Montana Fish, Wildlife & Parks

P.O. Box 200701
Helena, MT 59620-0701
August 19, 1996

Governor's Office, Attn: Glenn Marx
Environmental Quality Council
Dept. Of Environmental Quality, Metcalf Building, POB 200901, Helena, MT 59620-0901
Montana Fish, Wildlife & Parks
    Fisheries Division
    Endangered Species Coordinator
    Missoula Regional Office
Montana Historical Society, State Historic Preservation Office, POB 201202, Helena, MT 59620-1202
Montana State Library, 1515 East Sixth Avenue, POB 201800, Helena, MT 59620-1800
MT Environmental Information Center, POB 1184, Helena, MT 59624
MT Audubon Council, POB 595, Helena, MT 59624
Mineral County Conservation District
Environmental Protection Agency, Federal Building, Helena, MT 59601
Army Corps of Engineers, 301 South Park Avenue, Helena, MT 59601
U.S. Fish & Wildlife Service, 100 North Park Avenue, Helena, MT 59601
MT Wildlife Federation, POB 1175, Helena, MT 59624

Dear Ladies and Gentlemen:

The enclosed Environmental Assessment (EA) is submitted for your consideration. It was prepared for the proposed Future Fisheries Improvement project on the [redacted] This project includes a channel modification that will consolidate the present braided situation and establish appropriate channel geometrics. This should allow the movement of gravel while maintaining fish habitat. Streambanks will be re-vegetated with available sod, seed and plants.

Questions and comments will be accepted until 5:00 p.m., Septmeber 23, 1996. If you have questions, feel free to contact me at (406) 444-2432. All written comments should be sent to the undersigned.

Thank you for your interest.

Sincerely,

Bruce J. Rehwinkel
Habitat Protection Bureau
Fisheries Division

ENVIRONMENTAL ASSESSMENT

IMPLEMENTATION OF A FUTURE FISHERIES PROJECT ON THE ST. REGIS RIVER

Prepared by
Montana Fish, Wildlife & Parks
August 19, 1996

GENERAL PURPOSE

The 1995 Montana Legislature enacted statute 87-1-272 & 273, MCA which directs the Montana Fish, Wildlife & Parks (FWP) to restore and improve degraded wild fisheries. The legislation established a one-time funding account to ensure that this function would be accomplished. The St. Regis River channel restoration project described herein is one of 19 applications made during the second funding cycle which ended July 1, 1996.

BACKGROUND

During the 1995/96 high winter flows, the St. Regis River eroded most of the county road abutting the river's right bank. The site is located near Haugan, above Big Creek Access Bridge. Approximately four miles above the site, the river emerges from a canyon confinement, loses some gradient and flows in its own alluvial deposits. It becomes confined again below Haugan bridge.

The river at the site can be classified as a C4 stream type, which means that it is a gravel dominated, sinuous stream with a developed floodplain. However, for most of its length above the site, the river has degraded into a multi-channel braided system (D4), probably due to various construction alterations in the past (Interstate 90). As a result, the competency and capacity of the channel to transport its gravel load from the steeper, more confined canyon section has greatly diminished. The gravel bedload at and upstream of the site tends to be deposited in mid-channel bars in the braided reach. This braided system, combined with the mobile bedload, increases erosional pressure on the banks. The bankfull (channel forming flow) channel is too wide and shallow to transport its gravel load. Due to the braiding, it has also lost its appropriate meander radius, length and width. All of these factors contribute to the bank instability during bankfull and higher flows; this situation will get slowly worse due to the accumulation of gravel in the form of mid-channel bars.

I. DESCRIPTION OF THE PROPOSED ACTION

The most effective, long-term solution to the bank erosion is to restore the river into a more stable single-channel with appropriate width, depth, and meander pattern. Bank revetments, woody vegetation planting and rip-rap will be needed to initially stabilize the outside meander banks and to protect infrastructures that are close to the banks. The combination of appropriate channel restoration and bank stabilization will not only increase the long-term stability of the

river; it will also enhance fish habitat, which is currently greatly degraded.

The rehabilitation plan, in accordance with FEMA Hazard Mitigation Plan, 1) contributes to long-term comprehensive mitigation; 2) takes advantage of post-disaster opportunities; and 3) coordinates with existing mitigation needs of the Lolo National Forest and MT Department of Fish, Wildlife & Parks.

The long-term success of the proposed Mineral County road reconstruction thus depends on the rehabilitation of the braided portion of the St. Regis River above Haugan. This can be achieved with cooperation and funding assistance from FEMA, Lolo National Forest and MT Future Fisheries Program.

