

COLORADO RIVER RECOVERY PROGRAM
FY-2006-2007 PROPOSED SCOPE OF WORK for:
(Passage & O&M: Redlands Diversion Dam)

Project No.: C-4b-RED

Lead Agency: Fish and Wildlife Service
Colorado River Fishery Project
Submitted by: Chuck McAda, Project Leader
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<u>Category:</u>	<u>Expected Funding Source:</u>
<input type="checkbox"/> Ongoing project	<input type="checkbox"/> Annual funds
<input checked="" type="checkbox"/> Ongoing-revised project	<input type="checkbox"/> Capital funds
<input type="checkbox"/> Requested new project	<input type="checkbox"/> Other (explain)
<input type="checkbox"/> Unsolicited proposal	<input checked="" type="checkbox"/> O&M

I. Title of Proposal: **Annual operation and maintenance of the fish passage structure at Redlands Diversion Dam on the Gunnison River**

II. Relationship to RIPRAP:

Colorado River Action Plan: Gunnison River
II.B.1. Restore passage at Redlands.
II.B.1.c. Operate and maintain fish ladder.

III. Study Background/Rationale and Hypotheses:

Redlands Fish Passageway

The Redlands Dam fish passageway, constructed on the Gunnison River, a major tributary of the Colorado River, near Grand Junction, Colorado, was completed in June 1996. The first of it's kind in the Upper Colorado River Basin, it's specific purpose was to provide upstream passage for two Federally listed fishes, the Colorado pikeminnow and razorback sucker. It was also designed for selective passage. That is, it was to preclude upstream movement of nonnative fish.

Through 2004, 67 sub-adult and adult Colorado pikeminnow have been found in the fish trap of the passageway. This has included 57 individual pikeminnow, eight single repeat passages, and one double repeat passage. Colorado pikeminnow have used the

passageway almost exclusively in August (37) and July (16). Two pikeminnow were found in the fish trap in late-June (June 30) during 2002. One pikeminnow was found in the trap in early-September. Nine adult razorback sucker, all domestic-reared fish that were previously stocked, have used the passageway. Eight razorback sucker have ascended the fish ladder in August (2001) and one in September (2002) (Burdick 2001b; 2002).

About 73,000 fish consisting of 22 different fish species and hybrids (6 native, 13 nonnative, and three catostomid hybrids) have been collected and counted during the first nine years of operation. Native fishes consistently comprised about 93% of the total fish catch for each of the first five years. In 2001, native fish composition in the fish trap dropped from 93% to 82%. In 2002 and 2003, native fish composition dropped even further to 66% and 68%, respectively (Burdick 2002; Burdick 2003). Native fish composition increased to 77% in 2004 (Burdick 2004).

A final report was completed in July 2001 and distributed in late-August 2001. This report evaluated the use of the fishway by all fishes, with particular reference to the native, listed fish, Colorado pikeminnow, from 1996-2000 (Burdick 2001a).

IV. Study Goals, Objectives, End Product:

Redlands Fish Passageway

Continue to collect data on the number of large-bodied fish, different fish species, and seasonal distribution of fish that use the Redlands passageway. Summarize the annual results of passageway fish use in the annual RIP report.

V. Study area

Gunnison River: river mile 3.0.

VI. Study Methods/Approach

For FY2006 and FY2007, the Redlands fish passageway will be operated from about 1 April through about 1 October. The trap is designed to collect large-bodied fish. Depending upon manpower, the fish trap at the passageway at each site will be run at least every other day, Monday through Friday, and where possible every weekday. All fish will be sorted by species and counted. Vital statistics including length, weight, and PIT-tag ID's will continued to be collected for all listed species found in the trap. On the weekend, the trap will be checked for listed fishes, only. Because of Recovery Program priorities for control of nonnative fishes in the Colorado River, all smallmouth bass and largemouth bass captured will be sacrificed, preserved and provided to the Colorado Division of Wildlife for the stable isotope study. Other introduced species (e.g., channel catfish, green sunfish, black bullhead, white sucker) collected will be sacrificed and disposed of in a manner that will not constitute a nuisance or as otherwise directed by CDOW.

In addition to collecting and counting fish in the fish trap, FWS personnel will continue to be responsible for periodic cleaning of river borne sediment in the fish trap and routine cleaning of surface and submerged trash, debris, and river borne algae from the trash grates and bar screens in the forebay of the passageway. When large amounts of sediment and trash occur, BR will clean the facility (see Project #C-4c, Task 5). FWS personnel will also be responsible for opening and winterizing the passageway.

VII. Task Description and Schedule

Description

Task 1. Routine O & M of Redlands fish ladder and fish trap which includes monitoring the fish trap, sorting, examining, and enumerating all fish in addition to removing and disposing of all non native fish; removing sediment from the trap and cleaning trash and debris from the trash racks, bar screens, fish trap, and fishway entrance.

Task 2. Compile, computerize, and summarize fish use data; prepare annual RIP report.

