

Work Task F3: Small Mammal Colonization of Conservation Areas

FY12 Estimate	FY12 Actual Obligations	Cumulative Expenditures Through FY12	FY13 Approved Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate
\$55,000	\$21,525.04	\$276,597.02	\$55,000	\$60,000	\$60,000	\$60,000

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Start Date: FY05

Expected Duration: FY55

Long-term Goal: Conduct pre- and post-development monitoring for small mammal species.

Conservation Measures: YHCR1, CRCR1, DPMO1, MRM2 (DPMO, CRCR, YHCR).

Location: Beal Lake, Havasu NWR; PVER, California; CVCA, Cibola Nature Trail, Laguna Division Conservation Area.

Purpose: Monitor small mammal populations within habitat creation sites. Data will be used in the adaptive management process to guide the design of future habitat creation projects targeting covered small mammal species.

Connections with Other Work Tasks (past and future): Post-development small mammal monitoring will be conducted at habitat creation sites listed in Section E. In addition, information obtained from this work task, in conjunction with C27 and D10, will be used to define habitat requirements for future habitat creation projects. Data from C27 and D10 will aid in design of population monitoring protocol.

Project Description: Presence/absence surveys will be conducted in restoration demonstration and habitat creation sites to determine small mammal occurrence. These efforts will be focused on detecting the presence of Yuma hispid cotton rats and Colorado River cotton rats at these sites. Once presence is established at a restoration site, population monitoring will be conducted with a protocol developed under C27 and data collected under D10.

Previous Activities: In previous years, small mammal surveys have been conducted at the Cibola NWR Unit #1 and at the Pratt Agricultural site. Several animals from the genus *Sigmodon* have been captured at each site. At the Pratt Agricultural site, Yuma hispid cotton rats were captured in dense *Baccharis* spp., and at the Cibola NWR Unit #1, Colorado River cotton rats were captured in dense Johnsongrass. No cotton rat species has been captured at Pratt Agricultural since 2005. Presence/absence live trapping surveys were conducted at several habitat creation sites during FY06, but only one

Colorado River cotton rat was captured at the Beal Lake Riparian Restoration site. In 2007, cotton rats were found at the Cibola NWR Unit #1, Imperial NWR, and at a reference site between Laguna Dam and Mittry Lake north of Yuma, Arizona. In 2008, one cotton rat was captured during pre-development monitoring in adjacent habitat at the Imperial National Wildlife Refuge site. A new cotton rat population was found very close to the Palo Verde Ecological Reserve during a different study. In 2009, 2010, and 2011 surveys detected cotton rats at the Cibola NWR Unit #1 and the bench population near PVER.

FY12 Accomplishments: Surveys were conducted at Beal, PVER, CVCA, Cibola NWR Unit #1, and Big Bend Conservation Area. Cotton rats were captured within all five areas. Cotton rats at Big Bend were the first captures in Nevada in over 50 years. They were found within a transition area between the marsh, grassland, and shrub habitats. Cotton rats were found at Beal within a small grassy patch within a mesquite and arrowweed dominated cell. Cotton rats were found in Phases 4 and 5 of PVER, phases 2, 3 and 4 of CVCA, and within the Nature Trail and Cottonwood genetics fields in Cibola NWR Unit #1.

FY13 Activities: Presence/absence live trapping surveys will continue as part of the post-development monitoring efforts at habitat creation sites. Yuma East Wetland and Hunter's Hole will be added to the monitoring schedule.

Proposed FY14 Activities: Post-development monitoring activities will continue for small mammals at habitat creation sites and adjacent areas. A long term monitoring plan will be finalized.

Pertinent Reports: Annual reports will be posted on the LCR MSCP website.