



Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Cibola Valley Conservation Area

2015 Annual Report



July 2018

Work conducted under LCR MSCP Work Task E5

Lower Colorado River Multi-Species Conservation Program Steering Committee Members

Federal Participant Group

Bureau of Reclamation
U.S. Fish and Wildlife Service
National Park Service
Bureau of Land Management
Bureau of Indian Affairs
Western Area Power Administration

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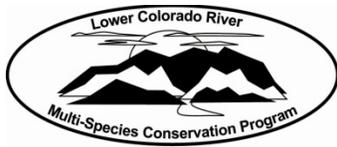
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The Nature Conservancy



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ACRONYMS AND ABBREVIATIONS

AGFD	Arizona Game and Fish Department
COB	confirmed breeding territory
CVCA	Cibola Valley Conservation Area
FY	fiscal year
HCP	Habitat Conservation Plan
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
lidar	light detection and ranging
MCWA	Mohave County Water Authority
PRB	probable breeding territory
POS	possible breeding territory
Reclamation	Bureau of Reclamation

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1.0 INTRODUCTION

The purpose of this annual report is to summarize all activities that have occurred at the Cibola Valley Conservation Area (CVCA) from October 1, 2014, through September 30, 2015, which is Federal fiscal year (FY) 2015, and projected activities for FY16. Water usage is presented for the calendar year, January 1 through December 31, 2015, consistent with water accounting reporting.

1.1 Background

In 2002, the Bureau of Reclamation (Reclamation) secured 1,309 acres of land within the Cibola Valley Irrigation and Drainage District in southwestern Arizona and established the CVCA. In September 2007, the property was conveyed to the Arizona Game and Fish Department (AGFD) through an agreement among the AGFD, Reclamation, the Mohave County Water Authority (MCWA), the Hopi Tribe, and The Conservation Fund. Under the agreement, the AGFD retains title to the property and leases the land and water rights to Reclamation until April 5, 2055, as part of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). In September 2008, a Memorandum of Understanding was signed between Reclamation and the AGFD that assures availability of land and water resources for the 50-year term of the LCR MSCP.

Large habitat conservation areas such as the CVCA are developed over a number of years, with restoration activities divided into phases as shown on figure 1 and table 1. The Cibola Valley Conservation Area Restoration Development Plan: Overview (Reclamation 2007) provides a summary of site and projected phase implementation.

2.0 CONSERVATION AREA INFORMATION

2.1 Purpose

The Fremont cottonwood-Goodding's willow (*Populus fremontii-Salix gooddingii*) (hereafter cottonwood-willow) and honey mesquite (*Prosopis glandulosa*) land cover types created within the CVCA will be managed for southwestern willow flycatchers (*Empidonax traillii extimus*), yellow-billed cuckoos (*Coccyzus americanus occidentalis*), and other species covered under the LCR MSCP.

Table 1.—Phases 1–7 planted acres

Phase	Fiscal year	Acres planted	Land cover type	Cumulative total
1	2006	91	Cottonwood-willow	91
2	2008	71	Cottonwood-willow	162
3	2007	103	Cottonwood-willow	265
4	2009	245	Honey mesquite	510
5	2010	71	Honey mesquite	581
6	2011	89	Honey mesquite	670
7	2015	72	Honey mesquite	742

2.2 Location

The CVCA is located in Arizona in Reach 4, within the Cibola Valley Irrigation District, approximately 15 miles south of Blythe, California. It is within the historic flood plain of the lower Colorado River and adjacent to River Miles 99 to 105 on the Arizona side (see figure 1).

2.3 Landownership

The AGFD acquired CVCA land and water rights in 2007 and 2008 through multiple agreements involving the AGFD, Reclamation, the MCWA, The Conservation Fund, and the Hopi Tribe. Through these agreements, the AGFD acquired CVCA fee title and water entitlements and agreed to manage the site. The entitlements are subject to an existing long-term lease of the land and water rights to Reclamation through April 5, 2055, as part of the LCR MSCP. Short-term leases of the land to farmers for crop production also exist on portions of the acquired land.

2.4 Water

For the long term, a 2,838 acre-foot-per-year diversionary right of 4th priority Colorado River water is available (table 2). Additionally, a 7,747 acre-foot diversionary right of combined 4th, 5th, and 6th priority Colorado River water is currently available for lease each year from the MCWA to the LCR MSCP to accommodate the higher water diversions required to establish habitat.

