Work Task E14: Imperial Ponds Conservation Area

FY07 Estimates	FY07 Actual	Cumulative Accomplishment Through FY07	FY08 Approved Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate	FY11 Proposed Estimate
$2,070,000	$3,190,255	$5,409,432	$974,000	$483,000	$465,000	$255,000

Contact: Nathan Lenon, (702) 293-8015, nlenon@lc.usbr.gov

Start Date: FY05

Expected Duration: FY55

Long-term Goal: Habitat creation.

Conservation Measures: CLRA1, BONY2, RASU2, LEBI1, and BLRA1.

Location: Reach 5, Imperial NWR, River Mile 59, AZ.

Purpose: The Imperial Ponds Conservation Area is an integrated mosaic of native land cover types, including isolated backwaters, cottonwood-willow and marsh. It is situated within the "Intensive Management Area" of the Imperial National Wildlife Refuge, an area of focused management for sensitive wildlife species including native fish, marsh birds, neo-tropical migratory birds, and migratory waterfowl. By partnering with Imperial NWR to implement this project within an area already so rich in biodiversity, the LCR MSCP is creating a unique native landscape like no other found on the LCR.

Connections with Other Work Tasks (past and future): Work task vegetation and species monitoring is being conducted under F1, F2, F3, F4, F5, and D9.

Project Description: Six ponds have been constructed to provide approximately 80 surface acres of backwater habitat for endangered razorback sucker and bonytail, as well as provide marsh habitat for western least bittern and Yuma clapper rail. The ponds provide a diversity of depths and habitat features, including rip-rap for fish cover and hummocks on which to place native wetlands plants.

Colorado River water is supplied to the ponds and other habitat areas by a new pump that uses state of the art fish screening technology developed specifically for the LCR MSCP. The screen was constructed to prevent the eggs and larvae of nonnative, predatory fish from entering into the ponds. The ponds are not interlinked; each pond is independently managed. This is a key component to successful water quality and fisheries management. When water is released from a pond, it enters a drainage channel, supporting native wetland and riparian plants.

An existing 4-acre cottonwood nursery on the refuge will be expanded by 34 acres, using materials excavated from the ponds to be developed into cottonwood-willow land cover for

yellow-billed cuckoo. This material was spread over approximately 100 acres; the acreage not used for cottonwood-willow will be managed for migratory waterfowl. Both yellow-billed cuckoo and willow flycatchers have been sighted in the existing nursery. The additional cottonwood-willow forested area, and the waterfowl acreage, will create a vegetation mix that makes this an ideal site for attracting the threatened and endangered species the LCR MSCP is designed to protect. Field leveling and irrigation system installation for the new area are scheduled to be completed in FY08; tree planting will occur in FY10.

A 12-acre marsh unit is being created at Field 18 in the refuge's southeast corner. This field was cleared in the winter of 2007-2008, and is being converted into a bulrush-dominated marsh. Because the field is adjacent to several marsh units currently occupied by California black rail, it is an ideal site for attracting this species and other species of concern.

Previous Activities: Before construction began, the ponds were surveyed for clapper rails (*Rallus longirostris*) by refuge personnel and several clapper rails were detected annually within the cattail (*Typha latifolia*) habitat found in ponds 4 and 5 and at times in fringing marsh habitat found around other ponds.

In 2006, Anabat acoustic bat surveys were conducted at the ponds and one LCR MSCP evaluation species, the California leaf-nosed bat (*Macrotus californicus*), was detected in the interior of the nursery site. A point-count survey bird of the area to be planted with cottonwood and willow was also attempted, but was hindered by construction work being conducted at the site. The survey was incomplete due to ongoing construction but yellow warbler (*Dendrochia petechia*) and summer tanager (*Piranga rubra*) were detected in the nursery site adjacent to the creation site.

FY07 Accomplishments: During FY07, excavation and construction of all six ponds, the service roads, and the water supply and drainage piping system was completed. Materials were procured, and construction of the pump platform, fish screen, and airburst system was initiated. By the end of FY07, nearly all of the construction activities related to completion of the ponds and associated infrastructure were completed. Initial system testing and monitoring was performed to evaluate performance of the new pump, screen, and airburst systems.

Creation of the ponds resulted in the excavation of approximately 600,000 cubic yards of earthen materials, which were hauled and placed over some 100 acres of agricultural fields, raising the elevation by 2-3 feet. This area was redesigned into a more water-efficient configuration, which will tie into the existing irrigation infrastructure within the adjacent fields. During FY07, the existing irrigation pump that services these fields was rebuilt and upgraded to provide for increased capacity.

