

Work Task C13: Lake Mead Razorback Sucker Study

FY12 Estimate	FY12 Actual Obligations	Cumulative Expenditures Through FY12	FY13 Approved Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate
\$125,000	\$134,764.80	\$1,522,137.15	\$135,000	\$135,000	\$135,000	\$0

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Start Date: FY05

Expected Duration: FY15

Long-term Goal: Determine conditions that allow for natural recruitment of RASU.

Conservation Measures: RASU7.

Location: Reach 1, Lake Mead, Nevada/Arizona.

Purpose: Assess RASU population and recruitment in Lake Mead.

Connections with Other Work Tasks (past and future): This work task was previously included in the Draft FY05 Work Tasks as Lake Mead Razorback Study (D7). The long-term monitoring portion of this research has now been moved to D8, and larvae collected through that effort are being reared at Lake Mead Hatchery (B6) and Overton WMA (B11).

Project Description: The LCR MSCP will continue to fund and support the ongoing studies of RASU in Lake Mead. The focus areas of these studies are to:

1. Locate populations of RASU in Lake Mead.
2. Document use and availability of spawning areas at various water elevations.
3. Monitor potential nursery areas.
4. Continue aging of captured RASU.
5. Confirm recruitment events that may be tied to physical conditions in the lake.

Previous Activities: In 1995 the Southern Nevada Water Authority, Nevada Department of Wildlife, and Reclamation began a monitoring program for RASU in Lake Mead. Between 1995 and 2004, some 200 adult and 30 juvenile RASU were captured. Aging data showed that a low level of recruitment had occurred in at least 22 of the past 30 years. This remarkable recruitment has happened in the face of extensive non-native fish populations and declining lake elevations. A summary report of the first 10 years of the study was completed and posted to the LCR MSCP website. The general sites identified in that report are now part of the long-term monitoring for RASU in Lake Mead (D8). Research under this work task has now been focused on an additional area of Lake Mead, the Colorado River inflow (CRI). Through FY11, 72 RASU larvae, 12 FLSU larvae, 12

wild adult RASU, and 164 FLSU have been captured from the CRI. All captured adult and subadult native fish were marked with passive integrated transponder tags for individual identification before being released back into Lake Mead, and all captured RASU have been aged between 6 and 11 years old.

FY12 Accomplishments: The third year of research in the CRI area of Lake Mead was completed in FY12. Using sonic-tagged RASU to locate potential spawning sites, larval sampling was conducted on 39 nights and resulted in the capture of 10 larval RASU. Trammel netting was used to capture adults where concentrations of RASU were suspected, and fin ray specimens were obtained from adult RASU for aging purposes. From 181 net-nights, 26 wild RASU, 1 razorback-flannelmouth sucker hybrid, and 201 FLSU were captured. Of these fish, 13 RASU and 36 FLSU were recaptured fish. Fourteen of the wild RASU were males expressing milt, and the remaining 12 were females showing signs of spawning. Ages from the 14 new wild razorback suckers ranged from 6 to 10 years.

FY13 Activities: All research actions including larval sampling, trammel netting, monitoring of sonic-tagged fish, evaluating growth rates of recaptured fish, and fin-ray sectioning for aging of adult and subadult RASU are expected to continue. Data obtained through these actions will help further identify the size, age structure, habitat use, spawning areas, and recruitment patterns of the RASU aggregate located in the CRI.

Proposed FY14 Activities: Investigations will continue in the Colorado River inflow area of Lake Mead.

Pertinent Reports: The *Razorback Sucker Investigations at the Colorado River Inflow Area Lake Mead, Nevada and Arizona 2012 Final Annual Report* is available upon request and will be posted to the LCR MSCP website.