

COLORADO RIVER RECOVERY PROGRAM
FY 2013 ANNUAL PROJECT REPORT

RECOVERY PROGRAM
PROJECT NUMBER: C-6 Baeser

- I. Project Title: Razorback Spawning Bar/Remote PIT tag antenna
- II. Bureau of Reclamation Agreement Number(s): R13PG40020

Project/Grant Period: Start date: 10/1/2012
End date: 9/30/2017
Reporting period end date: 09/30/2013
Is this the final report? Yes No

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- IV. Abstract:

Razorback suckers spawn in the spring in the middle Green River on a spawning bar known as “Razorback Bar”. Hatchery personnel mark stocked razorback suckers with PIT-tags, which identify each fish individually and allow researchers to look up the history of a fish if detected in the wild. We set up PIT-tag antennas at Razorback Bar to try to detect these fish since they congregate at this location to spawn. From 3 April-1 July 2013, we detected 517 razorback suckers, 15 flannelmouth suckers, 12 Colorado pikeminnow, 1 bluehead sucker, and 8 unknown tagged fish. We also experimentally placed PIT-tag antennas at the confluences of Douglas Creek (tributary to the White River near Rangely, CO), and Brush Creek (tributary to the Green River near Jensen, UT), and were successful at detecting endangered fishes at these locations. Detecting endangered fish helps researchers learn valuable information about fish abundance, movement, and survival. In this project, we were able to detect endangered fish without the stress of handling or electrofishing.

- V. Study Schedule: 2008-9/30/2013

- VI. Relationship to RIPRAP:

Green River Action Plan: Mainstem

- IV.A.1.d. Evaluate stocking success as identified in monitoring plan for stocked fish.
V.C. Conduct population estimate for Colorado pikeminnow.
V.D.1. Implement razorback sucker monitoring plan.

VII. Accomplishment of FY 2013 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Razorback Bar-

On 3 April 2013, we installed two 27" x 13" flat plate PIT-tag antennas on Razorback Bar to document razorback suckers as they congregated in this area. The main difference from the methods used in 2012 is that we used solar panels to charge 12 V batteries in an attempt to decrease maintenance time. The first detection occurred on 5 April, and the last on 15 June. In between, there were 1,061 detections of 553 unique fish: 517 razorback suckers, 15 flannelmouth suckers, 12 Colorado pikeminnow, 1 bluehead sucker, and 8 unidentified fish. We removed the antennas on 1 July 2013.

Razorback sucker- These 517 individuals were stocked as early as 2000, and as late as 2011 (Figure 1). For 483 fish (93%), this was the first time they had been detected by researchers since stocking. Fish were stocked as far away as Green River, UT, at RMI 120 (an upstream movement of 191 miles). Three of 52 (5.7%) razorback suckers detected in 2012 at Razorback Bar were again detected there in 2013. Eighteen razorback suckers originating from Baeser Bend have been detected at Razorback Bar since this project began. One razorback sucker captured in Leota 4 in spring 2011 and subsequently released into the river was detected at Razorback Bar. Most razorback suckers (468) were detected at Razorback Bar during only one day of the study, although one was detected six different days during a 13-day period.

Colorado pikeminnow- These 12 individuals were tagged as long ago as 2000, and as early as 2013. Nine fish were tagged in the Green River (the longest movement was upstream 104.5 miles), two were initially tagged in the Yampa River (the longest movement was downstream 125.7 miles), and one was initially tagged 13.7 miles up the White River (an upstream movement of 80.8 miles). The seven Colorado pikeminnow detected at Razorback Bar in 2012 were not detected again there in 2013.

Douglas Creek-

When electrofishing the confluence of Douglas Creek and the White River, we often capture Colorado pikeminnow. We deployed a flat plate antenna at the confluence from 4 April-23 April 2013 (the time in between the first and second pass of the Colorado pikeminnow population estimate). This resulted in detecting two Colorado pikeminnow. One of the two was captured on the first pass of the population estimate, and the other was not captured during the 2013 season in any electrofishing work.

