

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2020 ANNUAL REPORT

PROJECT: 29c

Project Title

Wahweap State Fish Hatchery Operation and Maintenance

Bureau of Reclamation Agreement Number:

R19AP00059

Project/Grant Period:

Start date: 10/01/2018

End date: 09/30/2023

Reporting period end date: 09/30/2020

Is this the final report? No.

Principal Investigator:

Zane Olsen, Hatchery Superintendent

Utah Division of Wildlife Resources

Wahweap State Fish Hatchery

PO Box 410286

Big Water UT 84741

Phone: (435) 375-3714

Email: zaneolsen@utah.gov

Abstract:

Wahweap State Fish Hatchery, located in Big Water, Utah, rears bonytail (*Gila elegans*) for stocking in the upper Colorado River basin for the Upper Colorado River Endangered Fish Recovery Program (Recovery Program). Wahweap also maintains a refuge population of razorback sucker brood stock for the Recovery Program.

Study Schedule:

Ongoing

Relationship to RIPRAP:

General Recovery Program Support Action Plan

IV Manage genetic integrity and augment or restore populations

IV.A. Genetic management

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

IV.A.4.a Razorback sucker

IV.A.4 Develop basin wide bonytail restoration plan and implement as approved

IV.C. Operate and maintain facilities

Accomplishment of FY 2020 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1. Rear, PIT tag, and stock bonytail, and report tag and stocking data.

- Wahweap PIT-tagged 11,598 fish in October 2019 and stocked 11,480 of them in April 2020 (Table 1). Spring HCPs performed on 5-year old fish, show that fish came out of the winter months with a mesentery fat score of 3.05 out of 4, a C-factor of 2,509 with a 35% male to 65%

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female sex ratio, 65% normal livers, and no observed deformities. Fish averaged 255.9 mm in length and 118.3 g.

- All fish stocked were treated for Asian tapeworm (*Bothriocephalus acheilognathi*) with Praziquantel @ 2.5 mg/L for a 24-hour static bath and no worms were observed during any treatments.
- Wahweap used 180 bonytail (YOY 2010, YOY 2014, and YOY 2020) for the yearly Fish Health Inspection. During this year's inspection we observed no Asian tapeworm in any fish on station. Infection across the hatchery is very low or unseen and Wahweap is working closely with Wade Cavender (State of Utah Fish Pathologist) to eradicate this parasite from hatchery ponds. Until the eradication, Wahweap has been instructed to treat each individual pond as a different rearing unit. Wahweap will treat prophylactically, with Praziquantel, all fish being stocked or transferred. Fish were given the Fish Health Approval number DWR20-054, DWR20-055, and DWR20-056.
- The hatchery has conducted Health Condition Profiles (HCP) on all fish stocked or transferred in FY 2020 and they have been submitted to Wade Cavender (State of Utah Fish Pathologist).
- No bonytail sack fry were received from the Southwestern Native Aquatic Resources and Recovery Center in 2020.
- 75,496 fish remain on station as of fall 2020 (Table 2).

Task 2. Maintain backup razorback sucker brood.

- All razorback sucker were maintained in one on-site pond (Table 2).

Task 3. Replace 90 foot raceway for fish sorting and pathogen treatment.

- The Wahweap Superintendent worked with Bowen Collins & Associates out of St. George Utah to design and construct a new raceway system for the hatchery. The raceway was constructed during the spring of 2020 and is a great asset to the facility. Funding was provided by the Recovery Program and the Utah Division of Wildlife Resources. The Recovery Program provided \$36,961 in annual funds via Reclamation to support the project which had a total cost of \$165,925.47.

Additional activities and accomplishments not included in the FY 2020 scope of work.

Outreach and Education

- Wahweap Hatchery Superintendent assisted the Recovery Program in staffing the information booth at the Colorado River Water Users Association Annual Conference. Wahweap Staff provided live bonytail for the display, took care of them for the duration of the meetings and assisted with outreach.
- Due to the COVID-19 breakout in spring 2020, Wahweap did not provide any school tours in this reporting period.

