

Montana Fish, Wildlife and Parks

**ENVIRONMENTAL REVIEW OF
WHITE SUCKER AND LONGNOSE SUCKER SUPPRESSION IN ACKLEY LAKE**

Project: White sucker and longnose sucker suppression in Ackley Lake (Judith Basin County)

Division: Fisheries Division

Description of Project: White suckers and longnose suckers will be suppressed by trapping. Dispatched sucker carcasses will be returned to the reservoir.

Potential Impact on the 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 and moisture				X		
4. Vegetative cover, quantity & quality				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		

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 recreation and wilderness activities			X			X
8. Quantity & distribution of employment				X		
9. Distribution and density of population & housing				X		
10. Demands for government services				X		X
11. Industrial and commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flow				X		

Other groups or agencies contacted or which may have overlapping jurisdiction: Public notification via the State of Montana web site (<http://fwp.state.mt.us/publicnotices/>).

List of Individuals or groups contributing to this EA: Christopher Horn, MFWP, summarized historical data from Ackley Lake.

Recommendation concerning preparation of EIS: No EIS Required. Action expected to be minor.

EA prepared by: Anne Tews, Fisheries Biologist, Montana Fish, Wildlife & Parks

Date: February 8, 2006

Comments will be accepted until: March 15, 2006

Comments should be sent to:

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**ENVIRONMENTAL ASSESSMENT
WHITE SUCKER AND LONGNOSE SUCKER SUPPRESSION IN ACKLEY LAKE**

I. Description of proposed action

A. Description of water body and action.

Name:	Ackley Lake	Location:	T14N R14E S22
Water Code:	16-4300	County:	Judith Basin

Ackley Lake is an off-stream irrigation reservoir in the Judith River drainage, approximately 5 miles southwest of Hobson, MT. It is about 225 acres at full pool. The inlet canal is located about 3 miles upstream of Antelope Creek. Ackley Lake is a state park and Montana Fish, Wildlife & Parks stocks about 40,000 fingerling rainbow trout (*Oncorhynchus mykiss*) annually. During the last 15 years it has consistently been in the top 20 fisheries in Region 4. In recent years rainbow trout have exhibited poor condition and low relative weight (Wr). Relative weight measures fish fatness. Values near 100 indicate fish are in balance with their food supply and Wr less than 85 indicates underweight fish (Flickinger and Bulow 1993). White sucker (*Catostomus commersoni*) numbers have been high for the past 4 years. The proposal is to capture white suckers and longnose suckers (*Catostomus catostomus*) during spring trapping. The suckers will be dispatched and their carcasses returned to Ackley Lake in an attempt to improve the rainbow trout fishery.

B. Need for Action

During the last 4 years *Catostomus spp.* numbers have ranged from about 53 – 73 per gill net, which is higher than the 1989 – 2005 average of 43 per net. Rainbow trout numbers were high (about 50 per net) until 2005 when they dropped to less than 20 per net. Rainbow trout have been very skinny for the past two years with Wr of 77 and 78. The 1989 – 2005 average Wr is 86. A long-term data set starting in 1959 found only 4 years (1964, 1984, 1994, 2004 and 2005) with average rainbow trout Wr below 80. The low Wr in 2005 is of special concern because most rainbow captured were small and because it is the only time Wr less than 80 has been found for 2 sequential years. Small trout in Ackley Lake typically have Wr near 100 (Tews et al. 2002). In 1958, 1966, 1973 and 1984 rotenone treatments were utilized to revitalize the trout and salmon fishery in Ackley Lake. Review of the Lewistown data files indicates that these treatments did not result in long-term benefits to the trout fishery. Trout Wr after the 1973 and 1985 treatments were near the long term mean with Wr of 84 and 86 respectively. Sucker/salmonid ratios typically returned to pretreatment levels within a couple of years.

Chemical treatment is no longer a feasible option for short-term benefits because of cost and environmental concerns. In an attempt to inexpensively reduce sucker numbers, they will be trapped, dispatched and carcasses returned to Ackley Lake. The action will be temporary because additional suckers will enter Ackley Lake via the inlet canal and not all of the suckers will be removed. At Casino Creek Reservoir, trout fatness increased substantially and median rainbow trout size increased by about 4 inches in traps after suckers were removed with a similar treatment (Tews et al. 2004). Casino Creek Reservoir is an on-stream reservoir and trout stocking regime and introduction of walleye were also undertaken, so results may differ substantially here. This is an experimental effort whose effectiveness will be evaluated by fall sampling of rainbow trout. If time permits additional fish sampling, zooplankton sampling and food habits will be evaluated.

