Work Task C12: Demographics and Post Stocking Survival of Repatriated Razorback Suckers in Lake Mohave

FY06 Estimates	FY06 Actual	Cumulative Accomplishment Through FY06	FY07 Approved Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate
$185,000	$173,576	$173,576	$185,000	$215,000	$30,000	$0

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Start Date: FY06

Expected Duration: FY09

Long-term Goal: Species Research

Conservation Measures: RASU5

Location: Reach 2, Lake Mohave, AZ/NV

Purpose: Assess population structure for repatriated RASU, and develop a population demographic model for predicting survival and replacement rates to maintain broodstock for duration of the LCR MSCP

Connections with Other Work Tasks (past and future): None.

Project Description: This activity will support ongoing RASU conservation efforts at Lake Mohave to develop and maintain a population of 50,000 adult RASU as a genetic refuge. More than 100,000 fish have been reared and repatriated to date, yet brood stock population estimates remain below 5,000 fish. This work task initiates a 3-year study to assess the cause of this low population survival. The study will determine whether this low population estimate is real, and will assess causes for poor survival of stocked RASU and make recommendations for corrective actions.

Extensive radio and sonic tracking of fish will be used to assess distribution and survival. Demographic modeling will be used to assess population structure. The study is designed as a multi-year, iterative process. Observations and conclusions from first-year activities will provide direction for work in subsequent years.

Previous Activities: This is a new start for FY06.

FY06 Accomplishments: Rearing, stocking, and recapture data for RASU stocked into Lake Mohave since 1992 were collated and reviewed. Field investigations were implemented during spawning and post-spawning seasons to assess repatriate distribution. Telemetry work was initiated to examine post-stocking dispersal rates, habitat selection, and short-term mortality, and

to verify existing population models. A population model was refined using new data to estimate abundance and to describe critical, dynamic life table features such as mortality rates. Data are being acquired to assist in the quantitative assessment of fish predators as a mortality factor for newly stocked RASU.

FY07 Activities: Initial telemetry studies will be concluded and a new study implemented to assist in assessing mortality of larger (500 mm TL) fish now being stocked into Lake Mohave. Effects of surgical implantation of telemetry tags will be evaluated during a 3-month experimental study. Population monitoring will continue, to acquire new mark-recapture data that will support revised and refined models of mortality and population abundance. These models will contribute to a better understanding and assessment of current practices.

Proposed FY08 Activities: Activities during FY08 will continue investigations initiated in FY07, including determing survival of target fish released throughout Lake Mohave. Additional tasks will be determined on the basis of results obtained during the second year of the study. Population demographic modeling will be completed. After FY08 activities are complete, a draft comprehensive project report will be developed and finalized in FY09 that will present all study results and make recommendations for practical or programmatic adjustments for attaining the goals of the Lake Mohave RASU repatriation program.

Pertinent Reports: An annual report will be posted to the LCR MSCP Web site. The study plan is available upon request from the LCR MSCP.