

- I. Project Title: Operation and Maintenance of Ouray National Fish Hatchery Randlett Unit
- 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 Unit 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. In 2018, ONFH Randlett Unit exceeded fish production/stocking goals established by the Upper Colorado River Endangered Fish Recovery Program (Recovery Program) for razorback sucker and bonytail. The hatchery maintains a broodstock of razorback sucker. The hatchery continues to maintain humpback chub collected from Desolation Canyon in 2009 as a refuge population and potentially as a source of future broodstock. The Recovery Program has not requested actions with Colorado pikeminnow, and thus they are not managed by the hatchery.
- 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.
- 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 2018 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings: Stocking goals established by the Recovery Program include 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. The hatchery exceeded stocking goals during 2018 for both razorback sucker (RZ) and bonytail (BT), stocking 6,259 RZ averaging 385.93 mm and stocking 11,939 BT averaging 276.43 mm total length. See Appendix A for specific stocking data.

Health Condition Profiles (HCP) were performed on bonytail and razorback sucker prior to stocking. Individuals were sampled from a variety of tanks at random; malformed fish that could not be stocked were prioritized for sacrifice during the HCP process. Results from the HCP have been submitted to the Program Directors Office. Fish Health Inspections occurred as scheduled by the U.S. Fish and Wildlife Service, completed by staff from the Bozeman Fish Health Center.

Both avian and salamander depredation was controlled during 2017 and 2018 allowing adequate survival to meet and exceed stocking schedules. Bonytail swim-up fry were not requested from Dexter, NM in 2018. Razorback sucker were spawned in 2018 producing approximately 199,360 larvae from 15 family lots, of which 6,500 were stocked into 13 RZ production ponds for future broodstock but no larvae were stocked to nursery ponds for 2019 production. In addition to the established fish request, 9,285 RZ swim-up larvae were stocked at Ouray NWR in Leota 10 as part of a light trapping study to estimate catch rates. There were 1,273 recaptures. The remainder (183,575) RZ swim-up larvae were stocked into Leota 10 to estimate larval survival in the wetland.

Uncertain that hatchery efforts would successfully moderate avian and salamander depredation, extra fish were added to the traditional production schedule in 2016 and 2017. With depredation from avian and salamander YOY under control the hatchery has enough fish to meet 2019 production schedules without utilizing RZ spawn from 2018. This abundance of fish will be reared to size and stocked before more YOY of either RZ or BT are needed.

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 but pre-emptive efforts from the hatchery crew have significantly reduced salamander depredation. With the 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 in September 2018 and were stocked into receiving waters at temperatures of 18° C or higher and RZ stocking was completed in October. LED lighting continues to reduce electrical consumption as well as reducing stress on fish and the new hatchery tanks are working very well. A variable frequency drive was installed on a 30 horse power lift pump in the well field which should reduce electrical consumption and increase life expectancy of the pump. Also, research provided information on a replacement lift pump in the hatchery

which performs adequately and saved approximately \$20,000 in replacement cost of the existing pump design. A 24' X 32' pole barn was erected, a new electrical transformer was installed at the hatchery and preparation to install a truck/trailer wash station is under way to help guard against the spread of Aquatic Invasive Species.

- IX. Recommendations: Recommendations for the ONFH include installation of two more replacement wells in approximately four years. Bird protection netting over the 0.2 ac ponds should be replaced in the next few years as well as pond liners in ponds A4-6 and B4-6. Continue stocking bonytail into receiving waters of 15-21° C into backwaters connected to the river when possible.
- X. Project Status: "on track and ongoing,"
- XI. FY 2018 Budget Status
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|----|-----------------|--|
| A. | Funds Provided: | 643,662  |
| B. | Funds Expended: | 621,744  |
| C. | Difference:     | 21,918 (Utah FWCO contributed 20,000 in FY-17 to finish a Pole barn) |
- D. Percent of the FY 2018 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 wells were not jetted this year.
- E. Recovery Program funds spent for publication charges: \$0
- XII. Status of Data Submission: Pit tag data submitted November 2018
- XIII. Signed: Karl David Schnoor 11/14/2018  
Principal Investigator Date

APPENDIX A: Ouray NFH, Randlett Unit 2018 stocking events for PIT tagged fish and experimental stocking of RZ larvae.

Number Stocked	Stocking location	Starting PIT Tag Number	Ending PIT Tag Number	Avg Length (mm)	Avg. Weight (g)	Species	Year Class	Stock Date	STOCK RIVER	STOCK RMI
1828	Enron boat ramp	3DD.003BF89D71	3DD.003BF89D0	277	185	BT	2016	4/6/2018, 4/19/18	White	24.0
506	Ouray NWR Leota-10	3DD.003BF95043	3DD.003BF89D7B	303	244	BT	2016	4/11/2018	Green	
930	Ouray NWR boat ramp	3DD.003BBFF699	3DD.003BBFF7F1	280	182	BT	2016	4/15/2018, 6/20/18 and 6/22/18	Green	262.0
1847	Green rRMI 258 side channel	3DD.003BF99DBB	3DD.003BF95027	270	148	BT	2016	4/11/2018, 4/23/18?	Green	258.0
1800	Ouray NWR boat ramp	3DD.003BF7F544	3DD.003BF7ECBD	263	169	BT	2016	8/19/2018	Green	262.0
2145	Rainbow Park	3DD.003BF7ECDf	3DD.003BF7F2FB	255	165	BT	2016	8/13/2018	Green	329.5
2883	Green River UT	3DD.003BBFE9F1	3DD.003BBFEA11	287	227	BT	2016	8/9/2018	Green	120.1
11939	Total BT			276.4	188.6					
92	Enron boat ramp	3DD.003BF9A7CB	3DD.003BF99C6A	494.4	1274.5	RZ	2017	4/19/2018	White	24.0
496	Rainbow Park	3DD.003BF99C70	3DD.003BF99F60	383.5	697.89	RZ	2017	8/30/2018	Green	329.5
530	Split Mtn	3DD.003BF9A20B	3DD.003BF9A380	388.5	701.2	RZ	2017	8/31/2018	Green	321.0
619	Ouray NWR	3DD.003BC4BD72	3DD.003BC4C024	340.4	452.6	RZ	2017	9/1/2018	Green	262.0
563	Ouray NWR	3DD.003BF99F4F	3DD.003BC4F7F8	385	659	RZ	2017	9/1/2018	Green	262.0
1263	Redwash	3DD.003BC4F9E7	3DD.003BC4C30B	374.5	525.7	RZ	2017	9/5/2018	Green	298.3
1023	Ouray Bridge	3DD.003BF7F5D5	3DD.003BC4C22F	395.1	692.6	RZ	2017	9/06/2018	Green	248.8
1673	Green River UT	3DD.003BC4F792	3DD.003BC4B703	326	355	RZ	2017	9/25/2018	Green	120.1
6259	Total RZ			385.9	669.8					
192860	Leota 10 RZ fry									