

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

II. Bureau of Reclamation Agreement Number: R14AP00007

Project/Grant Period: Start Date: 05/01/2014
End date: 09/30/2018
Reporting period end date: 09/30/2014
Is this a final report? Yes No

III. Principal Investigator(s): Julie Howard
Utah Division of Wildlife Resources (UDWR)
Moab Field Station
1165 South HWY 191 - Suite 4
Moab, UT 84532
435-259-3781 (fax) 435-259-3785
juliehoward@utah.gov

IV. Abstract: 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. This study was designed to determine the presence/absence, distribution, and spawn timing of young of year razorback sucker in the Green River downstream from the town of Green River and in the Colorado River downstream of Moab. The study was prompted by increasing razorback sucker encounters, the presence of multiple age classes, and congregations of ripe razorback sucker (2001–2003 and 2006–2008; Bestgen et al 2010, UDWR unpublished data) during Colorado pikeminnow surveys. Larval razorback sucker have been successfully collected since the beginning of the project by either light trapping and/or seining.

V. Study Schedule: Initial year 2009, final year ongoing. It is anticipated that a comprehensive razorback monitoring plan will be developed based on this study.

VI. Relationship to RIPRAP:

GENERAL RECOVERY PROGRAM SUPPORT ACTION PLAN

- V. Monitor populations and habitat and conduct research to support recovery actions (research, monitoring, and data management).
- V.A. Measure and document population and habitat parameters to determine status and biological response to recovery actions.
- V.B.2. Conduct appropriate studies to provide needed life history information.

GREEN RIVER ACTION PLAN: MAINSTEM

- V. Monitor populations and habitat and conduct research to support recovery actions (research, monitoring, and data management).
 - V.A. Conduct research to acquire life history information and enhance scientific techniques required to complete recovery actions..
 - V.D. Complete monitoring plan in FY 11 (based, in part, on recommendations from evaluation of stocked razorback report).
- VII. Accomplishment of FY 2014 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1: Lower Green River light trap sample collection: Light trap samples were collected at sites between river miles 199.6 (Saleratus Canyon) and 31 (lower Anderson Bottom) during three sampling events from 5/5/2014. A total of 93 light trap samples were collected and of those, 82 samples were sent to the Colorado State University Larval Fish Laboratory (CSU LFL) for identification. During the study, main channel temperatures ranged from 14.5°C to 21.0°C with a median temperature of 19°C. Habitat temperatures ranged from 14.5°C to 25.0°C with a median temperature of 20°C.

The 2013 sample results have yet to be received from the CSU LFL. A total of 83 light trap samples were collected in 2013 and 74 were sent to CSU LFL for identification.

Task 2: Lower Green River sample for YOY and age 1+ razorback sucker: Seine samples were collected between river miles 119.5 and 3.0 during three sampling trips (7/20–7/22/2014, 8/19–8/21/2014, 10/14–10/22/14). A total of 2,415 m² was seined in 43 seine hauls; seven samples were sent to the CSU LFL for identification. During the study, main channel temperatures ranged from 13.0°C to 25.0°C with a median temperature of 23.0°C. Habitat temperatures ranged from 13.0°C to 29.0°C with a median temperature of 23.5°C.

The results from the 2013 samples have yet to be received from the CSU LFL. A total of 81 seine samples were collected during 2013 and 19 were sent to the CSU LFL for identification.

Task 3: Colorado River light trap and larval seine sample collection: Light trap samples were collected at sites between river miles 63.8 (Courthouse Wash) and 21.3 (no name) during three sampling events from 5/14–6/17/2014. A total of 84 light trap samples were collected and of those, 59 samples were sent to the CSU LFL for identification. A total of 301 m² was seined in 25 seine hauls, and one sample was sent to the CSU LFL for identification. During the study, main channel temperatures ranged from 11.5°C to 16.0°C with a median temperature of 14°C. Habitat temperatures ranged from 11.5°C to 21.0°C with a median temperature of 16°C.

Task 4: Colorado River sample for YOY and age 1+ razorback sucker: Seine samples were collected between river miles 75 and the confluence with the Green River (RM 0.0) during six sampling events (7/22–23/14, 7/30–7-/31/14, 8/21–8/22/14, 8/26–8/27/14, 10/22/14, 10/28/14). A total of 3,373 m² was seined in 67 seine hauls, 11 samples were sent to CSU LFL for identification. During the study, main channel temperatures ranged from 11.5°C to 24.5°C with a median temperature of 21.0°C. Habitat temperatures ranged from 11.5°C to 30.0°C with a median temperature of 22.0°C

Task 5: Preliminary sample identification, data entry, analysis and reporting: All data has been entered. Collected samples have been submitted to the CSU LFL for identification. This annual report will be updated and resubmitted upon completion of the larval fish identification.

VIII. Additional noteworthy observations: As light trapping samples are pending identification by CSU LFL additional observations are limited to seine sampling. Other native fishes captured in the Green River included flannelmouth sucker (n=2) with total lengths of 38 millimeters (mm) and 60 mm TL and Colorado pikeminnow (n=5) ranging in total length from 2542 mm; all of these fish were captured during the October sampling effort. Nonnative fishes captured on the Green River included green sunfish (n=2) and gizzard shad (n=7). Other native fishes captured in the Colorado River included flannelmouth sucker (n=110) with a median total length of 30 mm (20-57 mm), bluehead sucker (n=22) ranging in total length from 22-50 mm, and *Gila sp.* (n=3) ranging in total length from 36-46 mm. Nonnative fishes captured on the Colorado River included black bullhead (n=2), plains killifish (n=9), green sunfish (n=2), largemouth bass (n=3), smallmouth bass (n=2), gizzard shad (n=212) and western mosquitofish (n=21).

IX. Recommendations:

- Continue sampling via light trapping and seining for YOY and age 1 razorback sucker in both the Colorado and Green Rivers (May-October) to determine if successful reproduction is occurring by monitoring presence/absence.
- Pending sample identification results provided by CSU.

X. Project Status: On track and ongoing.

XI. FY 2014 Budget Status

A.	Funds Provided:	\$57,157.00
B.	Funds Expended:	\$57,157.00
C.	Difference:	\$ 0.00
D.	Percent FY 2014 work completed:	100%
E.	Recovery Program funds spent for publication charges:	\$ 0.00

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

XIII. Signed: Julie Howard November 13, 2014
Principal Investigator Date

XIV. Literature cited:

Bestgen, K.R., Zelasko, K.A., White, G.C. 2012. Monitoring reproduction, recruitment, and population status of razorback sucker in the upper Colorado River basin. Final report of Larval Fish Laboratory at Colorado State University to Upper Colorado River Endangered Fish Recovery Program. Denver, CO.