Research and Support

- In April 2020, Wahweap provided 25,046 volunteer-spawned 2019 YOY bonytail to David Ward with the U.S. Geological Survey Center in Flagstaff, Arizona. David is using these fish for predation studies that will support the Recovery Program effort.
- Wahweap participated and completed the Bonytail Feed Study overseen by Cheyenne Owens from the Recovery Program. The study was put together to evaluate the fat deposition in the livers of bonytail and to see if there are any ill effects caused by high lipid deposition. Wahweap observed higher grow rates and what "appeared" to be lower fat deposition (Results from the

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study are forth coming.). Wahweap has switched all bonytail life stages from the Skretting Trout Diet, to the Skretting Pond LE Diet as of spring 2020. All bonytail's stocked in April 2020, were fed Pond LE for 2 months prior to stocking. Wahweap has plans to use the Pond LE for production and continue to observe any benefits it might have. Bozeman Fish Technology Center is compiling the data from several hatcheries and performing a complete analysis on each live sample

Facility Maintenance and Construction

- After seven years of hard work, the Wahweap Hatchery Bank Stabilization project was completed in the fall of 2019. The partnership with the Natural Resources Conservation Services (NRCS) was invaluable to the rebuild of the rock wall structure in protecting the hatchery from major flood events in Wahweap Creek. Total project cost, \$2,175,785.05. The Recovery Program covered the reclamation fee for the Bald Knoll Community Pit (Rip Rap) mining operation and the fee totaled \$15,000. This project was fundamental in protecting the hatchery and helping move the hatchery progression forward for many years to come.

Fish Mortality Event

- In April 2020 Wahweap staff harvested several ponds and moved 18,273 bonytail to the raceway for yearly pond maintenance and Asian Tapeworm treatments. After the treatments were completed, an employee malfunction occurred and we lost the 18,273 bonytail in the raceway (4,223 YOY 2019 and 14,050 YOY 2017). These fish were all volunteer spawned at Wahweap and were extra relative to stocking quotas. These fish were scheduled to be stocked into Lake Powell in the spring of 2020. Despite these fish being extra, the loss was very disappointing and we have implemented new protocols to prevent fish kills in the years to come. The fish kill was reported to the USFWS as part of our annual Section 6 Agreement report and renewal request.

Recommendations:

- Continue rearing bonytail at Wahweap to meet the stocking needs of the Recovery Program.
- Maintain razorback back-up brood stock.
- Continue PIT-tagging bonytail in the fall and stocking in the spring.
- Work on the eradication of Asian tapeworm from the Wahweap Hatchery rearing facility.
- Evaluate some needed upgrades in facilities and fish culture equipment.
- Continue HCP for all fish prior to stocking or transfer and the Recovery Program coordinates the annual collection and reporting for all Program hatcheries.

Project Status:

On track, ongoing, complete, etc.

FY 2020 Budget Status

Funds Provided: \$284,629

Funds Expended: \$284,629

Difference: \$0

Percent of FY 2020 work completed, and projected costs to complete: 100%

Status of Data Submission

PIT-tagged data for FY 2020 has been submitted and uploaded to STReAMS

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Signed:

Zane Olsen

Principal Investigator

September 22, 2020

Table 1.

Upper Colorado River Recovery Program bonytail stocked or transferred in FY 2020 by Wahweap State Hatchery.

Stock Date	Contact Name	Lot Number	River	River Mile	Stocking/Transfer Location	Number Stocked	Tagged
4/6/2020	Zane Olsen	140501CBBTWW01	Price	19.4	Below Woodside	3,451	Yes
4/7/2020	Zane Olsen	140501CBBTWW01	Upper Lake Powell	-47.5	Below North Wash	4,484	Yes
4/2/2020	Zane Olsen	140501CBBTWW01	San Rafael	22.9	Cottonwood Wash	3,545	Yes
4/20/2020	Zane Olsen	190515CBBTWW01	N/A		U.S. Geological Survey Center	25,046	No
Total:						36,526	

Table 2.

Upper Colorado River Recovery Program fish remaining on station as of fall 2020.

Species	Year Class	Number	Average Size	Number of Ponds
Bonytail	2010	4,247	274.33	1
Bonytail	2019	17,304	145.11	2
Bonytail (WW)	2014	5,786	252.2	1
Bonytail (WW)	2019	17,304	145.11	3
Bonytail(WW/Dexter)	2016	30,479	209.25	6
Razorback	Brood	376	438.87	1
Total		75,496		