Work Task E9: Hart Mine Marsh

FY06 Estimates	FY06 Actual	Cumulative Accomplishment Through FY06	FY07 Approved Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate
$100,000	$117,539	$170,859	$125,000	$250,000	*$1,000,000	*$1,250,000

*The estimated cost of FY09-FY10 construction is based on 100 acres of created habitat using the LCR MSCP guidelines of $22,500 per acre. The estimated cost will be revised upon completion of final design in FY08.

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Start Date: FY05

Expected Duration: FY08 decision point

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):

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.

In general, 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 inch to12 inches. For estimating purposes, approximately 20 acres of the marsh will be deepened by dredging or excavating. At least 80 acres adjacent to the deepened 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 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.

FY06 Accomplishments: NEPA compliance, cultural surveys, topographic surveys, and marsh bird surveys were completed. Using the data from the surveys, a report detailing relative water balance estimates, hydrology, baseline hydraulic conditions, and requirements for restoration and habitat creation at Hart Mine Marsh was initiated. These baseline conditions will assist in setting limits for restoration design.

In anticipation of marsh habitat creation at Hart Mine Marsh, pre-development surveys for marsh birds and riparian obligate birds began in 2006. Eight marsh bird survey points were established adjacent to suitable habitat and surveys were conducted on March 21, April 19, and May 23, 2006. A total of two least bitterns and 4 Yuma clapper rail detections were recorded during the three survey efforts. Thirteen points were established on roads surrounding the site. Surveys were conducted on May 25, June 21, and July 18, 2006. Approximately 160 individuals were recorded, comprising 36 species. Red-winged blackbirds, song sparrows, white-winged doves, brown-headed cowbirds, and common yellowthroats were the most commonly encountered species. No LCR MSCP covered species were detected during the 2006 point counts.

FY07 Activities: The Comprehensive Conceptual Restoration Plan and workshop will occur in August-September. This will allow for additional data collection during high river stages and irrigation regimes and would provide a more realistic picture of the hydraulic conditions at Hart Mine Marsh. A coarse water balance and preliminary findings is expected in March.

In August 2007, a workshop will be conducted shortly after an initial review of the options in the Comprehensive Conceptual Restoration Plan, and will be used as a decision point for project continuation. Based on review of the Comprehensive Conceptual Restoration Plan and preliminary projected costs for design and construction, a decision will be made to continue the project into design or to cancel the project. FY08 and FY09 budgets and activities will be adjusted accordingly to reflect any changes.

The suitability of Hart Mine Marsh for habitat creation will be determined in 2007. Pre-development surveys will continue if the decision is made to go forward with this project.

Proposed FY08 Activities: If a decision is made in FY07 to proceed with this work task, Reclamation will finalize the restoration design for marsh habitat early in FY08. Using the final design, a Restoration Development Plan and appropriate section 404 permit application will be prepared, and posted on the LCR MSCP Web site. In addition, during FY08 and prior to beginning construction, agreements outlining party responsibilities and securing interest in land and water will developed. Completion of these activities would allow construction to begin early in FY09. Pre- and post-development monitoring will be contingent on decisions made during FY07.

Pertinent Reports: *Hart Mine Marsh, Existing Conditions Report*.