

RECOVERY PROGRAM
FY 2020-2021 SCOPE OF WORK for:
(Passage & O&M: Redlands Diversion Dam)

Recovery Program Project Number: C-4bRED

Reclamation Agreement number: TBD
Reclamation Agreement term: October 1, 2019 – Sept. 30, 2024

Note: Recovery Program FY20-21 scopes of work are drafted in May 2019. They often are revised before final Program approval and may subsequently be revised again in response to changing Program needs. Program participants also recognize the need and allow for some flexibility in scopes of work to accommodate new information (especially in nonnative fish management projects) and changing hydrological conditions.

Lead agency: U.S. Fish and Wildlife Service
Grand Junction Fish and Wildlife Conservation Office
Submitted by: Travis Francis, Fishery Biologist
Dale Ryden, Project Leader
Address: 445 West Gunnison Ave.
Grand Junction, CO 81501
Phone: (970) 628-7204
FAX: (970) 628-7217
Email: travis_francis@fws.gov
dale_ryden@fws.gov

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Category:

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

Expected Funding Source:

- Annual funds
 Capital funds
 Other *[explain]*

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:

The fish passage at Redlands Power and Water Diversion Dam, on the lower Gunnison River, was completed by 1996. It was designed for selective fish passage, with a fish trap at the upstream terminus of the ladder. Fishes are collected, counted and sorted (nonnative fish are removed, native fish and salmonids are allowed to make passage upstream, ictalurids are released downstream), endangered fish (bonytail [*Gila elegans*], Colorado pikeminnow

[*Ptychocheilus lucius*], humpback chub [*Gila cypha*], razorback sucker [*Xyrauchen texanus*] and roundtail chub (*Gila robusta*) are checked for a PIT tag, and endangered fish without a PIT tag have one implanted. Beginning in 2015, all Colorado pikeminnow are translocated upstream to either Escalante or Delta along with other endangered fish collected the same day.

Project Results to Date

From 1996 to 2018, the total number of fishes processed was 198,405. Native fishes comprised 81% of the total over a 23-year period. There has been a significant downward trend in the relative percentage of native fishes compared to the first 5 years that the ladder was operated when the relative percentage of native fishes was about 92% per year. Endangered fish totals (not individuals, many fish have been collected in the trap on multiple occasions) from 1996 to 2019 include 226 Colorado pikeminnow, 38 razorback sucker, 100 bonytail, and 3 humpback chub (Francis and Ryden 2018).

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 2001). This work provides guidance for current standard operation procedures.

IV. Study Goals, Objectives, End Product(s):

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 report.

V. Study Area: Gunnison River: river mile 3.0.

Study Methods/Approach: FY 2020-2021

The fish trap at Redlands fish passageway may be opened by mid-April and closed in mid-October. The trap is designed to collect large-bodied fish. Depending upon manpower, the fish trap at the passageway 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 IDs will be collected for all listed species found in the trap. All Colorado pikeminnow will be translocated upstream to either Escalante or Delta along with other endangered fish collected the same day. Other introduced species (e. g., largemouth bass, smallmouth bass, green sunfish, black bullhead, gizzard shad, white sucker, and carp) collected will be sacrificed and disposed of in a manner that will not constitute a nuisance or as otherwise directed by Colorado Parks and Wildlife (CPW). Channel catfish will be returned downstream of the fish ladder alive.

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 fore bay of the passageway. Other tasks include: regulating river flows through the fish ladder and attraction flow to remove sediment from the fish-way, noxious weed

control, and removing all stranded fish in the fish trap and dewatered portion of the fish ladder prior to winterizing. FWS personnel will also be responsible for opening and winterizing the passageway.

VI. 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 fish-way entrance; regulating river flows through the fish ladder and attraction flow to remove sediment from the fish-way, noxious weed control, and removing all stranded fish in the fish trap and dewatered portion of the fish ladder prior to winterizing.

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

Schedule:

Task 1. 4/2020 – 10/2020; 4/2021 – 10/2021

Task 2. 10/2020 – 11/2020; 10/2021 – 11/2021

VII. Deliverables, Due Dates, and Budget by Fiscal Year: Budget Summary: Please See Interagency Agreement Cost Estimating Tool Spreadsheet

Annual report submission by November each year and data submissions to STReAMS by the following January.

Submission of 6-12 photos of project components or individuals completing tasks by February 28th. Images can be uploaded to;

<https://www.flickr.com/photos/coloradoriverrecovery/>

Photographs will likely be taken with cell phone phones and uploaded photos to a folder named by project number. Each image will have a number, and an email will be sent to the I&E Coordinator with the number and a brief description of the photo. For example, date, location, what is happening and who the photographer is.

FY2020

USFWS-GJ

\$85,080.94

FY2021

USFWS-GJ

\$86,782.55

2020-2021 Total = \$171,863.49

Estimated Budget Summary for Fiscal Years 2022-2024:

FY2022

USFWS-GJ \$88,553.06

FY2023

USFWS-GJ \$90,395.56

FY2024

USFWS-GJ \$92,313.86

2022-2024 Total = \$271,262.48

5-Year Total = \$443,125.97

VIII. Reviewers: Program Staff and Biology Committee

IX. References:

Burdick, B. D. 2001. 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.

Francis, T.A. and D.W. Ryden 2018. Annual Operation and Maintenance of the Fish Passage Structure at the Redlands Diversion Dam on the Gunnison River. Annual report prepared for the Upper Colorado River Endangered Fish Recovery Program. Recovery Program Project Number C-4b-RED. U. S. Fish and Wildlife Service, Grand Junction Fish and Wildlife Conservation Office, Grand Junction, Colorado.