

I. Project Title: Operation and Maintenance of Ouray National Fish Hatchery Randlett

II. Bureau of Reclamation Agreement Number(s):

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IV. Abstract: Ouray National Fish Hatchery (ONFH) Randlett, was established in May 1996 as a fish refuge and technology development facility to assist in the recovery of the four listed Colorado River fish: razorback sucker, Colorado pikeminnow, bonytail, and humpback chub. The ONFH Randlett has expanded the propagation program to include not only razorback sucker but also bonytail. The hatchery will continue to maintain humpback chubs collected from Desolation Canyon in 2009 as a refuge population and potentially as a source of future broodstock.

Stocking goal established by the Upper Colorado River Endangered Fish Recovery Program (Recovery Program) include the annual production and distribution of 6,000 razorback sucker averaging 350 mm total length (TL) and 10,000 bonytail averaging 250 mm TL into the middle and lower Green River in Utah.

This is an ongoing project and the hatchery exceeded the stocking goals during 2015 for bonytail stocking 10,131 fish averaging 267 mm TL but was 108 fish short from meeting the schedule for razorback sucker stocking 5892 fish averaging 373 mm TL. The hatchery produced enough fish to meet schedule but the last pond had a parasite (costia) and fish were treated but not stocked due to declining river temperatures.

V. Study Schedule: 1996 - Ongoing.

VI. Relationship to RIPRAP:

General Recovery Program Support Action Plan

- IV. Manage genetic integrity and augment or restore populations.
- IV.A. Genetics management.
- IV.A.4 Secure and manage genetic stocks in refugia.
- IV.A.4.a. Razorback sucker
- IV.A.4.b. Bonytail chub
- IV.A.4.c. Humpback chub
- IV.A.4.a.(1) Middle and Lower Green River.
- IV.C. Operate and maintain facilities.
- IV.C.1. Ouray National Fish Hatchery.

Green River Action Plan: Main Stem.

- IV.A. Augment or restore populations as needed.
- IV.A.1. Develop State stocking plan for the four endangered fishes in the Green River.
- V.A.1.c. Implement plan.

- VII. Accomplishment of FY 2015 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings: Although, ONFH, Randlett experienced excessive bird depredation during 2014, 5892 razorback sucker and 10,131 bonytail averaging 373 mm TL and 267 mm TL respectively were stocked during 2015. The hatchery produced sufficient numbers of razorback sucker to meet schedule but the last pond harvested had a parasite (costia) and the fish were treated but did not recover quickly enough to be stocked before temperatures of the receiving waters reached critically low levels.

Razorback suckers were spawned this year producing 330,000 larvae of which 30,000 were stocked in three half acre ponds at densities of 10,000 per pond. Ouray National Wildlife Refuge (ONWR) and Ouray NFH documented tiger salamanders for the first time on the refuge and the hatchery. The larval form of this amphibian can be predatory on small larval fishes and has potential to decimate larval fish populations in hatchery ponds. The modified stocking technique employed at ONFH during the past four years has yielded 90% or better returns on our larval fish ponds. This year only 1700 young-of-year (YOY) razorback sucker were harvested from the three nursery ponds stocked with a total of 30,000 larval fish but produced hundreds of very large healthy larval tiger salamanders ranging up to 200 + mm TL. Unless surplus YOY razorback sucker can be obtained from other sources, Ouray NFH will not be able meet schedule for razorback sucker during 2016.

Bonytail (37,919) YOY were received from Wahweap State Fish Hatchery. Although, bird depredation consumed approximately half of the bonytail, the remainder is doing well and ONFH should be able to stock extra bonytail on the 2016 schedule.

**BIRD DEPREDATION:** The bird depredation problem has been a huge issue at Ouray NFH the last two years and has been intensely researched and discussed. The option of installing netting over the 12 half acre ponds would cost upwards to \$500,000. The crew came up with suspending lines over the pond on 5–6 foot centers. With the combined efforts and resources of the ONWR and hatchery, the project was accomplished for less than \$1,000 and is working superbly! The life expectancy of the lines remains to be seen and they may need to be replaced with a more resilient material but for now it is working.

**TIGER SALAMANDER DEPREDATION:** The female tiger salamander stores spermatozoa and can fertilize her eggs at will. The larval tiger salamanders tend not to survive well in ponds with adult fish. The plan this next year is to stock a number of large/adult razorback sucker in the larval fish ponds that have been prepared to receive larval razorback sucker. Ouray NFH has double cropped razorback sucker production ponds for the last four years by stocking larval razorback sucker on top of large production fish in order to produce populations of future brood stock. The success of this experiment tends to indicate that large razorback sucker are not predatory on larval

fishes. Out of 36 ponds on the hatchery the only ponds containing larval salamanders were the three prepared to receive larval razorback sucker. If this approach does not work a fencing project to keep adult tiger salamanders out of the ponds will be considered.

VIII. Additional noteworthy observations: Bonytail stockings in the fall of 2015 were completed by 09/01/2014 and were stocked into receiving waters at temperatures of 18° C or higher. Two of the shallow wells which supply water to the hatchery were successfully replaced this year and the replacement wells are producing as projected.

IX. Recommendations: Recommendations for the ONFH include installation of two more replacement wells probably in approximately five years, replacement of current bird protection netting over the 0.1 ha ponds and installation of bird netting over the 0.2 ha ponds.

Also the replacement of pond liners is in the “works” and should (hopefully) be installed within the next few years. Ouray NFH recommends the continued stocking of bonytail into receiving waters of 18°C or higher and to be stocked into back waters connected to the river when possible.

X. Project Status: "on track and ongoing,"

XI. FY 2014 Budget Status

A. Funds Provided: \$592,209.39

B. Funds Expended: \$592,209.39

C. Difference: \$0

D. Percent of the FY 2015 work completed, and projected costs to complete: Not funded by BOR however, the BOR does schedule \$ 6050.00 for well jetting each year at the hatchery but no wells were jetted this year. The BOR drilling crew also installed two new (replacement) wells at ONFH this year. The FWS provided \$80,000 and the Recovery Program committed \$10,000 toward completion of the wells.

E. Recovery Program funds spent for publication charges: \$0

XII. Status of Data Submission (Where applicable): Pit tag data submitted November 2014

XIII. Signed: Karl David Schnoor                      11/13/2015  
Principal Investigator                                      Date