

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

FY05 Estimate	FY05 Actual	Cumulative Accomplishment Through FY05	FY06 Approved Estimate	FY07 Proposed Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate
\$0	\$0	\$0	\$60,000	\$65,000	\$65,000	\$65,000

Contact: Theresa Olson, (702) 293-8127

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

Long-term Goal: System monitoring, distribution, habitat and genetics studies to help provide data to design habitat creation projects for small mammal covered species.

Conservation Measures: AMM1, AMM6, MRM2, DPMO1, CRCR1, CRCR2, YHCR1, 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.

Connections with other Work Tasks (past and future): System monitoring data will be used in conjunction with post-development monitoring (F3) to determine habitat needs and characteristics of covered small mammal species. Data will be used in future habitat creation project design under Section E.

Project Description: Studies are 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. These species have previously been captured at the Pratt and Cibola Nature Trail restoration sites. Samples will be sent to a genetics lab for chromosomal/DNA analysis to determine the species of each animal sampled. Genetic differentiation of animals captured along the LCR may also be compared with animals of different sub-species located within Arizona, east of the LCR MSCP planning area, to obtain genetic markers. This data will be used to compare and contrast specific subspecies.

In conjunction with the above, Reclamation will also initiate a three-year study to determine the general distribution and habitat usage of these species along the LCR. This study will better

define the habitat characteristics utilized by the two species of cotton rats, and used to design future habitat creation projects.

FY05 Accomplishments: This is a new start in FY06.

FY06 Activities: Coordinate with state and federal resource agencies and other interested parties to develop system-wide small mammal surveys to determine populations and habitats for the covered species. Once protocols have been developed, they will be field tested and refined.

Proposed FY07 Activities: Trap in various habitats along the LCR and in previously established restoration sites, such as the Cibola Nature Trail and Pratt Restoration sites, to collect genetic samples from. Compare the genetic differentiation of animals captured along the LCR with animals of different subspecies captured in eastern Arizona to determine if genetic differentiation occurs between species found outside the LCR MSCP planning area and covered species. Results may influence habitat creation priorities. Determine the distribution and habitat use of these two species along the LCR through a trapping and vegetation sampling protocol.

Pertinent Reports: *Summary of Preliminary Mammal Trapping Efforts at Cibola National Wildlife Refuge and at the Pratt Agricultural Restoration Site 2004-05* posted on the LCR MSCP website. A study plan will be available upon request.