

Work Task E14: Imperial Ponds Conservation Area

FY13 Estimate	FY13 Actual Obligations	Cumulative Expenditures Through FY13	FY14 Approved Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate
\$395,000	\$303,452.23	\$8,608,698.59	\$600,000	\$800,000	\$350,000	\$350,000

Contact: Andrea Finnegan, (702) 293-8203

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, Arizona.

Purpose: Create and manage a mosaic of native land cover types for LCR MSCP covered species.

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

Project Description: The Imperial Ponds Conservation Area is an integrated mosaic of native land cover types, including disconnected 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.

Previous Activities:

Ponds. Six ponds have been constructed to provide approximately 80 surface acres of backwater habitat for BONY and RASU. LCR water was supplied to the ponds by a pump fitted with a wedge-wire screen system. The system was designed to prevent passage of fish eggs and larvae less than 1mm diameter from entering into the ponds. An in-situ evaluation of the screen was completed through the Adaptive Management Research Projects (G3). Results found that fish eggs and larvae less than 1mm passed through the screen. In response to the results the pump was shut off in the summer of 2009 and water was supplied to all ponds by way of a single well. A water management study was initiated in May 2011 to evaluate water quality in Pond 1 with and ponds 2 – 6 without a managed water supply. Well water was supplied to Pond 1 from a surface pipe for the duration of the study.

Riparian. An existing 4-acre cottonwood nursery on the Imperial NWR will be expanded by 34 acres to develop cottonwood-willow land cover for the YBCU. Both the YBCU and SWFL have been sighted in the existing nursery. Field leveling and irrigation system installation for the area were completed in FY08. Infrastructure failures occurred in FY12 on the irrigation supply canal at Imperial NWR. Temporary repairs were made to insure continued water delivery to both MSCP conservation areas and to refuge managed fields, however, these failures indicated defects in the water conveyance system. Restoration and planting with native cottonwood and willow is not anticipated until FY16 to allow for replacement of the canal in FY15 and due to the large planting effort at the Laguna Division Conservation Area. The increased timespan will allow soil salinity in the fields to be reduced through irrigation of a cover crop.

Marsh. A 12-acre marsh unit was created at Field 18 in the southeast corner of Imperial NWR. This field was cleared in the winter of 2007-2008, and was converted into a bulrush-dominated marsh managed for rails.

FY13 Accomplishments:

Maintenance/Restoration/Management. An Interagency Agreement between Reclamation and Imperial NWR was awarded to provide funding for: water delivery and management, infrastructure maintenance, vegetation management, and monitoring through FY18.

Ponds. A water management study was initiated in May 2011 to evaluate water physico-chemical parameters in Pond 1 with and ponds 2-6 without a managed water supply. Well water was supplied to Pond 1 from a surface pipe for the duration of the study. The study was completed in May 2013. An overview of the results is included in the monitoring section. Phragmites and salt cedar were removed from the pond edges.

Riparian. Fields were irrigated to reduce salinity in the soils. Phragmites and salt cedar were removed from the riparian fields as necessary. No additional restoration or monitoring was performed on the 34 acres of the future cottonwood-willow field.

Marsh. Field 18 was irrigated to provide shallow, wet habitat during October 2012 and from February 2013 through September 2013. Water was not supplied to the field from November 2012 through January 2013 so maintenance could be performed on the canal system and adjacent fields.

Monitoring.

Ponds. A two year water management study from May 2011 to May 2013 was completed. Trend analysis from the physico-chemical profiles indicate that temperature is increasing over time in all six of the ponds, however it appears to be increasing at a slightly higher rate in Pond 1. The pH levels also appeared to increase values over time with differences being observed between ponds. Values of pH commonly exceeded a set standard of 9.0 in ponds 2-6 in the summers of 2011 and 2012. Levels of pH were lowest in Pond 1. DO levels did not appear to be a cause for concern in an absence of water

management. Specific conductivity levels show a gradual increase over time in all ponds. Four BONY were captured from Pond 2 during routine sampling in FY13 and were moved into Pond 1.

Riparian. No southwestern willow flycatcher surveys were conducted. Surveys were last conducted in 2012 and will occur on a three year schedule until after planting is completed. No small mammal or bat surveys were conducted in 2013. Yellow-billed cuckoo surveys were conducted and no birds were detected.

Marsh. Marsh bird surveys were conducted. Yuma clapper rail were detected in the marsh fields. However, exact locations of Yuma clapper rail were difficult to discern.

FY14 Activities:

Maintenance/Restoration/Management. Onsite maintenance, utility payments, and water management for the site will continue. A new groundwater well will be drilled and developed. The new well will be connected to the existing groundwater well. The pump previously used to supply water to the ponds will be re-designed to connect with the pump used to supply water to the fields and marshes. The additional pump will provide redundancy and increased pumping capacity to the existing concrete lined canal system.

Ponds. New porcelain staff gages will be installed to replace the current staff gages that were damaged by beavers. A renovation plan will be developed to address the renovation of all six ponds concurrently. Monitoring of pre and post renovation efforts will be completed through Imperial Ponds Native Fish Research (C25).

A water management plan to will be drafted. The plan will identify methods to mitigate for pH and conductivity that may include pumping water out of the ponds. Monitoring water physico-chemical parameters to assess the water management plan will be completed through Imperial Ponds Native Fish Research (C25).

Riparian. Repairs will be completed on canals as needed. Fields will be irrigated to reduce salinity in the soils. Phragmites and salt cedar will also be removed from the riparian fields as necessary. No additional restoration or monitoring is anticipated on the 34 acres of the future cottonwood-willow field

Marsh. The 12-acre marsh created in Field 18 will continue to be managed for marsh covered species.

Monitoring. Monitoring will continue in FY14, similar to previous efforts for fish, marsh birds, Southwestern willow flycatcher, and yellow-billed cuckoo.

Proposed FY15 Activities:

Maintenance/Restoration/Management. Onsite maintenance, utility payments, and water management for the site will continue. The last major capital improvement, replacement of portions of the concrete lined canal for the delivery of water into the

fields, is anticipated, and the budget increased to reflect these expenditures. Budgets for future out years have been reduced to reflect completion of these capital improvements.

Ponds. Maintain boat ramps and rip-rap shorelines. Pump approximately 5 ft of water from Pond 5 and maintain the pond at a water elevation of 180 ft for a two week period in preparation for a prescribed burn of the marsh area within Pond 5. Following the burn all ponds will be filled to a water elevation of 185 ft in preparation for a chemical renovation of all six ponds. Post-renovation monitoring will be completed through Work Task C25: Imperial Ponds Native Fish Research to evaluate the efficacy of the renovation.

Riparian. The fields will be irrigated to reduce soil salinity.

Marsh. The 12-acre marsh created in Field 18 will continue to be managed for marsh covered species.

Monitoring. Monitoring will continue in FY15, similar to previous efforts for fish, marsh birds, southwestern willow flycatchers, and yellow-billed cuckoo.

Pertinent Reports The *2013 Imperial Ponds Conservation Area Annual Report*, which summarizes any planting conducted, site management, results of monitoring, and any recommendations for future adaptive management will be posted after integration of data collected throughout the calendar year.