Brush Creek-

We set up a flat plate antenna at the Brush Creek/Green River confluence from 27 March-1 April, and again from 1 July- 30 September 2013. We detected 43 unique PIT-tags: 25 razorback suckers, 10 bonytail, 7 Colorado pikeminnow, and 1 smallmouth bass. Three of these razorback suckers were detected by antennas at both the Razorback Bar and Brush Creek locations. The bonytail were all stocked in the Green River in 2013.

This scope of work included a component of pumping Old Charley wetland if larval razorback sucker became entrained in the wetland. Unfortunately, in 2013 we were unable to obtain permission from the Ute Tribe to access Old Charley, thus pumping the wetland did not occur. The money allocated to Task 2 in this scope of work is identified in XI.

VIII. Additional noteworthy observations:

Flannemouth sucker- One flannemouth sucker detected at Razorback Bar was initially tagged in the White River. This suggests there is some level of exchange between the two rivers. Flannemouth sucker and razorback sucker might hybridize at this location given they are both present during the spawning season.

IX. Recommendations:

- We recommend continuing to use PIT tag antennas on Razorback Bar to document razorback sucker during spring 2014. This passive capture data can be used in future survival estimates for razorback sucker to document individuals that have been alive in the system, yet undetected by traditional active sampling methods (i.e., electrofishing).
- We recommend purchasing and deploying a PIT-tag antenna at the confluence of Brush Creek year round to continue to detect endangered fish.
- We also recommend using a PIT tag antenna at the confluence of Douglas Creek and the White River during Colorado pikeminnow estimate work to increase recaptures to be used in survival estimates.
- We also recommend that passive detection data gathered by antennas in projects such as this one be incorporated in future survival estimates.

X. Project Status: on track and ongoing

XI. FY 2013 Budget Status:

- A. Funds Provided: \$20,840.32
- B. Funds Expended: \$6,658.56
- C. Difference: \$14,181.76
- D. Percent of the FY 2013 work completed, and projected costs to complete:
- E. Recovery Program funds spent for publication charges: 0

XII. Status of Data Submission: Data will be submitted to Travis Francis by December 2013.

XIII. Signed: Aaron Webber October 2, 2013
Principal Investigator Date

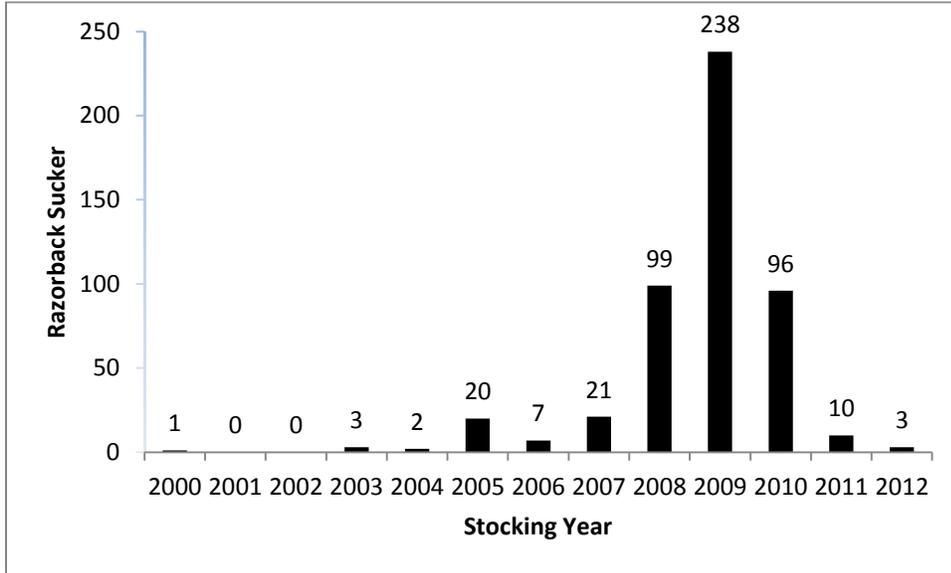


Figure 1. Stocking year for razorback suckers detected at Razorback Bar in 2013.