

**COLORADO RIVER RECOVERY PROGRAM
FY-2007-2008 PROPOSED SCOPE OF WORK for:**

Project #: 126b

Colorado River and lower Gunnison River supplemental lethal removal of smallmouth bass

Agency: Colorado Division of Wildlife

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Date: February 20, 2007; revised 4/30/2007 by Pat Nelson; Highline Reservoir net repair funding request added 12/20/2007 by Sherman Hebein

Category:

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

Expected Funding Source:

- Annual funds
- Capital funds
- Other (explain)

I. Title of Proposal:

Supplemental lethal removal of smallmouth bass in the Colorado River between the GVIC Dam near Palisade, Colorado, and Loma; Supplemental lethal removal of smallmouth bass in the lower Gunnison River between the Redlands Fish Ladder and the Colorado River confluence in Grand Junction, Colorado; Highline Lake net repair (2007).

II. Relationship to RIPRAP:

Colorado River Action Plan: Mainstem

- III. Reduce negative impacts of nonnative fishes and sportfish management activities.
- III.A. Develop and implement control programs in reaches of the Colorado River occupied by endangered fishes.

III. Study Background/Rationale and Hypotheses:

Study Background/Rationale:

The USFWS (Burdick 2007) has previously documented the need for smallmouth bass removal in the Colorado River and lower Gunnison River. This study will supplement the USFWS efforts within the same USFWS study area. In 2007, the USFWS will complete one marking pass to determine a smallmouth bass population

estimate. Completing a marking pass by the USFWS eliminates the possibility of an additional removal pass by the USFWS. This is where the CDOW will assist, by completing a minimum of two additional smallmouth bass removal passes within the smallmouth bass concentration areas, as identified by Burdick (2007).

Highline Lake Net:

The purpose of the net at Highline Lake is to prevent the escapement of nonnative fish from the lake to the Colorado River. The stocking of nonnative fish is governed by an approved Lake Management Plan and largemouth bass larger than 10" taken during nonnative fish removal projects on the Colorado River are transported to the lake to supplement naturally-reproducing and stocked bass populations. Highline Lake is a favorite destination of Grand Valley warm water anglers and boating enthusiasts, and the net requires annual maintenance to ensure acceptable fish exclusion performance.

This modification will streamline payments to the vendor for underwater repair work by reimbursing CDOW expenses as they occur. Annual requests for funding are expected to vary by year and will not exceed the actual amount billed by the diving repair company.

IV. Study Goals, Objectives, End Product:

Study Goal:

- 1) To assist the USFWS in reducing the number of smallmouth bass occupying 32.9 river miles of critical habitat in the Colorado River and 2.3 river miles of critical habitat in the lower Gunnison River, in Grand Junction, Colorado, thereby benefiting natives fishes of the Colorado River Basin

Study Objective:

- 1) To remove as many smallmouth bass as possible within the study area via a minimum of two removal passes

End Product:

The CDOW will follow quality assurance and quality control protocols when organizing all data collected. All of the CDOW validated data will be provided to the USFWS lead, B. Burdick. The CDOW will not complete data analysis for this supplemental project. All data collected will be analyzed by the USFWS.

Highline Lake Net Repairs End Product:

Provide annual maintenance and repair to the net and its anchor points to ensure adequate performance as a barrier to fish escapement.

V. Study Area:

The study area for this supplemental project will focus on three reaches:

- 1) the 15-mile reach of the Colorado River from the GVIC Dam (RM 185.5) to the Gunnison/Colorado River confluence (RM 171.0)
- 2) the 18-mile reach of the Colorado River from the Gunnison/Colorado River confluence (RM 171.0) to the Loma boat landing (RM 152.6)
- 3) the 2.3-mile reach of the lower Gunnison River from the Redlands Fish Ladder (RM 3.0) to near the confluence with the Colorado River (RM 0.7)

VI. Study Methods/Approach:

Capturing and removing smallmouth bass within main channel (shorelines) and backwater habitat (when accessible) will be the focus of this supplemental sampling effort. Incidental contact with Colorado pikeminnow, razorback sucker, and/or bonytail will be handled per the protocol below. This study will occur between August and September. Seven day trips across two weeks will constitute one pass. A minimum of two passes will be completed for smallmouth bass removal.