Incidental detections of clapper rail, least bittern (*Ixobrychus exilis*), and American bittern (*Botarus lentiginosus*) have been made by Reclamation and USFWS personnel at several of the ponds during the summer and fall of 2007. The vegetation surveys are to be carried out at the same time as the marsh bird surveys, at the same points. Because construction of the ponds had just finished, vegetation surveys were not carried out in 2007. Areas in the center of ponds 5 and 6 that already had pre-existing cattail habitat were originally slated to be removed during the

construction efforts; however, removal of these areas was avoided and the net gain of marsh habitat at the ponds due to construction efforts will be greater than what was originally projected. Small, isolated patches of common reed (*Phragmites australis*) have established themselves at the margins of several ponds, but otherwise no significant vegetative communities have yet established along the edges of the ponds.

Anabat acoustic surveys were conducted in 2007 at Pond 1, Pond 2, Field 18, and at the Nursery Site adjacent to the future cottonwood-willow creation site. Two LCR MSCP listed species were detected; the western red bat (*Lasiurus blossevilli*) was detected at pond 1 and field 18, and the western yellow bat (*Lasiurus xanthinus*) was detected at ponds 1 and 2. Two LCR MSCP evaluation species were also detected. The pale Towsend's big-eared bat (*Corynorhinus townsend*) was detected at the cottonwood nursery, and the California leaf-nosed bat was detected at ponds 1 and 2.

An avian survey was conducted at the area that will be planted with cottonwood-willow land cover type. This area was bare ground in the summer of 2007 and no birds were present. The adjacent cottonwood nursery and a thin strip cottonwoods and willows planted on the west side were also surveyed as these areas may serve as sources for bird populations that may colonize the cottonwood-willow site, when planted. In these areas, four LCR MSCP listed bird species were detected, including summer tanager (1 detected), yellow-billed cuckoo (*Coccyzus americanus*) (1 detected), Gila woodpecker (*Melanerpes uropygialis*) (1 detected), and yellow warbler (1 detected).

Small mammal monitoring occured in the habitat surrounding the fields that will be planted with cottonwood-willow land cover type, Field 18, and other marsh fields. Six Yuma hispid cotton rats (*Sigmodon hispidus*) were captured. Tissue samples were collected from these individuals and laboratory analysis confirmed the species identification of these six individuals.

FY08 Activities: The remaining construction activities related to completion of the ponds and associated infrastructure was completed. Additional system testing and monitoring was performed on the pumping and drainage system, to evaluate performance of the new pump, screen, and airburst systems.

The following work items remain to be completed during FY08: a Standard Operating Procedures manual is in development to assist field personnel in operating the system, the hummocks will be planted with wetland plant species to create favorable conditions for covered marsh species, and final as-built surveys.

Reclamation has awarded a contract to complete the construction of the new fields and new irrigation system, and construction is nearing completion. Once complete, a cover crop will be established to stabilize and condition the soils.

Reclamation completed a topographic survey, design, and grading plan to convert the 12-acre Field 18 into a marsh. Reclamation has completed vegetation clearing and contouring, and plans to plant this area with native wetland plant species in the summer of FY08.

Permanent marshbird survey points and photo points will be established at each pond and at Field 18. Marshbird surveys will be conducted at these points, at least twice a year, using the multi-species marshbird protocol. A bird survey will be conducted at the site to be planted with cottonwood-willow land cover type and the surrounding areas. Anabat acoustic surveys will be conducted at Pond 1, 2, and at Field 18. Small mammal trapping will continue in areas adjacent to the cottonwood-willow creation site.

FY09 Activities: Reclamation intends to contract for labor and plant materials for establishing 34 acres of cottonwood-willow land cover, perform minor maintenance to boat ramps and other structures, upgrade the electrical control panel for the existing irrigation pump, and support site operations and maintenance.

Annual monitoring efforts will continue in 2009 in the same manner as detailed in the 2008 activities.

Pertinent Reports: *Imperial National Wildlife Refuge, Imperial Native Fish Habitat Reconstruction; Design Workshop Final Report;* and *Clean Water Act, Section 404 Permit – Final Site Plan* have been posted to LCR MSCP Web site. *Imperial Ponds Restoration Development and Monitoring Plan* is posted to the LCR MSCP Web site.