

I. Project Title: Middle Green River floodplain sampling

II. Bureau of Reclamation Agreement Number(s): R12PG40023

Project/Grant Period: Start date: 08/08/2012
End date: 12/30/2016
Reporting period end date: 09/30/2013
Is this the final report? Yes No

III. Principal Investigator(s):
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IV. Abstract:

Endangered fish of the Colorado River use wetlands during various times to complete their life history. Although researchers in the Green River system spend considerable time sampling fish populations in the mainstem river, less work is conducted in the wetlands to study endangered fish. Razorback sucker, in particular, use floodplain wetlands throughout their lives, and specifically rely on these habitats during early development from larval to juvenile stages. Researchers have had little success detecting these life stages for wild-produced fish in recent years. In order to document recruitment of wild-spawned razorback sucker, wetland habitats need to be sampled, and this project is aimed at documenting endangered fish use of wetlands annually. The findings of this study contribute to the evaluation of the Bureau of Reclamation's spring operations at Flaming Gorge Dam (as per the Program's Larval Trigger Study Plan¹).

V. Study Schedule: 2012-2016

VI. Relationship to RIPRAP:
Green River Action Plan: Mainstem
I.A.3.d.1. Conduct real-time larval razorback and Colorado pikeminnow sampling to guide Flaming Gorge operations.
I.D.1.a. Evaluate survival of young ...razorback suckers from floodplains
I.D.1.b. Evaluate recent peak flow studies related to floodplain inundation and

¹ Available at: <http://www.coloradoriverrecovery.org/documents-publications/technical-reports/isf/larvaltriggerstudyplan.pdf>

entrainment of larval razorback sucker

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

During September 2012, we visited Escalante Ranch (formerly Thunder Ranch) wetland and observed the water levels to be only a few inches in the deepest areas. Adult carp were seen with their dorsal fins out of the water struggling to swim, and many pelicans were observed fishing. No northern pike (which were abundant in spring 2012) were visually observed. Apparently, the wetland was recharged by springs/seeps through the winter. We set 3 trammel nets at Escalante Ranch wetland from 27 Mar-28 Mar 2013. Netting captured only carp, black bullhead, and green sunfish, and we determined that northern pike were probably no longer present.

The peak flows in the Green River in 2013 were low and only connected to two wetlands in the middle Green River: Escalante Ranch wetland and Stewart Lake. The objective of this project is to sample wetlands for endangered fishes. Stewart Lake is sampled by the Utah Division of Wildlife Resources in another scope of work (Project 165). Old Charley wash, which is located on Ute Tribal land, could have connected during the 2013 spring flows. However, the inlet gate remained closed during high water, because a lease agreement between the U. S. Fish and Wildlife Service and the Ute Tribe had expired. This left only Escalante Ranch wetland for us to sample in 2013.

In the spring, we set light traps in the wetland seven nights and did not detect razorback sucker larvae. We set 3 trammel nets and 8 minnow traps at Escalante Ranch wetland from 16-17 September 2013. We captured 20 carp, 15 green sunfish, and 10 black bullheads in all the nets combined. It is unlikely that razorback suckers were present in the wetland. Escalante Ranch wetland has overwintered fish in at least the last two years. The Recovery Program has experimented with stocking bonytail into wetlands recently (i.e., The Stirrup, Johnson Bottoms), and it was decided to stock bonytail into Escalante Ranch wetland. On 19 Sept 2013, the Ouray National Fish Hatchery stocked 998 PIT-tagged bonytail into the wetland. We were interested in survival rates of these fish, so we deployed a flat plate antenna in the wetland. As of 2 October 2013, we have detected 204 of the 998 individuals (20.4%) on the antenna. We plan to maintain the antenna over the winter of 2013-2014 to evaluate survival of this bonytail cohort.

VIII. Additional noteworthy observations:

Johnson Bottoms--

In 2012 we conducted a study to assess survival of bonytail stocked at Johnson Bottoms. We learned valuable information on survival of bonytail, and sources of mortality. We have been preparing a manuscript we intend to submit to a peer-reviewed journal highlighting these findings, and hope to see it published in 2014.

IV. Recommendations:

We recommend:

- using data collected from project 22F (larval fish monitoring in the middle Green River) in addition to this project during spring 2014 to target appropriate wetland sampling during fall 2014.
- coordinating with the Program Director's Office to assist the Regional Directorate in any way possible to reestablish the Ute Tribal lease, ASAP. Loss of the Old Charley floodplain site seriously compromises the Larval Trigger Study Plan, particularly during dry and moderately dry years.

X. Project Status: on track and ongoing

XI. FY 2013 Budget Status

- A. Funds Provided: \$34,624.40
- B. Funds Expended: \$34,624.40
- C. Difference: 0
- D. Percent of the FY 2013 work completed, and projected costs to complete: 100%
- 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 18, 2013
Principal Investigator Date