

Work Task C56: Characterization of Lake Mohave Backwaters to Evaluate Factors Influencing Spawning Success

FY11 Estimate	FY11 Actual Obligations	Cumulative Expenditures Through FY11	FY12 Approved Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate
\$0	\$0	\$0	\$0	\$265,000	\$265,000	\$265,000

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Start Date: FY13

Expected Duration: FY15

Long-term Goal: To help inform future design and management of created backwater habitats.

Conservation Measures: RASU3, RASU6, BONY3, BONY5.

Location: Lake Mohave, Reach 3.

Purpose: To characterize two Lake Mohave backwater rearing ponds (Arizona Juvenile and Dandy) where stocked juvenile RASU have been observed to spawn at greatly different rates in order to determine which factors are most influential in promoting spawning and subsequent survival of RASU larvae.

Connections with Other Work Tasks (past and future): C40.

Project Description: Arizona Juvenile (AJ) and Dandy are two disconnected backwater ponds on Lake Mohave which are used for rearing RASU in support of the fish augmentation program. Subadult fish are currently PIT tagged at 300 mm TL, sampled for genetics, and stocked into these ponds during winter or spring. Remote PIT-tag scanners are deployed periodically to monitor survival of stocked fish in these two ponds. The ponds are harvested in the fall, as the backwaters are drawn down with the seasonally declining water level of Lake Mohave.

Over the past two years, genetic analyses of larvae that were volunteer spawned from stocked RASU in these two ponds has revealed significant differences in reproductive success between these two sites from 2010 to 2011. At one pond (AJ), the majority of stocked fish successfully spawned and produced larvae, while at the other (Dandy), larvae were produced by a much smaller proportion of stocked subadults.

This project will provide a detailed characterization of selected Lake Mohave backwaters to determine which factors are most influential towards successful RASU spawning and subsequent larval survival. The research will begin with a narrow focus on AJ and Dandy, two ponds with vastly different spawning success, at Lake Mohave but may be expanded in the future to include other backwaters or other known RASU spawning areas.

Previous Activities: None, this is a new start.

Proposed FY13 Activities: A two-year study will begin in FY13 to examine the physical habitat, physicochemical parameters, and predation dynamics of these two Lake Mohave backwaters (AJ and Dandy) and a summary report will be produced. Based on the findings of this research, this work will either be concluded after two years or expanded to answer new questions with potentially more sites.

Pertinent Reports: N/A