

Work Task C66: Marsh Bird Water Depth Analysis

FY15 Estimates	FY15 Actual Obligations	Cumulative Expenditures Through FY15	FY16 Approved Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate	FY19 Proposed Estimate
\$0	\$0	\$0	\$100,000	\$100,000	\$20,000	\$0

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Start Date: FY16

Expected Duration: FY18

Long-Term Goal: Define marsh water depth requirements for covered marsh birds

Conservation Measures: MRM1 and MRM2 (CLRA, LEBI, and BLRA)

Location: LCR MSCP project area

Purpose: To identify the range of acceptable water depths in California black rail, western least bittern, and Yuma clapper rail breeding sites and ranges of acceptable daily, monthly, and annual variability

Connections with Other Work Tasks (Past and Future): Marsh bird habitat was studied previously under Work Task C24. The first year of funding was provided through Work Task G3.

Project Description: The Habitat Conservation Plan requires the creation of a minimum of 512 acres of marsh habitat for three LCR MSCP covered marsh bird species. All 512 marsh acres should have water depths no greater than 12 inches to provide habitat for Yuma clapper rails and western least bitterns, while 130 acres of marsh is required with water depths no greater than 1 inch to provide habitat for California black rails.

Water depths in California black rail, western least bittern, and Yuma clapper rail existing breeding sites along the lower Colorado River will be evaluated. Data will be analyzed to identify the range of water depths in California black rail, western least bittern, and Yuma clapper rail breeding sites throughout the breeding season and to identify the ranges of daily, monthly, and annual variability that can occur and still have successful breeding.

In 2009, under Work Task C24, vegetation surveys were conducted, water depth data were monitored at wells, and biweekly marsh bird surveys were conducted

throughout the breeding season at the Imperial National Wildlife Refuge in Fields 16 and 18. The locations of all California black rails, Yuma clapper rails, and western least bitterns were mapped in both fields. California black rails were first detected in Fields 16 and 18 in April and July 2009. Yuma clapper rails were consistently detected in Field 16 throughout summer, with a high of 21 birds. In Field 18, Yuma clapper rails were also detected in 2009. In 2011, a final report was prepared, giving recommendations on creation of marshes for both Yuma clapper rails and California black rails.

Previous Activities: This is a new start in FY16.

FY15 Accomplishments: This is a new start in FY16.

FY16 Activities: Existing daily river gauge data, which will be used to estimate relative depth measurements, and Yuma clapper rail breeding data collected from FY06–14 in Topock Gorge and Topock Marsh will be compiled and analyzed. Detections of Yuma clapper rails at each monitoring point during the three surveys conducted each year (known occupancy) will be compared to the range of water depth fluctuation occurring during that monitoring period. Occupancy modeling will be conducted to evaluate the relationship between the probability of the monitoring points being occupied by Yuma clapper rails during the breeding season and fluctuations in water depth.

Detection data for California black rails during breeding seasons and water depth measurements will be acquired after completion of the Topock Gorge Yuma clapper rail analysis. It is anticipated that there will be less California black rail data available in areas with water depth monitoring along the lower Colorado River. Data from other California black rail breeding areas may be acquired.

A total of 52 monitoring points have been surveyed for marsh birds each year in Topock Gorge from FY06–14, and a sufficient number of detections of Yuma clapper rails have been recorded each year for analyses. Daily water depth measurements from a gauge at Topock Gorge were also acquired. Yuma clapper rail detections at Topock Marsh were compiled, but accurate water depth data were unavailable; therefore, Topock Marsh data will not be analyzed.

Proposed FY17 Activities: Existing water depth measurements and California black rail breeding data will be compiled and analyzed. Detections of California black rails at each monitoring point during the three surveys conducted each year (known occupancy) will be compared to the range of water depth fluctuations occurring during that monitoring period. Occupancy modeling will be conducted to evaluate the relationship between the probability of the monitoring points being occupied by California black rails during the breeding season and fluctuations in water depth.

Pertinent Reports: N/A