

- I. Project Title: **Verification of stocked razorback sucker reproduction in the Gunnison River via annual collections of larvae.**

- II. Principal Investigator(s):
Douglas Osmundson, Fishery Biologist (lead)
Chuck McAda, Project Leader
U.S. Fish and Wildlife Service
764 Horizon Drive, Building B
Grand Junction, Colorado 81506
(970) 245-9319; Fax 245-6933
Frank_Pfeifer@FWS.gov
Doug_Osmundson@FWS.gov

- III. Project Summary:

Wild razorback suckers were last captured in the Gunnison River in the late 1970s (Holden et al. 1981). The first phase in a restoration program is to stock hatchery-produced fish. To produce a self-sustaining population, stocked individuals need to (1) survive, (2) remain in the Gunnison, or if displaced downstream, return to the river via the Redlands fishway, (3) successfully spawn in either the Gunnison or Colorado rivers, and (4) progeny need to survive to adulthood and be retained in or return to the Gunnison River so as to maintain an adult population there.

Restoration stocking of razorback suckers began in the Gunnison River in April 1994 and has occurred annually since that time. As of November 2000, some 14,000 razorbacks have been stocked into the Gunnison River. In 1997, two razorbacks stocked in the previous year were recaptured in the Gunnison River (Burdick 1997). In 1998, six razorbacks stocked in previous years were captured from the Gunnison (Burdick 1998), and in 1999 four razorbacks stocked in previous years were captured from the Gunnison (Burdick 1999). Most recently, in 2000, three individuals were captured in the Gunnison River upstream of Redlands Diversion Dam (rm 5.8, 20.9 and 50.3) that were stocked more than one year prior to recapture: one was stocked in 1996, one in 1997 and one in 1998. All were at least 325 mm TL when stocked. These three fish were all over 430 mm TL in 2000 when recaptured (Burdick 2000) and therefore presumably sexually mature. How many stocked razorback suckers have survived and remained in the Gunnison River is unknown, but those that are should be actively spawning if suitable spawning habitat exists. The capture of razorback sucker larvae in the Gunnison River would verify successful spawning of stocked razorbacks.

This project was initiated as a means to document the occurrence of razorback sucker larvae in the Gunnison River. The methodology is to search for larvae in backwater and shoreline habitats during and immediately after the suspected spawning period for a period of about six weeks during May and early June. The study area includes the Gunnison River from Confluence Park in Delta, Colorado to the Redlands Diversion Dam near Grand Junction (rm 3.0-57.0). A combination of daytime shoreline seining and over-night light-trapping are used to capture larvae. This is a three-year field effort with write-up phase in the fourth year. Field work is scheduled from 2002-2004.

IV. Study Schedule: 2001-2005

V. Relationship to RIPRAP: Colorado River Action Plan: Gunnison River IV.A.1.b(2) Monitor and evaluate stocking results; make recommendations regarding further augmentation.

VI. Accomplishment of FY 02 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Tasks

1) Collect samples of larvae. This task was completed on schedule. Because of extremely low water conditions in 2002, the proposed sampling regime was modified. Only two sites were found that were practical for light-trapping. A single light trap was set at each of these sites (one near Delta and one at Whitewater) and run periodically. However, most sampling was done by a two-person crew boating down the river and sampling habitats with a fine mesh net set between two hand brailes. A total of 57 seine samples and eight light-trap samples were collected.

2). Analyze samples in the lab. This task was completed on schedule. The Larval Fish Laboratory completed analysis of the 65 samples by December 2002. A total of six larvae were positively identified as razorback sucker with another two that were tentatively identified as such. All were collected between May 21 and June 6. Seven of the larvae were collected downstream of Whitewater in four different seine-samples. However, one positively identified razorback sucker larva was found in a light-trap sample near the downstream end of the Delta, Colorado floodplain area (rm 50.2).

VII. Recommendations: Proceed with monitoring as before. Light-trapping effort in 2003 will be again be contingent on water levels and availability of sampling sites. Additional seining for YOY in fall could be added to the project if additional funding is made available.

VIII. Project Status: Project is ongoing and on-track. Field work is scheduled to continue through 2004 and report writing and completion in 2005.

IX. FY 2002 Budget

- A. Funds Provided: 39,000
 - B. Funds Expended: 39,000
 - C. Difference: 0
 - D. Publication costs 0
- X. Status of Data Submission: Data will be submitted to the database manager upon completion of the study in 2005.
- XI. Signed: Douglas Osmundson, Fishery Biologist, Lead investigator
12/06/02

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