

I. Project Title: **Propagation Facilities in the Grand Valley (Ouray National Fish Hatchery - Grand Valley Unit) for Captive Rearing of Endangered Fishes for the Upper Colorado River Basin.**

II. Bureau of Reclamation Agreement Number(s): R15PG00083

Project/Grant Period: Start date (Mo/Day/Yr): 10/1/2014
End date: (Mo/Day/Yr): 9/30/2019
Reporting period end date: 9/30/2015
Is this the final report? Yes _____ No X

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IV. Abstract:

Ouray National Fish Hatchery - Grand Valley Unit (Ouray NFH-GVU) consists of several facilities near Grand Junction, CO. These facilities include the Horsethief Canyon Native Fish Facility (HCNFF), the 24 Road Hatchery building, and several other scattered groups of grow-out ponds.

Ouray NFH-GVU produces and rears razorback sucker (annual stocking target = 6,000 fish \geq 350 mm TL) for stocking into the Colorado and Gunnison rivers. In addition, Ouray NFH-GVU also rears bonytail obtained as larvae from the USFWS's Southwest Native Aquatic Resources and Recovery Center (SNARRC) in Dexter, NM (annual stocking target = 10,000 fish \geq 250 mm TL), for stocking into the Colorado and Gunnison rivers. All stocking of these two endangered fishes are in accordance with the approved Integrated Stocking Plan (ISP).

In 2015, wild humpback chub were brought into the HCNFF ponds from the Black Rocks area of the Colorado River. These fish are being held as a refugia population.

V. Study Schedule: 1996 to end of Recovery Program

VI. Relationship to RIPRAP:

General Recovery Program Support Action Plan

IV.A. Genetic Management

IV.A.1. Augment razorback sucker

IV.A.4. Secure and manage genetic stocks in refugia

IV.C. Operate and maintain facilities

VII. Accomplishment of FY 2015 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Razorback Sucker

In May 2015, about 800 age-1 razorback sucker were stocked into the grow-out ponds at HCNFF. These fish represented young from 4 different paired matings of broodstock performed in April 2014. Fish were stocked as a mixture of fish from each lot. Fish from the different lots were stocked in equal numbers in one pond. These fish were PIT tagged prior to being stocked into grow-out ponds to help reduce stress later in the year when they would be harvested for stocking.

In April 2015, razorback sucker broodstock held at HCNFF were spawned and the eggs were transferred to the 24 Road Hatchery building. Hatching rates for razorback sucker eggs were good, with 88% of all eggs successfully hatching into fry. The hatchery is currently holding 9,500 135 mm TL razorback sucker.

In spring 2015, a total of 3,165 razorback sucker were harvested and stocked. These fish were stocked at multiple locations – 663 were stocked from HCNFF into the Colorado River near Rifle, 274 were stocked from CDOT Pond into the Colorado River near DeBeque, 1,660 were stocked from HCNFF into the Colorado River in Grand Junction, and 76 were stocked from Beswick's Pond into the Colorado River in Grand Junction. In addition, 492 were stocked from HCNFF into the Gunnison River near Delta. The 3,165 razorback sucker stocked in 2015 represented 52.75% of our annual target number (n = 6,000).

In 2015, Ouray HFH-GVU was unable to meet the target number of 6,000 razorback sucker stocked due to a severe outbreak and infestation of the flagellate parasite *Costia (Ichtyobodo spp.)*. Within three days of diagnosing the infestation and administering chemical treatment, 11 of the 15 family lots of fry suffered complete mortality. Subsequently, the hatchery staff was able to salvage four family lots which resulted in approximately 1,600 2014 razorback sucker for rearing and distribution.

Morse Pond (on which the lease expires in on 23 April 2016) will no longer be used once the lease expires. Netting efforts in Morse Pond in spring and summer 2015 failed to collect any further razorback sucker, indicating that the fish previously stocked into this pond had all been either successfully removed during previous harvest efforts or had perished. A small handful of other “lease-free” grow-out ponds (including CDOT, Bewick’s, and Butch Craig ponds) will continue to be used as necessary in future years as we continue to evaluate management options to improve the survival and growth of razorback sucker produced in grow-out ponds.

Bonytail

In spring 2014 approximately 20,000 larval bonytail were received from SNARRC. These fish were stocked into grow-out ponds at HCNFF. In October 2014, these bonytail were harvested from HCNFF and brought into the 24 Road Hatchery to overwinter. In late April of 2015, these bonytail were transferred to HCNFF to maximize growth until being stocked in summer 2015. In summer 2015, a total of 11,594 bonytail were harvested and stocked. All of these fish were stocked in the Colorado River in Grand Junction. The 11,594 bonytail stocked in 2015 represented 116% of our annual target number (n = 10,000).

In spring 2015 approximately 14,000 larval bonytail were received from SNARRC. These fish were stocked into two ponds at HCNFF. In November 2015, these bonytail were harvested from HCNFF and brought into the 24 Road Hatchery to overwinter. They will be stocked back into grow-out ponds at HCNFF in spring 2016, where they will be held until being stocked at various locations in the Colorado and Gunnison rivers.

