McCone County Commissioners, Box 199, Circle, MT 59215

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 to a project calling for re-constructing the Nickwall county road crossing located on the Redwater River, a tributary to the Missouri River. The reconstruction would involve installing four, 12-foot wide by 5-foot tall, box culverts. The new culverts would be imbedded below stream grade by about one foot and backfilled with native alluvium. The intent of this project is to enhance upstream migratory connectivity for numerous warm water species of fish found in the lower Missouri drainage. This proposed project is located on state land approximately 4 miles south of the town of Poplar in McCone County.

Please submit any comments that you have by 5:00 P.M., August 12, 2013 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](mailto:mlere@mt.gov)

ENVIRONMENTAL ASSESSMENT  
Fisheries Division  
Montana Fish, Wildlife and Parks  
Redwater River Fish Passage 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 providing funding for 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 replacement of a series of undersized culverts located at the Nickwall county road crossing on the Redwater River with four, 12-foot wide by 5-foot tall, box culverts. The road crossing currently consists of four, 24-inch diameter, culverts perched above the streambed. These existing culverts act as barriers to upstream fish passage for numerous species of warm water fish, except during the very highest flows. The intent of this project is to improve upstream fish passage on the Redwater River for fish residing in the lower Missouri River. The project site is located on the Redwater River, a tributary to the Missouri River, approximately 4 miles south of the town of Poplar in McCone County.

I. Location of Project: This project will be conducted on the Redwater River located within Township 27 North, Range 50 East, Section 36 in McCone County (Attachment 1).

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 fisheries habitats” by implementing habitat restoration projects and administering the Future Fisheries Improvement Program to restore important habitats on private and public lands. This proposed project would help meet this goal.

The Redwater River is one of the largest tributaries to the lower Missouri River in Montana and is extremely important to the ecological function of the drainage. Due to the influence of Fort Peck Dam, the lower Missouri River discharges cooler, less turbid water, in the summer. Additionally, the reservoir acts as a nutrient sink. Warmer and more nutrient-rich prairie tributaries, like the Redwater River, play a very important role in producing small cyprinids that spend a portion of their life cycle in the main-stem rivers. These cyprinids provide an important prey base for native predatory fish, including sauger, channel catfish and pallid sturgeon. If accessible, these warmwater tributaries also are important for spawning by channel catfish, especially with the reservoir influenced Missouri River considered to be too cold for successful reproduction. The Redwater River and the lower Missouri River support a very high diversity of fish species, including a number of Montana species of special concern. The Nickwall county road crossing, located on the Redwater River about 1.25 river miles above the confluence with the Missouri River, currently acts an upstream fish migration barrier under most flow conditions, except for the very highest flows (Attachment 2). Re-construction of this road crossing to provide fish passage would open about 25 miles of habitat for fish migrating from the Missouri River.

III. Scope of the Project:

The existing road crossing, currently consisting of four, 24-inch diameter, culverts spaced across the stream

would be replaced with four, 12-foot wide by 5-foot high, box culverts (Attachment 3). The new box culverts would be imbedded below stream grade by approximately 1 foot and would be backfilled with native alluvium to provide resting areas for weaker swimming fishes. The new culverts would meet the water velocity criteria of 1 foot per second for 8 months out of the year. A minimum depth criteria of 0.4 feet or greater would be met during all months of the year. This project is expected to cost \$305,627.00. Of this total, the Future Fisheries Improvement Program would be contributing up to \$100,000.00. The remainder of the funding would come from outside sources and in-kind services:

Contributor	In-kind services	In-kind cash
US Bureau of Land Management (not yet secured)		\$130,628.00
Great Plains Fish Habitat Partnership		\$50,000.00
Montana Fish, Wildlife and Parks (R6 BNFS mitigation fund)		\$25,000.00

IV. Environmental Impact Checklist:

Please see attached checklist.

