Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Big Bend Conservation Area

2015 Annual Report

July 2018

Work conducted under LCR MSCP Work Task E25

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

Arizona Participant Group

Arizona Department of Water Resources
Arizona Electric Power Cooperative, Inc.
Arizona Game and Fish Department
Arizona Power Authority
Central Arizona Water Conservation District
Cibola Valley Irrigation and Drainage District
City of Bullhead City
City of Lake Havasu City
City of Mesa
City of Somerton
City of Yuma
Electrical District No. 3, Pinal County, Arizona
Golden Shores Water Conservation District
Mohave County Water Authority
Mohave Valley Irrigation and Drainage District
Mohave Water Conservation District
North Gila Valley Irrigation and Drainage District
Town of Fredonia
Town of Thatcher
Town of Wickenburg
Salt River Project Agricultural Improvement and Power District
Unit "B" Irrigation and Drainage District
Wellton-Mohawk Irrigation and Drainage District
Yuma County Water Users' Association
Yuma Irrigation District
Yuma Mesa Irrigation and Drainage District

Other Interested Parties Participant Group

QuadState Local Governments Authority
Desert Wildlife Unlimited

California Participant Group

California Department of Fish and Wildlife
City of Needles
Coachella Valley Water District
Colorado River Board of California
Bard Water District
Imperial Irrigation District
Los Angeles Department of Water and Power
Palo Verde Irrigation District
San Diego County Water Authority
Southern California Edison Company
Southern California Public Power Authority
The Metropolitan Water District of Southern California

Nevada Participant Group

Colorado River Commission of Nevada
Nevada Department of Wildlife
Southern Nevada Water Authority
Colorado River Commission Power Users
Basic Water Company

Native American Participant Group

Hualapai Tribe
Colorado River Indian Tribes
Chemehuevi Indian Tribe

Conservation Participant Group

Ducks Unlimited
Lower Colorado River RC&D Area, Inc.
The Nature Conservancy

Lower Colorado River Multi-Species Conservation Program

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ACRONYMS AND ABBREVIATIONS

BBCA	Big Bend Conservation Area
FY	fiscal year
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
lidar	light detection and ranging
pH	the acidity or basicity (alkalinity) of an aqueous solution
Reclamation	Bureau of Reclamation
SNWA	Southern Nevada Water Authority

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1.0 INTRODUCTION

The purpose of this annual report is to summarize all activities that have occurred at the Big Bend Conservation Area (BBCA) 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

The Bureau of Reclamation (Reclamation), State of Nevada, and the Southern Nevada Water Authority (SNWA) worked in partnership since 2005 to secure the Boy Scout Camp property and protect the adjacent backwater for inclusion into the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). The Boy Scout Camp property purchased by the SNWA (15 acres of upland honey mesquite [*Prosopis glandulosa*] habitat) and the adjacent 15 acres of backwater within Reach 3 owned by the State of Nevada are collectively known as the Big Bend Conservation Area.

The LCR MSCP has a conservation measure requiring the creation of 85 acres of flannelmouth sucker (*Catostomus latipinnis*) habitat within Reach 3 (Davis Dam to Parker Dam). In addition, the program also requires the creation of 360 acres of backwater for both razorback suckers (*Xyrauchen texanus*) and bonytail (*Gila elegans*).

Flannelmouth suckers were reintroduced into the Colorado River below Davis Dam by the Arizona Game and Fish Department in 1976 by transfer of fish captured at the confluence of the Colorado and Paria Rivers at Lee's Ferry, Arizona. This stock has persisted for three decades and now represents the only known population of this native species in the Colorado River downstream from the Grand Canyon.

2.0 CONSERVATION AREA INFORMATION

2.1 Purpose

Backwater habitat maintained within the BBCA is being managed for flannelmouth suckers, razorback suckers, and bonytail. The adjacent marsh habitat is being maintained for western least bitterns *(Ixobrychus exilis hesperis*) and Yuma clapper rails (*Rallus longirostris yumanensis* [also known as Ridgway's rail = *R. obsoletus yumanensis*]). The upland honey mesquite habitat is being maintained to provide foraging habitat for additional LCR MSCP covered species and to provide a venue for low-impact recreation.

