

Work Task C33: Comparative Survival of 500-mm Razorback Sucker Released in Reach 3

FY10 Estimates	FY10 Actual	Cumulative Accomplishment Through FY10	FY11 Approved Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate
\$75,000	\$70,817.31	\$276,047.15	\$100,000	\$100,000	\$100,000	\$0

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Start Date: FY09

Expected Duration: FY13

Long-term Goal: To maintain the effectiveness of the Fish Augmentation Program.

Conservation Measures: RASU3, RASU6.

Location: Mainstem Colorado River within Reach 3 and various off-channel fish grow-out ponds.

Purpose: To determine the relative survival of 500-mm TL RASU versus 300-mm TL RASU released into Reach 3.

Connections with Other Work Tasks (past and future): This work is related to current fish rearing (B2, B5), fish research (C12, C13), post-development monitoring (F5), and any future work tasks for rearing RASU, as data collected from this study will help evaluate the effect that size of released fish has on survival, and ultimately, on conservation of the species.

Project Description: This study will evaluate the relative survival of 500-mm TL RASU versus 300-mm TL RASU released into the Lower Colorado River within Reach 3. Ongoing studies at Lake Mohave (C12) suggest that RASU being raised for broodstock development in that reservoir (Reach 2) should be held in captivity and reared to a total length of 500 mm prior to repatriation to assure survival. It has been suggested that the LCR MSCP should increase its target size for RASU being reared under the Fish Augmentation Program from 300 mm to 500 mm TL.

The primary cause for mortality in Lake Mohave is predation by large striped bass, combined with a lack of cover. RASU in Lake Mead (Reach 1) have shown consistent, albeit low-level, recruitment for the past 20-plus years. Research (C13) suggests that cover is the key component allowing such survival and recruitment. Both predator loads and the amount of cover within Reach 3 differ from what is available in Reach 2. Before this management strategy is agreed to and applied to Reach 3, it is prudent to make paired

releases of both 300-mm TL RASU and 500-mm TL RASU and compare the relative survival of the two size classes.

This work will be conducted over a five-year period. During the first two years, the focus will be on growing and tagging sufficient numbers and sizes of RASU and releasing them into the river system. The LCR MSCP is currently stocking RASU of 300 mm or greater total length into Reach 3. Under the Fish Augmentation Program, 300-mm TL RASU are credited to the program when stocked into off-channel habitats as well as into the mainstem river. Funds from this study will be used to support harvest, tagging, and distribution of large RASU (500 mm or greater TL) harvested from these off-channel habitats.

Previous Activities: More than 28,000 RASU (>300 mm TL) have been PIT tagged and released into Reach 3 since October 2006, and all are research subjects for this study. The stockings have been distributed into the numerous access points within this reach, from Laughlin Lagoon to Bill Williams River NWR, as well as various off-channel habitats that are currently being managed by the USFWS.

Monitoring the growth of RASU in various off-channel habitats has continued. An interagency agreement was initiated between the Reclamation and the USFWS to cover costs at off-channel habitats that the USFWS currently manages. These off-channel habitats are the source of 500-mm plus RASU that will be used to complete this work task.

Numerous additional spawning groups of RASU were located throughout Reach 3. It is expected that surviving fish are best censused while spawning; therefore, identifying spawning sites increases chances for recontacting these fish during future surveys related to this work task.

FY10 Accomplishments: Activities included coordinating and scheduling stock assessment surveys for several grow-out ponds. The harvesting of 500-mm plus RASU was not conducted due to insufficient numbers of large fish. However, the current stock assessment shows that there are approximately 700 fish >400 mm TL available in the grow-out ponds, these fish will be harvested in early FY11. The program has continued the PIT tagging of RASU greater than 300 mm TL for release into Reach 3, and a total of 7,180 were released this past year. Monitoring of the Reach 3 population of RASU relative to differential survival was initiated. Monitoring is conducted using electro-fishing and trammel netting of known congregations of RASU.

FY11 Activities: The activities listed in FY10 will be continued and expanded in order to maximize the number of RASU available as research subjects for this work task. Monitoring surveys will be increased as a result of work task C45, and the additional RASU contacts will be used in the data analysis.

Proposed FY12 Activities: The activities listed in FY11 will be continued and expanded if necessary. Monitoring surveys will continue as part of work task C45, as well as the continued participation in annual surveys which are conducted each spring and fall.

Pertinent Reports: A study plan is available upon request, and a summary report is in development.