

**COLORADO RIVER RECOVERY PROGRAM  
FY 2018 ANNUAL PROJECT REPORT**

**RECOVERY PROGRAM  
PROJECT NUMBER: 29d**

**I. Project Title:** J. W. Mumma Native Aquatic Species Restoration Facility  
Operation and Maintenance - Colorado

**II. Bureau of Reclamation Agreement Number(s):** 08-FG-40-2747

**Project/Grant Period:** Start date (Mo/Day/Yr.): 10/01/2007  
End date: (Mo/Day/Yr.): 09/30/2018  
Reporting period end date: 09/30/2018  
Is this the final report? Yes \_\_\_\_\_ No X

**III. Principal Investigator(s):**

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**IV. Abstract:**

The J. W. Mumma Native Aquatic Species Restoration Facility (Mumma), located in Alamosa, Colorado, was constructed in the year 2000 to facilitate the conservation of rare aquatic native species through captive propagation, genetic conservation, scientific research and public education and awareness. Currently there are 12 fish species and one amphibian species reared at Mumma. Many are listed at the State level as Threatened, Endangered or Species of Special Concern. One, the bonytail (*Gila elegans*, BYT), is federally listed as Endangered and was given full protection under the Endangered Species Act since 1980. Mumma currently produces BYT in numbers and sizes sufficient to help meet the annual stocking plan of the Upper Colorado River Endangered Fish Recovery Program (UCREFRP) for BYT in the upper basin of the Colorado River drainage.

**V. Study Schedule:**

Initial Year: 2002  
Final Year: 2022

**VI. Relationship to RIPRAP:**

General Recovery Program Support Action Plan

IV. Manage genetic integrity and augment or restore populations  
IV.C. Operate and maintain facilities.

IV.C.4. Mumma

Green River Action Plan: Yampa and Little Snake Rivers:

IV.A. Yampa River in Dinosaur National Monument

IV.A.1. Augment or restore populations as needed.

IV.A.1.a. Develop State stocking plan for Bonytail in the Yampa River

IV.A.1.a. (1) Implement stocking plan.

Colorado River: Main stem:

IV.A.5. Develop State stocking plan for Bonytail in the Colorado River from Palisade to Loma.

IV.A.5.b. Implement Bonytail State stocking plan.

**VII. Accomplishment of FY 2018 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:**

**BYT Stocking FY2018**

- A grand total of **5,859** **BYT** averaging 315.7 mm TL were successfully stocked by Mumma FY 2018.

**On June 19, 2018** Mumma stocked **2,592** **BYT** into Yampa River #1 at Deerlodge Park.

- **BYT** averaged 328.2 mm TL with a maximum of 455 mm TL and a minimum of 241 mm TL.
- Recorded discharge for this stocking using *waterdata.usgs.gov* was 1,440 cubic feet per second (cfs) measured at Deerlodge Park at 14:45, the approximate time of stocking.
- The receiving water temperature for the Yampa River #1 **BYT** stocking was 21.4 degrees Celsius with a pH of 8.39.
- Hatchery transport temperature and pH prior to stocking was 17.8 degrees Celsius and 8.44 respectively.
- The fish were acclimated for temperature and pH differences on the haul-truck and appeared unstressed upon release into the resource.
- **BYT** were PIT tagged on June 13 & 14, 2018 prior to stocking.

**On July 17, 2018** Mumma stocked **763** **BYT** into Salt Creek (Mack Wash).

- **BYT** averaged 311.7 mm TL with a maximum of 465 mm TL and a minimum of 199 mm TL.
- The receiving water temperature for the Salt Creek **BYT** stocking was 23.9 degrees Celsius with a pH of 8.07.
- Hatchery transport temperature and pH prior to stocking was 17.2 degrees Celsius and 8.53 respectively.
- The fish were acclimated for temperature and pH differences on the haul-truck in Loma, CO and appeared unstressed upon release into the resource.
- **BYT** were PIT tagged on July 2 & 3, 2018 prior to stocking.

**On September 25, 2018** Mumma stocked **2,504** **BYT** into Colorado River #2.

- BYT averaged 307.4 mm TL with a maximum of 460 mm TL and a minimum of 239 mm TL.
- Recorded discharge for this stocking using *waterdata.usgs.gov* was 1,340 cfs measured at Cameo Gauge at 14:45, the approximate time of stocking.
- The receiving water temperature for the Colorado River #2 BYT stocking was 15.2 degrees Celsius with a pH of 8.68.
- Hatchery transport temperature and pH prior to stocking was 15.8 degrees Celsius and 8.44 respectively.
- Due to the close proximity of transport and receiving water parameters the fish were not acclimated for temperature and pH differences on the haul-truck and appeared unstressed upon release into the resource.
- BYT were stocked at the *Jet Boat Colorado* boat launch ramp at river mile 208.4 downstream from the town of Debeque, CO.
- BYT were PIT tagged on August 18 & 19, 2018 prior to stocking.