Road Construction and Site Stabilization

The county road can be reconstructed at its historic location without having a significant impact on the appropriate channel geometry. Relocating the road onto the railroad grade would have been a preferred alternative, since it would result in somewhat more space for outside bank reconstruction; however, underground storage tanks with unknown content within the railroad right-of-way may complicate the road relocation.

Figure 1 shows the existing and proposed bankfull channel boundaries. The bankfull channel (Figure 2) was designed to pass a flow of approximately 1,256 cubic feet per second. Manning equation with an estimated roughness coefficient was used to compute the flow. The estimated bankfull flood (the flood that recurs on average every 1.5 years) at the site is 1,014 cfs. The estimated mean annual flood at the site is 1,279 cfs (Figure 3). The floods were calculated from a 23-year flow record at the USGS gauge at St. Regis and scaled by drainage area ratio. The bankfull flood is generally responsible for the dimensions, such as width and depth. The river peaks on average in May (Figure 4) with low flows during September and October. The width and depth dimensions were selected to conform to C4 type streams.

Figure 5 shows the relationship of the existing channel and proposed reconstructed channel at two sites located at the two transects on Figure 1. The reconstruction involves rebuilding of the floodplain and bank stabilization to create a single main bankfull channel capable of passing its gravel load.

At the road reconstruction site, transect #1 shows the fill into the existing channel. Transect #2 shows partial removal of the oldest railroad grade. This will prevent confinement of high magnitude floods and secure needed fill material. We propose a complete removal of the grade at the upstream end of it to decrease erosion pressures during above bankfull flows. The single thread, narrowed channel will not only provide for more efficient bedload transport, but will enhance fish habitat during low flows. High flows will be dissipated on the floodplain; we estimate that a 25-year flood will flow less then about on foot above the floodplain. More accurate high flood stage determination would require hydraulic modeling and is not warranted in this study.

Detailed cross-sectional and plan view plans of the revetment and rip-rap at the site are shown on Figures 6 and 7, respectively. The drawings show where and how to use rock rip-rap, revegetation and rootwad revetment. The rootwads can be obtained from the regrading of the original railroad grade.

The plan view (Figure 1) shows two V rock weirs. The weirs, constructed from large boulders, will direct the flow toward the center of the channel (thalweg) and thus diminish erosion pressure on the banks. They will also mitigate for the larger than recommended meander length.

A. Location of Project

The channel reconstruction project on the St. Regis River is located within Township 19 North, Range 30 West, Sections 22 and 27 of Mineral County. The 2,500 feet of channel work will be accomplished on privately owned property with the owners' consent, just upstream from the Haugan Interstate 90 Exit.

B. Project Benefits

The primary species to benefit from this work will be Westslope cutthroat, bull, brown and rainbow trout. This will be accomplished by creating a deeper low flow channel with better holding cover and a stable floodplain where a riparian plant community can be successfully established.

Any improved fishery will be well accepted by local residents as well as travelers on the Interstate. Public access to this property is sanctioned, usually without request. The total fishing pressure on the ST. Regis River (as estimated by FWP) has increased by approximately 20% between 1993 and 1995. Nearly all of the change resulted from a nearly 60% increase of non-residents. Regardless of these recent changes, the St. Regis River has an average pressure (36.3 miles in length) of only 54 angler days per mile of stream. This low use level along a waterway which is so easily accessed (paralleled by Interstate highway) attests to the damage done to this stream in the past.

Any renovation work accomplished on the St. Regis River will be an important improvement. Other large land managers (USFS and Plum Creek) that were also affected by Interstate construction will likely be watching the durability of this work and the impact it has on the fishery resource.

II. IMPACTS TO THE PROPOSED ACTION

Please review the attached checklist. The proposed project will restore channel stability and improve fish habitat on the St. Regis River.

A. Impacts to the Physical Environment

1. Terrestrial & Aquatic Life and Habitats

Habitat for riparian dependent wildlife will be restored through efforts of this project. The restoration of a functional floodplain will significantly improve the development of the riparian vegetation community. The cover component of the riparian habitat - once restored - will result in a more attractive and productive wildlife area.

Fishery benefits of this project include the enhancement offered by a singled channel that provides deeper water during the low flow period and overhead cover along the banks. The second positive aspect of this project on the fish population is the stability the new channel should offer. The stability will allow riparian vegetation development over time which is a change from the current situation.

2. Water Quality, Quantity and Distribution

Depending on the situation at the time of construction, a considerable portion of the construction may be accomplished under dry conditions. Certainly, much of the work will unavoidably need to be done under wet conditions.

This project will cause some short-term increases in turbidity during the active construction period. A short-term exemption from water quality standards will be necessary. Whatever conditions the Water Quality Division places on the permit, will be followed.

In the long-term, measures to stabilize this channel will improve water quality. Streamflow will not be modified by this project.

