

Work Task C29: Age Characterization of Reach 3 Razorback Sucker Population

FY10 Estimates	FY10 Actual	Cumulative Accomplishment Through FY10	FY11 Approved Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate
\$125,000	\$126,061.29	\$206,526.28	\$0	\$0	\$0	\$0

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Start Date: FY09

Expected Duration: Closed in FY10

Long-term Goal: Assess effectiveness of the fish augmentation program.

Conservation Measures: RASU6.

Location: Colorado River in vicinity of Needles, California, and Laughlin, Nevada, and other sections of LCR MSCP Reach 3 where spawning RASU are encountered.

Purpose: To characterize the age structure of the RASU spawning population and identify successful stocking measures leading to the majority of fish residing in Reach 3.

Connections with Other Work Tasks (past and future): This work is related to B2, B3, B4, and B5 as fish from these facilities may be encountered and data collected will help assess potential survival and population structure resulting from RASU stockings. This study began under G3 to evaluate the aging technique developed for RASU on Lake Mead under C13.

Project Description: This study will characterize the age structure of the spawning RASU in Reach 3 of the Colorado River. Under the Lake Havasu Fishery Improvement Project, more than 31,000 RASU were stocked into this reach over a 10-year period (1993 to 2002). In 2005, researchers located concentrations of spawning RASU just upstream of Needles, California. This group of RASU is believed to have resulted from the earlier augmentation stockings by the Lake Havasu Fishery Improvement Project. Unfortunately, few if any of those fish were PIT-tagged prior to release.

This study will aggressively capture adult RASU from Reach 3 during the spring 2009 and spring 2010 spawning periods and remove fin-ray sections in the field. The fin-ray sections will be analyzed in the laboratory, and researchers will build an age structure of the spawning stock. These data will then be compared with stocking records for the Lake Havasu Fishery Improvement Project. Attempts will be made to isolate individual stocking events and to assess differential successes or failures. The final report will

summarize these data and provide recommendations and guidance to the LCR MSCP Fish Augmentation Program.

Previous Activities: In FY08 more than 50 fin ray samples were collected and analyzed as part of G3. The purpose of this work was to assess the ability to age fish from tailwaters; due to the success of this research, the work was expanded and incorporated into a separate work task. In FY09, specimens were collected from field activities in Reach 3, and upwards of 300 RASU fin ray samples for aging were obtained. Fin ray sections were analyzed and fish ages were determined. Aging data along with past stocking information were used to determine disparate stocking successes and identify the age structure/hatchery origins of the RASU population between Davis Dam and the Lake Havasu delta in Reach 3.

FY10 Accomplishments: Results suggest that while fish can accurately be aged, this information could not be correlated to stocking records. The RASU ranged in age from 3 to 22 years, with an average age of 9. Through investigation into past stocking records, it was determined that differentiation of wire tag locations was inconsistent and it was difficult to determine any differences. While originally expected to continue into FY11, the project was completed in FY10.

FY11 Activities: Closed in FY10.

Proposed FY12 Activities: Closed in FY10.

Pertinent Reports: A report titled *Razorback Sucker Aging and Stocking Population Assessment* is completed and will be posted to the LCR MSCP website.