Work Task F3: Small Mammal Colonization of Conservation Areas

FY10 Estimates	FY10 Actual	Cumulative Accomplishment Through FY10	FY11 Approved Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate
$55,000	$48,782.43	$205,473.04	$60,000	$55,000	$55,000	$55,000

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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, Hart Mine Marsh.

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 aide 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 surveys only detected cotton rats at the Cibola NWR Unit #1 and the bench population near PVER.

FY10 Accomplishments: Cotton rats have been detected at 6 areas along the LCR that are either restoration sites or very near restoration efforts. Cibola NWR Unit #1 and Palo Verde Ecological Reserve site have relatively large populations of CRCR and a smaller population has been identified near Beal Lake. YHCR were documented near Pratt, Mittry Lake, and Imperial Ponds INWR.

FY11 Activities: Presence/absence live trapping surveys will continue as part of the post-development monitoring efforts at LCR MSCP habitat creation sites. At the Cibola Unit #1 and Palo Verde Ecological Restoration site we will conduct trapping in arrays designed to quantify habitat characteristics and demographic parameters of the local population (C27). A step-wise monitoring plan designed to document presence and monitor population demographics is being developed in conjunction with D10 and C27.

Proposed FY12 Activities: Post-development monitoring activities will continue for small mammals at habitat creation sites and adjacent areas.

Pertinent Reports: A summary of mammal trapping results at LCR MSCP restoration sites 2010 will be posted on the LCR MSCP website. The population monitoring protocol is available upon request.