

**COLORADO RIVER RECOVERY PROGRAM
FY2004 - 2005 PROPOSED SCOPE OF WORK for:**
(Redlands ladder and gage O&M)

Project No.: C-4c

Note: Annual reports only.

Lead Agency: Bureau of Reclamation
Submitted by: Brent Uilenberg
2764 Compass Dr., Suite 106
Grand Junction CO 81506
Phone: (970) 248-0641
Fax: (970) 248-0601
E-mail: builenberg@uc.usbr.gov

Date: June 3, 2003 (revised 6/23/03 by Pat Nelson)

Category:

- Ongoing project
- Ongoing-revised project
- Requested new project
- Unsolicited proposal

Expected Funding Source:

- Annual
- Capital funds
- Other (explain)
- O&M funds

I. Title of Proposal:

Redlands fish ladder and gage maintenance

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.

II.B.1.e Identify minimum flows below Redlands Diversion Dam

II.B.1.f. Deliver flows below Redlands.

III. Study Background/Rationale and Hypotheses:

The Redlands fish ladder was constructed in 1996 as a component of the Upper Colorado River Recovery Implementation Program. Operation of the ladder requires approximately 100 cubic-feet-per-second (cfs) of water. Additionally, the reach of the Gunnison River below the Redlands Diversion Dam down to the confluence with the Colorado River requires approximately 300 cfs to maintain a water depth of 1-foot which is believed to be the minimum depth required to accommodate fish movement. Two flow measurement devices have been installed to operate the ladder and administer deliveries of water. One of these is an impeller meter in the fish ladder bypass pipeline and the second is a river gage below the Redlands Diversion Dam. Maintenance of these flow measurement devices, along with other minor maintenance items, is required to support operation of the fish ladder.

IV. Study Goals, Objectives, End Product:

Provide maintenance support for the Redlands fish ladder and associated flow measurement devices resulting in the efficient operation of the ladder and water deliveries.

V. Study area

Redlands fish ladder and downstream reach of the Gunnison River.

VI. Study Methods/Approach

Not applicable

VII. Task Description and Schedule

1. Conduct monthly inspection of impeller meter and river gage and repair/replace equipment as required (April through October)
2. Conduct gage rating 2 times per year during low and high flow periods (April through October)
3. Prepare annual report of flow measurement readings (December)
4. Spring fish ladder start up activities consisting of installation of analog transmitter and data logger (April)
5. Conduct monthly inspection of fish ladder and maintain as required including silt/trash removal (when major loads occur), installation of trash racks and miscellaneous maintenance items (April through October)

6. Fall fish ladder shut down activities consisting of removal of impeller meter, analog transmitter and data logger (October)

7. Service/replace equipment (November through March)

VIII. FY-2004 Work

Fish Passage Maintenance

Budget

Redlands (10 wks @ \$800/wk)	8,000
Travel	0
Equipment and supplies (lump sum)	2,000
Other	0
Total	<u>10,000</u>

Gage Maintenance

Budget

Redlands (10 wks @ \$800/wk)	5,600
Travel	0
Equipment and supplies (lump sum)	1,000
Other	0
Total	<u>6,600</u>

FY-2005 Work

Fish Passage Maintenance

Budget

Redlands (10 wks @ \$800/wk)	8,000
Travel	0
Equipment and supplies (lump sum)	2,000
Other	0
Total	<u>10,000</u>

Gage Maintenance

Budget

Redlands (10 wks @ \$800/wk)	5,600
Travel	0
Equipment and supplies (lump sum)	1,000
Other	0
Total	<u>6,600</u>

IX. Budget Summary

	2004	2005
O&M	16,600	16,600

1/ Actual costs will vary from year to year depending on maintenance and equipment replacement needs.

X. Reviewers

Bob Norman
Bureau of Reclamation
2764 Compass Dr., Suite 106
Grand Junction CO 81506
Phone: (970) 248-0634
Fax: (970) 248-0601
E-mail: rnorman@uc.usbr.gov

XI. References