COLORADO RIVER RECOVERY PROGRAM FY 2013 ANNUAL PROJECT REPORT

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): 09/30/2013
Reporting period end date: 09/30/2013
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. Currently there are 11 fish species and one amphibian species housed on the unit. Many are State Threatened, Endangered or Species at Risk 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 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: 2017

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.

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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 2013 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

- A grand total of 5,400 BYT were successfully stocked by Mumma FY 2013.
- **On August 13, 2013,** Mumma stocked 2,934 BYT into the Colorado River #2 at Debeque Canyon. The fish averaged 304.7996 mm Total Length (TL) and were stocked in the backwater near the West bound truck pull off. Discharge was 2,220 cubic feet per second (cfs), measured at the Glenwood Springs gauge.
- **On September 19, 2013** Mumma stocked 2,466 BYT into the Green River at Echo Park. The fish averaged 322.8475 mm TL. They were stocked into an oxbow approximately 100 meter long and connected to the main channel. Discharge was 2,290 cfs at the Jensen, UT gauge.
- The receiving water temperature for both fish plants was 18.3 degrees Celsius. Hatchery rearing water temperature prior to stocking was between 17.7 and 18.3 degrees Celsius. All fish were flow trained in two 20 ft. diameter circular tanks for approximately 3 weeks prior to stocking. All fish received anti-Platyhelminthes treatments prior to stocking.
- **On November 28, 2012** Mumma imported 15,991 BYT, averaging 96 mm TL and 7.42 grams per fish from the Wahweap SFH in Utah. These fish were stocked into 4 of Mumma’s smaller 0.03 surface acre lined-impoundments.
- Mumma has made 8 impoundments (four 0.10 surface acre lined-ponds and four 0.03 surface acre lined-ponds) available to the recovery of this specie as specified in the **FY2013 Proposed Scope of Work.**
- **Fish stocked** from Mumma as of September 19, 2013

<table>
<thead>
<tr>
<th>Species</th>
<th>YC</th>
<th>Fish No.</th>
<th>Fish/lb.</th>
<th>Date Stocked</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>BYT</td>
<td>2010</td>
<td>2,934</td>
<td>1.956/lb.</td>
<td>08/13/2013</td>
<td>Colorado River#2</td>
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<tr>
<td>BYT</td>
<td>2010</td>
<td>2,466</td>
<td>1.872/lb.</td>
<td>09/19/2013</td>
<td>Green River</td>
</tr>
<tr>
<td><strong>5,400</strong> Total BYT stocked for calendar year 2013</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Fish remaining** on unit as of November 1, 2013

<table>
<thead>
<tr>
<th>Species</th>
<th>Year Class</th>
<th>Fish No.</th>
<th>Impoundment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BYT</td>
<td>2008</td>
<td>120</td>
<td>POND 3</td>
</tr>
<tr>
<td>BYT</td>
<td>2010</td>
<td>6,500</td>
<td>POND 1</td>
</tr>
<tr>
<td>BYT</td>
<td>2010</td>
<td>5,000</td>
<td>POND 2</td>
</tr>
<tr>
<td>BYT</td>
<td>2010</td>
<td>1,609</td>
<td>POND 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>----</td>
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</tr>
<tr>
<td>BYT</td>
<td>2012</td>
<td>4,022</td>
<td>POND B2</td>
</tr>
<tr>
<td>BYT</td>
<td>2012</td>
<td>3,973</td>
<td>POND B3</td>
</tr>
<tr>
<td>BYT</td>
<td>2012</td>
<td>5,859</td>
<td>POND B4</td>
</tr>
</tbody>
</table>

27,083 Total BYT currently on unit at Mumma

VIII. Additional noteworthy observations: When BYT were collected for PIT tagging, approximately 100 to 150 were smaller than 250mm (≤3% of total number handled); these were returned to the grow-out ponds to grow for another season.

IX. Recommendations:

1. To continue to refine culture techniques and dietary requirements of BYT at Mumma to meet future stocking requests of BYT into selected Colorado waters.
2. To achieve Mumma’s objective as stated in the 2013 Revised Integrated Stocking Plan of the Upper Colorado River Endangered Fish Recovery Program by delivering 5,400 BYT at 250 mm average TL by fall 2014.
3. To continue with anti-Platyhelminthes treatments of BYT prior to all spring and fall stockings and to inspect for LMBv and other pathogens of concern at Mumma annually.
4. To continue with PIT tagging BYT at Mumma prior to all stockings.
5. To stock at warmer water temperatures with the knowledge that adequate temperature units are available to allow BYT to recover from handling and hauling stress prior to the onset of coldwater, winter conditions.
6. To continue to culture larger BYT (minimum of 250 mm average TL) FY 2014 to promote and enhance survival of BYT in the resource.
7. 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.
8. To attempt to closely match receiving water temperature with hatchery rearing water temperature at time of stocking to promote and enhance survival of BYT in the resource.

X. Project Status: On track and ongoing.

XI. FY 2013 Budget Status:

A. Funds Provided: $81,900
B. Funds Expended: $81,900
C. Difference: $0.00
D. Percent of the FY 2013 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*  
Principal Investigator  
October 22, 2013  
Date

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