

Work Task E24: Cibola National Wildlife Refuge Unit #1 Conservation Area

FY16 Estimate	FY16 Actual Obligations	Cumulative Expenditures Through FY16	FY17 Approved Estimate	FY18 Proposed Estimate	FY19 Proposed Estimate	FY20 Proposed Estimate
\$700,000	\$843,168.99	\$5,164,417.08	\$750,000	\$750,000	\$800,000	\$800,000

Contact: Jessie Stegmeier, (702) 293-8121, jstegmeier@usbr.gov

Start Date: FY07

Expected Duration: FY55

Long-Term Goal: Habitat creation and management

Conservation Measures: BEVI1, CRCR2, ELOW1, GIFL1, GIWO1, SUTA1, VEFL1, WIFL1, WRBA2, WYBA3, YBCU1, and YWAR1

Location: Reach 4, Cibola National Wildlife Refuge, 1/2 mile east of River Mile 97, 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): This work task incorporated lands under Work Tasks E6–E8 (closed), with additional adjacent acreage at the Cibola National Wildlife Refuge Unit #1 Conservation Area (Cibola NWR Unit #1). Operation and maintenance of these work tasks will now be tracked under Work Task E24.

Project Description: The Bureau of Reclamation currently has a number of established projects at Cibola NWR Unit #1, which includes restoration research and demonstration projects that began as a precursor to the LCR MSCP. A 50-year Land Use Agreement was established with the U.S. Fish and Wildlife Service to restore new areas and maintain created land covers on Cibola NWR Unit #1.

Work Task E24 incorporates the existing projects and active agricultural land as well as substantial additional, undeveloped, adjacent acreage into a single conservation area. The land included in Cibola NWR Unit #1 encompasses approximately 950 acres and ranges in cover and use from agricultural fields, to partially improved land, to undeveloped land. The acreage in Cibola NWR

Unit #1 is targeted primarily for the cottonwood-willow (*Populus fremontii*-*Salix gooddingii*) land cover type but will also likely include a mosaic of native habitats, including wetland and riparian-upland interface areas.

The acreage in Cibola NWR Unit #1 has been categorized into five areas:

- Area #1 (193 acres) includes active agricultural fields, existing (converted agriculture) cottonwood-willow cover type, and ongoing LCR MSCP research and demonstration projects.
- Area #2 (Hippy Fire) includes 338 acres that were cleared as a result of the Hippy Fire and is scheduled for cottonwood-willow land cover.
- Areas #3 (Baseline 90) includes 107 acres of undeveloped and fallowed agricultural land. Undeveloped areas will require clearing, leveling, installation of an irrigation infrastructure, and soil conditioning before development for native riparian species.
- Area #4 (North 160) includes 158 acres and is planted with alfalfa (*Medicago sativa*) and cover crops until the area is conditioned to improve soil salinity and is scheduled for cottonwood-willow land cover.
- Area #5 (Crane Roost) includes 154 acres that have been planted with cottonwood, willow, and honey mesquite (*Prosopis glandulosa*).

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 Cibola National Wildlife Refuge and 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 Cibola NWR Unit #1, such as electrical power utility bills, labor to open and close the irrigation gates, invasive and non-native vegetation control, and road maintenance, are included in the annual maintenance costs.

Checks, which are small borders placed within a given field, allow for flooding only a portion of a field. These checks 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: Through FY15, 365 acres of cottonwood-willow have been established within the 950-acre site. Native trees have been irrigated and managed since 2007. Monitoring for birds, MacNeill's sootywing skippers (*Pholisora graciellae* = *Hesperopsis graciellae* [MacNeill]), bats, and rodents were conducted. In FY15, planning and design started for a pump stand upgrade, which will include abandoning the existing pump stand and constructing a new one.

FY16 Accomplishments:

Maintenance/restoration/management: Management, maintenance, flood irrigation, and monitoring of the established habitat created continued. Approximately 96 acres were planted with a mix of cottonwood, willow, honey mesquite, and other riparian shrub and grass species in accordance with the Restoration Development and Monitoring Plan for the lower Hippy Fire area. In FY16, plants were ordered for the middle Hippy Fire area (108 acres), and field preparation will begin in FY17 for planting in spring.

Unscheduled construction activities in FY16 included an addition of two turnouts in the lower Hippy Fire area to allow for increased flexibility of future irrigation management, which resulted in higher obligations than budgeted.

Pump Stand Replacement: Replacement pumps and pipe to replace a section of the concrete-lined canal were purchased but are not included in the obligations totals, as the funds were provided by the U.S. Fish and Wildlife Service.

Monitoring: Monitoring was conducted at Cibola NWR Unit #1 for vegetation, birds, bats, small mammals, and MacNeill's sootywing skippers.

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

The site was surveyed for riparian birds using the LCR MSCP double sampling protocol. Arizona Bell's vireos (*Vireo bellii arizonae*), summer tanagers (*Piranga rubra*), and vermilion flycatchers (*Pyrocephalus rubinus*) were detected breeding. Avian mist netting following the Monitoring Avian Productivity and Survivorship (MAPS) protocol was conducted from early May to early August. Three yellow warblers were captured and color banded. The color-banded vermilion flycatcher female from 2015 was resighted. Southwestern willow flycatcher (*Empidonax traillii extimus*) surveys were conducted, and no resident or breeding individuals were detected. Yellow-billed cuckoo surveys were conducted and breeding was confirmed.

Cibola NWR Unit #1 was mist netted for bats once per month from June to August 2016. California leaf-nosed bats (*Macrotus californicus*) were captured.

In conjunction with the bat capture surveys, the established long-term acoustic bat station was used to detect LCR MSCP bat species from June – August. These data are still being analyzed.

Small mammal trapping was conducted in fall and spring. Colorado River cotton rats (*Sigmodon arizonae plenus*) continue to be detected at the site.

MacNeill's sootywing skipper surveys were conducted, and individuals and eggs were detected in Crane Roost.

FY17 Activities:

Maintenance/restoration/management: Management, maintenance, flood irrigation, and monitoring of the established habitat created will continue. Tree planting will occur in the spring of FY17 on the middle Hippy Fire area. Approximately 108 acres will be planted with a mix of cottonwood, willow, honey mesquite, and other riparian shrub and grass species. Plants will be ordered for the North 160 area to allow time for propagation before planting next spring.

Pump Stand Replacement: Construction of the replacement pump stand is scheduled to begin in March 2017; however, final connections and removal of the old pump stand will not occur until 2018, which will help avoid an outage during the active growing season.

Monitoring: Vegetation data will be collected using LiDAR remote sensing techniques. General bird surveys will be conducted from mid-April to mid-June. A MAPS station will be operated from May until the end of July. 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/or spring.

Proposed FY18 Activities:

Maintenance/restoration/management: Management, maintenance, flood irrigation, and monitoring of the established habitat created will continue. About 160 acres of the North 160 area are scheduled for final field preparation and riparian planting in FY18. Final land preparation will take place in the first months of 2018, with planting scheduled for March/April 2018. The area will be planted with a mix of cottonwood-willow, honey mesquite, and other riparian shrub and grass species.

Pump Stand Replacement: Removal of the old pump stand and final connections to the new pump stand are anticipated.

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. General bird surveys will be conducted from mid-April to mid-June. A MAPS station will be operated from May until the end of July. 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 *2016 Cibola NWR Unit #1 Conservation Area 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.