

Work Task E4: Palo Verde Ecological Reserve

FY14 Estimate	FY14 Actual Obligations	Cumulative Expenditures Through FY14	FY15 Approved Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate
\$725,000	\$487,583.25	\$8,524,176.15	\$500,000	\$500,000	\$500,000	\$500,000

Contact: Darrin Miller, (702) 293-8166, dmiller@usbr.gov

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 are being evaluated under Work Tasks C5 (closed) and C6.

Project Description: The PVER encompasses more than 1,300 acres. This property has been made available for LCR MSCP habitat restoration activities by the CDFW. Development of the project is intended to satisfy both the LCR MSCP and a portion of CESA 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 flycatcher, yellow-billed cuckoo, and other covered species. The final phase was planted in FY13. The PVID provides water to the PVER. The costs associated with irrigation, electricity, and water is proportional to the amount of acreage that has been converted to habitat.

The creation of a mosaic of habitats that contain areas of riparian species (including mesquite) and ground covers or open areas is intended. Ground cover is an effective method of controlling non-native species and provides another layer of vegetation for habitat. Ground cover is planted with transplants or by seed; costs vary with the methods of planting used. Mesquite trees are generally planted by a tree planter or auger. Typically, mesquite costs are based on a 1-gallon planted tree.

Agricultural areas have irrigation systems in place that are conducive for water management of riparian species. Checks, which are small borders placed within a given field, allow for flooding of only a portion of a field. These provide additional flexibility to create and maintain standing water or saturated soil areas for covered species.

Previous Activities: Through FY13, over 1,000 acres of cottonwood-willow and mesquite land cover types have been established in Phases 1–8 and are being managed for the LCR MSCP covered species.

FY14 Accomplishments:

Maintenance/Restoration/Management: All phases have been planted and are being managed for LCR MSCP covered species. The contract farmer continued to manage the irrigation cycles and water orders through the PVID. Maintenance of the irrigation canals, gates, and roads continued. Removal of vegetation along the roadside and ditches has been performed quarterly or as needed. Replacement of the existing pump with two 30-cfs electric irrigation pumps, delivery pipes, electrical upgrade, and pump stand was started 2014. Final construction and operation will occur during the PVID's annual outage in January 2015. Expenditures were less than anticipated, and future budget projections have been reduced to reflect actual expenditures.

Monitoring: Vegetation monitoring was conducted between September and November 2014.

MacNeill's sootywing were surveyed between May and August 2014. All three life stages were observed at PVER4 and PVER6.

Colorado River cotton rats were surveyed in the fall of 2013. Thirty-one cotton rats were captured on the accretion bench along the river on the eastern portion of the conservation area, and two were captured at PVER 6.

Two LCR MSCP covered bat species and 1 evaluation species were captured at the PVER, including 15 western yellow bats, 1 western red bat, and 6 California

leaf-nosed bats. In conjunction with the bat capture surveys, the established long-term acoustic bat station was used to continuously collect data. Western red bats, western yellow bats, California leaf-nosed bats, and Townsend's big-eared bats were detected during acoustic surveys.

During rapid area searches for birds at the PVER, more than 25 different species and greater than 400 breeding territories were detected as well as 96 species of migrants and other non-breeders. Of the covered species, 4 pairs of Sonoran yellow warblers were found breeding in Phases 4, 5, and 6, and an additional 104 individual yellow warblers were detected but not confirmed breeding. Several other species, including Arizona Bell's vireo, Gila woodpecker, summer tanager, lesser goldfinch, lesser nighthawk, and marsh wren were detected, but breeding could not be confirmed.

Yellow-billed cuckoos were surveyed five times throughout the breeding season using taped playback recordings. Based on the timing, location, persistence, and behavior of all cuckoos detected at PVER Phases 1–7, 49 confirmed breeding pairs produced 29 nests and fledged 44 young. Breeding activity continued through September 12. Seven cuckoos were fitted with GPS tracking devices for monitoring during migration and the non-breeding season. Results of this tracking will be reported in future years. Thirty-two new cuckoos were banded, and 10 banded birds from previous years were recaptured.

Surveys for southwestern willow flycatcher were conducted five times. Several migrants were detected, but no confirmation of breeding or resident southwestern willow flycatchers were documented.

FY15 Activities:

Maintenance/Restoration/Management: The entire conservation area is now fully developed and is transitioning from the development stage into the maintenance and monitoring stage. Water for irrigation of the trees and to simulate historical river flooding is provided by the PVID. A local farmer is utilized to divert and irrigate the various phases based on site conditions and species planted. The farmer provides local knowledge of weather and farming practices, which are applied to the maintenance 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 district and the LCR MSCP, orders and delivers the water. Maintenance activities include grading access roads; maintaining field borders, irrigation canals, and invasive plant control, including hand removal and application of herbicides; and physically opening and closing the irrigation gates for over 1,000 acres of established land cover types.

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

The two 20-cfs electric fixed irrigation pumps, delivery pipes, the electrical upgrade, and the pump stand were completed in 2015. Irrigation will continue on the same schedule until data become available that indicate adjustments are needed.

Since development is now complete, the management plan for the entire conservation area will be drafted.

Monitoring: Vegetation monitoring will continue starting in September 2015. Small mammal monitoring will be conducted in the fall and spring. Bat capture surveys will be conducted from May to September. An established long-term bat monitoring station has been used to collect acoustic data. General bird surveys will be conducted from mid-April to mid-June. Single species surveys for the southwestern willow flycatcher and yellow-billed cuckoo will be conducted during their respective breeding seasons. MacNeill's sootywing surveys will be conducted in the spring and summer.

Proposed FY16 Activities:

Maintenance/Restoration/Management: The contract farmer will continue to manage the irrigation cycles and water orders through the PVID. Maintenance of the irrigation canals, gates, and roads will continue. Removal of vegetation along the roadside and ditches will be performed quarterly or as needed.

Monitoring: Vegetation monitoring will continue. Small mammal monitoring will be conducted in the fall and spring. Bat capture surveys will be conducted from May to September. An established long-term bat monitoring station will be used to collect acoustic data. General bird surveys will be conducted from mid-April to mid-June. Single species surveys for the southwestern willow flycatcher and yellow-billed cuckoo will be conducted during their respective breeding seasons. MacNeill's sootywing surveys will be conducted in the spring and summer.

Pertinent Reports: The *2013 Palo Verde Ecological Reserve Annual Report*, which summarizes any planting conducted, site management, the results of monitoring, and any recommendations for future adaptive management, will be posted on the LCR MSCP Web site once integration of the data collected throughout the calendar year is complete.