

Work Task E27: Laguna Division Conservation Area

FY16 Estimate	FY16 Actual Obligations	Cumulative Expenditures Through FY16	FY17 Approved Estimate	FY18 Proposed Estimate	FY19 Proposed Estimate	FY20 Proposed Estimate
\$900,000	\$846,914.71	\$27,247,180.05	\$200,000	\$150,000	\$100,000	\$100,000

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Start Date: FY10

Expected Duration: FY55

Long-Term Goal: Habitat creation and management

Conservation Measures: BEVI1, ELOW1, GIFL1, GIWO1, SUTA1, VEFL1, WIFL1, YHCR2, YBCU1, and YWAR1

Location: Reach 6, Federal lands, River Miles 43–49, California and Arizona

Purpose: To 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 are being addressed under Work Tasks F1–F4 and F7.

Project Description: The Laguna Division, River Miles 43–49, was identified as having the potential for large-scale riparian and marsh restoration and enhancement. In 2007, the Laguna Division Planning Group was formed to identify potential restoration projects within the division.

The Laguna Division Planning Group consists of representatives from the following organizations:

- Arizona Game and Fish Department
- Arizona Department of Water Resources
- California Department of Fish and Wildlife
- Pacific Institute
- U.S. Fish and Wildlife Service
- Bureau of Land Management
- Bureau of Reclamation

The undeveloped ground, which was shaped to become the Laguna Division Conservation Area (LDCA), was a relatively wide, undeveloped area with a series of low linear depressions, which are remnants of former river meanders. This project was designed to create marsh and riparian land cover types by shaping and

contouring multiple meandering channels. These land cover types would be maintained with a maximum base flow of 100 cubic feet per second (cfs) from the Gila Gravity Canal sluicing gates. Open water areas have been created in the form of linear excavations aligned with historic river meanders east of lands identified as future stockpiling areas for dredged silt removed from the river (Laguna settling basin). To minimize earthwork, cuts and fills follow the existing topography where feasible. Adjacent terraces are graded to allow flooding and promote the establishment of native riparian species. Water control structures have been designed to manage water levels. Native vegetation will receive water by raising and lowering the water surface.

Operation of the LDCA is coordinated through the Bureau of Reclamation's Water Operations Group. The LDCA has been used to store excess flows through this coordinated effort. When excess flows are anticipated, the water control structures at the LDCA can be adjusted in order to accommodate a portion of the excess flow. These flows can be returned back to the Colorado River.

Annual maintenance and management: The LDCA was designed and constructed to minimize annual operation and maintenance costs. Water is diverted at Imperial Dam (LDCA Headworks) and delivered by gravity to Cell 1. Approximately 100-cfs flows through the site 24 hours a day, 7 days a week. There are no pumps used at the LDCA. Annually, the intake structure is closed and inspected. The inspection includes both normal maintenance, a review of the cathodic protection system, and pressure washing of the structure. The water control structures are serviced and inspected twice a year. Water delivery into and out of the LDCA are logged and can be accessed remotely. The annual costs for operation and maintenance of the LDCA include road grading.

Previous Activities:

Maintenance/restoration/management: Inlet modifications to the point of diversion at the Gila Gravity Canal sluicing gates were made to allow for up to a 100-cfs flow capacity. The diversion pipe system has been engineered to allow for maximum management flexibility, including diverting the entire flow to the Mittry Lake Wildlife Area, the LDCA, or the historic river channel. Approximately 4,000 feet of 48-inch high-density polyethylene pipe was installed in 2011–12.

Clearing and contouring of Reach 1 (over 500 acres) began in fall 2011 and was completed in 2012. The newly created topography of Reach 1 was verified by using light detection and ranging (LiDAR) remote sensing techniques, which was used to create contour mapping.

Clearing and contouring activities in Reach 2 began in summer 2012 and were completed in April 2014 (over 500 acres). Approximately 50,000 cubic

yards of soil were moved per shift in order to contour the site according to the grading plan. In all, approximately 3,400,000 cubic yards of earthen material were excavated.