2.2 Location

The BBCA is located in Reach 3, in Laughlin, Nevada. It is within the historic flood plain of the lower Colorado River at River Mile 266. The total project footprint is 30 contiguous acres (figure 1).

2.3 Landownership

The 15 acres of backwater habitat is owned by the State of Nevada, and the 15 acres of upland honey mesquite is owned by the SNWA (figure 2).

2.4 Water

The SNWA has an entitlement to Colorado River water for use on 15 acres of honey mesquite upland for up to 10 acre-feet per year. However, the restored honey mesquite plantings have reached the water table; therefore, irrigation is no longer required.

2.5 Agreements

A Land Use Agreement was signed in 2008 by Reclamation, the SNWA, and the State of Nevada to secure land and water for the BBCA 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 upland area consists of a low-impact recreational hiking trail and a wildlife viewing area. Interpretive signage is located at the gravel parking lot for visitors. Although the LCR MSCP does not have substantial involvement in the interpretive area, cooperation is necessary to ensure all activities conducted in the upland area are consistent with the program's goals and objectives.

The backwater area has been designated as a no-wake zone. Coordination between the Nevada Department of Wildlife and the Nevada Wildlife Commission resulted in the installation of two buoys at the entrance to the backwater to designate the wakeless area. Installation of the buoys occurred after the Wildlife Commission in FY10 approved the BBCA backwater as a no-wake