V. Explanation of Impacts to the Physical Environment

1. Terrestrial and aquatic life and habitats.

The high water event in 2011 resulted in water flowing over the top of the road crossing and allowed some fish to pass, including sauger. This rare high water event provided solid evidence that if fish passage is available, a number of native fish species would utilize the Redwater River upstream of the Nickwall road crossing. Re-constructing this road crossing would provide upstream fish passage to approximately 25 miles of additional Redwater River habitat. During times of drought, fish would be able to seek refuge in pools, and in extreme drought, seek refuge in the Missouri River. New spawning and rearing habitat would be made available for fish migrating out of the Missouri River and into the Redwater River. Fish species that have been documented in the Redwater River include bigmouth buffalo, black bullhead, brassy minnow, channel catfish, cisco, common carp, emerald shiner, fathead minnow, flathead chub, freshwater drum, goldeye, green sunfish, longnose dace, northern pike, northern redbelly dace, plains minnow, river carsucker, sand shiner, sauger, shorthead redhorse, smallmouth buffalo, stonecat, sturgeon chub, western silvery minnow, white crappie, and white sucker.

2. Water quantity, quality and distribution.

Short-term increases in turbidity will occur during project construction. To minimize turbidity, the 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 (318 authorization). A 124 permit (Montana Stream Protection Act) will be obtained from Montana Fish, Wildlife and Parks, and the U.S. Army Corp of Engineers will be contacted to determine the need to meet 404

provisions of the Clean Water Act.

3. Geology and soil quality, stability and moisture.

Soils along the stream margin within the project area would be temporarily disturbed during construction. All disturbed areas would be re-vegetated with a native grass seed mix.

4. Vegetation cover, quantity and quality.

Vegetation and cover, primarily a mix of native and non-native grasses, would be disturbed within the project area during the period of construction. However, this disturbance would be minor (less than 0.5 acres) and proposed re-vegetation efforts in the form of seeding with a native mix of grass seed would act as mitigation.

5. Aesthetics.

In the short term, aesthetics would be adversely impacted due to ground disturbance and the presence of heavy construction equipment. Construction activities are expected to be completed in approximately 2.5 weeks

7. Unique, endangered, fragile or limited environmental resources.

Opening up an additional 25 miles of habitat in the Redwater River is expected to benefit a number of Montana species of special concern, including northern redbelly dace, sauger, Iowa darter, and sturgeon chub. Additionally, the potential to increase cyprinid production as a result of the project could benefit pallid sturgeon that reside on the lower Missouri River. Pallid sturgeon is a species listed as endangered under the Endangered Species Act. A potential limiting factor for piscivorous pallid sturgeon may be related to the densities of cyprinids that are available for their food base.

9. Historic and archaeological sites.

The project site previously has been disturbed by the construction, and ongoing maintenance of, the road crossing. As a result, there is a very low likelihood that cultural properties will be impacted by the proposed project. 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.

7. Access to & quality of recreational and wilderness activities.

Increasing the amount of spawning and rearing habitat in the Redwater River is expected to enhance recruitment to the lower Missouri River, making for more fish being available to the fishery.

14. Transportation networks & traffic flows.

Public traffic would likely be delayed or interrupted during the period of construction. Traffic may need to be rerouted or a temporary stream crossing may need to be constructed. Construction activities are expected to be completed in approximately 2.5 weeks.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no Future Fisheries funding is provided, the applicant would have to either seek other sources of funding to complete the project or upstream fish passage on the Redwater River would continue to be impeded. Approximately 25 miles of the river would remain inaccessible to numerous species of fish. Traffic use at the road crossing would remain unchanged.

2. Alternatives Analysis

A feasibility and alternatives assessment for this project was complete in 2007 by Mainstream restoration, Inc. Three alternatives were considered for re-constructing the Nickwall road crossing in order to provide for upstream fish passage. The alternatives included: 1) two 20-foot by 4-foot high concrete spans; 2) four 12-foot by 5-foot high concrete or aluminum box culverts; and 3) six 7 foot by 5 foot CMP arch culverts. Hydraulic conditions produced by each of these alternatives were analyzed using a HEC-RAS hydraulic model. Costs for each alternative were estimated by anticipated design and construction costs. The assessment found that Alternative 1 (spans) and Alternative 2 (four box culverts) provided better upstream fish passage conditions than Alternative 3 (arch culverts), but Alternative 3 was estimated to be the least expensive (see Table 1). Alternative 1 was rejected because of the higher cost and Alternative 3 was rejected because hydraulic conditions were met the least amount of time.

