

## Work Task D9: System Monitoring and Research of Covered Bat Species

FY05 Estimate	FY05 Actual	Cumulative Accomplishment Through FY05	FY06 Approved Estimate	FY07 Proposed Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate
\$0	\$0	\$55,000	\$110,000	\$100,000	\$100,000	\$100,000

**Contact:** Theresa Olson, (702) 293-8127

**Start Date:** FY04                      **Expected Duration:** FY55

**Long-term Goal:** System monitoring and species research will be conducted for the western red bat and the western yellow bat to determine distribution and to evaluate habitat implementation success.

**Conservation Measures:** AMM1, AMM6, MRM1, WRBA1, WYBA1, CLNB1, PTBB1, WRBA2, and WYBA3

**Location:** System-wide along the lower Colorado River below Hoover Dam.

**Purpose:** Conduct system monitoring and research for the distribution of covered bat species utilizing roost surveys, acoustic survey techniques, and capture techniques following a protocol developed in FY06.

**Connections with other Work Tasks (past and future):** This Work Task was previously included in the FY04 Work Tasks as Bat Surveys and Monitoring Protocol (B1). System monitoring data will be used in conjunction with post-development monitoring (F4) to determine habitat needs and characteristics of covered bat species. Data collected will be used in future habitat creation projects listed in Section E.

**Project Description:** Indigenous bat species were surveyed annually along the LCR from 2001-2006 by Brown and Berry. A survey protocol was developed to conduct system-wide distribution and demography monitoring of covered bat species. Several survey techniques will be utilized to detect covered species or provide equivalent data using indicator species. Acoustic surveys, conducted with Anabat or Sonabat technology, will be used to identify foraging behavior in native riparian stands for covered bat species. Roost surveys will be conducted to track bat populations and to survey species that are not readily detected by acoustic technology, such as Townsend's big-eared bat and California leaf-nosed bat. Individual bats will be captured, using techniques such as mist netting, to obtain reference calls for bat identification.

**FY05 Accomplishments:** This work task was continued in FY06.

**FY06 Activities:** Coordinate with state and federal resource agencies and other interested parties to refine bat protocols and to determine best approach for system-wide monitoring of bat

populations along the LCR. Prepare and implement the protocol developed and monitor effectiveness of protocol. Initiate system monitoring for covered bat species.

**Proposed FY07 Activities:** Conduct acoustic surveys for covered bat species at Havasu NWR, Bill Williams River NWR, Cibola NWR, and Imperial NWR. Conduct mist netting surveys at cottonwood restoration sites on Imperial NWR, or a similar habitat creation site, to attempt capture of LCR MSCP covered species or riparian indicator species. Monitor bat populations at maternity sites, at least twice in FY07, to determine abundance and distribution of covered bat species. Maternity sites include the Homestake, Jackpot, Islander, Californian, Mountaineer, Stonehouse, Eureka, and 3C mines; and the Palo Verde Bridge. Collect and analyze guano from the mine roosts for analysis of pesticide residues and insect prey species.

**Pertinent Reports:** *Draft Lower Colorado River Bat Monitoring Protocol* will be posted to the LCR MSCP website.