

Work Task E24: Cibola NWR Unit #1

| FY07 Estimates | FY07 Actual | Cumulative Accomplishment Through FY07 | FY08 Approved Estimate | FY09 Proposed Estimate | FY10 Proposed Estimate | FY11 Proposed Estimate |
|----------------|-------------|--|------------------------|------------------------|------------------------|------------------------|
| \$120,000 | \$55,957 | \$55,957 | \$1,213,000 | \$1,072,000 | \$1,236,000 | \$1,700,000 |

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Start Date: FY07

Expected Duration: FY55

Long-term Goal: Habitat creation.

Conservation Measures: WIFL1, WRBA2, WYBA3, CRCR2, YHCR2, YBCU1, ELOW1, GIFL1, GIWO1, VEFL1, BEVI1, YWAR1, and SUTA1.

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 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 include restoration research and demonstrations 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 900 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 (180 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 313 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 100 and 146 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, 147 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: This work task is a new start in FY07.

FY07 Accomplishments: A land use agreement securing land and water resources for the life of the program was drafted and a Conservation Area Development Plan was completed. The development plan is posted on the MSCP Web site.

Regular water delivery, invasive plant mitigation, cover crop establishment, and site maintenance continued through FY07 through the use of contracted farming services. In addition, new irrigation supply turnouts were installed in the Crane Roost to allow for proper irrigation of those fields. Other capital expenditures were restricted to activities that were necessary to ensure development timelines until the Land Use Agreement was signed and Cibola NWR Unit #1 was made a conservation area of LCR MSCP. This fiscal conservation is reflected in the unspent portion of the FY07 budget.

Post-development monitoring was conducted at the Nature Trail and Mass Transplanting sections of Unit #1. Vegetation monitoring was conducted at the Nature Trail. Avian surveys were conducted at the Nature Trail and Mass Transplanting areas. No MSCP covered species were found breeding in the Mass Transplanting area. Twenty-three species were found using the Nature Trail. The Arizona Bell's vireo was the only MSCP covered species utilizing the site.

Presence/absence surveys using tape-playback were conducted for the southwestern willow flycatcher (*Empidonax traillii extimus*) and yellow-billed cuckoo (*Coccyzus americanus*) at the Nature Trail. Neither species was found breeding at the site.

Small mammal trapping was conducted at the Nature Trail, the Mass Transplanting area, the northern edge of the Crane Roost area, and the edges of the Arnett Ditch, west of the Mass Transplanting area. The Nature Trail was the only site trapped in the spring, with 7 individuals, comprising 4 species, being captured, including 1 cotton rat (*Sigmodon* spp.). During fall trapping at the Nature Trail, 20 individuals, comprising 5 species, were captured, including 12

cotton rats. At the Mass Transplanting area, 2 individuals, comprising 2 species, were captured. At the Crane Roost, 14 individuals, comprising 4 species, were captured. At Arnett Ditch, 12 individuals, comprising 3 species, were captured. Cotton rats were only captured at the Nature Trail site.

Acoustic bat monitoring was conducted at the Nature Trail and Mass Transplanting areas in November 2006, January 2007, and July 2007 using Anabat bat detectors. The California leaf-nosed bat (*Macrotus californicus*) was the only LCR MSCP covered species recorded, which occurred in November and July.

Bat mist-netting was conducted for 1 night at the Nature Trail and Mass Transplanting sites in July 2007. Four individuals, comprising 3 species were captured at the Nature Trail site, including 1 California leaf-nosed bat.

For the fifth consecutive year, a bird-banding station was operated at the Nature Trail. The station was operated in the winter for 2 consecutive days each month from October 2006 to March 2007. The station was operated in the summer approximately once every 10 days from May to August 2007.

FY08 Activities: The land use agreement was signed by USFWS and Reclamation in December. A service agreement is in place to perform road maintenance and clear the Arnett Ditch on a portion of Unit #1 as prioritized by the development schedule. These improvements will allow access for mass transplanting of trees in the Crane Roost in FY09 and will improve drainage in the Hippy Fire fields. Trees, primarily willow and cottonwood, will be ordered for mass transplanting of Crane Roost (150 acres). Regular irrigation cycles, cover crop, and soil management practices, invasive weed control, and general maintenance activities will continue in FY08.

Pre- and post-development monitoring will continue for vegetation, avian species, small mammals, and bats. The bird banding station will continue at the Nature Trail.

Proposed FY09 Activities: Additional infrastructure upgrades will continue in FY09, primarily consisting of road work and drainage improvements. Other improvements may also include assistance in repair or upgrades to the water measuring device(s) on the irrigation canal that supplies Unit #1. Overall site maintenance will also continue including regular watering and field maintenance of all the established fields within the Conservation Area's portion of Unit #1.

In FY09, approximately 150 acres of cottonwood-willow land cover will be planted in the Crane Roost fields of Unit #1. In addition, cottonwood-willow trees will be ordered for planting approximately one-half of the Hippy Fire fields (approximately 100 acres) in FY10. Planting plans, tree species used, and development phasing are covered in the Cibola NWR Unit Conservation Area Development Plan Overview.

Pre-development soil monitoring will take place before trees are planted. Post-development monitoring of vegetation, avian, small mammals, and bats will continue at the Nature Trail and Mass Transplanting areas, and will begin after planting at the Crane Roost fields. The bird banding station will continue at the Nature Trail.

Pertinent Reports: *Cibola NWR Unit #1 Trip Report, November 2006* and *Cibola NWR Unit Conservation Area Development and Monitoring Plan Overview, 2007* are posted to the LCR MSCP Web site.