Schedule

Task 1. 4/2006 – 10/2006; 4/2007 – 10/2007

Task 2. 10/2006 – 11/2006; 10/2007 – 11/2007: (report on 2006 & 2007 passageway results)

VIII. FY-2006 Work (year 1 of multi-year study)

Deliverables/Due Dates:

Annual Report due: 11/2006

Budget (actual salary rates w/ benefits provided by CRFP Administrative Officer used for labor; 3% inflation rate applied from 2005 for equipment/supplies, and operation and maintenance)

Tasks 1 & 2. Routine O & M of the fish passageway and fish trap at Redlands Diversion Dam (6 months): monitor fish trap; sort, examine, and enumerate all fish, remove non native fish; compile, computerize, and summarize fish use data; prepare and submit annual RIP report

Labor (salaries and benefits)

Project Leader (1-GS-14@ 2,035)	3 weeks	\$ 6,105
Fishery Biologist (1-GS-12@ 1,846)	12 weeks	\$ 22,152
Biological Technicians (GS-5/6@ 658)	15 weeks	\$ 9,870
Admin. Assistant (1-GS-9, @ 1,332)	3 weeks	<u>\$ 3,996</u>
	Subtotal	\$ 42,123

Equipment/Supplies

FWS Vehicles maintenance, GSA-vehicle lease, FWS vehicle gasoline (\$ 500.00: assumed \$ 3.00/gal, 10 miles/gal per vehicle, 12 miles round trip, 135 days passage operation) + dip nets, rakes; herbicide for spraying weeds; misc. office supplies	\$ 1,500
Subtotal	\$ 1,500

Operation and Maintenance (@ Redlands)

Electric Drill Repair (drill used to run slide gates)	\$ 50
Annual Electrical Costs (EXCEL Energy) (night lights, sump pump, water data logging equipment).	\$ 570
Unplanned and unpredictable expenses related to repairs/materials due to vandalism (chain-link perimeter fence repair, safety chains)	\$ 500
Subtotal	\$ 1,120

FY2006	Total	\$ 44,743
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FY-2007 Work (year 2 of multi-year study)

Deliverables/Due Dates:

Annual Report due: 11/2007

Budget (3% inflation rate applied from FY-2006)

Tasks 1 & 2. Routine O & M of the fish passageway and fish traps at Redlands Diversion Dam (6 months): monitor fish trap; sort, examine, and enumerate all fish, remove non native fish; compile, computerize, and summarize fish use data; prepare and submit annual RIP report.

Labor (salaries and benefits)

Project Leader (1-GS-14@ 2,096)	3 weeks	\$ 6,288
Fishery Biologist (1-GS-12@ 1,902)	12 weeks	\$ 22,824
Biological Technicians (GS-5/6@ 678)	15 weeks	\$ 10,170
Admin. Assistant (1-GS-9, @ 1,372)	3 weeks	<u>\$ 4,116</u>
Subtotal		\$ 43,398

Equipment/Supplies	
FWS Vehicle maintenance, GSA-lease, FWS vehicle gasoline (\$ 515.00: assumed \$ 3.00/gal, 10 miles/gal per vehicle, 12 miles round trip, 135 days passage operation) + dip nets, rakes; herbicide for spraying weeds; misc. office supplies	\$ 1,545
Subtotal	\$ 1,545
Operation and Maintenance (@ Redlands)	
Electric Drill Repair (drill used to run slide gates	\$ 52
Annual Electrical Costs (EXCEL Energy) (night lights, sump pump, water data logging equipment).	\$ 588
Unplanned and unpredictable expenses related to repairs/materials due to vandalism (chain-link perimeter fence repair, safety chains)	\$ 515
Subtotal	\$ 1,155
FY2007	Total \$ 46,038

IX. Budget Summary

FY-2006	\$ 44,743
<u>FY-2007</u>	<u>\$ 46,098</u>
Total:	\$ 90,841

X. Reviewers: N/A

XI. References

Burdick, B. D. 2001a. Five-year evaluation of fish passage at the Redlands Diversion Dam on the Gunnison River near Grand Junction, Colorado: 1996-2000. Recovery Program Project Number CAP-4b. Final report prepared for the Recovery Implementation Program for Endangered Fishes in the Upper Colorado River Basin. U. S. Fish and Wildlife Service, Grand Junction, Colorado. 57 pp. + appendices.

Burdick, B. D. 2001b. Evaluation of the effectiveness of the fish passage structure at the Redlands Dam. Annual report prepared for the Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin. Recovery Program Project Number C-4b. U. S. Fish and Wildlife Service, Colorado River Fishery Project, Grand Junction, Colorado.

Burdick, B. D. 2002. Evaluation of the effectiveness of the fish passage structure at the Redlands Dam. Annual report prepared for the Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin. Recovery Program Project Number C-4b. U. S. Fish and Wildlife Service, Colorado River Fishery Project, Grand Junction, Colorado.

Burdick, B. D. 2003. Evaluation of the effectiveness of the fish passage structure at the Redlands Dam. Annual report prepared for the Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin. Recovery Program Project Number C-4b. U. S. Fish and Wildlife Service, Colorado River Fishery Project, Grand Junction, Colorado.

Burdick, B. D. 2004. Evaluation of the effectiveness of the fish passage structure at the Redlands Dam. Annual report prepared for the Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin. Recovery Program Project Number C-4b. U. S. Fish and Wildlife Service, Colorado River Fishery Project, Grand Junction, Colorado.

Prepared and compiled by: Bob D. Burdick, 21 April 2005
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