

Work Task C49: Investigations of RASU and BONY Movements and Habitat Use Downstream of Parker Dam

FY13 Estimates	FY13 Actual Obligations	Cumulative Expenditures Through FY13	FY14 Approved Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate
\$150,000	\$150,247.28	\$168,618.15	\$150,000	\$0	\$0	\$0

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Start Date: FY12

Expected Duration: FY14

Long-term Goal: To maintain an effective fish augmentation program.

Conservation Measures: BONY3, BONY 4, BONY5, RASU3, RASU4, and RASU6.

Location: Reach 4, Colorado River, between Parker and Palo Verde dams.

Purpose: Assess distribution and habitat use of stocked RASU.

Connections with Other Work Tasks (past and future): This work is related to C8 and D8. Due to the overlap in scope and intent of this work task with worktasks C39 (Post-Stocking Distribution and Survival of Bonytail in Reach 3) and C45 (Ecology and Habitat Use of Stocked RASU in Reach 3), these work tasks will be merged into a single work task C64: Post-Stocking Movement, Distribution, and Habitat use of RASU and BONY in FY15. This combination of work tasks will allow sharing of overlapping resources is expected to increase efficiency in implementation and reporting and may also reduce overall expenditures. Activities under C64 will be detailed by river reach and the budget estimates will reflect the effort needed to complete this work.

Project Description: This three-year study will evaluate post-stocking survival, movement, and habitat use of RASU and BONY released between Parker Dam and Palo Verde Diversion Dam. Both species have been stocked into the river below Parker Dam, and both species show low levels of survival. Most of this reach occurs on Colorado River Indian Tribes land and has not previously been examined by LCR MSCP staff.

Previous Activities: This effort is building upon research conducted under C8. RASU and BONY have been stocked below Parker Dam since 2005. An agreement was finalized in FY12 with the USFWS. In FY12 a study plan and literature review were completed and an MOU for project activities on Colorado River Indian Tribe (CRIT) lands was signed.

FY13 Accomplishments: Prior to the release of telemetry fish, six electrofishing surveys were conducted from October through November between Parker Dam and Headgate Dam. These efforts resulted in the capture of 15 RASU and 16 BONY. Wire

tag location indicates that the BONY were released at River Island State Park on October 4, 2012, and the RASU were from 2 different releases within the past 10 months.

Over 5,000 RASU and 5,000 BONY were released into several backwaters within the CRIT; more specifically: Moovalya Lake, Ahakhav Tribal Preserve, and Lost Lake. These fish were released as part of the MSCP fish augmentation program and represent the first stockings of RASU and BONY from the MSCP on CRIT lands. These releases are a direct result of the MOU, which the USFWS secured as part of the preliminary work for this project.

Per the study plan, 60 sonic tags were surgically implanted into 30 RASU and 30 BONY. Fifteen of each species were stocked into two different reaches separated by Headgate Dam (Blue Water Lagoon & River Island State Park). Both RASU and BONY showed variable dispersal patterns which is common for hatchery reared fish. Survival of telemetered fish was poor, over 75% of the fish were presumed dead within six weeks of release and 100% dead after 4 months. The exceptionally high mortality rates are similar to those documented by other projects within Reach 4 and have been documented in reports associated with C8. Predation continues to be the major suspected reason for mortality; a large number of these telemetered fish were presumably consumed by avian predators, specifically cormorants. Numerous tags from fish released below Headgate Dam were later detected above the dam. A subset of these tags were retrieved via Reclamation divers directly below a cable crossing which is often occupied by perched cormorants. A additional tag was recovered in Lake Havasu above Parker Dam; this was almost certainly transported via an avian predator.

Trammel netting and remote PIT scanning were conducted in the backwaters where native fish were previously stocked. Contact rates were low for both types of surveys; only 18 RASU and one BONY were captured with trammel nets in Moovalya backwater, and an addition 14 unique contacts were made via remote PIT tag scanners. Electrofishing proved equally ineffective throughout the majority of the river and backwaters. An exception was the area located within the discharge canal below Lost Lake; ten unique (untagged) and two recaptured RASU were recorded, both originated from the 2013 Lost Lake stocking.

Results from the first year of this study were not entirely unexpected. This is an area that has not been previously stocked or surveyed, and there are inherent problems and many unknowns when working in a new area. The large numbers of fish released this year, combined with future releases and additional telemetry, should begin to provide more resolution about long-term survival, the habitats used by native fish, and areas that may suggest improved stocking success.

FY14 Activities: Up to 6,000 RASU and 4,000 BONY will be stocked within the study reach, including CRIT lands. The tracking of sonic tagged fish will be used to monitor post-stocking dispersal patterns and possibly identify the locations used by any RASU currently inhabiting the study area. Other monitoring activities will include trammel netting, electrofishing, remote PIT scanning, and routine water quality monitoring.

Proposed FY15 Activities: Closed in FY14.

Pertinent Reports: A study plan and a literature review have been completed and are available upon request. A report summarizing the first year's activities is in draft and will be posted to the MSCP website when available.