

## Work Task E24: Cibola NWR Unit #1 (Revised)

FY08 Estimates	FY08 Actual	Cumulative Accomplishment Through FY08	FY09 Approved Estimate	FY10 Proposed Estimate	FY11 Proposed Estimate	FY12 Proposed Estimate
\$1,213,000	\$1,075,422.08	\$1,131,379.08	\$1,072,000	\$600,000	\$1,700,000	\$1,500,000

**Contact:** Gregg Garnett, (702) 293-8347, ggarnett@usbr.gov

**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, AZ.

**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, 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, USFWS and Reclamation planted another approximately 18 acres of cottonwood/willow in Unit #1 north of the Nature Trail. Four additional approximately 20-acre fields in Unit #1 are occupied by three projects that have been fully or partially funded by the LCR MSCP. These include E6 (Cottonwood Genetics Study), E7 (Mass Transplanting Demonstration), and E8 (Seed Feasibility Study). To the east of these projects are an additional two agricultural fields. A 50-year land use agreement with 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. Research projects that are currently ongoing will retain their individual work task designation until the termination of research or in FY08. 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 (E24) 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.

#### **FY08 Accomplishments:**

**Maintenance/Restoration/Management.** Regular water delivery, invasive plant mitigation, cover crop establishment, and site maintenance continued through FY08 through the use of contracted farming services. In preparation for planting CW land cover in the Crane Roost, over 200,000 trees were purchased under contract. Additional major expenditures associated with this work task in FY08 include drainage and infrastructure improvements to allow efficient water delivery and drainage and adequate access. Approximately 6,000 linear feet of drain ditch improvement was accomplished in FY08. Approximately 8,000 linear feet of roads were constructed/upgraded. This included a large section of road surrounding the Crane Roost that was impassible with other than 4-wheel drive vehicles. An additional 10,000 linear feet of existing roads we're also maintained (resurfaced) on the Cibola NWR Unit #1 Conservation Area. Remaining compliance documentation was also completed in FY08.

The costs for infrastructure improvements in FY08 were lower than anticipated; however, more of these improvements than originally projected were actually accomplished. Part of these savings can be attributed to better-than-expected conditions of a number of the roads that were upgraded; however, efficient execution of these improvement tasks by operators and partner support in these efforts also played a role.

Research and demonstration projects "Cottonwood Genetics" and "Mass Transplanting" were previously covered under specific work tasks E6 and E7, respectively. The costs for these projects are limited to those associated with continued maintenance and monitoring and is now covered under this work task, E24. Any additional research updates associated with these projects will be detailed in the annual report for Cibola NWR Unit 1 Conservation Area.

**Monitoring.** Fourteen vegetation plots were established at the Nature Trail and Mass Transplanting areas. Avian monitoring was conducted at the Nature Trail and Mass Transplanting areas. Multi-species monitoring methods included a mist-netting/bird banding station at the Nature Trail, rapid area searches at the Crane Roost area and intensive area searches at the Nature Trail and Mass Transplanting areas. Single species surveys were conducted for the southwestern willow flycatcher and western yellow-billed cuckoo. The Sonoran yellow warbler was the only LCR MSCP covered avian species found breeding within the conservation area. There is evidence of a Bell's vireo wintering within the Nature Trail area.

Small mammal trapping was conducted as part of a population genetic study being performed by UNLV. They confirmed the continued presence of the Colorado River cotton rat within the Nature Trail area. Acoustic bat surveys were conducted using Anabat II bat detectors coupled to zero-crossing analysis interface modules (ZCAIMs). A new study design implemented this year included adding more Anabat survey areas. Specifically, Anabat surveys were conducted two nights per quarter at four locations within the conservation area. These locations include two areas of cottonwood-willow cover type, one area of mesquite cover type, and one area of agricultural cover type. A capture survey was also conducted at the Nature Trail area. Five survey nights were performed between April and September. The western yellow bat and California leaf-nosed bat were both captured.

**FY09 Activities:** Mechanized mass transplanting in the Crane roost is planned for FY09 and will result in 154 acres of land managed for LCR MSCP covered species. Ground preparation and post-planting maintenance of the established trees will be covered under a farming services contract.

Ongoing infrastructure improvements, including additional drain construction and repair and road-building will also occur during this fiscal year. **Procurement of plant materials for FY10 phases of development will be postponed. Information from soil samples and performance of cover crops in the Hippy Fire area indicates that one or more additional seasons of soil conditioning and maintenance cover crops should occur before attempting to establish riparian species.**

Pre- and post-development monitoring will continue at Cibola NWR Unit #1 Conservation Area. Habitat, avian, small mammal, and bat monitoring will continue.

**Proposed FY10 Activities: Soil conditioning and cover-crop maintenance of fields within the Hippy Fire area will continue during FY10.** Additional infrastructure upgrades will continue in FY10, as necessary. These improvements may also include assistance in repair or upgrades to the water measuring device(s) and delivery infrastructure on the irrigation canal that supplies Unit #1. 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.

**Pertinent Reports:** *Cibola NWR Unit #1 Trip Report, November 2006* and *Cibola NWR Unit Conservation Area Development and Monitoring Plan Overview, 2007, Cibola NWR Unit*

*Conservation Area Phase 1 Plan, 2008 and Cibola NWR Unit Conservation Area Annual Report, 2008* will be posted to the LCR MSCP Web site.