

Work Task E9: Hart Mine Marsh

FY07 Estimates	FY07 Actual	Cumulative Accomplishment Through FY07	FY08 Proposed Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate	FY11 Proposed Estimate
\$125,000	\$85,085	\$255,944	\$250,000	\$3,125,000	\$3,100,000	\$300,000

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Start Date: FY05

Expected Duration: FY55

Long-term Goal: Habitat creation.

Conservation Measures: CLRA1, LEBI1, and CRCR2.

Location: Reach 4, Cibola NWR, River Mile 92, AZ.

Purpose: Create and manage marsh habitat for Yuma clapper rail, least bittern, and Colorado River cotton rat.

Connections with Other Work Tasks (past and future): Vegetation and species monitoring are being addressed under F1-F4.

Project Description: Hart Mine Marsh is a decadent marsh located on Cibola NWR. Currently, drainage water from the Refuge's agricultural fields enters Hart Mine Marsh through gated structures in the Arnett Ditch. Previous management practices have not allowed any outflow from the marsh, therefore the drain water terminates in the marsh to evaporate and stagnate. The result is poor water quality, limited marsh habitat, and saline upland areas, some completely devoid of vegetation or dominated by saltcedar.

Habitat requirements for marsh-covered species include areas of permanent open water and larger areas of adjacent emergent marsh vegetation with water depths ranging from 1 to 12 inches. At least 80 acres adjacent to deep areas will be re-graded to provide more suitable marsh areas, adjacent permanent open water, and controllable water levels. This would provide permanent open water adjacent to emergent vegetation. By managing water levels and providing appropriate vegetation, suitable habitat for covered marsh species can be created. Water, diverted by gravity from the Arnett Ditch, would be used to flood leveled fields and create marsh habitat conditions. Water levels would be managed by a series of small water control structures such as culverts or stop logs.

To refine the cost estimates and project the quantity of created habitat, a detailed topographic survey will be necessary. The survey will allow estimates of the amount of material to be excavated and determine the acreage that can be flooded and managed for rail species. The cost

of these improvements, estimated from the topographic survey and conceptual design, would then be used to decide if habitat creation is cost effective. To determine the long-term water commitment from the USFWS, information is needed to understand how the site currently functions hydraulically and the amount of additional water that will be required for maintaining successful marsh habitat.

Upon completion of the final design, a restoration development plan will be prepared and posted on the LCR MSCP Web site. The cost of construction and expected acreage of created habitat will be refined in FY08 and included in the FY09 Work Plan, prior to implementation. Prior to beginning construction, a land use agreement between USFWS and Reclamation securing land and water resources will be prepared.

Previous Activities: Through FY06, NEPA compliance activities, cultural surveys, topographic surveys, pre-development surveys for marsh birds and riparian obligate birds have been conducted.

FY07 Accomplishments: The Interagency Agreement between Reclamation and USFWS was modified to allow for additional baseline data to be collected during part of the irrigation season. A final draft of the Hart Mine Marsh Existing Conditions report with these data was furnished to Reclamation in April 2007. This change in timeline also allowed for a USFWS sponsored wetland review workshop to be held prior to the finalization of the Comprehensive Conceptual Restoration Plan (CCRP). With participation from wetland scientists from many disciplines and agencies as well as input from resources managers and environmental regulators, the CCRP for Hart Mine Marsh was completed and the final draft was submitted in September.

After reviewing the CCRP, both Reclamation and USFWS determined that there were no conflicts with development goals of Cibola NWR and the development of portions Hart Mine Marsh under the discretion of the LCR MSCP. Because this decision was made late in FY07, preliminary engineering designs did not commence until September of FY07; this schedule change is reflected in the unspent portion of the FY07 budget.

In FY07, pre-development monitoring surveys for marsh birds were conducted twice in April and once in May. Three least bitterns (*Ixobrychus exilis*) were detected during the first survey. No other MSCP covered marsh bird species were found.

Southwestern willow flycatcher surveys were conducted using tape playback methods as part of the system-wide effort. No SWFL were detected.

FY08 Activities: Engineering designs will be finalized and a Restoration Development Plan will be drafted during FY08 that will include the phased approach for development of the site. In addition, an exhibit to the Land Use Agreement with Cibola NWR is being prepared to secure the land and water and define specific roles and responsibilities of the partners for this project for the life of the program. A section 401/404 permit will be applied for based on the final restoration design. Pre-development monitoring is ongoing based on established marsh species monitoring protocols.

Proposed FY09 Activities: Completion of the final designs and successful ACOE permitting of the project will allow construction of Phase 1 to begin early in FY09. The first phase of development will include the removal of approximately 50 acres of saltcedar, dredging and contouring, and installation of a number of new control structures at the southern end of the Hart Mine Marsh. Because of construction, marsh bird monitoring will not be conducted in FY09.

Pertinent Reports: *Hart Mine Marsh, Existing Conditions Report; Comprehensive Conceptual Restoration Plan.*