

## Work Task D10: System Monitoring and Studies on Small Mammal Populations

FY07 Estimates	FY07 Actual	Cumulative Accomplishment Through FY07	FY08 Approved Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate	FY11 Proposed Estimate
\$65,000	\$27,484	\$46,828	\$0	\$0	\$0	\$0

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**Start Date:** FY06

**Expected Duration:** Closed FY07

**Long-term Goal:** System monitoring and research to determine distribution, habitat requirements, and genetics of covered small mammal species.

**Conservation Measures:** MRM2, DPMO1, CRCR2, and YHCR2.

**Location:** System-wide along the Lower Colorado River below Hoover Dam.

**Purpose:** Implement distribution, habitat, and genetics studies for system monitoring of LCR MSCP covered small mammal species. These studies are being conducted to determine geographic range limits of the Yuma hispid cotton rat and the Colorado River cotton rat, and to determine habitat characteristics utilized by these species. Data will be used in the adaptive management process to coordinate surveys of habitat creation sites and design habitat for covered mammal species.

**Connections with Other Work Tasks (past and future):** Data collected as part of Small Mammal Colonization (F3) will also be analyzed as part of the effort to determine species distribution of the two cotton rat species found along the LCR. Studies on genetics, distribution, and habitat requirements were moved to Work Task C27 in FY08.

**Project Description:** Studies will be designed to determine the habitat usage, population status, genetic differentiation, and distributional range of two covered small mammal species: the Colorado River cotton rat and the Yuma hispid cotton rat. Reclamation will trap in various habitat types along the LCR to collect genetic samples from these species. Samples will be sent to a genetics laboratory for DNA analysis to determine the species of each animal sampled. Genetic differentiation data for animals captured along the LCR may also be compared with data from animals of different subspecies located within Arizona, east of the LCR MSCP planning area, to obtain genetic markers. These data will be used to compare and contrast specific subspecies. In conjunction with this work, Reclamation will also initiate a 3-year study to determine the general distribution and habitat usage of these species along the LCR. The 3-year study will better define the habitat characteristics utilized by the two species of cotton rats, and will be used to design future habitat creation projects.

**Previous Activities:** Cotton rats have been captured at the Pratt Agricultural and at the Cibola Nature Trail site in previous years during presence/absence surveys.

**FY07 Accomplishments:** After completion of species accounts (C3), data gaps were identified for Colorado River cotton rat and Yuma hispid cotton rat. Initial work tasks focused on determining species genetic differentiation (C27). A study design was completed to determine species genetic differentiation in FY07. This study was initiated in FY07 utilizing funds from this work task. Presence/absence surveys were conducted at several sites to gather data on distribution and to refine protocols.

**FY08 Activities:** Moved to C27.

**Proposed FY09 Activities:** Moved to C27.

**Pertinent Reports:** The study plan is available upon request from the LCR MSCP.