

- I. Project Title: Operation and Maintenance of Ouray National Fish Hatchery Randlett
- II. Bureau of Reclamation Agreement Number(s): "N/A"
- III. Principal Investigator(s): Karl Schnoor, Project Leader  
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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 goals 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 and 10,000 bonytail averaging 250 mm into the middle and lower Green River in Utah.

This is an ongoing project and the hatchery exceeded the stocking goals during 2017 for both bonytail (BT) and razorback sucker (RZ) by stocking 12,802 BT averaging 252.9 mm total length and 8186 RZ averaging 340.3 mm. In addition, 36,232 RZ swim-up fry were stocked in Johnson Bottoms and the incoming canal to assess fry movements and 9,413 untagged BT < 230 mm were stocked into Leota 4. Both avian and salamander depredation on RZ and BT were controlled during 2016 and 2017 providing ample survival to meet and exceed stocking schedules.

- 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 2017 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings: The hatchery exceeded stocking goals during 2017 for both razorback sucker (RZ) and bonytail chub (BT), stocking 12,802 BT averaging 252.92 mm total length and stocking 8,186 RZ averaging 340.3 mm. Fish distribution during 2017 resulted in 6,380 RZ stocked in the Green River near Ouray NFH, 1,806 stocked at Green River UT and 9,766 BT stocked in the vicinity of the hatchery with 3036 stocked at Green River UT. See Appendix A for specific stocking data.

Both avian and salamander depredation was controlled during 2016 and 2017 allowing adequate survival to meet and exceed stocking schedules. In addition to the prevailing fish request, 36,232 RZ swim-up larvae were stocked in Johnson Bottoms and the incoming canal to define larval movements and 9,413 untagged BT < 230 mm were stocked into Leota 4.

Razorback sucker were spawned in 2017, producing approximately 331,650 larvae of which 20,000 were stocked in two half-acre hatchery ponds at densities of 10,000 per pond. Approximately 20,000 BT swim-up fry were received from Dexter, NM and stocked into one 0.2 acre pond. Normally this stocking would have accrued at 10,000 fry per half-acre pond but because of limited pond space, stocking densities were increased.

Uncertain that hatchery efforts would successfully moderate avian and salamander depredation, extra fish were added to the traditional production schedule. The hatchery received 20,000 BT fry from Dexter NM, 32,000 BT YOY from Wahweap SFH in 2016 and increased RZ production. These efforts yielded an abundance of fish on station because avian and salamander depredation was successfully controlled. In order to meet the stocking requests for 2018, hatchery space was made available by stocking smaller untagged BT into Leota 4 as an experiment to determine overwintering survival and reproductive potential. Leota 4 was a likely candidate because of its location on the refuge and minimal risk of breaching.

Maintaining lines over the ponds placed at 5-7' intervals on a checkerboard pattern has all but eliminated avian depredation. Salamander control continues to be an ongoing process. This year Matt suggested draining the nursery ponds two weeks before stocking swim-up fry and it appeared to aid in controlling salamander larvae while providing adequate zooplankton production to sustain RZ fry. Again, 200 larger BT were stocked into each RZ fry pond but later seined out as it appeared that they had modified the RZ fry's normal behavior patterns. Observable feeding responses indicated good fry survival; however, the ponds were not harvested this fall because fry from 2016 survived in sufficient numbers to complete the 2018 production schedule. Pre-emptive efforts from

the hatchery crew have significantly reduced salamander and avian depredation. With reduced depredation a more traditional production strategy will resume at the hatchery, limiting the need to retain "extra" fish to ensure stocking requests are achieved.

- VIII. Additional noteworthy observations: Bonytail stockings were completed by 09/01/2017 and were stocked into receiving waters at temperatures of 18° C or higher. LED lighting continues to reduce electrical consumption as well as reducing stress on the fish and the new hatchery tanks are working very well.
- IX. Recommendations: Recommendations for the ONFH include installation of two more replacement wells probably in approximately five years. Bird protection netting over the 0.2 ac ponds should be replaced in the next few years and well as pond liners in ponds A4-6 and B4-6.

Ouray NFH recommends the continued stocking of bonytail into receiving waters of 18° C or higher and should be stocked into backwaters connected to the river when possible.

- X. Project Status: "on track and ongoing,"
- XI. FY 2014 Budget Status
- A. Funds Provided: \$626,070.57
  - B. Funds Expended: \$574,449.80
  - C. Difference: \$51,620.77 of which 84.93% is obligated
  - D. Percent of the FY 2017 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 did provide an employee and pressure pump to jet out a hatchery water supply line from the wet well to the hatchery.
  - E. Recovery Program funds spent for publication charges: \$0
- XII. Status of Data Submission: Pit tag data submitted November 2017
- XIII. Signed: Karl David Schnoor 11/14/2017  
Principal Investigator Date

APPENDIX A: Ouray NFH, Randlett 2017 stocking events for PIT tagged fish.

Number s	Stocking location	Avg. Length (mm)	Avg. Weight (g)	Species	Year Class	Stock Date	STOCK R	STOCK RMI
452	Ouray NWR	281.3	172.5	BT	2016	3/17/2017	Green	262.0
453	Ouray NWR Johnson bottom	286.3	215.7	BT	2015	3/17/2017	Green	262.0
680	Ouray NWR Leota-7	251.3	135.4	BT	2015	3/20/2017	Green	
634	Ouray NWR Leota-8	256	147	BT	2015	3/20/2017	Green	
1313	Perryette outlet	256.1	151.55	BT	2015	4/5/2017	Green	240.3
2053	Ouray NWR Johnson bottom	230.4	113.06	BT	2015	5/10/2017	Green	262.0
719	Stewart lake outlet	216.88	79.8	BT	2015	5/11/2017	Green	299.3
636	Stewart lake outlet	216.03	79.2	BT	2015	5/12/2017	Green	299.3
340	Ouray NWR boat ramp	290	200	BT	2015	7/7/2017	Green	262.0
3036	Green River UT	251.88	128.38	BT	2015	8/29/2017	Green	120.1
1553	Ouray NWR boat ramp	246	105.8	BT	2015	8/29/2017	Green	262.0
933	Ouray NWR boat ramp			BT	2015	8/31/2017	Green	262.0
12802	Total BT							
1628	Ouray NWR	355.1	463.4	RZ	2016	9/11/2017	Green	262.0
400	Ouray NWR	333	390	RZ	2016	9/13/2017	Green	262.0
1401	Ouray NWR	337	448.2	RZ	2016	9/19/2017	Green	262.0
2213	Ouray NWR	341.55	421.4	RZ	2016	9/27/2017	Green	262.0
738	Ouray NWR	332	362	RZ	2016	10/2/2017	Green	262.0
1806	Green River UT	343	427.1	RZ	2016	10/2/2017	Green	120.1
8186	Total RZ							