

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

FY13 Estimate	FY13 Actual Obligations	Cumulative Expenditures Through FY13	FY14 Approved Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate
\$150,000	\$25,598.83	\$463,724.48	\$25,000	\$0	\$0	\$0

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Start Date: FY10

Expected Duration: FY14

Long-term Goal: To determine roosting characteristics for the western red bat and western yellow bat.

Conservation Measures: MRM1 (WRBA, WYBA).

Location: Within the LCR MSCP project boundary, Bill Williams River NWR, and other riparian areas where western red bats and/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): Work tasks D9 and F4 determine the distribution of each species and determine areas in which to capture the target species.

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 will be used to design habitat creation projects for these species.

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

FY13 Accomplishments: Surveys were completed. Over the course of the three years, 18 different sites were surveyed. Red bats were captured at 10 sites and yellow bats were

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

FY13 obligations were less than approved because funds were obligated in advance in FY12.

FY14 Activities: The final report will be submitted and reviewed. Information on red and yellow bat roosting requirements and management recommendations for habitat creation areas will be included in the report and the work task will be closed.

Proposed FY15 Activities: Closed in FY14.

Pertinent Reports: The FY11 and FY12 reports are available on the MSCP website. The FY13 final report will be posted to the website once finalized.