Humpback Chub

In late August 2015, an effort was made to collect and bring humpback chub into captivity from the Black Rocks area of the Colorado River. Initially it was hoped that crews could collect young-of-the-year (YOY) chubs. While small chubs are extremely hard to identify to species, it was thought that these small fish could be reared at the HCNFF until they were large enough to be identified to species. At that point, any humpback chub would be retained in a refugia population, while roundtail chub would be returned to the river. This technique would avoid the need to take larger juvenile and adult fish out of the wild population, which is already quite small in numbers (~ 300 fish in Black Rocks).

CRFP crews spent two weeks collecting fish, but (as was the case during 2014 efforts) numbers of small chubs encountered were low. Thus the determination was made to collect larger juvenile and small adult humpback chub in our collection efforts. To avoid too great an impact on the wild population, it was determined that no more than 10% of the wild population (~ 30 fish) should be collected during this effort. A total of 18 fish (8 adult humpback chub, 3 juvenile humpback chub, and 7 indeterminate YOY *Gila spp.*)

were collected and transported to the HCNFF. These 18 fish were treated in the stocking trailer for Asian tapeworm (using *Praziquantel*), appropriately tempered, and then stocked into a 1/10 surface acre pond. This same effort will be repeated in 2016, with the hopes of obtaining additional humpback chub for this refugia population.

The humpback chub that were collected in late summer 2014 spawned in their lined, 1/10 acre pond at HCNFF pond in 2015. We collected these pond-spawned fish, weighed and counted a subset of them and estimated that there were 1,541 YOY chubs (*Gila spp.*) produced during this spawning event. At the request of the Biology Committee, we collected fin clips from 146 (9.5%) of these pond-spawned YOY. These samples were sent to Wade Wilson at the Southwestern Native Aquatic Resources and Recovery Center (SNARRC), so he could conduct genetic analysis on them. The results of his analysis will hopefully provide information useful to the Recovery Program's Biology Committee in making an informed management decision as to how to best utilize these young, pond-spawned humpback chub.

The pond-spawned YOY were separated out from the wild humpback chub and were transferred into their own 1/10 acre pond. The wild chub collected from Black Rocks (both in 2014 and 2015) are currently being held in a separate 1/10 acre pond. Due to space issues, a decision will need to be reached on the fate of the pond-spawned YOY humpback chub during winter 2015-2016, as the pond they are currently being held in will be needed to rear production fish to meet stocking goals by late March 2016.

2015 Stocking Summary

A total of 3,165 razorback sucker (52.75% of the target stocking number) was stocked into the Colorado and Gunnison rivers in spring 2015 from the HCNFF, as well from two remotely-located grow-out ponds. The mean TL for all razorback sucker stocked in 2015 was 427 mm (target stocking size was 350 mm TL). Numbers of fish stocked in each location in 2015 were as follows:

| <u>Location</u> | <u>Number Stocked</u> |
|--|-----------------------|
| Upper Colorado near Rifle (from HCNFF) | 663 |
| Upper Colorado near DeBeque (from CDOT Pond) | 274 |
| Colorado River in Grand Junction (from HCNFF) | 1,660 |
| Colorado River in Grand Junction (from Beswick's Pond) | 76 |
| Gunnison River near Delta (from HCNFF) | <u>492</u> |
| 2015 stocking totals for razorback sucker | 3,165 |

A total of 11,594 bonytail (116% of the target stocking number) were stocked into the Colorado and Gunnison rivers in summer 2015 from the HCNFF. The mean TL for all bonytail stocked in 2015 was 274 mm (target stocking size was 250 mm TL). Numbers of fish stocked in each location in 2014 were as follows:

| <u>Location</u> | <u>Number Stocked</u> |
|---|-----------------------|
| Colorado River in Grand Junction (from HCNFF) | <u>11,594</u> |
| 2015 stocking totals for bonytail | 11,594 |

VIII. Additional noteworthy observations: None

IX. Recommendations:

- 1) Continue management and operation of Ouray NFH – GVU facilities to serve as a primary refuge facility for endangered fishes of the Upper Colorado Basin.
- 2) Continue production, grow-out, and stocking of razorback sucker and bonytail (and other native, endangered fish species as appropriate) to meet stocking goals set forth in approved stocking plans by the Upper Colorado River Endangered Fish Recovery Program (UCREFRP).

X. Project Status: Project is on track and ongoing.

XI. FY 2014 Budget Status

- A. Funds Provided: \$529,671
 - a. \$485,811 to Ouray NFH-GVU
 - b. \$43,860 to Bureau of Reclamation (to pay gas, electricity, phone)
- B. Funds Expended: \$529,671
- C. Difference: \$0
- D. Percent of the FY 2015 work completed, and projected costs to complete: 100%
- E. Recovery Program funds spent for publication charges: \$0

XII. Status of Data Submission (Where applicable): All PIT tag data were submitted to the UCREFRP database manager in October 2014

XIII. Signed: Brian Scheer, Thad Bingham, Mike Gross & Dale Ryden 11/20/2015
Principal Investigator(s) Date