Two, two-man electrofishing crews will utilize self-bailing rafts with mounted 15 horsepower propellers within each river segment to perform removal sampling in the main channel. Each crew will simultaneously move downstream with Smith Root GPP 5.0 electrofishers. One crew will work one side of the river, while the second crew will work the other side. No river reach will be electrofished on consecutive days, to allow for resident native fish to recover and redistribute.

Backwaters (when accessible) and where the CDOW has obtained permission to sample will also be included within the study. Both crews will sample backwater areas along both sides of the river. Output power will be adjusted within backwaters based upon changes in river conductivity. Additionally, output power will be reduced during the raft approach to the backwater mouth. Both processes will minimize the potential for electrofishing injuries to fish.

Each raft will process fish collected. All smallmouth bass, largemouth bass, Colorado pikeminnow, razorback sucker, and bonytail captured will be identified and measured in total length to the nearest millimeter. Endangered fish encountered will also be weighed to the nearest gram, and scanned for the presence of PIT tags. Individuals without PIT tags will be implanted with a new PIT tag following the appropriate protocol; tags will be provided by the USFWS. Capture locations for Endangered fish will be recorded to the nearest tenth of a river mile. UTM coordinates associated with capture locations will also be recorded, when possible. All Endangered fish captured will be processed and released immediately. Smallmouth bass collected will be examined for the presence of an upper caudal fin punch. All smallmouth bass collected will be lethally removed. The CDOW will pursue translocation of largemouth bass in association with this project. Cooperation with the USFWS personnel regarding largemouth bass translocation will be greatly appreciated. Incidental contact with other nonnative game fish (including centrarchids, northern pike, walleye, gizzard shad, grass carp, and yellow perch) will

result in lethal removal. Up to 20 specimens from some of these fishes of various minimum sizes, identified by Pat Martinez in an earlier e-mail transmission, will be provided to Martinez of the CDOW for bioenergetics and isotope analyses (RP Project No. C18/19). Disposal of all the aforementioned fishes will be as follows: following capture, fish will be euthanized in the field and preserved with ice. All other dead fish not provided to Martinez will be disposed of in the Mesa County landfill southeast of Grand Junction.

Water conductivity and GPP 5.0 settings will also be recorded. Electrofishing effort will also be recorded by the two GPP 5.0s utilized. All data will be collected on the same forms and per the same guidelines that the USFWS will be following. All data collected by the CDOW will be provided to the USFWS upon completion of this supplemental study.

VII. Task Description and Schedule:

Task 1. Sample study area to capture and lethally remove smallmouth bass.

Schedule: August-September 2007; August-September 2008

Task 2. Organize and validate data collected. Submit data collected to the USFWS.

Schedule: September 2007, 2008; data due to USFWS by October 1.

VIII. FY-2008 Work

Deliverables/Due Dates:

Data due to USFWS 10/1/2008

FY-2008 Budget by Task:

Task 1. Sample study area to capture and lethally remove smallmouth bass.

Labor=

Three Technician I:

Salary (4, 40 hour weeks @ \$13.11/hour=\$2,098) + Benefits (12.0%=\$252) +
Indirect Costs (23.5% of \$2,350=\$552)=\$2,902 x 3 positions= **\$8,706**

Equipment=

Replace electrical/raft/motor hardware= **\$1,500**

Maintenance of 2 generators (oil and fuel)= **\$350**

Task 2. Organize and validate data collected. Submit data collected to the USFWS.

Labor=

One Technician I:

Salary (2, 40 hour weeks @ \$13.11/hour=\$1,049) + Benefits (12%=\$126) +
Indirect Costs (23.5% of \$1,175=\$276)= **\$1,451**

Task 3. Ensure the annual performance of Highline Lake net repair work.

Labor for 2007= \$1,000.00

FY2008 All Tasks Total \$13,007

IX. Budget Summary:

FY-2007 \$ 43,867

FY-2008 \$ 13,007

Grand Total: \$ 56,874

X. Reviewers:

CDOW: Sherman Hebein, Tom Nesler

XI. References:

Burdick, B. D. 2007. Colorado river smallmouth bass removal. Scope of work prepared for the Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin. Recovery Program Project Number 126. U. S. Fish and Wildlife Service, Colorado River Fishery Project, Grand Junction, Colorado.