

Work Task D5: Monitoring Avian Productivity and Survivorship

FY09 Estimates	FY09 Actual	Cumulative Accomplishment Through FY09	FY10 Approved Estimate	FY11 Proposed Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate
\$300,000	\$282,279.28	\$1,314,917.66	\$250,000	\$275,000	\$300,000	\$300,000

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Start Date: FY05

Expected Duration: FY55

Long-term Goal: System monitoring for avian covered species by conducting intensive monitoring of habitat creation sites and sites that typify current conditions along the LCR.

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

Location: Cibola NWR and Havasu NWR

Purpose: To collect intensive, site-specific data on avian species demographics, physical condition, species composition and diversity, and site persistence at existing and created habitat sites.

Connections with Other Work Tasks (past and future): Data from this work task are used in conjunction with data collected from the system-wide bird monitoring program (D6) to monitor overall bird use of the LCR. Data collected at MAPS (Monitoring Avian Productivity and Survivorship) stations located at habitat creation sites may also be used for post-development monitoring.

Project Description: This project intensively monitors habitat creation sites and sites that represent habitat typically found along the LCR for avian use. Banding collects more detailed information about avian species use patterns and demographics. This site-specific data can be used to characterize habitats and, along with less intensive, widespread monitoring methods, are used to monitor habitat use, population trends, and demographics of avian species along the LCR.

The MAPS program monitors avian populations, using a standardized protocol, throughout the United States, Canada, and Mexico. Long-term population trend data are collected by conducting intensive banding throughout the breeding season. Data collected are analyzed by the Institute for Bird Populations, and long-term population trends are determined on a regional and continental level. Population trends can be more readily

determined by using a national database, as larger databases have increased statistical power that cannot be economically duplicated at a site-specific level.

In 2002, prior to LCR MSCP implementation, Reclamation established a MAPS station (CIBO) at the Cibola Nature Trail Demonstration site on Cibola NWR. In 2005, an additional MAPS station (HAVA) was established on Havasu NWR, near South Dike, in mixed cottonwood-saltcedar habitats. These sites provide data from different reaches of the LCR and from different habitat types to allow comparisons between habitat creation sites and other areas more typically found along the LCR. The Institute for Bird Populations recommends conducting MAPS stations a minimum of five years to acquire site-specific data. After five years, each site will be evaluated and a decision will be made to continue, discontinue, or move the MAPS station to a new location.

Data on fall migration and winter use are also being recorded using an adapted MAPS protocol similar to protocols from migration banding projects throughout the western United States and the MoSI (Monitoreo de Sobrevivencia Invernal) protocol used in Mesoamerica. Data from these surveys will help define habitat use by birds during the non-breeding season.

Previous Activities: Winter banding was conducted from 2002 through 2005 at the Pratt restoration site, at the Cibola Nature Trail site since 2002, and at the Havasu NWR site (HAVA) from 2005 to 2009. Summer MAPS banding has been conducted at the Cibola NWR site since 2002 and at Havasu NWR (HAVA) from 2005 to 2008. In addition, a MAPS station (HERO) was run for five years on Colorado River Indian Tribe lands, near Headgate Rock Dam (2000-2004), in mixed native and nonnative habitat. Color banding target species such as Bell's vireo, yellow warbler, and summer tanager was initiated at the banding sites in August 2008 to monitor site persistence during the breeding and winter banding seasons. Two Bell's vireos were color banded at the Cibola NWR site.

FY09 Accomplishments: During the winter, banding was conducted at Cibola NWR and at Havasu NWR, for two days a month, from October to February. Banding was conducted for six hours a day, and twelve, 12-meter nets were operated at each site. During the winter banding period, 301 individuals were captured at the Cibola site and 72 individuals were captured at the Havasu site. One Bell's vireo was color banded at the Cibola NWR site in November.

In late September 2008, a fire occurred at the Havasu NWR site (HAVA) and burned a significant portion of the area. This site (HAVA) was still used for winter banding but was abandoned as a MAPS site. A new location (BERS) was selected at the Beal Lake riparian restoration site on Havasu NWR.

During the summer, banding was conducted at both sites using the MAPS protocol. Banding was conducted for five hours a day, beginning one-half hour before sunrise. Banding was conducted once every 10-day period, at each site, for a total of 10 days of banding. During the breeding season, there were a total of 181 captures at the Cibola site and 276 total captures at the Beal site. Four LCR MSCP listed species were captured,

including willow flycatcher (three captures of undetermined subspecies at Cibola and one southwestern subspecies and two undetermined subspecies captures at the Beal site), yellow warbler (six captures at Cibola, and 13 captures at the Beal site), summer tanager (five captures at the Havasu site), and Bell's vireo (12 captures at the Beal site). All of the yellow warblers, summer tanagers, and Bell's vireos were color banded except for one yellow warbler at the Cibola NWR site. Resightings of yellow warbler, Bell's vireo, and summer tanager were made at the Beal site after the MAPS season.

FY10 Activities: Winter banding will be continued in 2010 at the Cibola Nature Trail and Beal sites. The MAPS banding stations will be continued at both sites during the 2010 breeding season. Color banding of LCR MSCP covered species will continue to be implemented to increase the effective recapture rate. A visual identification of a color-banded bird qualifies as a recapture for statistical purposes. Other restoration sites such as CVCA and PVER will be reviewed as potential banding stations.

Proposed FY11 Activities: Intensive winter and breeding season monitoring will continue in 2011. Information obtained will be used for the system monitoring program and to inform habitat creation projects listed in Section E. The current station at Cibola Nature Trail may be moved to one of the conservation areas such as CVCA or PVER based on the review conducted in FY10.

Pertinent Reports: *Operation of Two Monitoring Avian Productivity and Survivorship (MAPS) and Winter Banding Stations Along the LCR, 2009* will be posted to the LCR MSCP Web site.