

## Work Task G3: Adaptive Management Research Projects

FY12 Estimates	FY12 Actual Obligations	Cumulative Expenditures Through FY12	FY13 Approved Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate
\$200,000	\$282,786.62	\$1,904,781.92	\$300,000	\$300,000	\$300,000	\$300,000

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**Start Date:** FY06

**Expected Duration:** FY55

**Long-term Goal:** Effective conservation of native species and their habitats.

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

**Location:** System-wide.

**Purpose:** Develop tools to effectively evaluate conservation actions.

**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:** The Adaptive Management Program is an assurance that the conservation actions presented in the HCP are effectively accomplished. This work task develops and evaluates tools by which the conservation actions can be measured, and provides data to improve the efficacy of techniques to successfully create habitat.

This work task enables Reclamation to initiate priority research projects in a timely manner. For example, opportunistic research proposals (e.g. time-sensitive such as spawning or breeding season dependent) can be considered and initiated during the funding year and then be elevated to full research or monitoring status (Section C, D, or F) the following year. Also, experimental techniques can be evaluated through research to assess their utility, and if found to be useful, they would be incorporated into monitoring activities.

**Previous Activities:** All previous activities were moved to other work tasks after initial year of funding.

**FY12 Accomplishments:** Four Lake Mead subadult RASU were sonic tagged in FY12 for the purpose of identifying and describing the habitat type(s) frequently used by this

RASU life stage. Fish were tracked and located weekly during the spawning season (February – May) and monthly during the less intensive monitoring season (June – December). Sub-adult RASU generally showed seasonal preferences, occupying shallow habitat characterized by inundated vegetation during the early spring and late fall and moving into deeper habitat with higher turbidity during the summer. Water quality parameters and substrate composition were also recorded at five points within the immediate area each time a sonic tagged fish was located so that the habitat being used could be better defined. No other sub-adult RASU were contacted during associated sampling efforts. This work will continue under D8.

Vegetation typing of new aerial photos has been cost-shared with other Reclamation offices to reduce costs. This product will provide Reclamation with additional tools for determining vegetation structure changes over time. Vegetation mapping of the MSCP project area began in FY12. The purpose of the project was to update the 2004 vegetation classification maps in order to identify survey areas for several MSCP covered bird species and to identify potential areas for the habitat maintenance fund. The Anderson and Ohmart Classification system was modified slightly for this mapping effort. Additionally, the minimum mapping units were modified to more closely fit with the original intention of the Anderson and Ohmart classification methodology. The minimum mapping units are, 1 acre for marsh habitat, 10 acres for cottonwood/willow and mesquite habitat, and 25 acres for all remaining habitat types. The project is expected to be completed in FY13 under F1.

It was identified in FY12 that high insect noise at the bat stations was interfering with the acoustic bat monitoring data. It was recommended that the bat acoustic equipment be raised above the canopy using taller poles. Since canopy height varies and increases after the sites are planted, having bat poles that can be adjusted on an as needed basis for appropriate data collection and maintenance was recommended. A test pole was designed, built and installed at CVCA in July 2012. The design of the pole worked to the specifications for minimizing insect noise, data acquisition and maintenance, so nineteen poles were ordered.

**FY13 Activities:** Research questions identified during fish augmentation, species research, system-wide monitoring, habitat creation, and post-development monitoring will be evaluated for development into adaptive management research projects under this work task. The bat poles will be installed at each of the conservation areas in FY13, and later as sites are developed.

**Proposed FY14 Activities:** Research questions identified during fish augmentation, species research, system-wide monitoring, habitat creation, and post-development monitoring will be evaluated for development into adaptive management research projects under this work task.

**Pertinent Reports:** *Razorback Sucker Studies on Lake Mead, Nevada and Arizona 2011–2012 Annual Report* is posted to the website.