3. Geology and Soil Quality, Turbidity and Moisture

No effect on the area's geology is expected to occur above the active high-water mark. Once the vegetation is established, it should act as a "filter mat" and help hold the soil on upland areas.

The effects of this project on the geology below the high-water mark are to aid the establishment of a single defined stream channel. This new channel will have a functional floodplain upon which the riparian plant community will become established. The contribution of sediment from upland sites in this immediate area should be reduced. A properly designed stream channel should maintain its design integrity through the years and transport the bedload that enters the redesigned reach.

4. Vegetative Cover, Quantity and Quality

This project will help restore the riparian plant community to a more natural condition within this 2,500 foot reach. Although some available woody plant species and some sod will be transplanted during the proposed project, most of the riparian plant community recovery will require many years of natural development. This process of recovery will require many years, but should progress in a predictable fashion as long as the bank

protection does not fail.

5. Aesthetics

The aesthetics of the existing riparian area are quite degraded. The erosion into the county road and the mid-channel gravel bars do not help the general appearance of the site. Once the proposed project is completed, the appearance of this reach of the St. Regis River corridor will be much improved.

9. Historical and Archaeological Sites

The proposed activity will be confined to those areas of the stream channel that have been disturbed by fluvial process of the stream.

Since the entire area is located on privately owned property and the changes occurred as a result of natural process, this action does not appear to meet the definition of an "undertaking" as described in the state antiquities act.

B. Impacts to the Human Environment

7. Access To & Quality of Recreational Activities

The public will realize increased wild trout populations in this reach of the St. Regis River. Access to this site is free to the public and owner permission is not required. Additionally, there are several public operated access points along the river that have been provided as a result of highway construction.

III. DISCUSSION AND EVALUATION OF REASONABLE ALTERNATIVES

A. The "No Action" Alternative

If this project is not completed, the following consequences are likely to result:

- fish habitat will remain very homogeneous and fish populations will remain low,
- the riparian plant community will not recover beyond the present condition,
- angling along the St. Regis River will remain at minimal levels,
- erosion of the streambank will continue to worsen,
- sediment contribution to this system will possibly increase, and;
- the county road will be less likely to remain stable over the long term

B. The Proposed Alternative

The proposed project will result in the following:

- Fish populations should improve as a result of improved holding water during low flow periods and increased habitat diversity,
- the riparian plant community will recover from its present degraded condition,
- angling on the St. Regis River should increase and harvest could improve,
- erosion of the streambank in this reach will cease,
- sediment contribution from this source will stop, and;
- the county road will remain stable.

IV. ENVIRONMENTAL ASSESSMENT CONCLUSIONS SECTION

A. Is an EIS required? No

This review has clearly demonstrated that the impacts associated with this project are not significant. The net result of the proposed action is a return to a more productive situation.

B. Describe the level of public involvement.

The project was reviewed and supported by the public review panel of the Future Fisheries Improvement program at the July meeting. Legal Notices were published in the Helena Independent Record inviting the public to this function. Additionally, copies of this proposal were sent to all Fish, Wildlife & Parks Commissioners for review.

This Environmental Assessment is being distributed to all individuals and groups listed on the cover letter.

Lastly, the St. Regis River Channel Restoration Project was approved by the Commission at their August 8, 1996 meeting. No public comment was offered when the opportunity was offered.

C. Duration of comment period?

Public comment will be accepted through 5:00 p.m. on September 23, 1996.

D. Name, title, address and phone number of person responsible for preparing the Environmental Assessment:

Bruce J. Rehwinkel
Habitat Protection Bureau
Fisheries Division
1420 East Sixth Avenue
P. O. Box 200701
Helena, MT 59620-0701

DEPARTMENT OF FISH, WILDLIFE AND PARKS
1420 E 6th Ave, PO BOX 200701, Helena, MT 59620-0701
(406) 444-2535

ENVIRONMENTAL ASSESSMENT

Project Title St. Regis River Bank Stabilization Project

Division/Bureau Fisheries Division, Future Fisheries Program

Description of Project The project is intended to stabilize a severely eroding bank. The solution must restore the river to a single, functioning channel. The restored river channel must have the appropriate width, depth and meander pattern. To increase the long-term durability of this channel, revetments must be installed to the streambank.

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats			X			
2. Water quality, quantity & distribution			X			
3. Geology & soil quality, stability & moisture			X			
4. Vegetation cover, quantity & quality			X			
5. Aesthetics			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 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			
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 Mineral County, EPA, U.S. Army Corps of Engineers, U.S.F.& W Service

Individuals or groups contributing to this EA Watershed Consulting, Mineral County

Recommendation concerning preparation of EIS No EIS Required

EA prepared by : Bruce Rehwinkel

Date: August 23, 1996