Table 1. Alternatives analyses for reconstructing the Nickwall road crossing.

	Alternative 1 (Spans)	Alternative 2 (box culverts)	Alternative 3 (arch culverts)
No. of months hydraulic criteria for fish passage are met	8	8	6
Estimated cost (\$)	\$347,000.00	\$267,000.00	\$191,000.00

3. The Proposed Alternative

The proposed alternative is the installation of four aluminum box culverts across the stream (Alternative 2). The new box culverts would be 12 feet wide by 5 feet high and would be imbedded about one foot into the streambed. The Future Fisheries Improvement Program would provide partial funding to retro-fit the Nickwall road crossing to meet hydraulic criteria for fish passage 8 months out of the year. This alternative has an estimated intermediate costs compared to other alternatives considered. The new crossing would benefit numerous species of warm water fish and would open up fish passage to approximately 25 miles of additional aquatic habitat in the Redwater River. Traffic use of the crossing would somewhat improve following project completion because the larger new culverts would be able to pass more water underneath the crossing than what exists

there now. During the period of construction, however, traffic would either need to be re-routed or a temporary road crossing would need to be installed. The project is expected to cause minor traffic delays.

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 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 August 12, 2013

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 Redwater River Fish Passage Enhancement Project  
 Division/Bureau Fisheries Division -Future Fisheries Improvement  
 Description of Project The Future Fisheries Improvement Program is proposing to provide partial funding to a project calling for the replacement of a series of undersized culverts located at the Nickwall county road crossing on the Redwater River with four 12-foot wide by 5-foot tall box culverts. The intent of the project is to improve upstream fish passage on the Redwater River for fish residing in the lower Missouri River. The project site is located on the Redwater River, a tributary to the Missouri River, approximately 4 miles south of the town of Poplar in McCone County.

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

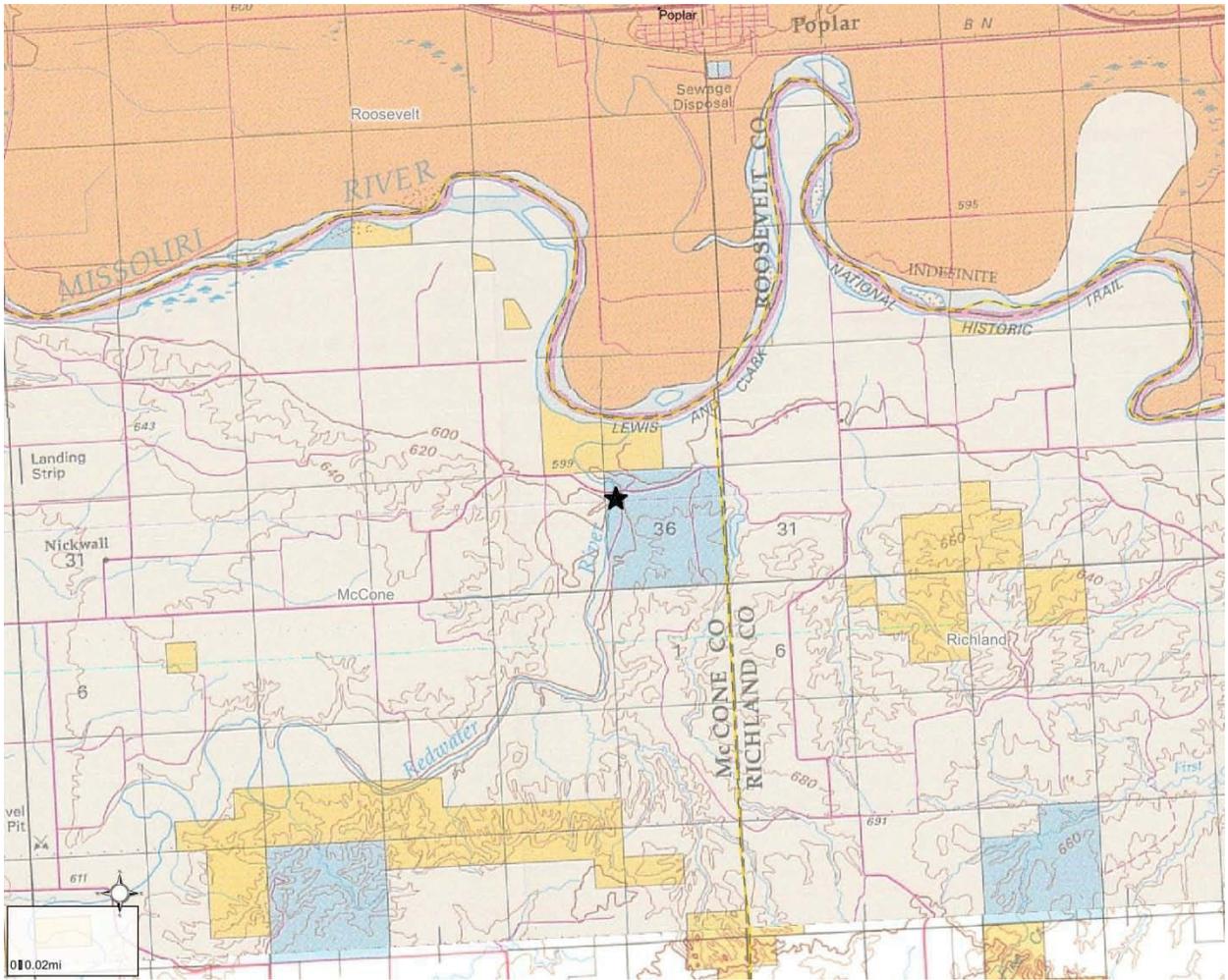
	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats		X				X
2. Water quality, quantity & distribution			X			X
3. Geology & soil quality, stability & moisture			X			X
4. Vegetation cover, quantity & quality			X			X
5. Aesthetics			X			X
6. Air quality				X		
7. Unique, endangered, fragile, or limited environmental resources			X			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						
14. Transportation networks & traffic flows			X			X

