

I. Project Title: **Lower Green River Razorback Sucker larval and Young-of-Year Monitoring Pilot Study.**

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III. Project Summary: This study was designed to determine the presence/absence, distribution, and spawn timing of young of year Razorback suckers in the Green River downstream from the town of Green River. Sampling effort focused on potential habitats and historical sites including the Green River Valley, the area surrounding the San Rafael River confluence, and Millard Canyon.

This study was prompted by increasing Razorback sucker encounters, the presence of multiple age classes, and congregations of ripe Razorback suckers (2001-2003 and 2006-2008; UDWR unpublished data). Razorback suckers encountered during Colorado pikeminnow surveys have increased from an average of 9-10 captures per year in the 2001-2003 surveys to 320 captures per year during the 2006-2008 survey. In 2008, aggregates of ripe Razorback suckers were identified at two locations and an age 1+ Razorback sucker was captured suggesting successful spawning.

Determining the location, timing, extent, and success of Razorback sucker spawning is essential for evaluating the effectiveness of the stocking program, identifying recruitment, and guiding future management. In 2009, a total of 178 larvae were captured and in 2010 the total captures climbed to 721. Back calculations of growth indicated spawning occurred between 18 April and 8 June both years.

IV. Study Schedule: Initial year 2009, final year ongoing. It is anticipated that a comprehensive razorback monitoring plan will be developed and initiated following 2011.

V. Relationship to RIPRAP:

Green River Action Plan: Mainstem: V.D. Conduct abundance estimate for razorback sucker. Develop plan in FY 09 (based, in part, on recommendations from evaluation of stocked razorback report).

VI. Accomplishment of FY 2011 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1: Collect light trap samples – Light trap samples were collected at sites between river miles 119.5 and 33.7 during the period of 3 May to 27 July 2011. In total 178 light trap samples were collected and of those, 68 samples were sent to the CSU larval fish lab for identification. Sampling began when main channel temperatures reached 14 °C. During the study main channel temperatures ranged from 12.9 °C to 20 °C with a mean of 16.5°C. Habitat temperatures ranged from 17.5°C to 24°C with a mean of 19.4°C.

A 1 meter kick seine was used to collect 25 larval fish samples from flooded tributaries, side channels, backwaters, and embayments between 23 July and 25 July 2011. A total of 147.6 m<sup>2</sup> of suitable habitat was seined and nine of the samples were sent to CSU larval fish lab to be identified. Timing of other projects and an extended high spring run-off made it impossible to seine for juveniles in August. Seining for young-of-year (YOY) Colorado pikeminnow in September was used as an opportunity to also look for juvenile razorback suckers. During the kick seine sampling, main channel temperatures ranged from 17°C to 23.5 °C with a mean of 19.5 °C. Habitat temperatures ranged from 15°C to 25°C with a mean of 21.2°C.

Task 2: Sample for YOY and age 1+ Razorback sucker – As mentioned in the previous paragraph, high flows which persisted into August, pushed the work for many projects later into the year than normal, resulting in a very compressed schedule in terms of available man/equipment power. As an alternative to sampling in August when habitats were still too deep for seining, we piggy-backed the razorback juvenile sampling with the annual YOY pikeminnow sampling which occurs in September. High water persisted into September and reduced the number of habitats which could be seined, with only 1,796 m<sup>2</sup> sampled via 4 m seine in 2011. For perspective, the total area seined in the lower Green was the lowest in 25 years of YOY pikeminnow sampling and is ½ the average. No sucker samples were sent to CSU for identification from fall seining.

Task 3: Preliminary sample identification and data entry – All data has been entered. Collected samples have been submitted to the CSU larval fish laboratory for identification.

Task 4: Annual reporting - This annual report will be updated and resubmitted upon completion of the larval fish identification.

VII. Recommendations: Pending the ID results provided by CSU.

VIII. Project Status: On track and on going.

IX. FY 2010 Budget Status

A.	Funds Provided:	\$27,215.00
B.	Funds Expended:	\$27,215.00
C.	Difference:	\$ 0.00
D.	Percent FY 2011 work completed:	100%
E.	Recovery Program funds spent for publication charges:	\$ 0.00

X. Status of Data Submission: All data will be submitted upon completion of larvae identification by CSU.

XI. Signed: Paul Badame November 8, 2011  
Principal Investigator Date