II. Impacts of the proposed action

Please review the attached checklist. The impacts of this action are included in the Environmental Assessment checklist and the following text addresses the impacts.

A. Impacts to the Physical Environment

1) Terrestrial and Aquatic Habitat: White and longnose sucker numbers will be temporarily reduced in Ackley Lake. Trapping will not remove all of the suckers and additional suckers will enter the reservoir through the inlet canal. It is not known if suckers reproduce in Ackley Lake but large numbers of small suckers have not been seen during past surveys. It is hoped that sacrificing suckers and returning them to Ackley Lake will result in better rainbow trout growth for at least one – two years.

2) Water quality, quantity and distribution: Sucker carcasses will be returned to Ackley Lake to increase productivity and trout growth. This might result in a temporary increase in productivity in the lake.

5) Aesthetics: The suckers will be sunk in the water but under certain weather conditions it is likely at least some of the carcasses will rise to the water surface. This could temporarily impact smell and aesthetics. If trout eat the dead suckers, taste may be temporarily affected.

7) Unique, fragile and endangered resources: White and longnose suckers are abundant in many reservoirs and streams throughout northcentral Montana. They have adapted well to artificial reservoirs like Ackley Lake and have overpopulated many similar reservoirs. There are no known species of special concern in this section of the Judith River. FWP surveys indicate there are westslope cutthroat trout *Oncorhynchus clarki lewisi* in the Judith headwaters and sauger *Sander canadense* and blue sucker *Cypleptus elongatus* in the lowest 20 miles of the Judith.

B. Impacts to the Human Environment

7) Access to and Quality of Recreational Activities: This project is being undertaken to improve the put and take rainbow trout fishery at Ackley Lake. It is anticipated that rainbow trout size will increase for 1-2 years after this action is undertaken. If the sucker removals appear to be successful in increasing rainbow trout size they may be repeated in future years.

8) Demands on Government Services: This action will be undertaken by fisheries staff as part of normal field operations. This project will likely take 1 – 3 weeks each year it is undertaken. Other fisheries projects may be postponed. Evaluation of the effectiveness of the treatments may take additional time.

III. Discussion of Reasonable Alternatives

1) No Action: The “No Action” Alternative would not result in any impacts. The evaluation of sucker removal and impacts to trout fishery would not be completed. It is

possible that sucker numbers would decline and rainbow trout condition would increase without the treatment.

2) Preferred Alternative: Dispatch suckers and sink the carcasses in Ackley Lake as discussed in this document.

3) Chemical treatment: This is not a feasible option for temporary removals due to both direct costs and the amount of staff time that would be involved. Historically improvements to the fishery have been very short term after chemical treatments. Aesthetics would be much further impacted since carcasses would all float to the top. The game fish in the reservoir would also be killed and the reservoir would likely be drawn down to the minimum pool for maximum use of the toxicant. It would take at least 1- 2 years for the trout fishery to become re-established.

4) Remove sucker carcasses from the reservoir. This alternative would remove much of the nutrient biomass from the reservoir and may be less likely to improve trout condition. Aesthetics should not be impacted at the reservoir since the carcasses would be hauled off-site. A sucker disposal site would be needed.

5) Introduce a predator to reduce sucker numbers. Ackley Lake has a long history as a popular and successful trout fishery. Walleye or northern pike introductions would likely negatively impact the trout fishery. MFWP is planning to introduce brown trout in 2007 or 2008 as an experimental measure to reduce sucker numbers.

IV. Environmental Assessment Conclusion Section

1) Is an EIS required? No, the action is expected to be minor and beneficial.

References:

- Flickinger, S.A. and F.J Bulow. 1993. Small impoundments. Pages 469 – 492 in C.C. Kohler and W.A. Hubert, editors. Inland fisheries management in North America. American Fisheries Society, Bethesda, Maryland.
- Tews, A. E., P. D. Hamlin, and T. B. Horton. 2002. Northcentral Montana coldwater reservoir and lake ecosystems. Montana Statewide Fisheries Management. 2001 Annual Report. Montana Department of Fish, Wildlife and Parks, Job Progress Report, Helena.
- Tews, A.E., D. Yerk, T. Horton and D. Moser. 2004. Statewide fisheries investigations, Northcentral Montana coldwater lake ecosystems. 2002 report. Montana, Department of Fish, Wildlife and Parks. Job Progress Report : F-113-R1; F-113-R2. Helena, MT