

## Work Task D8: Razorback Sucker and Bonytail Stock Assessment

FY05 Estimate	FY05 Actual	Cumulative Accomplishment Through FY05	FY06 Approved Estimate	FY07 Proposed Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate
\$180,000	\$166,000	\$166,000	\$285,000	\$325,000	\$325,000	\$325,000

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**Start Date:** FY05 **Expected Duration:** FY55

**Long-Term Goal:** Conduct long-term system monitoring of razorback sucker and bonytail.

**Conservation Measures:** RASU6 and BONY5

**Location:** Lower Colorado River within the LCR MSCP planning area, including its reservoirs and connected channels, from Grand Canyon to Imperial Dam.

**Purpose:** Supplement and maintain sufficient knowledge and understanding of razorback sucker (RASU) and bonytail (BONY) populations within the LCR MSCP planning area to have an effective Adaptive Management Program.

**Connections with other Work Tasks (past and future):** Monitoring data for RASU and BONY have been and/or will be gleaned from work accomplished under Work Tasks C8, C12, C13, C15, and C23.

**Project Description:** This project collects and organizes RASU and BONY population and distribution data in order to maintain up-to-date, system-wide, stock assessments for these species. Data acquisition work will be accomplished by application of two strategies: (1) gleaning information from ongoing fish monitoring and fish research activities, and (2) direct data collection through field surveys within the LCR MSCP planning area that are not being evaluated by other activities. These data will be organized to show the current, end-of-year status for distribution and abundance for each LCR MSCP river reach.

Under the first strategy, LCR MSCP staff will gather and organize data from existing monitoring programs. For example, sport-fish surveys and native-fish surveys are conducted annually on Lakes Mead, Mohave, and Havasu by multi-agency teams, with LCR MSCP fishery staff participating in each survey. In each survey, the lake is divided into different zones with one survey group assigned to each zone. All zones are sampled within a set time period using similar equipment. When the survey is complete, each participating agency receives information for the entire lake at a reduced cost incurred by only needing to survey a portion of the whole.

Also under the first strategy, data will be gleaned from ongoing species research actions. For example, a RASU study is being conducted on Lake Mead (C13) and another one is being

conducted in the lower river below Parker Dam (C8). Data for RASU population status and distribution will be gathered from these studies.

Under the second strategy, areas not being sufficiently surveyed through ongoing activities will be surveyed either by LCR MSCP fishery staff or another entity hired via contract, grant, or agreement. For example, the current surveys for RASU between Davis and Parker Dams are being conducted jointly by USGS and Reclamation and are financially supported through this D8. Another major monitoring action funded by this Work Task is the survey work conducted by Reclamation on Lake Mohave to assess survival and distribution of repatriated RASU. Areas along the lower two-thirds of the lake are netted monthly between October and May. The upper third of the lake, including the area above Willow Beach and up to Hoover Dam are electro-fished and netted during the June to September period (due to the cool water releases from Lake Mead).

In some cases, LCR MSCP fishery staff conducted native fish surveys to fill in seasonal gaps left by other research activities. For example, USGS surveys for RASU between Davis Dam and Lake Havasu are only conducted during the January to April spawning period. LCR MSCP staff monitor sonic-tagged fish in this reach during the summer and conduct electro-fishing in the fall, to provide a more complete assessment of the fishery.

Work routinely includes trammel netting and electro-fishing, but visual surveys using Reclamation's helicopter are also conducted within different river reaches throughout the year. Other specialized equipment and techniques are periodically utilized for monitoring, such as aerial and underwater photography and video recordings.

Project costs include all costs associated with conducting field surveys, gleaning or capturing data from ongoing research actions and monitoring programs (both internal and external to the LCR MSCP), transfer of these data into record archives, and organizing these data into a cohesive report.

**Previous Activities:** Reclamation has cooperatively conducted fish surveys with Nevada and Arizona on Lake Mead each fall since 1999, and has provided funding and support to the Lake Mead Razorback Sucker Study (C13) since 1995. Interagency cooperative native fish roundups have been occurring since 1987 on Lake Mohave and since 1999 on Lake Havasu (including the river reach below Davis Dam). Fish monitoring on Reaches 4 and 5 has been conducted by Reclamation and ASU as part of the Razorback Sucker Survival Study (C8) annually since 2003. Reclamation financially supports the Colorado River Fishes database maintained by ASU through G1.

**FY05 Accomplishments:** Reclamation conducted spring and fall netting surveys on Lake Mead with NDOW and AGFD; conducted monthly trammel netting on Lake Mohave (over 225 net nights); participated in spring and fall RASU roundups on Lake Mohave; participated in spring BONY roundups on Lake Mohave and Lake Havasu; participated in spring RASU survey on Lake Havasu; participated in electro-fishing surveys and ocular surveys for RASU between Davis Dam and Lake Havasu; conducted low-elevation surveys of Lakes Mead, Mohave, and Havasu for spawning RASU with Reclamation's helicopter; and conducted low elevation videography of the Colorado River from Imperial Dam to Davis Dam (both winter low flow and

summer high flow) by helicopter. All contact data for RASU and BONY through these surveys were provided to ASU for inclusion in the lower Colorado River native fish database.

**FY06 Activities:** Participation in ongoing multi-agency surveys and round-ups continues, as do monthly surveys for repatriated fishes in Lake Mohave (data provided to ASU to be used in accomplishing C12). Surveys for RASU below Davis Dam were completed and monitoring of sonic-tagged fish is being carried out. Reclamation is making digital video recordings with GPS reference of the entire lower Colorado River downstream of Hoover Dam (both banklines) as a reference tool for logistical support to system monitoring. Data consolidation is being initiated in order to produce the first comprehensive system monitoring summary for RASU and BONY this fall. The report will detail relative population size and distribution by river reaches and establish a baseline to monitor against in future years. All tagging data are provided to ASU for inclusion into native fish database.

**FY07 Proposed Activities:** Continue native fish monitoring; update the river-wide status report for RASU and BONY, detailing population size and distribution by river reach and highlighting observed changes.

**Pertinent Report:** Results are catalogued by Reach and available upon request.