

Work Task E28: Yuma East Wetlands

FY16 Estimate	FY16 Actual Obligations	Cumulative Expenditures Through FY16	FY17 Approved Estimate	FY18 Proposed Estimate	FY19 Proposed Estimate	FY20 Proposed Estimate
\$1,200,000	\$318,447.52	\$2,106,375.48	\$450,000	\$300,000	\$250,000	\$250,000

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Start Date: FY10

Expected Duration: FY55

Long-Term Goal: Habitat creation

Conservation Measures: BEVI1, BLRA1, CLRA1, GIFL1, GIWO1, LEBI1, SUTA1, VEFL1, WIFL1, YHCR2, YBCU1, and YWAR1

Location: Reach 6, Arizona, River Mile 31

Purpose: To maintain restored land cover types that benefit LCR MSCP covered species

Connections with Other Work Tasks (Past and Future): Vegetation and species monitoring are being addressed under Work Tasks F1–F4.

Project Description: In 2000, the city of Yuma and the Quechan Indian Tribe collaborated to analyze the potential of restoring the local wetlands along the Colorado River by removing overgrown non-native species. Approximately 380 acres have been restored to create a mosaic of marsh, mesquite (*Prosopis* spp.), and cottonwood-willow (*Populus fremontii-Salix gooddingii*). The project is located in Yuma, Arizona, on city of Yuma, Quechan Indian Tribe, and Arizona Game and Fish Department lands. In coordination with these partners and the Yuma Crossing National Heritage Area Corporation (YCNHAC), a 501(c)3 non-profit organization responsible for managing day-to-day operations, 70% of the funding will be provided by the LCR MSCP to support the long-term operation and maintenance of created habitats and adaptive management actions that benefit species covered under the LCR MSCP Habitat Conservation Plan. Infrequent but substantial capital improvements may also occur and will be in addition to annual operating costs.

Yuma East Wetlands (YEW) is fully developed and has transitioned from development to maintenance and monitoring. The 380-acre conservation area,

including the open water portions of the Colorado River, is classified as 183 acres of cottonwood-willow, 103 acres of honey mesquite (*Prosopis glandulosa*), and 94 acres of marsh.

Annual maintenance and management: The work associated with the operation and maintenance of YEW is described in the Yuma East Wetlands Annual Management Plan. The plan is developed collaboratively among, and concurred to by, all stakeholders prior to obligation of funding. The document describes the scope of work, budget, and responsibilities of all parties and is limited to recurring operation and maintenance activities. Funding for 70% of the annual operation and maintenance budget is provided by the LCR MSCP, while the remaining 30% is provided by the site stakeholders.

Annual operation and maintenance activities anticipated throughout the life of the program include flood irrigation of the north channel and AHA fields, pump maintenance and repair, minor repair of infrastructure, removal of invasive and non-native plant species, and general site maintenance such as road grading.

Previous Activities: In FY13, the Quechan Indian Tribe, Arizona Game and Fish Department, city of Yuma, the YCNHAC, and the Bureau of Reclamation agreed to the terms and conditions in the multi-party Land Use Agreement. The agreement was signed in late FY13 after review by the Steering Committee. Monitoring began in FY13.

FY16 Accomplishments:

Maintenance/restoration/management: YEW was operated and maintained in accordance with the work identified in the site-specific FY16 Yuma East Wetlands Annual Management Plan.

The FY17 Yuma East Wetlands Annual Management Plan was developed. The approach to site management was significantly modified from prior years, as tasks funded by the LCR MSCP were limited to those necessary to manage land cover types for the covered species. Modifications included elimination of honey mesquite drip irrigation, including costs associated with maintenance of drip irrigation pumps; refinement of flood irrigation cycles from a year-round schedule to the months of March through September; and a reduction in onsite labor. These changes will result in a significant reduction to operating costs in future years.

Efforts also included preliminary work toward the development of a long-term management plan. The plan will address management practices and the short/long-term needs of infrastructure required to manage created land cover. In addition, opportunities were evaluated relating to development of a reliable water source for the south channel.