Other groups or agencies contacted or which may have overlapping jurisdiction McCone Conservation District, McCone County, Montana Department of Natural Resources and Conservation, US Fish and

Wildlife Service, US Army Corp of Engineers, Montana Department of Environmental Quality, Montana Department of Fish, Wildlife and Parks, State Historic Preservation Office  
Individuals or groups contributing to this EA Steve Dalbey, Montana Fish, Wildlife and Parks  
Recommendation concerning preparation of EIS No EIS required.  
EA prepared by: Mark Lere  
Date: June 3, 2013



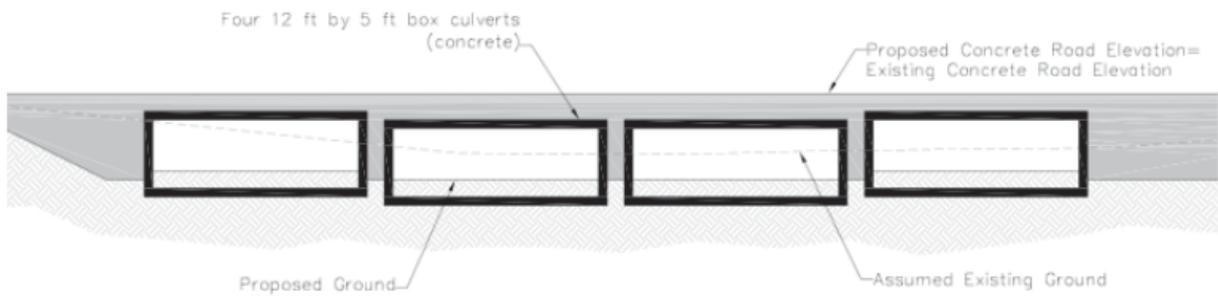
Map showing project location on the Redwater River.

ATTACHMENT 1



Existing culverts at the Nickwall road crossing located on the Redwater River.

ATTACHMENT 2



Proposed new box culverts installed at the Nickwall crossing located on the Redwater River.

ATTACHMENT 3