Table 2.—Water entitlement and priority

Term	Entitlement	Priority
Long term		
AGFD entitlement	2,719 acre-feet/year	4th
Reclamation entitlement	119 acre-feet/year	4th
Long-term total	2,838 acre-feet/year	
Short term		
Multi-year lease from MCWA entitlement	5,997 acre-feet/year	4th
Multi-year lease from MCWA entitlement	750 acre-feet/year	5th
Multi-year lease from MCWA entitlement	1,000 acre-feet/year	6th
Short-term total	7,747 acre-feet/year	

2.5 Agreements

A Land Use Agreement was signed in 2007 by Reclamation and the AGFD to secure land and water for the CVCA for the remainder of the 50-year LCR MSCP. The agreement outlines the rights and responsibilities of each partner in the project’s development and maintenance.

2.6 Public Use

The AGFD has the authority and is the lead to regulate hunting and recreation uses pursuant to AGFD statutes, regulations, and policies at the CVCA. In cooperation with Reclamation, the AGFD coordinates its public use and related activities so they are compatible with management of the site for the LCR MSCP. Low-impact public uses, such as wildlife watching, sport fishing, and education/outreach, are expected at the CVCA. However, these uses may be regulated depending on future occupation of the habitat by listed species.

2.7 Law Enforcement

The AGFD is responsible for law enforcement at the CVCA. A LCR MSCP Conservation Area Specific Fire Management & Law Enforcement Strategy was finalized for the CVCA (LCR MSCP 2010).

2.8 Wildfire Management

A Fire Management & Law Enforcement Strategy has been finalized for the CVCA (LCR MSCP 2010). The LCR MSCP will continue to work with local State and Federal fire agencies to reduce the risk of wildland fires and to maintain clear lines of communication among agencies.

3.0 HABITAT DEVELOPMENT

3.1 Planting

FY15 restoration activities at the CVCA consisted of irrigation, maintenance, monitoring activities, and the planting of Phase 7. Honey mesquite previously planted in Phases 4, 5, and 6 have established to the point where irrigation is no longer needed, and any future irrigation of these phases will only occur on an as-needed basis. In preparation of planting Phase 8 in FY16, grubbing, tamarisk (*Tamarix* spp.) removal, field leveling, and contouring was completed in addition to relocating the perimeter access road. Phase 8 was also planted with winter wheat for ground stabilization in preparation for planting.

Phase 7 was planted in furrows running east west with moderate sinuosity to reduce the amount of irrigation needed by funneling the water directly to the trees as opposed to flooding the entire field. The planting occurred in March and included approximately 3,150 honey mesquite and 300 cottonwoods planted by hand. The cottonwoods are concentrated on the east side of the phase in order to be closer to the irrigation source. Future planting of phases within the CVCA will continue through FY19 based on the current plan.

3.2 Irrigation

Flood irrigation methods are used to provide water to each field. Irrigation amounts applied in each phase were based on monthly invoices prepared by the Cibola Valley Irrigation and Drainage District. Irrigation scheduling was recommended by the contract farmer along with input from Reclamation. The total irrigation amount utilized at the CVCA for calendar year 2015 was 2,545.7 acre-feet.

3.3 Site Management

Normal road maintenance, such as watering, grading, and gravel road base replacement, was completed as needed.

3.3.1 Weed Management

Invasive weeds and plant material adjacent to the irrigation canals were removed to protect the integrity of the concrete lining. Disking was done quarterly along the levee road. The disking extended 50 feet into the fields to reduce the risk of fire. Disking was also conducted between the furrows in Phase 7 due to the increased presence of invasive species, including goathead (*Tribulus terrestris*) and pigweed (*Amaranthus* spp.). Invasive species were also treated with herbicide in the furrows.

3.3.2 Nursery Management

Coyote willow (*Salix exigua*) poles were collected from the nursery.

4.0 MONITORING

4.1 Avian Monitoring

Avian monitoring in FY15 included surveys for southwestern willow flycatchers, yellow-billed cuckoos, and riparian breeding birds. Additional avian monitoring was conducted at a Monitoring Avian Productivity and Survivorship station.

