

Work Task G3: Adaptive Management Research Projects

FY05 Estimate	FY05 Actual	Cumulative Accomplishment Through FY05	FY06 Approved Estimate	FY07 Proposed Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate
\$0	\$0	\$0	\$230,000	\$275,000	\$325,000	\$325,000

Contact: John Swett, (702) 293-8574

Start Date: FY06 **Expected Duration:** FY55

Long-term Goal: Species Research

Conservation Measures: MRM1, MRM2, MRM4, WIFL1, CMM1, MRM5, BONY5, RASU6, CRCR1, YHCR1, MRM3, FLSU3, LLFR1, and LLFR3

Location: System-wide

Purpose: Evaluate existing knowledge for each LCR MSCP covered species to determine research needs, develop a research program to complete appropriate conservation measures and provide data for the habitat creation and maintenance program. As data gaps are identified for each covered species and their habitats, a research activity will be developed to provide information for the Adaptive Management Program. This Work Task enables Reclamation to implement priority research projects in a timely manner.

Connections with other Work Tasks (past and future): Research projects initiated under this Work Task may be continued as Species Research (Section C). Information obtained may be used for Fish Augmentation (Section B), System Monitoring (Section D), Habitat Creation (Section E), Post-Development Monitoring (Section F), or Habitat Maintenance (Section H).

Project Description: To implement successful habitat creation and the Fish Augmentation Program, an Adaptive Management Program must be developed. Data gaps will be identified during Work Task C3 and species research priorities will be defined. These research opportunities will be developed into projects/studies and be implemented by Reclamation staff or via contracts, grants, and agreements. Miscellaneous research projects that relate to LCR MSCP covered species and habitats may also be executed in this Work Task. New knowledge accumulated during the adaptive management process will be used in planning habitat creation projects for covered species, fish augmentation strategies, and system monitoring programs.

FY05 Accomplishments: This is a new start in FY06.

FY06 Activities: Research needs have been identified in the fish augmentation program. Data gaps are being identified under Work Task C3. A program was initiated to develop remote sensing techniques to monitor relative abundance of RASU. This project spawned from observations that trammel netting, the current standard for sampling RASU, does not appear to be as successful in flowing river reaches as it is in lakes and still-water areas. In addition,

trammel nets catch non-target organisms such as beavers, muskrats, and waterfowl. The project is looking at surveying techniques which might be more successful in flowing water and are less intrusive ways of surveying these fish in any water type. Two principle techniques being investigated are use of camera equipment (high resolution still photos and digital video) and the use of ocular surveys (surface counts with two observers in drift boats). These techniques are being used at known razorback sucker spawning sites on Lake Mohave and in the LCR upstream of Needles, California.

The work is being led by Reclamation staff from the Denver Technical Services Center in cooperation with researchers from USGS Denver, CDFG, and Reclamation's staff in Boulder City. (The Reclamation helicopter based out of Boulder City is also being used to conduct this work.)

A draft progress report is currently in review. Preliminary results are encouraging for the ocular surveys, but discouraging for the aerial surveys.

Proposed FY07 Activities: Species profiles, being completed under Work Task C3, should be finalized in FY06. If immediate research needs are identified in FY07, proposals and study designs will be written and research may be funded under this Work Task.

Testing and evaluation of remote sensing techniques for counting fish will continue. Study techniques will incorporate findings from FY06. For example, airspeed for the helicopter needs to be slowed to increase counting accuracy, and night-time ocular surveys using halogen lamps will be tested.

Pertinent Reports: Progress report for remote sensing study results from FY06 will be made available upon request. Study plan for FY07 is available upon request.