**Additional Information**

- All BYT are flow trained in two 20 ft. diameter circular tanks for 1 to 3 weeks prior to stocking.
- Sixty (60) BYT were collected on August 07, 2018 and tested for VHSV in compliance with CPW’s regulatory annual fish health inspection. Results were negative for the presence of viruses.
- All BYT received 2 consecutive daily 8-hour static anti-Platyhelminthes treatments prior to stocking.
- Mumma currently provides four (4) 0.10 surface acre lined-ponds to the recovery of BYT.
- Due to low employee retention Mumma was short-staffed during the 2018 production season. Therefore, Mumma was forced to deviate from its *Scope of Work* and not able to perform Health Condition Profiling (HCP) on 20 BYT specimens per Lot, 2-weeks prior to stocking in 2018.

**Fish stocked** from Mumma as of September 25, 2018

<u>Species</u>	<u>YC</u>	<u>Fish No.</u>	<u>Fish/lb.</u>	<u>Date Stocked</u>	<u>Water Destination</u>
BYT	2014	2,592	1.545/lb.	06/19/2018	22880 Yampa River #1
BYT	2014	763	1.80/lb.	07/17/2018	22606 Salt Creek
BYT	2014	2,504	1.88/lb.	09/25/2018	19617 Colorado River #2
<b>5,859 Total BYT stocked for calendar year 2018</b>					

**Fish remaining** on unit as of October 31, 2018

<u>Species</u>	<u>Year Class</u>	<u>Fish No.</u>	<u>Impoundment</u>
BYT	2016	10,414	POND 1
BYT	2016	10,500	POND 2
BYT	2014	500	POND 3
BYT	2018	21,618	POND 4

## **43,032 Total BYT currently at Mumma**

### **VIII. Additional noteworthy observations:**

- When BYT were harvested from the ponds in 2018 for PIT tagging, approximately 100 fish were smaller than the target size of 250 mm TL at approximately 1.7% of total number of fish tagged. These fish were returned to a grow-out pond for additional growth.
- Twenty (20) deformed BYT were culled from the population in 2018 and will be euthanized or utilized in annual fish health inspection for VHSV. Abnormal BYT occurred at approximately 0.34% of total number handled.
- On October 30, 2018, Mumma acquired an additional 21,618 BYT averaging 136.40 mm TL from Wahweap SFH in Big Water, UT for future grow-out at Mumma.

### **IX. Recommendations:**

- To continue to refine culture techniques and dietary requirements of BYT at Mumma to meet Colorado Parks and Wildlife's obligation to produce Federally Endangered bonytail in numbers and sizes sufficient to help meet the annual stocking plan of the Recovery Program for BYT in the upper basin of the Colorado River Drainage.
- To achieve Mumma's objective as stated in the 2017 Revised Integrated Stocking Plan of the Upper Colorado River Endangered Fish Recovery Program by delivering 5,400 BYT at a minimum target size of 250 mm average TL by summer 2019.
- To continue with anti-Platyhelminthes treatments of BYT prior to all spring and summer stockings and to annually inspect for VHSV at Mumma.
- To continue with PIT tagging BYT at Mumma prior to all stockings.
- To have BYT available to stock at warmer water temperatures with the understanding adequate temperature units are available to allow BYT to recover from handling and hauling stress prior to the onset of cold water and winter conditions.
- To continue to culture larger BYT (minimum target size of 250 mm average TL) FY 2019 to promote and enhance survival of BYT in the resource.
- To continue to provide in-tank stream flow training and conditioning of BYT at Mumma to promote and enhance survival of BYT in the resource.
- To attempt to closely match receiving water temperature and pH with hatchery rearing and transport water temperatures and pH at time of stocking to promote and enhance survival of BYT in the resource.
- To perform HCP on 20 BYT specimens per Lot, 2-weeks prior to stocking in 2019.

**X. Project Status:** On track and ongoing.

**XI. FY 2018 Budget Status:**

- A. Funds Provided: \$81,900
- B. Funds Expended: \$81,900
- C. Difference: \$0.00
- D. Percent of the FY 2018 work completed, and projected costs to complete: 100%
- E. Recovery Program funds spent for publication charges: \$0.00

**XII. Status of Data Submission (Where applicable):** Not applicable

**XIII. Signed:**        Theodore J. Smith        October 31, 2018  
Principal Investigator        Date