

Work Task C9: Razorback Sucker and Bonytail Pen Rearing Tests

| FY06 Estimates | FY06 Actual | Cumulative Accomplishment Through FY06 | FY07 Approved Estimate | FY08 Proposed Estimate | FY09 Proposed Estimate | FY10 Proposed Estimate |
|----------------|-------------|--|------------------------|------------------------|------------------------|------------------------|
| \$48,000 | \$30,254 | \$72,254 | \$35,000 | \$0 | \$0 | \$0 |

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Start Date: FY05

Expected Duration: FY07

Long-term Goal: Continuously seek measures to improve quantity and quality of fish reared and released under the Fish Augmentation Program

Conservation Measures: RASU3, RASU4, BONY3, and BONY4

Location: Reach 2, Lower Colorado River at Willow Beach, AZ

Purpose: Assess utility of pen-rearing of RASU and BONY in the LCR at Willow Beach NFH to increase rearing capability at the hatchery and as a means of conditioning fish to the river environment prior to release.

Connections with Other Work Tasks (past and future): The work is connected to B2, as work is being accomplished at Willow Beach NFH using fish reared at that facility.

Project Description: This project has two main objectives. The first objective is to determine whether juvenile and sub-adult RASU and BONY will continue to grow if placed into net pens in the Colorado River adjacent to Willow Beach NFH. Field studies have shown a direct positive relationship between survival in the lake and size of fish at time of release. Field studies also show that juvenile RASU released into Lake Mohave do exhibit some growth between October and March, the coolest period of the year. If RASU and BONY can increase in size in river water (routinely measured at 56°F), then net pens may provide additional rearing capacity at the hatchery. The second objective is to assess use of net pens to acclimate fish to ambient river conditions (temperature and flow) prior to release into Lake Mohave. Field data also suggest that post-stocking handling stress can be reduced by acclimation of fish to ambient water temperatures prior to release. This program will construct rearing pens in the river at Willow Beach NFH for the purpose of evaluating both of these objectives.

Previous Activities: Net pens and docking materials were purchased and delivered to Willow Beach NFH. The four-pen design was selected to provide long-term stocking space and structural stability in the river. Local purchases for miscellaneous hardware and materials (cement, cables, eyebolts, etc.) were made. Dive inspections of the river bottom for assessment of anchor

placements and test installations of docking materials were accomplished by the Reclamation Dive Team.

FY06 Accomplishments: Assembly and installation was completed and 2,500 RASU with an average of 340 mm TL were placed into the nets pens in April. Growth and survival were monitored between April and October. A subsample of 600 RASU was measured for growth at the end of June, and all RASU were measured at the end of October. In general, growth was poor, with an average growth of only 10.3 mm over the 6-month period. Survival was high, greater than 95%, and the fish were in excellent physical condition at the end of the test period. The fish were subsequently stocked at locations within Reach 3 on the lower Colorado River.

FY07 Activities: Lack of significant growth of net-penned fish during 2006 was sufficiently conclusive to terminate further growth studies, and no further research on net pens will be conducted during 2007. Net pens, however, will be used for holding fish for short-term research or for holding fish prior to stocking. Remaining funds for this work task will be reassigned to B2 and be used for any costs associated with operation and maintenance of the net pens and for repair of the water intake system damaged by the October 2006 thunderstorms (See B2). The net pens and docking materials will not be disassembled; however, they will be used to support activities at the hatchery in association with work task B2 over the life of the program.

Proposed FY08 Activities: Project Closed.

Pertinent Reports: A study report is in review, and will be available upon request from the LCR MSCP.