Since execution of the Land Use Agreement, the conservation area's north channel pump has failed and has been replaced or rebuilt on a number of occasions. A 20-cubic-foot-per second pump was originally installed by the YCNHAC to support the north channel riparian area. In December 2013, it was replaced after suffering a catastrophic failure. This failure was caused by cavitation due to sedimentation from the river. In response, a loaner pump, rated at 10 cubic feet per second, was installed. The loaner pump also suffered a catastrophic failure in January 2016. This failure was also identified to be caused by cavitation due to sedimentation from the river. In FY16, another loaner pump, rated at 6 cubic feet per second, was secured and installed at the site.

Funding to replace the north channel pump was budgeted in 2016. This effort was delayed in response to the January failure and to provide stakeholders with time to reconsider the flawed pump design. This directly impacted FY16 expenditures and resulted in lower than anticipated costs.

Monitoring: Monitoring was conducted at YEW for vegetation, birds, small mammals, and bats.

Vegetation data were collected in FY16 using light detection and ranging (LiDAR) remote sensing techniques.

Marsh bird surveys were conducted on three occasions at the wetland portions of the site. Western least bitterns (*Ixobrychus exilis hesperis*) and Yuma clapper rails (*Rallus longirostris yumanensis* [also known as Yuma Ridgway's rail = *R. obsoletus yumanensis*]) were detected and are presumed to be breeding at the site.

The site was surveyed for riparian birds using the LCR MSCP double sampling protocol. Sonoran yellow warblers (*Dendroica petechia sonorana* = *Setophaga petechia sonorana*) and Gila woodpeckers (*Melanerpes uropygialis*) were detected breeding at the site. Southwestern willow flycatcher (*Empidonax traillii extimus*) surveys were also conducted, and no resident or breeding individuals were detected. Yellow-billed cuckoo (*Coccyzus americanus occidentalis*) surveys were conducted, and there were five detections and one possible breeder at the site.

An established long-term acoustic bat station was used to detect LCR MSCP covered and evaluation bat species. The data will be analyzed in FY17. California leaf-nosed bats (*Macrotus californicus*) were captured during capture surveys for a California leaf-nosed bat tracking study (Work Task D9). Annual summer capture surveys were not conducted in FY16, as capture efforts were reduced to conservation areas in Reaches 3–5.

Small mammal trapping was conducted in fall and spring. Yuma hispid cotton rats (*Sigmodon hispidus eremicus*) continue to be detected at the site and are the most common subspecies of small mammals captured.

FY17 Activities:

Maintenance/restoration/management: YEW will be operated and maintained in accordance with the work identified in the FY17 Yuma East Wetlands Annual Management Plan. The FY18 annual management plan will be developed with the site stakeholders in spring 2017.

The remaining priorities include finalization of a draft long-term management plan, redesign and replacement of the north channel pump, and continued evaluation of opportunities related to providing a reliable water source for the south channel.

A plan to install flow meters on the AHA and north channel pumps, as required in the Land Use Agreement, has been developed and forwarded to stakeholders for review but is being delayed until the ongoing pump issues are resolved. In the interim, discrete flow measurements will be taken with a portable instrument. An Excel spreadsheet was created to simplify tracking of water usage and water accounting.

Monitoring: Vegetation data will be collected using LiDAR remote sensing techniques. Marsh bird surveys will be conducted in March and April. General bird surveys will be conducted from mid-April to mid-June. Single species surveys for southwestern willow flycatchers and yellow-billed cuckoos will be conducted during their respective breeding seasons. Bat acoustic monitoring will be conducted during summer.

Proposed FY18 Activities: YEW is expected to be operated and maintained in accordance with the work identified in the FY18 Yuma East Wetlands Annual Management Plan. The FY19 annual management plan will be developed with the site stakeholders in spring 2018.

In FY18, it is anticipated that the north channel pump will be replaced, the remaining flow meters will be installed, and a long-term management plan will be finalized. Efforts will continue in order to identify a cost-effective solution to provide a reliable water source that allows for management of water surface elevations within the south channel marsh.

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. Marsh bird surveys will be conducted in March and April. General bird surveys will be conducted from mid-April to mid-June.

Single species surveys for southwestern willow flycatchers and yellow-billed cuckoos will be conducted during their respective breeding seasons. Bat acoustic monitoring will be conducted during summer.

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