

## Work Task F4: Covered Bat Species Monitoring at Conservation Areas

FY16 Estimate	FY16 Actual Obligations	Cumulative Expenditures Through FY16	FY17 Approved Estimate	FY18 Proposed Estimate	FY19 Proposed Estimate	FY20 Proposed Estimate
\$150,000	\$36,810.41	\$1,090,611.17	\$150,000	\$80,000	\$80,000	\$80,000

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**Start Date:** FY07

**Expected Duration:** FY55

**Long-Term Goal:** Pre- and post-development monitoring of covered bat species

**Conservation Measures:** MRM1, MRM2 (CLNB, PTBB, WRBA, and WYBA), WRBA1, and WYBA1

**Location:** Reaches 3–5; Beal Lake Conservation Area (BLCA), Havasu National Wildlife Refuge; Palo Verde Ecological Reserve (PVER), California; Cibola Valley Conservation Area (CVCA), the Cibola National Wildlife Refuge Unit #1 Conservation Area (Cibola NWR Unit #1), Cibola, Arizona; and the Imperial Ponds Conservation Area, Imperial National Wildlife Refuge, Arizona. Additional conservation areas will be surveyed to document presence as needed.

**Purpose:** The purpose of this work task is to assess the use of conservation areas by the two LCR MSCP covered bat species (western red bat [*Lasiurus blossevilli*] and western yellow bat [*Lasiurus xanthinus*]) and the two evaluation species (pale Townsend’s big-eared bat [*Corynorhinus townsendii pallescens* = *Plecotus townsendii pallescens* = *C. townsendii townsendii*]) and California leaf-nosed bat [*Macrotus californicus*]).

**Connections with Other Work Tasks (Past and Future):** Pre- and post-development avian monitoring will be conducted at habitat conservation areas listed in “Conservation Area Development and Management (Section E).” Information obtained through this work task, in conjunction with Work Task D9, will help determine the distribution of these species.

**Project Description:** Post-development monitoring for the two covered bat species (western red bat and western yellow bat) and the two evaluation species (pale Townsend’s big-eared bat and California leaf-nosed bat) at conservation areas includes both acoustic and mist netting capture methods. Acoustic monitoring will be conducted at conservation areas, including the CVCA, the

PVER, Cibola NWR Unit #1, the BLCA, and the Imperial Ponds Conservation Area. These surveys utilize either active or passive acoustic detection systems to record bat echolocation calls for presence. Bats will also be captured with mist nets at these sites to acquire reference acoustic calls and to determine the age, sex, and reproductive status of the covered and evaluation bat species.

**Previous Activities:** Conservation areas were monitored from FY07 to FY15 using acoustic and/or capture techniques.

**FY16 Accomplishments:** Acoustic monitoring consisted of using long-term bat detector stations to record echolocation calls of bats every night from June – August. The stations used to collect data were at the BLCA, the PVER, the CVCA, Cibola NWR Unit #1, Yuma East Wetlands, and Hunters Hole. At the PVER and CVCA, two stations were used to cover these large conservation areas. Data will be analyzed in FY17.

Capture surveys were conducted at five LCR MSCP conservation areas (BLCA, PVER, CVCA, and Cibola NWR Unit #1) once a month from June – August, one night in June and July at Planet Ranch, and one night in February at Yuma East Wetlands. One pale Townsend big-eared bat and seven California leaf-nosed bats were captured at the BLCA. One western red bat, two western yellow bats, and three California leaf-nosed bats were captured at the PVER. Six western red bats, two western yellow bats, and two California leaf-nosed bats were captured at the CVCA. Three California leaf-nosed bats were captured at Cibola NWR Unit #1. Three pale Townsend big-eared bats and 33 California leaf-nosed bats were captured at Planet Ranch. Two California leaf-nosed bats were captured at Yuma East Wetlands.

Obligations in FY16 were less than approved in the work plan, as post-development capture surveys were reduced to Reaches 3–5 where habitat for western red bats and western yellow bats are creditable, acoustic analyses costs for FY16 were less than anticipated, and less effort was required for capturing bats at conservation areas for the telemetry study (Work Task D9).

**FY17 Activities:** Bat presence will continue to be monitored by using eight acoustic monitoring stations. The stations will continue to operate, and data will be analyzed, presence documented, and activity level rates calculated. Capture surveys will continue at the BLCA, the PVER, the CVCA, and Cibola NWR Unit #1.

**Proposed 18 Activities:** Bat presence at the conservation areas will continue to be monitored. Data will be analyzed, presence documented, and activity level rates calculated.

**Pertinent Reports:** Annual reports will be posted on the LCR MSCP Web site upon completion.