

Work Task F1: Habitat Monitoring of Conservation Areas

FY13 Estimate	FY13 Actual Obligations	Cumulative Expenditures Through FY13	FY14 Approved Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate
\$650,000	\$562,295.14	\$3,140,596.04	\$650,000	\$650,000	\$650,000	\$650,000

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Start Date: FY05

Expected Duration: FY55

Long-term Goal: Pre- and Post-development monitoring.

Conservation Measures: MRM2 (CLRA, WIFL, WRBA, WYBA, CRCR, YHCR, LEBI, BLRA, YBCU, ELOW, GIFL, GIWO, VEFL, BEVI, YWAR, SUTA, MNSW).

Location: Beal Lake, Havasu NWR, Arizona; Bill Williams River NWR, Arizona; PVER, California; CVCA, Arizona; Cibola Unit 1, Cibola NWR, Cibola, Arizona; Hart Mine Marsh, Cibola NWR, Cibola, Arizona, Imperial Ponds, Imperial NWR, Arizona; LDCA, Yuma, Arizona.

Purpose: Post-development monitoring is necessary to assess the effectiveness of each habitat creation and restoration sites plus management activities. Specifically, monitoring will include biotic components and abiotic components. Habitat monitoring data will guide management decisions throughout the life of the LCR MSCP.

Connections with Other Work Tasks (past and future): Post-development habitat monitoring will be conducted at habitat creation sites detailed in Section E.

Project Description: Post-development monitoring will assess change in habitat characteristics (such as vegetation growth and density, microclimate, and soil moisture and nutrients) over time and will attempt to determine the causes of said change. Monitoring data will be used to document progress towards achieving the biological goals and minimum habitat requirements for covered species, and document the number of acreage by land cover type (riparian, mesquite, marsh) each year.

Previous Activities: Five habitat creation sites were monitored in FY10 using different monitoring protocols. In FY11, new protocols were developed and implemented in a pilot year study. Protocols included measuring variables such as density, species richness, vegetation structure, ground cover, canopy closure, distance to nearest standing water, and distance to nearest open space. Temperature and relative humidity were also collected.

Vegetation classification mapping of the MSCP project area began in FY12. The purpose of the project was to update the 2004 vegetation classification maps in order to identify survey areas for several MSCP covered bird species and to identify potential areas for the habitat maintenance fund.

FY13 Accomplishments: Habitat monitoring continued in FY13 at BLCA, Cibola NWF Unit #1, CVCA, PVER, and Bill Williams River NWR using updated monitoring protocols. Data collected included density, species richness, vegetation structure, ground cover, canopy closure, distance to nearest standing water, and distance to nearest open space within 30 meters of plot center. Temperature and relative humidity data were collected at 90 locations across the four habitat creation areas.

Vegetation classification mapping continued in the MSCP project area.

Soil moisture monitoring was implemented as a pilot study to test instrumentation and study designs for soil moisture monitoring at a sub-sample of LCR MSCP restoration sites. Collection of soil moisture data from instrumentation in Phase 2 at PVER began in mid-June.

FY13 obligations were less than approved due to delays initiating soil moisture monitoring while LCR MSCP evaluated the objectives and study design.

FY14 Activities: Vegetation monitoring will be conducted starting in September 2014. The vegetation monitoring methods will also be reassessed in FY14.

Vegetation classifications and maps of MSCP priority areas will be completed in FY14.

A soil moisture monitoring plan for long-term soil moisture monitoring at habitat creation areas will be determined after evaluating the results from the pilot study.

Proposed FY15 Activities: Habitat monitoring will continue in FY15. Methodology will incorporate the results of the FY14 monitoring reassessment.

Pertinent Reports: Results from vegetation monitoring are being prepared, but drafts are available upon request. A final report on the soil moisture monitoring pilot study is expected in FY14.