Over 800,000 marsh plants were planted on approximately 150 acres in Reach 1 during August and September 2013. Cottonwood-willow (*Populus fremontii*-*Salix gooddingii*) and honey mesquite (*Prosopis glandulosa*) planting of Reach 1 commenced in February 2014 and finished in April 2014. Marsh planting of Reach 2 took place in May 2014. Over 1 million trees and plants were planted in spring 2014.

Monitoring: The land adjacent to the LDCA has been surveyed for many years by the Arizona Game and Fish Department for marsh birds, including Yuma clapper rails (*Rallus longirostris yumanensis* [also known as Yuma Ridgway's rail = *R. obsoletus yumanensis*]), California black rails (*Laterallus jamaicensis coturniculus*), and western least bitterns (*Ixobrychus exilis hesperis*), all of which are LCR MSCP covered species. All three of these species are present within the adjacent wetland/marsh area during breeding seasons. Surveying of marsh birds continued until work began at the site and resumed once habitat was suitable.

FY16 Accomplishments:

Maintenance/restoration/management: Post and cable fencing was installed along the perimeter of Reach 1 in order to protect native vegetation from damage by motorized vehicles. Control of invasive plant species for Reach 1 has been discontinued; however, control of invasive and non-native plant species for Reach 2 continued. The water control infrastructure was maintained throughout the year via regular inspections and preventive maintenance.

A final construction report was completed and documents the entire chronology of the project from design to construction completion.

Monitoring: Monitoring was conducted at the LDCA for vegetation and birds.

Vegetation data were collected in FY16 using LiDAR remote sensing techniques.

Marsh bird surveys were conducted on three occasions at the wetland portions of the site. Western least bitterns were detected during all three survey periods. Yuma clapper rails and California black rails were not detected.

Riparian bird surveys were conducted at the LDCA from April 15 to June 15, 2016, using the LCR MSCP's double sampling protocol. Sonoran yellow warblers (*Dendroica petechia sonorana* = *Setophaga petechia sonorana*) and Arizona Bell's vireos (*Vireo bellii arizonae*) were detected as

breeding at the site. Yellow-billed cuckoo (*Coccyzus americanus occidentalis*) surveys were conducted between late June and early August in the northern reach of the site, and there were three detections and one possible breeder at the site.

FY17 Activities:

Maintenance/restoration/management: Access, law enforcement, and fire suppression at the LDCA are regulated by the Bureau of Land Management. Control of invasive plant species on the entire conservation area has ceased. The water control infrastructure is being maintained via regular inspections and preventive maintenance.

Cathodic Protection Inspection: The Laguna inlet structure (LDCA headworks) is constructed of several different types of metals. A cathodic protection system, installed in the 1950s, is in place on the upstream steel sluice gates of Imperial Dam. The new sluice gates on the downstream side of the inlet structure have a sacrificial anode in place. Inspection of the cathodic protection system for the LDCA headworks is scheduled for March 2017. The inspection is typically conducted every 2 years and includes maintenance on the slip meter and pressure washing of the vault.

Monitoring: Vegetation data will be collected using LiDAR remote sensing techniques. Monitoring for marsh birds will continue in suitable habitat. General bird surveys will be conducted from mid-April to June. Single species surveys for southwestern willow flycatchers (*Empidonax traillii extimus*) and yellow-billed cuckoos will be conducted during their respective breeding seasons where appropriate habitat is available.

Proposed FY18 Activities:

Maintenance/restoration/management: Access, law enforcement, and fire suppression at the LDCA will be regulated by the Bureau of Land Management. Control of invasive plant species is not anticipated. The water control infrastructure will be maintained throughout the year via regular inspections and preventive maintenance.

Monitoring: Information from LiDAR vegetation data collected during FY14–17 will be used to determine the schedule for vegetation monitoring data collection for FY18 and beyond. Monitoring for marsh birds will continue in suitable habitat. General bird surveys will be conducted from mid-April to June. Single species surveys for southwestern willow flycatchers and yellow-billed cuckoos will be conducted during their respective breeding seasons where appropriate habitat is available.

Pertinent Reports: The 2016 annual site report will be posted on the LCR MSCP Web site upon completion.