

## Work Task C47: Genetic Monitoring and Management of Recruitment in Bonytail Rearing Ponds

FY14 Estimate	FY14 Actual Obligations	Cumulative Expenditures Through FY14	FY15 Approved Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate
\$250,000	\$236,065.29	\$379,526.73	\$0	\$0	\$0	\$0

**Contact:** Andrea Finnegan, (702) 293-8203, [afinnegan@usbr.gov](mailto:afinnegan@usbr.gov)

**Start Date:** FY12

**Expected Duration:** FY15

**Long-Term Goal:** To maintain an effective LCR MSCP Fish Augmentation Program

**Conservation Measures:** BONY3, BONY4, and BONY5

**Location:** Offsite rearing stations (the SNARRC and Achii Hanyo Native Fish Rearing Facility)

**Purpose:** To assess the effects of volunteer spawning by bonytail in holding ponds on the genetic integrity and goals of the captive management plan for this species

**Connections with Other Work Tasks (Past and Future):** This work task is related to Work Tasks B2–B4 and C11.

**Project Description:** There is concern regarding the genetic integrity of pond-reared bonytail due to spawning events that commonly occur in grow-out ponds. During this 3-year study, the genetic diversity of inadvertently spawned bonytail in ponds at the Achii Hanyo Native Fish Rearing Facility, SNARRC, and Uvalde National Fish Hatchery will be characterized and then compared to the founder population of bonytail broodstock at the SNARRC. The average diversity of pond recruitment at the SNARRC will be quantified, and the utility of using a biological control, in this case an appropriate piscivore (fish-eating fish), to reduce or eliminate inadvertent spawns in grow-out ponds at the SNARRC will be assessed.

**Previous Activities:** Bonytail tissue samples have been collected from the Uvalde National Fish Hatchery, Achii Hanyo Native Fish Rearing Facility, and SNARRC. All genetic samples have been genotyped for these tissue samples. Piscivorous fish were obtained and quarantined before being stocked into nine research ponds with bonytail in 2013.

The ponds were harvested in the fall of 2013. The pond without piscivores had a significant amount of recruitment where recruitment was controlled in ponds with piscivores.

**FY14 Accomplishments:** The second year of bonytail rearing in the presence of piscivorous fish was completed. A no-cost time extension was granted because FY14 funding was not awarded until July 2014. This work task has been extended through September 2015 so ongoing research can be completed.

**FY15 Activities:** Bonytail will be harvested from the study ponds. All fish will be counted and a subsample of fish from each pond will be weighed and measured. The density/biomass data collected in 2013 will be compared to the 2014 data. A final report will be submitted in September 2015. All funds were obligated in FY14, so no additional funds will be obligated in FY15.

**Proposed FY16 Activities:** This work task was closed in FY15.

**Pertinent Reports:** Scopes of work are available upon request. A final report will be posted on the LCR MSCP Web site upon completion.