4.1.1 Southwestern Willow Flycatcher Surveys

Surveys to detect the presence of southwestern willow flycatchers were conducted five times during FY15 in cottonwood-willow habitat. No breeding or resident southwestern willow flycatchers were detected. Migrant willow flycatchers (*Empidonax traillii*) were detected in May and June. Most birds detected after June 24 or individuals detected repeatedly before June 24 are considered to be southwestern willow flycatchers. Birds detected before June 24 and those detected only once after June 24 are considered migrant willow flycatchers (McLeod and Pellegrini 2017).

4.1.2 Yellow-billed Cuckoo Surveys

Five surveys for yellow-billed cuckoos were conducted within the riparian portion of the CVCA. There were five cuckoo detections on June 24 during the first survey period. During the second survey period, on July 6, there were six detections. Between July 15 and July 20 during the third survey period, five cuckoos were detected. Five cuckoos were detected on August 3 during the fourth survey period, and none were detected during the fifth survey period, when surveys were conducted on August 12 and 17 (Parametrix, Inc., and Southern Sierra Research Station 2016).

Breeding was not confirmed at the CVCA in FY15. Due to the behavior of this species, detections alone do not indicate the number of cuckoos present, nor do detections confirm breeding. The number, timing, and location of detections, along with behaviors observed, may be used to estimate abundance, distribution, and/or breeding status. The confirmed (COB), probable (PRB), and possible (POS) counts were used to estimate the number of breeding territories and not the number of breeding pairs. Territory estimates represent two adults associated with a single nest. There were no COB territories, no PRB territories, and five POS territories at the CVCA in FY15 (Parametrix, Inc., and Southern Sierra Research Station 2016).

4.1.3 General Bird Surveys

Bird surveys were conducted to detect breeding LCR MSCP riparian bird species and other territorial riparian bird species. Surveys were conducted within areas of the cottonwood-willow and mesquite land cover types that were of adequate growth to support breeding birds. General bird surveys resulted in the detection of 21 species (260.5 territories) of birds breeding within the surveyed plots. Summer tanagers (*Piranga rubra*) were confirmed breeding (Great Basin Bird Observatory 2015).

Table 3 shows the number of breeding territories of LCR MSCP covered species at the CVCA in FY15 (Great Basin Bird Observatory 2015).

Table 3.—Number of breeding territories per LCR MSCP covered species¹ at the CVCA, FY15

LCR MSCP covered species	Number of confirmed breeding pairs
Summer tanager	0.25

¹ Number of breeding territories refers to the number of territories that are within the sampled area for pairs that were confirmed breeding. Partial territories are possible, as the amount of each territory within the sampled area was estimated to 0.25, 0.5, 0.75, or 1.0.

A bird banding station was operated 10 times from May 1 through July 30, 2015. No LCR MSCP species were captured (Dodge and Kahl 2017).

4.2 Small Mammal Monitoring

4.2.1 Bat Monitoring

Acoustic and capture survey methods were used to monitor bats in order to document the presence of species using the CVCA and to determine the age, sex, and reproductive status of bats that were captured.

4.2.1.1 Acoustic Surveys

Two long-term monitoring stations were operated during June, July, and August 2015. Western red bats (*Lasiurus blossevillii*), western yellow bats (*Lasiurus xanthinus*), and California leaf-nosed bats (*Macrotus californicus*) were detected (table 4). Table 4 summarizes the total number of nights the four LCR MSCP species were detected in FY15 (Mixan and Diamond 2018).

Table 4.—LCR MSCP bat detections by month at the CVCA, FY15

Month	Number of nights recorded	Total nights detected							
		Western red bat		Western yellow bat		California leaf-nosed bat		Pale Townsend's big-eared bat ¹	
		CVCA 1	CVCA 2	CVCA 1	CVCA 2	CVCA 1	CVCA 2	CVCA 1	CVCA 2
June	30	11	2	29	2	1	0	0	0
July	31	13	5	30	16	1	3	0	0
August	31	17	7	30	24	2	5	0	0

¹ Genetic analyses on the pale Townsend's big-eared bat indicate that the lower Colorado River is likely in the range of the Pacific Townsend's big-eared bat (*Corynorhinus townsendii townsendii*) rather than the pale Townsend's big-eared bat (Piaggio and Perkins 2005). The bats recorded along the lower Colorado River will be referred to as pale Townsend's big-eared bats in this report, as the nomenclature change has not yet been verified by the U.S. Fish and Wildlife Service.

4.2.1.2 Capture Surveys

Bats were captured with mist nets at the CVCA 1 night per month from February to September 2015. Five western red bats, 10 western yellow bats, and 6 California leaf-nosed bats were captured (Calvert 2016).

