

COLORADO RIVER RECOVERY PROGRAM  
FY 2012 ANNUAL PROJECT REPORT

RECOVERY PROGRAM  
PROJECT NUMBER: C-6 Baeser

- I. Project Title: Rearing razorback sucker in Baeser Bend, wetland of the Green River
- II. Bureau of Reclamation Agreement Number(s): R10PG40076

Project/Grant Period: Start date: 05/08/2008  
End date: 09/30/2013  
Reporting period end date: 09/30/2012  
Is this the final report? Yes \_\_\_\_\_ No  X

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- IV. Abstract:

It is thought that razorback suckers that are raised in a natural wetland should have better survival than those raised in a hatchery environment. Baeser Bend is a natural wetland where we have stocked larval and fingerling razorback sucker in an attempt to allow them to learn the behavioral skills needed to survive in the wild (e.g. foraging, predator avoidance). We stock these fish into the wetland, wait until they grow to a size sufficient to avoid most predation in the wild, and then capture, tag, and release them into the Green River. For 2012, we added another part to this scope of work which involved deploying two stationary PIT tag antennas on Razorback Bar in an attempt to document spawning razorback sucker. We detected 52 razorback sucker and 7 Colorado pikeminnow. This report gives the details of these detections.

- V. Study Schedule: 2008-ongoing

- VI. Relationship to RIPRAP:

Green River Action Plan: Mainstem  
IV.A. Augment or restore populations as needed.  
IV.A.1. Develop state stocking plan for the four endangered fishes of the Green River.  
IV.A.1.c. Implement plan.

VII. Accomplishment of FY 2012 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

In March 2012, we visited Baeser Bend and observed numerous fathead minnow. We had previously determined that we would not stock endangered fish into Baeser Bend until it was reset. There was no fish kill, so we decided against stocking razorback sucker into Baeser Bend in 2012, and hope that it would reset in order to stock razorback sucker in 2013. In June 2012, we visited Baeser Bend and estimated 2,000 large adult fish, predominantly carp, were dead in the remaining shallow water. The wetland later dried up completely in the fall. With the wetland reset, we plan on stocking razorback sucker larvae there in spring 2013.

On March 30, 2012 we set out two 27" x 13" flat plate PIT tag antennas on Razorback Bar to document razorback sucker as they congregate to spawn in this area. These flat plates were set up out of water when flows were approximately 5,000 cubic feet per second (cfs). We learned that the spawning bar (and the flat plates) began to be covered by water at approximately 7,000 cfs. Flows in the middle Green River were unusually low in 2012, and by early May we realized that flows would not cover the spawning bar in the time frame we wanted. In order for the antennas to even have a chance of documenting razorback sucker, we needed to move the antennas into the water and carefully monitor water levels to ensure higher flows did not inundate the equipment. We moved the flat plates into the water on May 7, 2012 and immediately had detections. We kept the flat plates functional until June 7, 2012. We pulled the equipment from May 21-25 for fear of the readers getting flooded; otherwise, the antennas were operational 100% of the time. Our last detection occurred on May 27, 2012.

During the study we detected 59 unique PIT tag numbers on the antennas. Seven were Colorado pikeminnow, and 52 were razorback sucker.

Colorado pikeminnow- These individuals were tagged as long ago as 1996, and as early as 2011. For 6, it was the first time they had been detected since their initial tagging; for one, it had been handled one other time in-between the initial tagging and our detection on the flat plate. Two were initially tagged in the Yampa River, and the other 5 were tagged in the Green River. One was documented first on May 7, and was detected 5 other days until May 21.

Razorback sucker- The documented individuals were stocked as early as 2004, and as late as 2010 (Figure 1.). For 6 of them, they had been handled one time in-between stocking and our detection on the PIT tag antennas, but for 46 of them, this was the first time they had been detected since stocking. One of these had only an old frequency tag (400 kHz instead of 134 kHz). The smallest and largest sizes at stocking for these fish were 270 and 470 mm, respectively. Fish stocked in the following months were represented in the sample: May, July, Sept, October, and November. Three fish were stocked as far away as RMI 120 (an upstream movement of 191 miles). One fish was raised and released from Baeser Bend, another was stocked into the Stirrup, and the rest were stocked into the

Green River. Most razorback sucker (41) were documented on the antennas during only one day during the study, and the most days a razorback sucker was documented during our study was 4.

These preliminary data show some interesting patterns. First, the majority of razorback sucker were from stocking events 3-4 years previous. No fish were detected from the most recent stocking in fall 2011. This is not consistent with field captures during electrofishing surveys, where the majority of fish are from the more recent stocking cohorts. These results suggest there may be a lag time between when a cohort is stocked and when it begins to contribute to the spawning population.

