

## Work Task D6: System Monitoring for Riparian Obligate Avian Species

FY09 Estimates	FY09 Actual	Cumulative Accomplishment Through FY09	FY10 Approved Estimate	FY11 Proposed Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate
\$135,000	\$300,988.48	\$761,772.55	\$210,000	\$210,000	\$210,000	\$210,000

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**Start Date:** FY06

**Expected Duration:** FY55

**Long-term Goal:** System monitoring for avian covered species

**Conservation Measures:** MRM1, MRM2 (ELOW, GIFL, GIWO, VEFL, BEVI, YWAR, SUTA)

**Location:** System-wide

**Purpose:** Monitor riparian obligate avian species covered under the LCR MSCP to document long-term population trend and habitat use.

**Connections with Other Work Tasks (past and future):** Information obtained through this work task will be used in conjunction with data from D5 to conduct system monitoring for avian covered species. Data collected during post-development monitoring of habitat conservation areas (F2) may also be used in this work task. Information obtained through this work task will also be used in association with C24 to help define habitat requirements for riparian obligate bird species.

**Project Description:** The LCR MSCP includes conservation measures for 26 covered species and 5 evaluation species, including 9 neo-tropical migratory bird species. It is inefficient to monitor every covered species individually throughout the entire LCR MSCP planning area. Many bird populations can be monitored effectively using multi-species survey protocols.

Avian system monitoring protocols have been developed that can incorporate data into a coordinated bird monitoring network. Data from the LCR can be incorporated into a larger, regional database, which makes the data more powerful during analysis. Population trends can be derived over time, thus enabling Reclamation to monitor existing avian populations. The avian multi-species protocol described below is designed to monitor six LCR MSCP covered species as well as non-covered neo-tropical migratory

bird species. The six LCR MSCP covered species are gilded flicker, Gila woodpecker, summer tanager, vermilion flycatcher, Sonoran yellow warbler, and Arizona Bell's vireo.

Single-species surveys for the elf owl are necessary due to the nocturnal nature of this species and its rarity along the LCR. Single-species tape playback surveys of the elf owl will be conducted in suitable habitat in the LCR MSCP planning area. Suitable habitat includes known historical locations, locations of incidental sightings, and all HMIII, CWI, and CWII habitat.

**Previous Activities:** In 2005-06, existing vegetation, characterized using the Anderson and Ohmart classification system, was stratified and random point-count transects were established and conducted. After reviewing data collected during the 2005-06 breeding seasons, the monitoring plan shifted to a double sampling technique in 2007. System-wide avian monitoring was conducted during the 2007 and 2008 breeding seasons utilizing a double sampling rapid/intensive area search protocol. This protocol was utilized to provide density estimates of the six focal species and other common species in the LCR MSCP planning area. In 2008, system monitoring, post-development monitoring, and habitat suitability modeling were combined into one agreement to more efficiently manage avian monitoring programs.

Twenty-one survey sites and 45 single call stations in suitable habitat in the LCR MSCP planning area were selected to be surveyed for elf owls in 2008. Suitable habitat was defined as historical locations, incidental sightings, and HMIII, CWI, and CWII habitat. Surveys were conducted from 27 March to 1 May 2008, and used a tape-playback presence-absence survey protocol. No elf owls were detected during surveys.

#### **FY09 Accomplishments:**

In 2009, 80 plots were randomly selected, using the same sample design and strata as in 2007 and 2008. Each rapid area search plot was surveyed twice in 2009; one plot was surveyed between mid-April and mid-May and the other plot was surveyed between mid-May and Mid-June. A random subsample of eight plots was surveyed intensively to determine actual numbers of breeding birds present in each plot. Each intensive area search plot was surveyed eight times between 13 April and 16 June 2009. Data from intensive surveys and rapid surveys were combined to provide detection ratios and density estimates for the six focal species and other common species in the LCR MSCP planning area for a three-year period (2007-2009).

During system-wide rapid area searches in 2009, 21,789 adults of 149 species were recorded. Of these, 83 species were presumed breeders and 66 were migrants or presumed non-breeders. During system-wide intensive area searches, 527 breeding territories of 43 species were recorded. The most common of the focal species in 2009 was the Bell's vireo, the rarest was the vermilion flycatcher, and the gilded flicker was absent during all surveys. The population estimates for the focal species in the LCR MSCP planning area from 2007 to 2009 were: 1) Arizona Bell's vireo (4,027), 2) Sonoran yellow warbler (3,610), 3) Gila woodpecker (2,774), 4) summer tanager (720),

and 5) vermilion flycatcher (197). The gilded flicker was absent from the LCR MSCP planning area in all three years. The 10 most abundant species in the LCR MSCP planning area in 2007-2009 were: 1) Abert's towhee, 2) brown-headed cowbird, 3) black-tailed gnatcatcher, 4) common yellowthroat, 5) Gambel's quail, 6) marsh wren, 7) mourning dove, 8) verdin, 9) white-winged dove, and 10) yellow-breasted chat.

The Great Basin Bird Observatory submitted a final report to Reclamation that includes detailed results for activities under C24, D6, and F2. A software program to automate the calculation of the detection ratios was developed by the USGS.

Elf owl surveys in 2009 utilized the same protocol as in 2008, and were conducted at the same 21 sites and 45 single call stations as in 2008, plus an additional three sites that were not surveyed in 2008. One elf owl was detected near Blankenship Bend. An annual report was written. An elf owl detectability study was initiated and will continue in FY10 under work C36. This study will evaluate the current protocol to make it more efficient and effective.

**FY10 Activities:** Area searches will be conducted during the breeding season of 2010 following the double sampling intensive/rapid area search protocol used in previous years. A new set of 80 rapid area search plots will be randomly chosen from the new plots layer using a stratified random sampling design. Two rapid surveys will be conducted per plot during the breeding season. Eight of these plots will be surveyed intensively with each plot being surveyed eight times during the breeding season.

The Great Basin Bird Observatory will submit a final four-year report (FY07, FY08, FY09, and FY10) to Reclamation for the avian systemwide study (D6), habitat creation monitoring (F2), and avian habitat monitoring (C24).

Elf owl surveys using the same protocol as in FY09 will be conducted on two sites of potential habitat that were skipped in FY08. A final three-year project report for elf owl monitoring will be written.

**Proposed FY11 Activities:** Area search surveys for riparian obligate species including the six focal species will continue in 2011. Area searches will be conducted during the breeding season of 2011 following the double sampling intensive/rapid area search protocol used in previous years.

**Pertinent Reports:** *Annual Report on the Lower Colorado River Riparian Bird Surveys, 2009* and *System-wide Surveys of the Elf Owl (*Micrathene whitneyi*) Along the Lower Colorado River, 2009* are posted on the LCR MSCP Web site. The study plan is available upon request.