4.2.2 Rodent Monitoring

Live trapping was conducted on April 7, 2015, to determine the presence of the LCR MSCP covered rodent species. Sixty traps each were set on transects in Phases 1, 2, and 4. Eleven Colorado River cotton rats (*Sigmodon arizonae plenus*) and 18 desert pocket mice (*Chaetodipus penicillatus*) were captured. The

subspecies of the desert pocket mice was not determined, but they are not expected to be the *sobrinus* subspecies, as the CVCA is south of the subspecies' documented range (Hill 2017).

4.3 MacNeill's Sootywing Skipper Monitoring

Surveys for MacNeill's sootywing skippers (*Pholisora graciellae* = *Hesperopsis graciellae* [MacNeill]) were conducted in April, May, and June 2015. MacNeill's sootywing skippers were present at plots containing quailbush (*Atriplex lentiformis*) within the CVCA (Nelson et.al. 2017).

5.0 HABITAT CREATION CONSERVATION MEASURE ACCOMPLISHMENT

5.1 Vegetation Monitoring

Vegetation data were collected in FY15 using light detection and ranging (lidar). Lidar measures the vegetation structure throughout the canopy and provides the ability to identify structural diversity and successional growth stages. Conservation area vegetation will be evaluated on a periodic basis using lidar to ensure the habitat is meeting species' requirements. A procedure to analyze and provide vegetation structure metrics will be developed, and the results will be presented in future reports.

5.2 Evaluation of Conservation Area Habitat

The Final Habitat Creation Conservation Measure Accomplishment Tracking Process was finalized in October 2011 (LCR MSCP 2011). All areas within the CVCA were designed to benefit covered species at the landscape level.

To meet species habitat creation requirements, the Habitat Conservation Plan (HCP) provides goals for habitat creation based on land cover types. These land cover types are described using the Anderson and Ohmart vegetation classification system (Anderson et al. 1976, 1984a and 1984b). Thirteen species with habitat creation goals have creditable acres at the CVCA. These species, including their corresponding conservation measure acronyms, are: southwestern willow flycatcher (WIFL1), western red bat (WRBA2), western yellow bat (WYBA3), Colorado River cotton rat (CRCR2), yellow-billed cuckoo (YBCU1), elf owl (*Micrathene whitneyi*) (ELOW1), gilded flicker (*Colaptes chrysoides*) (GIFL1), Gila woodpecker (*Melanerpes uropygialis*) (GIWO1), vermilion flycatcher (*Pyrocephalus rubinus*) (VEFL1), Arizona Bell's vireo

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(*Vireo bellii arizonae*) (BEV1), Sonoran yellow warbler (*Dendroica petechia sonorana* = *Setophaga petechia sonorana*) (YWAR1), summer tanager (SUTA1), and MacNeill’s sootywing skipper (MNSW2) (table 5).

Table 5.—Species-specific habitat creation conservation measure total acres for 2015

Species-specific habitat creation conservation measure	WIFL1	WRBA2	WYBA3	CRCR2	YBCU1	ELOW1	GIFL1	GIWO1	VEFL1	BEV1	YWAR1	SUTA1	MNSW2
Creditable acres in 2015	0 ¹	0	0	0	0	0	0	0	0	0	0	0	0
Total, including previous years	0	670	670	670	265	670	265	265	670	405	265	265	405

¹ Although the CVCA provides the appropriate structure type (cottonwood-willow I-IV) as defined in WIFL1 of the HCP, Reclamation is in the process of gathering the appropriate hydrologic data to determine saturated soils, moist soils, or slow-moving water. Once this has been determined, the CVCA will be evaluated.

6.0 ADAPTIVE MANAGEMENT RECOMMENDATIONS

Adaptive management relies on the initial receipt of new information, the analysis of that information, and the incorporation of the new information into the design and/or direction of future project work (LCR MSCP 2007). The Adaptive Management Program’s role is to ensure habitat creation sites are biologically effective and fulfill the conservation measures outlined in the HCP for 26 covered species and if they potentially benefit 5 evaluation species. Post-development monitoring and species research results will be used to adaptively manage habitat creation sites after initial implementation. Once monitoring data are collected over a few years, and then analyzed for the CVCA, recommendations may be made through the adaptive management process for site improvements in the future.

There are no adaptive management recommendations for the CVCA at this time.

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