VIII. Recommendations:

Baerer Bend:

1. Given that Baerer Bend is reset, we recommend stocking larval razorback sucker into the wetland in spring 2013. We then would maintain water through pumping until fall 2014 when we would begin tagging razorback sucker and moving them to the Green River.
2. We also recommend using a backhoe to dig a deeper canal structure from the pumping station out into the wetland. Doing this would allow us to more effectively pump water out of the wetland when it needs to be drained. It would also reduce the amount of hose needed to pump water into the wetland from the river, when it needs to be filled. We believe that the ability to lower water levels in the wetland will ultimately result in our having to spend less time, effort, and money harvesting fish in future years, compared to 2009 and 2010.

Razorback Bar:

1. We recommend continuing to use PIT tag antennas on Razorback Bar to document razorback sucker during spring 2013.
2. We also recommend implementing this same technique on Escalante Bar on the Green River.
3. We recommend that the PIT tag antenna work be removed from the Baerer Bend scope of work and be its own individual scope of work. 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).

IX. Project Status: on track and ongoing

X. FY 2012 Budget Status:

- A. Funds Provided: \$20,946.19
- B. Funds Expended: \$20,946.19
- C. Difference: 0

- D. Percent of the FY 2012 work completed, and projected costs to complete: 100
- E. Recovery Program funds spent for publication charges: 0

XI. Status of Data Submission: Data will be submitted to Travis Francis by December 2012.

XII. Signed: Aaron Webber                      October 2, 2012  
Principal Investigator                      Date

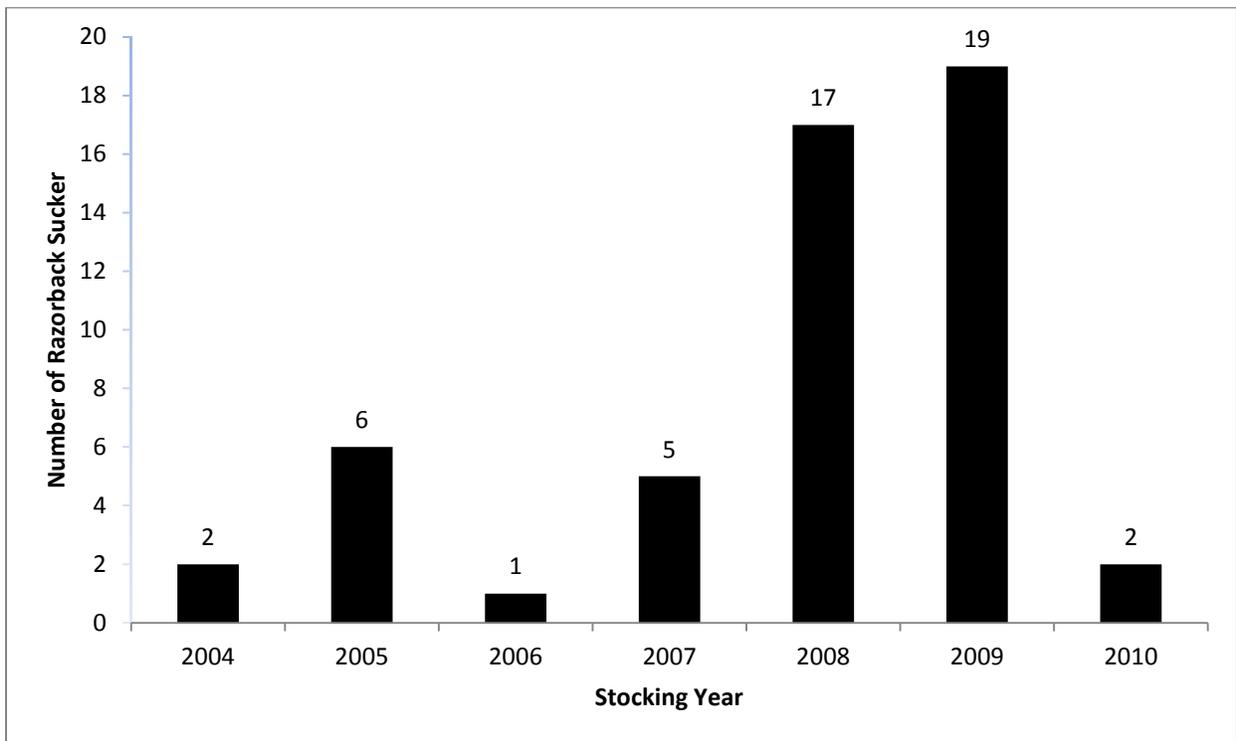


Figure 1. Stocking year for 42 razorback sucker detected at Razorback Bar in May 2012.