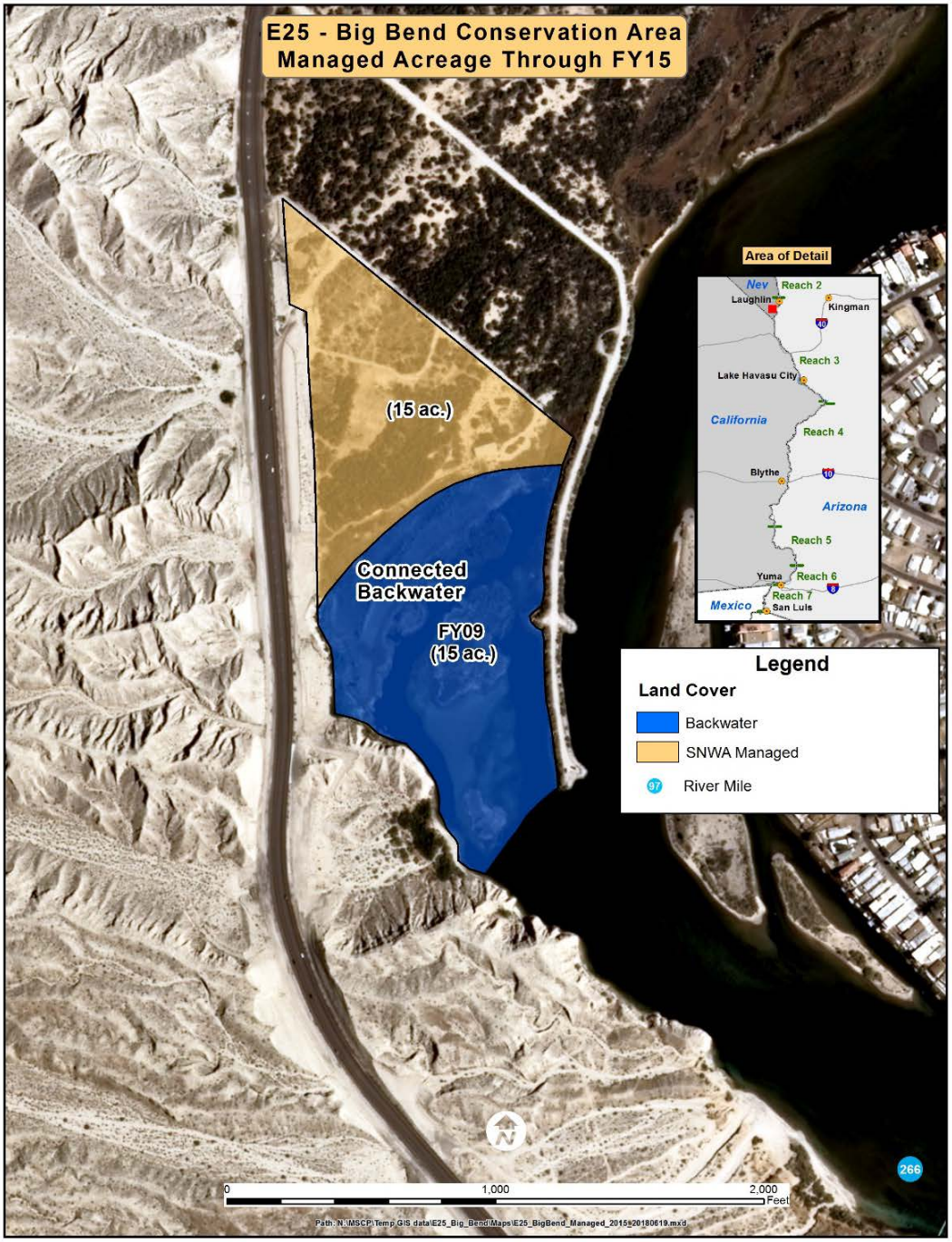

Figure 1.—LCR MSCP planning area with the BBCA.

