

## Work Task E14: Imperial Ponds Conservation Area

FY06 Estimates	FY06 Actual	Cumulative Accomplishment Through FY06	FY07 Approved Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate
\$595,000	\$2,114,868	\$2,219,177	\$2,070,000	\$974,000	\$498,000	\$252,000

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**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:** Expansion of the existing ponds to satisfy the backwater requirements of the 2001 SIA.

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

**Project Description:** Located on Imperial NWR, the Imperial Ponds, previously referred to as the DU2 Ponds, were originally constructed to provide a mixture of habitat types, including isolated backwater for native fish, marsh, and riparian land cover types. The site consists of four ponds, which are connected by a single channel that supplies fish free water from a dedicated well. The ponds were originally renovated in the fall of 2002, and stocked with RASU in the spring of 2003.

In FY05, an interdisciplinary group of 13 subject matter experts from four agencies collaboratively prepared a conceptual design for the re-construction and expansion of the ponds. Subject matter experts in the fields of fisheries, hydrology, wetland science/botany, and engineering participated. This report was finalized in July 2005. Reclamation initiated detailed planning and engineering for the site in FY05.

**Previous Activities:** In December 2004, the interdisciplinary group developed recommendations for how to best manage the site. Under the new design, the existing ponds will be deepened and enlarged by approximately 50 surface acres. The ponds will be deepened and divided into six ponds, each with their own independent water delivery and drainage system.

Soils excavated from the ponds during expansion will be incorporated into 104 acres of existing adjacent farm fields, raising them an average of 3-5 feet. This feature of the project was added

during the post-conceptual design phase to provide a location to place approximately 500,000 cubic yards of fill. The existing field irrigation system will then be retrofitted and the fields will be re-leveled. This will result in an additional 34 acres of flood-irrigated fields, which will be planted for cottonwood-willow habitat. In addition, a 12-acre field, adjacent to a currently functional BLRA marsh field, will be developed for BLRA.

**FY06 Accomplishments:** Construction was originally scheduled for FY07. However, the opportunity arose to start construction in June 2006, allowing excavation activities to be conducted and completed in the winter, during low-flow river conditions. As a result, significantly higher costs were incurred in FY06 than originally estimated.

During FY06, Reclamation and USFWS executed a Land Use Agreement that secured the land and water interests for the duration of the LCR MSCP program. Reclamation completed all necessary environmental compliance activities for this project, conducted a harvest of the remaining razorback suckers (in cooperation with USFWS), and dewatered the ponds. Imperial NWR then arranged and supervised a prescribed burn, which reduced the volume of vegetation around the ponds, which would have otherwise required clearing.

Engineering design drawings were completed and construction rental equipment was procured. Site clearing was initiated and completed in May, and construction of the ponds began in June. By the end of FY06, two of the six ponds were fully excavated, with the third 75% completed. In addition, a large portion of the pipe materials were procured and delivered to the site.

Increased construction costs due to price increase in services and supplies, and higher than expected water intrusion within the excavation areas resulted in several modifications to the original design. First, the piping system was reconfigured to reduce the amount of pipe required, thereby mitigating for increased pipe costs. Second, excavation of the western shores of the ponds (adjacent to the river) is being modified to leave a shallow bench, to avoid deep excavation in areas where water intrusion was causing productivity losses. Finally, improved excavation techniques have reduced handling requirements for the excavated materials and minimized issues with equipment sticking.

Construction work on the ponds began during the period when bird surveys would normally be conducted; therefore, no bird surveys were conducted.

Anabat acoustic bat surveys were conducted at ponds 1 and 5 for one night on April 5. At Pond 1, 56 bat passes were detected at a rate of 5.09 per hour, and at Pond 5, 18 bat passes were detected at a rate of 1.64 per hour. At Pond 1, four species were detected and at Pond 5, three species were detected. No LCR MSCP covered species were detected at either pond.

A point-count survey of the area to be planted with cottonwood and willow was attempted, but was hindered by construction work being conducted at the site. Only 6 points out of 10 were surveyed as construction work caused too much noise disturbance to continue the remaining point counts. No vegetation besides some grass and low, sparse, herbaceous vegetation was present and almost all bird detections came from areas adjacent to the fields. A total of 21 species were detected and 3 LCR MSCP covered species were detected. Sonoran yellow warbler and summer tanager were detected in the nursery site adjacent to the creation site. A Western

least bittern was detected in the marsh habitat located to the south of the cottonwood-willow creation site.

Anabat acoustic surveys were not conducted in the cottonwood/willow creation site itself, but were conducted at the adjacent nursery site. One night was surveyed on April 5, and six species were detected. One LCR MSCP evaluation species, the California leaf-nosed bat, was detected in the interior of the nursery site. On the nursery edge, 48 bat passes at a rate of 8 per hour were detected, and in the interior a total of 32 bat passes were detected at a rate of 2.91 per hour.

**FY07 Activities:** Excavation of the ponds, placement of all associated rip-rap and gravel substrates, and construction of the new pump platform, wedge-wire screen system, water supply, and drainage ditch will be completed. All major purchases of materials to support these tasks have been completed. Due to the wet site conditions in FY06, excavation was extended into March of 2007.

Preliminary designs for the 104 acres of filled fields have been completed for the leveling and new concrete-irrigation canal, which will be finalized and executed early in FY08. Following these tasks, a salt-tolerant cover crop will be established to facilitate salt flushing and soil stabilization. The fill area and associated 34 acres of cottonwood-willow land cover were incorporated into the design after the original FY07 work plans, and were therefore not included in the previous cost estimates.

A conceptual design for the 12 acres of BLRA marsh (Field 18) has been completed. A contract will be prepared using FY07 funds to clear and level this field, but will be awarded during winter FY08.

A draft restoration development plan has been prepared detailing the design, construction, vegetation planting, species monitoring, and management of the site. Upon completion, this document will be posted to the LCR MSCP Web site.

**Proposed FY08 Activities:** Ground clearing, contouring, and leveling of the 12 acres of marsh habitat for BLRA (Field 18) will occur during the winter of FY08. Following this work, Field 18 will be planted with wetland species during the spring of FY08. In addition, wetland plants will be planted in selected areas within the ponds, and within the drainage ditch during the spring of FY08.

Ground preparation and planting of a cover crop on 34 acres eventually targeted for cottonwood-willow will occur in the fall of FY08. These fields will be managed to flush salts and condition the soils for approximately 1.5 years, prior to planting with cottonwood and willow in the spring of FY09. In addition, an automation system is being discussed to reduce the irrigation labor requirements for the cottonwood-willow fields.

Additional site maintenance tasks during FY08 will include herbicide control of nonnative plants, operation and maintenance of the pumps and screen system, and other tasks to be determined.

**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 Development Plan* will be posted to the LCR MSCP Web site.