

Work Task E4: Palo Verde Ecological Reserve

| FY15 Estimate | FY15 Actual Obligations | Cumulative Expenditures Through FY15 | FY16 Approved Estimate | FY17 Proposed Estimate | FY18 Proposed Estimate | FY19 Proposed Estimate |
|---------------|-------------------------|--------------------------------------|------------------------|------------------------|------------------------|------------------------|
| \$500,000 | \$822,212.91 | \$9,320,891.26 | \$500,000 | \$600,000 | \$600,000 | \$600,000 |

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Start Date: FY05

Expected Duration: FY55

Long-Term Goal: Habitat creation

Conservation Measures: WIFL1, WRBA2, WYBA3, YBCU1, ELOW1, GIFL1, GIWO1, VEFL1, BEVI1, YWAR1, SUTA1, and MNSW2

Location: Reach 4, River Miles 129–133, California

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 is being addressed under Work Tasks F1–F4, wildlife under Work Tasks D2, D6, D7, D9, and D10, and insect populations were evaluated under Work Tasks C5 (closed) and C6 (closed).

Project Description: The Palo Verde Ecological Reserve (PVER) encompasses more than 1,300 acres. This property has been made available for LCR MSCP habitat restoration activities by the California Department of Fish and Wildlife. Development of the project is intended to satisfy both the LCR MSCP Habitat Conservation Plan requirements and California Endangered Species Act Incidental Take Permit No. 2081-2005-008-06.

The eastern boundary of the property (more than 4 miles) is adjacent to the Colorado River; the western boundary is adjacent to active agricultural fields. The PVER has an extensive infrastructure consisting of miles of lined irrigation ditches, roads, and a pump. Each year, a portion of the active crop acreage was taken out of production to develop the next phase of native habitat. The intent was to create as much riparian habitat as practical. Generally, all phases at the PVER are targeted for southwestern willow flycatchers, yellow-billed cuckoos, and other covered species. The final phase was planted in FY13. The Palo Verde

Irrigation District (PVID) provides water to the PVER. Since the California Department of Fish and Wildlife manages a portion of PVER for their purposes, the costs associated with irrigation, electricity, and water is proportional to the amount of acreage that has been converted to habitat.

Riparian planting has resulted in the establishment of 945 acres of cottonwood-willow and 78 acres of honey mesquite, which are both managed for LCR MSCP covered species.

Annual Maintenance and Management: A local farmer diverts and irrigates the various phases based on site conditions and species planted. This provides local knowledge of weather and farming practices, which are applied to the management of the conservation area. The farmer and his employees are an onsite presence and provide early recognition of issues or concerns. The farmer is also responsible for assessing the water needs of the trees and, in coordination with the PVID and the LCR MSCP, orders and delivers the water. Removal of vegetation along the roadside and ditches is typically performed quarterly to reduce the potential of wildfires in conjunction with maintenance of the irrigation canals, gates, and roads.

The annual costs associated with operating within the PVID, such as water taxes, water tolls, electrical power utility bills, and assessments for district operation, are included in the annual maintenance costs.

Riparian Fields: Water is ordered through and provided by the PVID. At the PVER, two pump platforms delivery of the water to individual phases. Checks, which are small borders placed within a given field, allow for flooding of only a portion of a field and provide additional flexibility to create and maintain standing water or saturated soil areas for covered species. Irrigation occurs throughout the year and is expected throughout the life of the LCR MSCP.

Previous Activities: Over 1.8 million native trees and shrubs have been established on 1,023 acres at the PVER. Native trees have been irrigated and managed since 2006.

FY15 Accomplishments:

Maintenance/Restoration/Management: All phases have been planted and were managed for LCR MSCP covered species. Irrigation cycles were established and water ordered through the PVID. Replacement of the existing pump at heading JO2 with two 30-cubic-foot-per-second electric irrigation pumps, delivery pipes, an electrical upgrade, and a pump stand began in 2014 and was completed during the PVID's annual outage in January 2015. Due to delays in the start of construction on the new pumps and pump stand, and a longer than expected construction phase, the approved budget was exceeded.

Monitoring: Monitoring was conducted at the PVER for vegetation, birds, bats, small mammals, and MacNeill's sootywings.

Vegetation data were collected in FY15 using light detection and ranging (LiDAR) remote sensing techniques.

Riparian bird surveys were conducted at the PVER from April 15 to June 15, 2015, using the LCR MSCP double sampling protocol. Gila woodpeckers, Sonoran yellow warblers, and vermilion flycatchers were detected breeding at the site. Summer tanagers were detected but were not observed breeding. Southwestern willow flycatcher surveys were conducted, and a resident bird was detected defending a territory from May 31 to June 14, but there was no evidence of breeding. Yellow-billed cuckoo surveys were conducted between late June and early August. Breeding was confirmed again in FY15.

The PVER was mist netted for bats once per month from May to September 2015. Western yellow bats and California leaf-nosed bats were captured. In conjunction with the bat capture surveys, the two established long-term acoustic bat stations were used to help detect LCR MSCP bat species. Western red bats, western yellow bats, California leaf-nosed bats, and Townsend's big-eared bats were detected during acoustic surveys.

Small mammal trapping was conducted in fall and spring. Colorado River cotton rats were captured.

Surveys were conducted for MacNeill's sootywings in 2015. Individuals were detected in April and June.

FY16 Activities:

Maintenance/Restoration/Management: The entire conservation area is now fully developed and has transitioned from development into maintenance and monitoring. No construction, restoration, or changes to management activities are planned.

The site operations and maintenance budget for FY16 and beyond has been increased to reflect actual operation costs. Since development is now complete, the management plan for the entire conservation area will be drafted.

Monitoring: Vegetation data will be collected in May 2016 using LiDAR remote sensing techniques. 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 capture surveys and acoustic monitoring will be conducted during summer. Small mammal monitoring will be conducted in fall and spring.

Proposed FY17 Activities:

Maintenance/Restoration/Management: Irrigation and management of the conservation area will continue on the same schedule until data become available that indicate adjustments are needed. No construction or restoration activities are planned.

Monitoring: Information from LiDAR vegetation data collected during FY15 and/or FY16 will be used to determine the schedule for vegetation monitoring data collection for FY17 and beyond. 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 capture surveys and acoustic monitoring will be conducted during summer. Small mammal monitoring will be conducted in fall and spring.

Pertinent Reports: The *2015 Palo Verde Ecological Reserve Annual Report*, will be posted on the LCR MSCP Web site once integration of the data collected throughout the calendar year is complete.