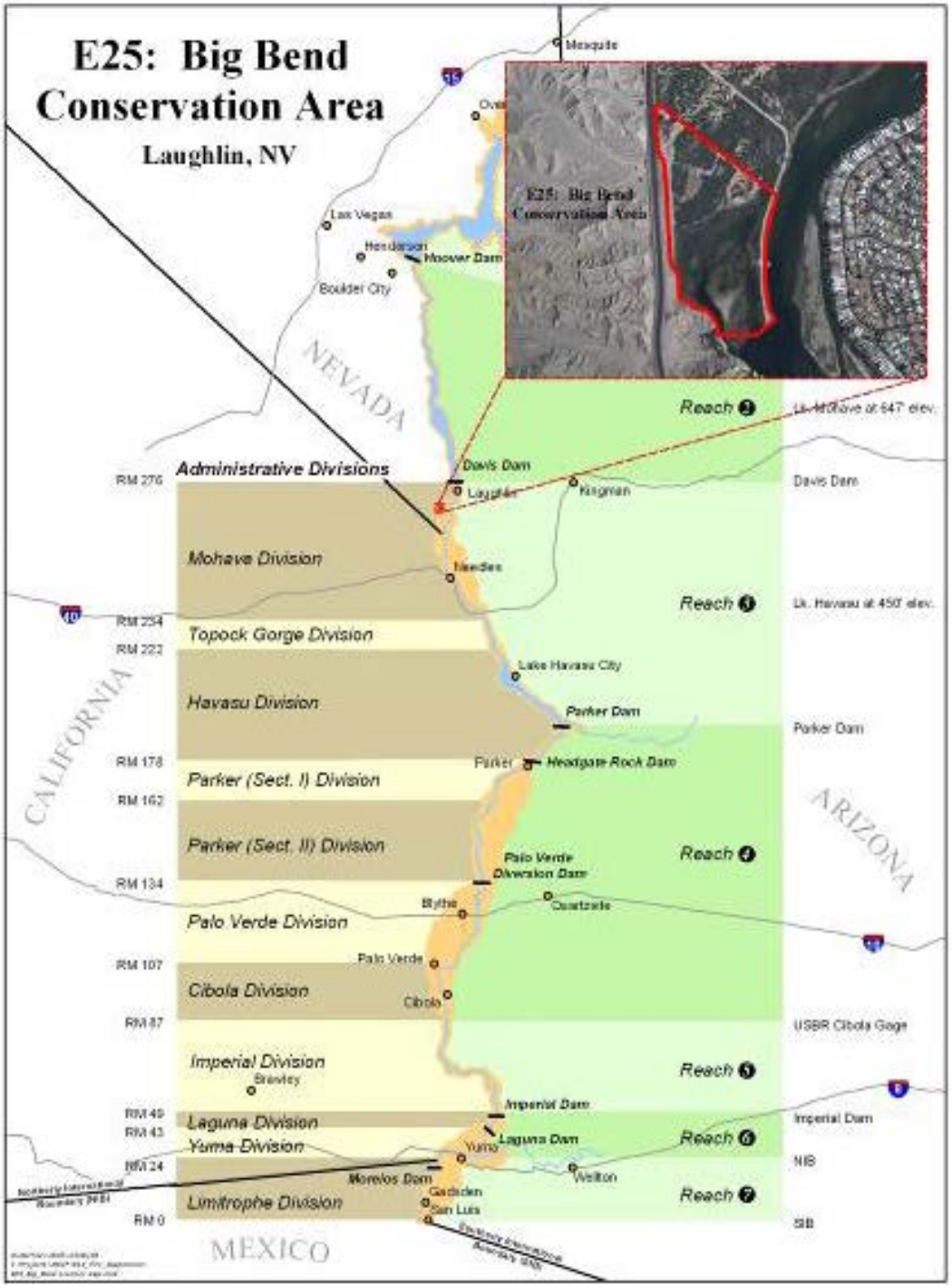

Figure 2.—The BBCA.

zone (Colorado River Regulation 382, Legislative Council Bureau File No. R004-10). The buoys restrict access to the backwater to only wake-less speed in order to decrease disturbance to the wildlife.

2.7 Law Enforcement

The SNWA is responsible for law enforcement at the BBCA. A LCR MSCP Conservation Area Specific Fire Management & Law Enforcement Strategy was finalized for the BBCA (LCR MSCP 2010). Reclamation continues to work with the SNWA and local officials to ensure law enforcement activities do not conflict with the LCR MSCP Habitat Conservation Plan.

2.8 Wildfire Management

A LCR MSCP Conservation Area Specific Fire Management & Law Enforcement Strategy has been finalized for the BBCA (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 AND MANAGEMENT

3.1 Planting

There were no new plantings at the BBCA during FY15.

3.2 Irrigation

The Big Bend backwater fluctuates with the daily rise and fall of the Colorado River's operation. No irrigation is required.

3.3 Site Maintenance

The SNWA contracted the Jean Conservation Camp crew to conduct trail and habitat maintenance activities in March 2015 for 4 days. Existing piles of invasive vegetation, such as saltcedar (*Tamarix* spp.) and fountaingrass

(*Pennisetum setaceum*) that were cut down in previous years, were mulched onsite. The mulched material was spread on trails for dust and erosion control on the eastern end of the upland area.

A 200-foot section of interior chain-link fence was removed along the path of the wash that divides the Big Bend State Park lands from the upland BBCA. Removal of the fencing provides an unobstructed path for the wash that would otherwise damage the chain-link fence during every storm event. BBCA interior roads were repaired and bladed in March 2015 after the September 2014 flood event that swept through and damaged the roads.

The BBCA upland section experienced flood damage in August 2015 following a trend with similar flood damage from September 2013 and 2014. The main wash leading into the site carried debris over Needles Highway and into the BBCA, damaging the security fence along the highway and filling the culverts with sediment. Clark County had cleared the culverts of sediment in spring 2015, but the August 2015 storm clogged the four culverts completely. The LCR MSCP Project Manager was contacted by the SNWA regarding the damage and indicated that Clark County would be responsible for clearing the culverts, and the fencing repair would be the responsibility of the SNWA in FY16. Additionally, the split-rail wood fence within the parking lot of the BBCA was knocked over in several locations. The LCR MSCP notified the SNWA of the fence damage and indicated the repair work would be the responsibility of the SNWA.

