

## Work Task F2: Avian Use of Conservation Areas

FY11 Estimate	FY11 Actual Obligations	Cumulative Expenditures Through FY11	FY12 Approved Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate
\$170,000	\$185,177.77	\$782,538.87	\$210,000	\$220,000	\$220,000	\$220,000

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**Start Date:** FY05

**Expected Duration:** FY55

**Long-term Goal:** Conduct pre- and post-development monitoring for avian species.

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

**Location:** Beal Lake Havasu NWR, Arizona; PVER, California; CVCA, Arizona; Cibola Unit #1, Cibola NWR, Cibola, Arizona; Laguna Division Conservation Area, Arizona

**Purpose:** Monitor avifauna use of habitat conservation areas to provide data for the adaptive management process and develop management guidelines for created habitat conservation areas. To collect pre-development data on areas that will be converted to more favorable habitat to compare number of LCR MSCP covered bird species and non covered bird species between existing low quality habitat to created high quality habitat.

**Connections with Other Work Tasks (past and future):** Post-development and pre-development avian monitoring will be conducted at habitat conservation areas listed in section E. In addition, information obtained from this work task may be used to provide data to avian system monitoring by using the same protocols established in the system monitoring program (D6).

**Project Description:** Creation of riparian habitat will benefit nine LCR MSCP covered avian neo-tropical migratory species. Conservation areas will be monitored for bird activity, using the same sampling plan and field protocol as in system wide surveys; the double sampling area search method using intensive and rapid area search surveys. Data gathered will be used to guide the design of future riparian habitat conservation areas to provide covered species habitat.

**Previous Activities:** Pre- and post-development monitoring for avian covered species has been conducted at habitat conservation areas since 2005. Post-development monitoring for avian covered species has occurred at Cibola Unit #1, PVER, Beal Lake, and CVCA. Avian pre-development monitoring has been conducted at CVCA, Hart Mine Marsh, Cibola Unit #1, Imperial Ponds and PVER. Avian use has been summarized and evaluated for each conservation area and compared between conservation areas.

**FY11 Accomplishments:** Avian post-development monitoring was conducted at existing habitat conservation areas in 2011. The following habitat conservation and demonstration areas were surveyed: 1) Beal Lake, 2) Cibola NWR Unit #1, 3) CVCA, and 4) PVER. A double sampling technique utilizing rapid and intensive area searches was used in 2011 and will be used in subsequent years using the same protocol developed as part of the avian system-wide monitoring under D6. The change was made because as the total acreage of habitat conservation areas under the LCR MSCP increase annually, and surveying all habitat using intensive area searches will no longer be feasible.

Post-development monitoring on habitat conservation areas and habitat modeling (C24) continued in 2011. Avian post-development monitoring was conducted using the same sampling plan and field protocol as in system wide surveys. Each conservation area or phase surveyed was divided into area search plots approximately 9 to 15 ha in size. The plots were stratified by conservation area and habitat type (tall woody and low woody). Sixty area search plots were created which encompassed all existing habitat at all habitat conservation areas. Rapid area search surveys were conducted on all 60 plots and intensive area search surveys were conducted on a random subsample of four of the plots.

There were 130 pairs of breeding birds comprising 25 species detected at Beal Lake. This included nine pairs of Sonoran yellow warblers, 13 pairs of Arizona Bell's vireos, and two summer tanager pairs. There were 152 pairs of breeding birds comprising 25 species detected at Cibola Unit#1. This included seven pairs of Sonoran yellow warblers and two Arizona Bell's vireo pairs. There were 229 pairs of breeding birds comprising 30 species detected at CVCA. This included 10 pairs of Sonoran yellow warblers and 3 pairs of summer tanagers. There were 117 pairs of breeding birds comprising 24 species detected at PVER. This included eight pairs of Sonoran yellow warblers.

Pre-development surveys were conducted within the Laguna Division Conservation Area (LDCA). Thirty five area search plots were randomly selected from the 57 available area search plots. Rapid area search surveys were conducted on all 35 plots and intensive area search surveys were conducted on a random subsample of four of the plots. There were 577 pairs of breeding birds comprising 45 species detected at the LDCA. The only LCR MSCP species detected breeding was one Arizona Bell's vireo pair partially within the boundaries of LDCA. The species richness and bird abundance was relatively high within the conservation area. The most productive areas for birds included the marsh on the eastern edge of the site, as well as several small wet areas with legacy Fremont cottonwood and Goodding's willow trees and snags in the center of the site.

**FY12 Activities:** Avian post-development monitoring will be conducted at conservation and demonstration areas, including Beal Lake, Cibola Unit #1, CVCA, and PVER. Surveys will be conducted using the same sampling plan and field protocol used in previous years. A data management plan and quality assurance plan will be written for the post-development bird survey data.

**Proposed FY13 Activities:** Avian post-development monitoring will be conducted conservation and demonstration areas, including Beal Lake, Cibola Unit #1, CVCA, PVER, Laguna Division Conservation Area, and additional pre-development areas where needed. Surveys will be conducted using the same sampling plan and field protocol used in previous years.

**Pertinent Reports:** The following reports are posted on the LCR MSCP website: *Summary Report on the Lower Colorado River Riparian Bird Surveys, 2008-2010*; *Report on the Lower Colorado River Riparian Bird Surveys 2011*; and *A Sampling Plan for Riparian Birds of the Lower Colorado River—Final Report*.