

Work Task C24: Avian Species Habitat Requirements

FY13 Estimates	FY13 Actual Obligations	Cumulative Expenditures Through FY13	FY14 Approved Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate
\$200,000	\$187,914.63	\$1,173,079.93	\$300,000	\$310,000	\$310,000	\$310,000

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Start Date: FY08

Expected Duration: FY17

Long-term Goal: Define habitat requirements for covered avian species.

Conservation Measures: MRM 1, II (CLRA, LEBI, BLRA, SWFL, YBCU, ELOW, GIFL, GIWO, VEFL, BEVI, YWAR, SUTA).

Location: LCR MSCP project area; Bill Williams River; Imperial Ponds Conservation Area, Arizona; other river systems in Arizona.

Purpose: Determine habitat requirements for covered marsh and riparian bird species, including Yuma clapper rail, least bittern, California black rail, Southwestern willow flycatcher, yellow-billed cuckoo, elf owl, gilded flicker, Gila woodpecker, vermilion flycatcher, Arizona Bell's vireo, Sonoran yellow warbler, and summer tanager. Conservation measures within the HCP calls for research to better identify habitat requirements (MRM1) and to manage habitat of covered bird species (MRM2). The research under this work task fulfills those goals. Conservation measures to create habitat exist for each of the above species; knowledge of their habitat requirements will assist in habitat creation.

Connections with Other Work Tasks (past and future): Information gained from this work task will be used to design, create, and maintain marsh and cottonwood-willow habitat described in Section E that targets covered bird species. Information will also be used to maintain existing habitat as described in H1. Data collected in work tasks D2, D3, D5, D6, D7, and F2 will be used to help define habitat requirements.

Project Description: The HCP requires the creation of a minimum of 512 acres of marsh habitat for three covered marsh bird species. All 512 marsh acres should provide habitat for the Yuma clapper rail and Western least bittern, while 130 acres will provide habitat for the California black rail. The HCP requires the creation of a minimum of 5,940 acres of cottonwood-willow habitat and 1,320 acres of honey mesquite habitat for nine covered riparian obligate bird species. Studies will be conducted to determine habitat requirements of covered bird species; Yuma clapper rail, Western least bittern, California black rail, Sonoran yellow warbler, Arizona Bell's vireo, summer tanager, Gila

woodpecker, vermilion flycatcher, gilded flicker, and elf owl. Habitat characteristics for the Southwestern willow flycatcher (D2) and the yellow-billed cuckoo (D7) are covered under other work tasks.

Previous Activities:

Yellow-billed cuckoo and covered marsh bird species. Under this work plan, a GIS-based model of yellow-billed cuckoo breeding habitat has been developed and an investigation to determine habitat needs and management guidelines for California black rails and other marsh birds has been completed (see Pertinent Reports, below).

Summer tanager, Gila woodpecker, Sonoran yellow warbler, and Arizona Bell's vireo. From FY08 to FY10, habitat data were collected for the Arizona Bell's vireo, Sonoran yellow warbler, summer tanager, vermilion flycatcher, and the Gila woodpecker. Habitat characteristics for each species were defined (2008-2010).

In FY11, system-wide surveys (D6), post-development monitoring on habitat conservation areas (F2), and determining habitat needs were continued under a new contract. More detailed habitat characterization that will also address microclimate for the Sonoran yellow warbler, Gila woodpecker, Arizona Bell's vireo, and the summer tanager will be developed from data collection occurring during a five-year period from FY11 to FY15. In FY11 and FY12, the first two years of data were collected.

Restoration of managed marsh units to benefit black rail and other marsh birds. In 2009, vegetation surveys were conducted, water depth data were downloaded from all monitoring wells, and bi-weekly marsh bird surveys were conducted throughout the breeding season at Imperial NWR in fields 16 and 18. The locations of all black rails, clapper rails, and least bitterns were mapped in both fields. Black rails were first detected in fields 16 and 18 in April and July of 2009. Yuma clapper rails were consistently detected in Field 16 throughout the summer, with a high of 21 birds. In Field 18, clapper rails were also detected in 2009. In 2011, a final report was prepared giving recommendations on creation and management of marshes for both clapper and black rails.

FY13 Accomplishments:

Summer tanager, Gila woodpecker, Sonoran yellow warbler, and Arizona Bell's vireo. In FY13, the third year of habitat data was collected for the Sonoran yellow warbler, Arizona Bell's vireo, summer tanager, and Gila woodpecker. Over 150 vegetation plots to characterize habitat were established within habitat used and within habitat not used by the four species mentioned above. Vegetation monitoring occurred in use and non-use areas to determine what habitat type and characteristics were being used more by each species. Characteristics measured included overstory trees, the shrub and intermediate layer, canopy closure and gaps, total vegetation volume, herbaceous layer, and microclimate.

The detailed methods for the vegetation plot selection process were drafted and finalized. The 2013 data and part of the 2011 and 2012 data were entered into the LCR MSCP vegetation forms.

Elf owl. A study plan was developed to test and potentially refine survey methods in obstructed habitat. The study design will test the elf owl's responsiveness to call playback at shorter distances (50 m to 250 m) in obstructed habitat, determine movement patterns of elf owls within their home range, and determine how much and for what purposes elf owls use riparian habitat.

FY14 Activities:

Summer tanager, Gila woodpecker, Sonoran yellow warbler, and Arizona Bell's vireo. Habitat data will continue to be collected in FY14. Ten use sites (established territories) and ten non-use sites will be evaluated per species for the Sonoran yellow warbler, Gila woodpecker, Arizona Bell's vireo and the summer tanager. The parameters measured and field protocol will be the same as in FY11-FY13. The FY14 data and the remainder of the FY11 and FY12 data will be entered into the LCR MSCP data forms. Analysis on the vegetation and microclimate data collected from FY11-FY15 will begin.

Elf owl. Study locations for the elf owl detectability and movement pattern study will be chosen within Arizona.

Marsh Birds. The LCR MSCP will continue to assess the needs for research associated with marsh birds. No research is proposed in FY14.

Proposed FY15 Activities:

Summer tanager, Gila woodpecker, Sonoran yellow warbler, and Arizona Bell's vireo. Habitat data will continue to be conducted in FY15. In FY15, ten use sites (established territories) and ten non-use sites will be evaluated per species for the Sonoran yellow warbler, Gila woodpecker, Arizona Bell's vireo, and the summer tanager. The parameters measured and field protocol will be the same as in previous years. The analysis of the vegetation and microclimate data collected from FY11-FY15 will be completed and a report prepared.

Elf owl. The first year of data collection will begin. Study sites along river systems in Arizona with moderate populations of elf owls will be located. Elf owl territories will be confirmed. Responsiveness trials will be conducted on confirmed territories. The project budget increases in FY15 to implement the elf owl detectability and movement pattern study.

Marsh Birds. The LCR MSCP will continue to assess the needs for research associated with marsh birds.

Pertinent Reports: The following reports have been posted to the LCR MSCP website: *Restoration of Managed Marsh Units to Benefit California Black Rails and Other Marsh Birds: An Adaptive Management Approach*, and *Development of a GIS-based Model of Yellow-Billed Cuckoo Breeding Habitat within the LCR MSCP Area, San Pedro River and Verde River, AZ.*