

Work Task F4: Covered Bat Species Monitoring of Conservation Areas

FY12 Estimate	FY12 Actual Obligations	Cumulative Expenditures Through FY12	FY13 Approved Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate
\$100,000	\$109,437.27	\$597,883.24	\$125,000	\$135,000	\$135,000	\$135,000

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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 (WRBA, WYBA, CLNB, PTBB), WRBA1, WYBA1.

Location: Beal Lake, Havasu NWR; PVER, California; CVCA, Cibola NWR Unit 1, Cibola, Arizona; Imperial Ponds, Imperial NWR, Arizona; Laguna Conservation Area, Arizona, Yuma East Wetlands, and Hunters Hole.

Purpose: The principal goal of this monitoring is to assess seasonal use of the restoration sites by the two covered bat species (western red bat and western yellow bat), and the two evaluation species (Townsend's big-eared bat and California leaf-nosed bat). Monitor bat use of habitat creation sites to provide data for the adaptive management process and develop management guidelines for created habitat sites. Pre- and post-development monitoring for the presence/absence of covered bat species will be conducted following a study design developed in 2008. Information obtained through this work task, in conjunction with D9, will help determine the distribution of these species.

Connections with Other Work Tasks (past and future): Post-development bat monitoring will be conducted at habitat creation sites listed in Section E. In addition, information obtained from this work task may be used to provide data to D9.

Project Description: Post-development monitoring includes both acoustic and capture methods. Acoustic monitoring will be conducted at habitat creation and demonstration sites, including CVCA, PVER, Cibola NWR Unit #1, Beal Lake, and Imperial Ponds. These surveys will utilize either active or passive Anabat systems to record bat echolocation calls for presence/absence surveys. A capture program will also be used in the above-mentioned sites to acquire reference acoustic calls and determine age, sex, and reproductive status of covered bat species. These surveys will provide data on foraging habitat and use by covered species. Bat surveys will be conducted before and after habitat

creation utilizing Anabat, Sonobat, infrared cameras, stationary detection equipment, and mist netting, where appropriate.

Previous Activities: Sites were monitored from FY07 to FY10 using acoustic and/or capture techniques.

FY12 Accomplishments: Acoustic monitoring consisted of long term bat detector stations that record the echolocation calls of bats every night. Stations collected data at Beal, 'Ahakhav, PVER, CVCA, and Cibola NWR Unit #1. All four species were detected at all five sites, with high occupancy for red and yellow bats at CVCA and PVER. Interference due to high insect noise occurred at most sites during the summer season. A new higher pole was installed and tested at CVCA to attempt to put the detector microphone high enough to avoid most insect noise. The new pole consists of a 40-foot tall pole that tilts down to the ground using a hand winch. The microphone was first tested at 25 feet above the ground and successfully decreased insect noise. The 'Ahakhav and Cibola NWR stations were raised temporarily using an extendable painters pole until new tilt over poles could be installed.

Capture surveys were conducted at four LCR MSCP habitat creation areas (Beal, PVER, CVCA, and Cibola NWR), and at the 'Ahakhav Tribal Preserve and the Yuma East Wetlands, 'Ahakhav because of the long term data site at this older restoration site, and Yuma East to get baseline surveys for this potential MSCP site. A total of 795 bats of 14 species were captured across the six sites. Western red bats, western yellow bats, and California leaf-nosed bats were captured at 'Ahakhav, PVER, and Cibola NWR. This was the first time a red bat had been captured at Cibola NWR. Red and yellow bats were captured at CVCA. Red and yellow bats were captured at Yuma East Wetlands. A California leaf-nosed bat and a hoary bat were captured at Beal for the first time. Some of the red and yellow bats captured under this work task were radio-tracked for the roosting characteristics study under C35.

FY13 Activities: The current five stations will continue and additional stations will be added at Hunter's Hole, PVER (a second station), and possibly Yuma East Wetlands, if it becomes a part of the program. Data will be analyzed and occupancy rates will be created. Capture surveys will continue at all sites surveyed in FY12. The second PVER station will be compared to the first station to determine if a second station is necessary at larger HCA's for accurate occupancy rates.

Proposed FY14 Activities: All long term stations will continue to run and one new station will be added at the Laguna Division Conservation Area, and a new station may be added at Imperial NWR if the new habitat is planted. Capture surveys will continue and red and yellow bats may be PIT tagged to determine site fidelity. Data will continue to be analyzed and be used to guide adaptive management for covered bat species.

Pertinent Reports: FY12 Annual reports for acoustic and capture surveys will be posted on the LCR MSCP website.