

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

FY15 Estimate	FY15 Actual Obligations	Cumulative Expenditures Through FY15	FY16 Approved Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate	FY19 Proposed Estimate
\$1,000,000	\$655,451.78	\$4,479,008.26	\$700,000	\$750,000	\$750,000	\$800,000

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Start Date: FY07

Expected Duration: FY55

Long-Term Goal: Habitat creation and management

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

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 with the U.S. Fish and Wildlife Service (USFWS) to restore new areas and maintain created land covers on Cibola NWR Unit #1 has been signed.

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 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. In FY13, 82 acres were planted with cottonwood and willow trees, and the remaining acres were planted with alfalfa and other cover crops.
- 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 and cover crops until the area is conditioned to improve soil salinity.
- Area #5 (Crane Roost) includes 154 acres that have been planted with cottonwood, willow, and mesquite 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 refuge and LCR MSCP staff, 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 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 of only a portion of a field. These 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 FY14, 365 acres of cottonwood-willow have been established within the 950-acre site. Native trees have been irrigated and managed since 2007.

FY15 Accomplishments:

Maintenance/restoration/management: Management, maintenance, flood irrigation, and monitoring of the established habitat created continued. No restoration or tree planting occurred in FY15. Plants were ordered and field preparation initiated in accordance with the Restoration, Development, and Monitoring Plan for the lower Hippy Burn area, which will be planted next spring. Approximately 96 acres will be planted with a mix of cottonwood, willow, mesquite, and other riparian shrub and grass species.

The approved budget contained expenditures for partial replacement of the pump stand at Cibola NWR Unit #1. However, the USFWS and the Bureau of Reclamation have entered into an agreement to replace the aging pump stands at both Hart Mine Marsh and Cibola NWR Unit #1. The USFWS has contributed \$712,000, as their share, for the replacement of the pump stands and pumps at both areas. The funds to design and implement the replacement are being leveraged under the LCR MSCP. Progress will be tracked under this work task and Work Task E9; however, expenditures will not be shown for the work funded by the USFWS. This agreement reduced expenditures in FY15.

Monitoring: Monitoring was conducted at Cibola NWR Unit #1 for vegetation, birds, bats, and small mammals.

Vegetation data were collected in FY15 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 and Sonoran yellow warblers were detected breeding. Avian mist netting following the Monitoring Avian Productivity and Survivorship protocol was conducted from early May to early August. A female vermilion flycatcher was banded in late July and was observed with a male, though no breeding evidence was found. Southwestern willow flycatcher 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 in February and from May to September 2015. Western red bats, western yellow bats, and California leaf-nosed bats 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. Western red bats, western yellow bats, California leaf-nosed bats, and Townsend's big-eared bats were detected.

Small mammal trapping was conducted in fall and spring. Colorado River cotton rats continue to be detected at the site.

FY16 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 FY16 on the area known as the lower Hippy Burn area. Approximately 96 acres will be planted with a mix of cottonwood, willow, mesquite, and other riparian shrub and grass species. Some field preparations for the middle Hippy Fire area (149 acres) will be initiated, and plants will be ordered to allow time for propagation before planting next spring.

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. MacNeill's sootywing surveys will be conducted in spring and summer.

Proposed FY17 Activities:

Maintenance/restoration/management: Management, maintenance, flood irrigation, and monitoring of the established habitat created will continue. As mentioned above, 149 acres of the middle Hippy Fire area are scheduled for final field preparation and riparian planting in FY17. Final land preparation will take place in the first months of 2017, with planting scheduled for March/April 2017. The area will be planted with a mix of cottonwood-willow, mesquite, and other riparian shrub and grass species.

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. MacNeill's sootywing surveys will be conducted in spring and summer if none were detected in FY16.

Pertinent Reports: The *2015 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.