4.0 MONITORING

4.1 Backwater Monitoring

Routine fisheries monitoring of the BBCA was conducted monthly from December through May. Monitoring included the use of trammel netting, remote passive integrated transponder scanning, and larval light trapping in areas where adequate water levels permitted access and native fishes had previously been contacted. The water quality was also recorded during each monitoring trip and at least quarterly for the remainder of the year.

4.1.1 Native Fishes

In FY15, 12 adult razorback and 3 adult flannelmouth suckers were captured or contacted within the BBCA. All but one of the razorback suckers originated from localized stocking events that had occurred within the previous 3 years. Multiple telemetered (sonic- or radio-tagged) juvenile flannelmouth suckers were also contacted within the backwater through ongoing research being carried out under Work Task C53. Juvenile flannelmouth suckers were observed to use

cattail (*Typha* spp.) and *Schoenoplectus* stands within the backwater for periods of 1–3 weeks. Larval fish surveys were also conducted throughout the spawning season, with razorback and flannelmouth sucker larvae being captured at rates similar to previous years.

4.1.2 Water Quality

The water quality was recorded at a single location in the backwater during each fish monitoring trip. Due to its hydrological connection to the river, this backwater maintained excellent water quality throughout the year. Temperature, dissolved oxygen, pH, and conductivity all remained within the known thresholds for native fishes throughout FY15.

4.2 Avian Monitoring

Avian monitoring in FY15 included surveys for marsh birds.

4.2.1 Marsh Bird Surveys

Presence surveys for California black rails (*Laterallus jamaicensis coturniculus*), western least bitterns, Virginia rails (*Rallus limicola*), and Yuma clapper rails were conducted in marsh habitat at the BBCA in three survey sessions during March and April. There were no LCR MSCP covered species detected during the first two survey sessions (March 16 and April 10). There was one detection of a Yuma clapper rail during the third survey session (April 21) (Ronning and Kahl 2017).

4.3 Small Mammal Monitoring

Rodent monitoring was conducted at the BBCA in FY15.

4.3.1 Rodent Monitoring

Live trapping was conducted in the fall and spring of FY15 to determine the presence of Colorado River cotton rats (*Sigmodon arizonae plenus*) and desert pocket mice (*Chaetodipus pencillatus*). In fall, 120 traps were set on transects at the BBCA for 1 night, and in spring, 80 traps were set on transects for 1 night. One Colorado River cotton rat was captured in fall and four were captured in spring. Fourteen desert pocket mice were captured in fall and two were captured in spring; it is likely they were of the *sobrinus* subspecies based on range (Hill and Calvert 2016; Hill 2017).

4.4 MacNeill's Sootywing Skipper Monitoring

Surveys for MacNeill's sootywing skippers (*Pholisora gracielae = Hesperopsis gracielae* [MacNeill]) were conducted in April, May, and June 2015. There were no MacNeill's sootywing skippers documented in the BBCA (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 and provides the ability to identify structural diversity and successional growth stages. BBCA 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.

Preliminary analyses suggest that airborne lidar may not provide the necessary detail for evaluating marsh habitat. Alternative techniques will be explored.

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 BBCA were designed to benefit covered species at the landscape level. The BBCA was brought into the LCR MSCP to benefit flannel mouth suckers (FLSU1), razorback suckers (RASU2), and bonytail (BONY2), including other covered species.

Table 1.—Species-specific habitat creation conservation measure creditable total acres for 2015

Species-specific habitat creation conservation measure	FLSU1	RASU2	BONY2
Creditable acres in 2015	0	0	0
Total, including previous years	15	15	15

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 Habitat Conservation Plan 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 BBCA, recommendations may be made through the adaptive management process for site improvements in the future.

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

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