

## Work Task C35: Western Red Bat and Western Yellow Bat Roosting Characteristics Study

FY14 Estimate	FY14 Actual Obligations	Cumulative Expenditures Through FY14	FY15 Approved Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate
\$25,000	\$28,887.66	\$523,627.57	\$0	\$0	\$0	\$0

**Contact:** Allen Calvert, (702) 293-8311, [acalvert@usbr.gov](mailto:acalvert@usbr.gov)

**Start Date:** FY10

**Expected Duration:** FY14

**Long-Term Goal:** To determine roosting characteristics for western red bats and western yellow bats

**Conservation Measures:** MRM1 (WRBA and WYBA)

**Location:** Within the LCR MSCP project boundary, Bill Williams River NWR, and other riparian areas where western red bats or western yellow bats are known to occur

**Purpose:** To better define roosting characteristics for the two species using radio telemetry

**Connections with Other Work Tasks (Past and Future):** Under Work Tasks D9 and F4, the distribution of each species and the areas in which to capture the target species are determined.

**Project Description:** Radio transmitters will be attached to both western red bats and western yellow bats. These bats will then be tracked to their roosting sites (in trees) during the day to pinpoint their roosting locations. Vegetation measurements will be collected at both known roost sites as well as random non-use sites to determine whether these bat species have specific roosting characteristics. These data may be used to inform habitat creation projects for these species.

**Previous Activities:** In FY10, preliminary mist netting was conducted to determine likely areas where western red bats and western yellow bats could be captured both on the LCR and elsewhere. The study began in FY11 by capturing the red and yellow bats at multiple sites across the LCR as well as other riparian areas of Arizona where these bats could be captured. Equipment was purchased for the project. Surveys continued in FY12 and FY13.

Over the course of the 3 years, 18 different sites were surveyed. Western red bats were captured at 10 sites, and western yellow bats were captured at 8 sites. Of the 55 red bats captured, 30 had radio transmitters attached, and roosts were located for 23 of them. Of the 54 yellow bats captured, 32 had transmitters attached, and roosts were located for 22 of them.

The majority of western red bat roosts were found in Fremont cottonwoods, and almost all western yellow bat roosts were in Mexican fan palms. The red bats tended to roost in trees with a larger diameter than nearby non-roost trees, especially in control sites (native dominated natural sites). The red bats captured at treatment sites (native dominated restoration sites) preferred areas where trees were spaced further apart (i.e., nursery areas). The red bats were found to roost more often where trees had a diameter at breast height of at least 28 centimeters and tree spacing was near 20 feet. All of the red bats captured at treatment sites were found to be roosting within the restoration area, often within 500 m of where they were captured. The yellow bat roosts were most correlated to tall fan palms with dead frond skirts. It does not appear that the yellow bats roost in cottonwood-willow dominated habitat, but they do rely on it for foraging habitat.

**FY14 Accomplishments:** The draft report was submitted for additional recommendations and revisions. The final report will be submitted in FY15, with no additional LCR MSCP expenditures anticipated.

**FY15 Activities:** This work task was closed in FY14.

**Proposed FY16 Activities:** This work task was closed in FY14.

**Pertinent Reports:** The FY11 and FY12 reports are available on the LCR MSCP Web site. The FY13 final report will also be posted on the Web site once finalized.