

## Work Task E24: Cibola NWR Unit #1

FY11 Estimate	FY11 Actual Obligations	Cumulative Expenditures Through FY11	FY12 Approved Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate
\$636,000	\$639,675.70	\$2,737,024.70	\$1,000,000	\$1,100,000	\$1,200,000	\$1,200,000

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**Start Date:** FY07

**Expected Duration:** FY55

**Long-term Goal:** Habitat creation.

**Conservation Measures:** WIFL1, WRBA2, WYBA3, YBCU1, ELOW1, GIFL1, GIWO1, VEFL1, BEVI1, YWAR1, SUTA1, CLNB2, PTBB2.

**Location:** Reach 4, Cibola National Wildlife Refuge, one-half mile east of River Mile 97, Arizona.

**Purpose:** 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 incorporates Cottonwood Genetics Study (E6), Mass Transplanting Demonstration (E7), and upon completion, the Seed Feasibility Study (E8) with additional adjacent acreage on Unit #1 of Cibola NWR. After completion of the research projects in FY07, operation and maintenance of these work tasks will be tracked under E24.

**Project Description:** Reclamation currently has a number of established projects at Unit #1, which includes restoration research and demonstration projects that began as a pre-cursor to the LCR MSCP. In 1999, the USFWS and Reclamation planted the Cibola Nature Trail and established 34 acres of cottonwood-willow and mesquite land cover type within Unit #1. In 2002, the USFWS and Reclamation planted another approximately 18 acres of cottonwood-willow in Unit #1 north of the Nature Trail. Four additional fields of approximately 20 acres each in Unit #1 are occupied by three projects that have been fully or partially funded by the LCR MSCP. These include Cottonwood Genetics Study (E6), Mass Transplanting Demonstration (E7), and Seed Feasibility Study (E8). To the east of these projects are an additional two agricultural fields. A 50-year land use agreement with the USFWS to develop and maintain land covers on Unit #1 has been signed.

Work Task E24 incorporates the aforementioned existing projects and agricultural land as well as substantial additional adjacent acreage into a single conservation area. The land included in Unit #1 (E24) encompasses approximately 950 acres and ranges in cover and use from

agricultural fields, to partially improved land, to undeveloped land. The acreage in Unit #1 is targeted primarily for cottonwood-willow cover type development for SWFL, but will also likely include a mosaic of native habitats including riparian, wetland, and riparian-upland interface areas.

The acreage in 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 have been cleared as a result of the Hippy Fire. Cibola NWR has performed substantial capital improvements to this area over the past few years including clearing, laser-leveling, field construction, and irrigation and drainage infrastructure installation. The area is currently planted in a cover crop and is being conditioned to improve soil salinity. Areas #3 (Baseline 90) and #4 (North 160) are 107 and 158 acres of undeveloped land and fallowed agricultural land, respectively. The areas will require clearing, leveling, installation of irrigation infrastructure, and soil conditioning before development for native riparian species. Area #5 (Crane Roost, 154 acres) has been cleared and leveled and is currently irrigable. A portion of this area has been planted with cottonwood, willow, and mesquite species. The area will require upgrades to the irrigation system and needs further soil conditioning to continue development.

**Previous Activities:** A land use agreement and exhibit specific to this conservation area have been signed. Several research and development projects are underway or completed and are currently being managed as land cover types for various LCR MSCP covered species.

#### **FY11 Accomplishments:**

**Maintenance/Restoration/Management.** Ongoing infrastructure improvements including additional drain construction and repair occurred during this fiscal year. Based on observations of variable establishment in the Crane Roost, an additional season of soil conditioning was projected for fields in the next phase of development (Hippy Fire). No tree purchases were made and no riparian tree planting occurred on the Cibola NWR Unit #1 Conservation Area for FY11. Site maintenance including irrigation, weeding, and other associated farm services were conducted on the existing planted acres using contracted services through FY11.

The Fremont cottonwood genetic study, initiated in FY07, was completed and a final report was posted to the LCR MSCP website.

**Monitoring.** Post-development vegetation monitoring was conducted at Nature Trail, Mass Planting, Crane Roost, and the seed feasibility study site. Vegetation monitoring was conducted in the fall of 2010 (beginning of FY11). Vegetation heights averaged 8.1m at the Nature Trail, 9.0m at the Mass Planting and 5.0m at the Crane Roost. Average canopy closure was 82.7% at the Nature Trail, 78.6% at the Mass Planting and 29.3% at the Crane Roost.

Small mammal trapping was conducted at the Nature Trail and cotton rats were documented again in 2011. Bat acoustic driving transects were conducted in May, July and September. No covered species were detected during acoustic surveys. A long term acoustic station was deployed in March of 2011. Data are still being analyzed for the station. Capture surveys were

conducted once per month from May to September. The California leaf-nosed bat was the only LCR MSCP species captured.

General avian species were surveyed to determine breeding status at the Nature Trail, Crane Roost, and the LCR MSCP research and demonstration fields using area search and spot mapping techniques. The Sonoran yellow warbler and Arizona bell's vireo were the only LCR MSCP covered avian species found breeding within the conservation area.

Bird banding was again conducted at the Nature Trail, following the MAPS protocol. Ten surveys were conducted between May and August. The Gila woodpecker was the only LCR MSCP species captured.

No breeding southwestern willow flycatchers were detected at the Cibola Nature Trail, and all birds were detected before June 16<sup>th</sup> when birds are considered to be residents. One bird was detected and the site was surveyed five separate times.

Yellow-billed cuckoos were detected at the Nature Trail, Mass Planting and Crane Roost fields. One nest was found at the Crane Roost in a honey mesquite.

#### **Proposed FY12 Activities:**

**Maintenance/Restoration/Management.** The purchase of trees for approximately 80 acres of fields available in the Hippy Fire Area will occur in FY12. These riparian trees will be planted in March of FY13.

Overall, site maintenance will continue including regular watering and field maintenance of all the established fields within the Conservation Area's portion of Unit #1. Pre- and post-development monitoring will continue at Cibola NWR Unit #1 Conservation Area. Habitat, avian, small mammal, and bat monitoring will continue. Using the data from FY11, the number of vegetation plots will be increased at Nature Trail and reduced in all other areas.

**Monitoring.** Monitoring will continue at the FY2011 levels, and include vegetation, general bird surveys, SWFL Surveys, YBCU surveys, small mammal trapping, and bat surveys.

**Proposed FY13 Activities:** In FY13, approximately 80 acres in the northern section of the Hippy Fire Area will be planted with riparian trees. The trees will be purchased in FY12. The area has been in a cover crop since 2008, beginning with a salt-tolerant grass and converted to alfalfa in 2010. The area currently shows none of the signs of heavy soils or saline conditions that were observed in the Crane Roost. Site maintenance will increase as new acres of riparian cover-type are established, but these activities are expected to include the same services needed across the rest of the established portions of the conservation area. Monitoring will continue for all sites.

**Pertinent Reports:** *Cibola NWR Unit #1 Conservation Area Annual Report 2010*, and *2011* will be posted to the LCR MSCP website when available. *2010 Cibola National Wildlife Refuge Field 51 Vegetation Monitoring Report*, and *Fremont Cottonwood Genetics Study: Final Report, 2011*, will also be posted on the LCR MSCP website when available.