

**COLORADO RIVER RECOVERY PROGRAM  
FY 2017 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.): 09/30/2017  
Reporting period end date: 09/30/2017  
Is this the final report? Yes \_\_\_\_\_ No X

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

Mr. Ted Smith  
Hatchery Superintendent  
Colorado Parks and Wildlife  
6655 County Road 106 South  
Alamosa, CO 81101  
719 587-3392  
Email: theo.smith@state.co.us

Mr. James Garcia  
Assistant Hatchery Superintendent  
Colorado Parks and Wildlife  
6655 County Road 106 South  
Alamosa, CO 81101  
719 587-3392  
Email: jim.garcia@state.co.us

**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 housed on the unit. Many are State Threatened, Endangered or Species of Special Concern and one, the bonytail chub (BYT), is federally listed as Endangered and 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 Recovery Program (UCRRP) 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: mainstem:

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 2017 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:**

### **BYT Stocking FY2017**

- To date, a total of **4,665 BYT** were successfully stocked by Mumma FY 2017.
- Another **507 BYT** will be stocked into Salt Creek (Mack Wash) on November 14, 2017 following irrigation flow shut off. These fish average 320.77 mm TL with a maximum of 450 mm TL and a minimum of 255 mm TL.
- The BYT were PIT tagged on November 02, 2017 prior to stocking.
- Thus, a grand total of **5,172 BYT** were successfully stocked by Mumma FY 2017, 228 fish short of the projected 5,400.

**On August 10, 2017** Mumma stocked **2,321 BYT** into the Yampa River #1 at Hells Canyon Ranch (formerly known as the historic Mantle Ranch).

- The BYT averaged 310.57 mm TL with a maximum of 425 mm TL and a minimum of 237 mm TL.
- Recorded discharge for this stocking was ~ 295 cfs measured at Deerlodge Park.
- The receiving water temperature for the Yampa River #1 BYT stocking was 22.7 degrees Celsius with a pH of 7.70.
- Hatchery transport temperature and pH prior to stocking was 20.0 degrees Celsius and 8.51 respectively.
- The BYT were PIT tagged on July 27 & 28, 2017 prior to stocking.

**On September 6, 2017** Mumma stocked **2,344 BYT** into the Colorado River #2. The BYT were stocked at the *Jet Boat Colorado* boat launch ramp at river mile 208.4 just downstream from the bridge leading into the town of Debeque, CO.

- The BYT averaged 313.69 mm TL with a maximum of 435 mm TL and a minimum of 248 mm TL.
- Recorded discharge for this stocking was ~ 2,550 cubic feet per second (cfs), measured at the Cameo gauge.
- The receiving water temperature for the Colorado River #2 BYT stocking was 20.6 degrees Celsius with a pH of 8.60.
- Hatchery transport temperature and pH prior to stocking were 19.8 degrees Celsius and 8.62 respectively.
- The BYT were PIT tagged on August 29 & 30, 2017 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 22, 2017 and tested for VHSV in compliance with CPW’s regulatory annual fish health inspection. Results were negative for the presence of viruses.
- All BYT receive a 24-hour static anti-Platyhelminthes treatment prior to stocking.
- Mumma currently provides four (4) 0.10 surface acre lined-ponds to the recovery of BYT.

**Fish stocked** from Mumma as of November 08, 2017

<u>Species</u>	<u>YC</u>	<u>Fish No.</u>	<u>Fish/lb.</u>	<u>Date Stocked</u>	<u>Water Destination</u>
BYT	2014	2,321	1.82/lb.	08/10/2017	22880 Yampa River #1
BYT	2014	2,344	1.77/lb.	09/06/2017	19617 Colorado River #2
BYT	2014	507	1.65/lb.	11/14/2017	22606 Salt Creek
<b>5,172 Total BYT stocked for calendar year 2017</b>					

**Fish remaining** on unit as of November 08, 2017

<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	4,985	POND 3
BYT	2014	4,385	POND 4
<b>30,284 Total BYT currently at Mumma</b>			

**VIII. Additional noteworthy observations:**

- In January 2017, BYT Pond 1 came down with *Ichthyophthiriasis*, commonly referred to as "ich" or "white spot disease". Once life stages of the parasitic disease reside within the dermal tissues of a host fish it is almost impossible to remove chemically without injuring or killing the host fish. Morbidity and mortality levels in the Pond 1 fish reached 100% in a rapid amount of time. An estimated 4,029 BYT succumbed to the disease. The suspected vectors in the spread of the disease were 2 raccoons visiting Mumma from neighboring wetlands. The raccoons were live-trapped and relocated a far distance from Mumma and the disease has not reoccurred since their removal.
- When BYT were harvested from the ponds in 2017 for PIT tagging, approximately 400 fish were smaller than the target size of 250 mm TL at approximately 7.73% of total number of fish tagged. These fish were returned to a grow-out pond for additional growth.
- Eighteen (18) deformed BYT were culled from the population in 2017 and used in annual fish health inspection for VHSV. Abnormal BYT occurred at approximately 0.35% of total number handled.

**IX. Recommendations:**

1. 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 chub in numbers and sizes sufficient to help meet the annual stocking plan of the Upper Colorado River Recovery Program for BYT in the Upper Basin of the Colorado River Drainage.
2. 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 2018.
3. To acquire an additional 10,000 early life-stage progeny of BYT from the Southwest Native Aquatic Resources and Recovery Center located in Dexter, NM for future grow-out at Mumma in 2108.
4. To continue with anti-Platyhelminthes treatments of BYT prior to all spring and summer stockings and to annually inspect for VHSV at Mumma.
5. To continue with PIT tagging BYT at Mumma prior to all stockings.
6. 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.
7. To continue to culture larger BYT (minimum target size of 250 mm average TL) FY 2018 to promote and enhance survival of BYT in the resource.
8. 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.
9. 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.
10. To attend the Health Condition Profile (HCP) Workshop on November 29, 2017 in Grand Junction, Colorado and learn the systematic, standardized, necropsy-based techniques for both internal and external examinations for BYT.
11. To perform HCP on 20 BYT specimens per Lot, 2-weeks prior to stocking in 2018.

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

**XI. FY 2017 Budget Status:**

- A. Funds Provided: \$81,900
- B. Funds Expended: \$81,900
- C. Difference: \$0.00
- D. Percent of the FY 2017 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:** Ted Smith November 8, 2017  
Principal Investigator Date