

Work Task D5: Monitoring Avian Productivity and Survivorship

FY14 Estimates	FY14 Actual Obligations	Cumulative Expenditures Through FY14	FY15 Approved Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate
\$250,000	\$290,972.22	\$2,550,936.08	\$250,000	\$250,000	\$250,000	\$250,000

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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 and MRM2 (WIFL, YBCU, ELOW, GIFL, GIWO, VEFL, BEVI, YWAR, and SUTA)

Location: Cibola NWR Unit #1, CVCA, and BLCA

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 banding stations located at habitat creation sites may also be used for post-development monitoring.

Project Description: Under this work task, conservation areas and existing habitat sites along the LCR that represent typical avian riparian habitat will be monitored. Banding allows for the collection of detailed information about avian species' use patterns and demographics, and this site-specific data can be used to characterize habitats and monitor habitat use, population trends, and demographics of avian species along the LCR.

Avian populations throughout the United States, Canada, and Mexico are monitored using the MAPS protocol. 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, as the larger database has increased statistical power that cannot be economically duplicated at a site-specific level.

Reclamation established a MAPS banding station at the Cibola Nature Trail on the Cibola NWR in 2002 prior to LCR MSCP implementation. In 2005, an additional station was established on the Havasu NWR, at the New South Dike, and in mixed cottonwood-salt cedar habitats. These sites provided data from different reaches of the LCR and from different habitat types to allow comparisons among areas more typically found along the LCR and habitat creation sites like the LCR MSCP conservation areas.

The Institute for Bird Populations recommends netting birds at MAPS banding stations a minimum of 5 years to acquire site-specific data. After 5 years, each site will be evaluated and a decision made to continue, discontinue, or move the station to a new location.

Previous Activities: MAPS banding has been conducted during different seasons to provide information on habitat use by birds during the breeding and non-breeding seasons.

Winter banding was conducted from 2002 through 2005 at the Pratt restoration site near Yuma, Arizona, Cibola NWR from 2002 to 2011, and at the Havasu NWR (HAVA) from 2005 to 2009. Winter banding was discontinued in 2011.

Fall migration banding was conducted at the Pratt restoration site and the Cibola NWR from 2002 to 2005. Data on fall migration and winter use were also being recorded using an adapted MAPS protocol similar to protocols from migration banding projects throughout the West and the Monitoreo de Sobrevida Invernal (MOSI) protocol that is used in Mesoamerica. Fall banding was discontinued in 2005.

Summer MAPS banding has been conducted at four locations:

- Havasu NWR HAVA site (2005 to 2008) – This site was abandoned as a MAPS site in 2009 after a fire in 2008 burned a significant portion of the habitat.
- Cibola NWR Unit # 1 (2002 to present)
- BLCA (2009 to present)
- CVCA (2011 to present)

Color banding target species such as Bell's vireo, yellow warbler, and summer tanager was initiated in August 2008 at the banding sites to monitor site persistence during the breeding and winter banding seasons.

FY14 Accomplishments: Banding was conducted at three conservation areas during the summer using the MAPS protocol. Banding was conducted for a total of 10 days over the season at the Cibola NWR and the BLCA and for 9 days at the CVCA. One session at the CVCA was not conducted due to inclement weather. Banding was conducted once during every 10-day banding period for 5 hours a day, beginning 1/2 hour before sunrise. During the breeding season, there were a total of 242 captures at the Cibola NWR, 161 total captures at the BLCA, and 69 captures at the CVCA.

Three LCR MSCP listed species were captured and color banded during the breeding season. One yellow warbler was captured at the Cibola NWR, seven yellow warblers were captured at the BLCA, two summer tanagers were captured at the BLCA, and five Bell's vireos were captured at the BLCA. Three of these Bell's vireos were target netted and color banded outside of the MAPS session.

Five migrant willow flycatchers were banded at the Cibola NWR on May 28, one on June 3, and one on June 17. One migrant willow flycatcher was banded at the CVCA on May 29 and another on August 7. One migrant willow flycatcher was heard at the BLCA on June 5. Yellow-billed cuckoos were heard at the Cibola NWR on July 22 and at the BLCA from June 20 through July 17. No yellow-billed cuckoos were banded during MAPS sessions or MAPS summer target netting in FY14.

Birds previously captured and banded were recaptured in FY14. Three yellow warblers and two summer tanagers were recaptured at the BLCA. One recapture was a male yellow warbler that was color banded in 2011. A female summer tanager that was color banded in 2011 and recaptured in 2013 was recaptured again.

FY15 Activities: MAPS banding stations will continue to operate at all three conservation areas during the 2015 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. The 5-year evaluation will be conducted at the BLCA to determine if it should be continued.

Proposed FY16 Activities: Breeding season monitoring will continue in 2016. The work task will be evaluated to see if the information gathered from the MAPS banding stations is meeting system-wide and conservation area monitoring needs.

Pertinent Reports: The *2014 MAPS Summary Banding Report* will be posted on the LCR MSCP Web site upon completion.