



Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Big Bend Conservation Area

2011 Annual Report



December 2014

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



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December 2014

Miller, D., J. Lantow, L. Sabin, and S. Kokos. 2014. Big Bend Conservation Area, 2011 Annual Report. Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Lower Colorado Region, Boulder City, Nevada.

ACRONYMS AND ABBREVIATIONS

BBCA	Big Bend Conservation Area
DO	dissolved oxygen
FY	fiscal year
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
NDOW	Nevada Department of Wildlife
Reclamation	Bureau of Reclamation
SNWA	Southern Nevada Water Authority

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BACKGROUND

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

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

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.

Since 2007, all stakeholders involved have worked together to analyze both the backwater and upland mesquite areas as a potential LCR MSCP conservation area. Beginning in fiscal year 2009, both the backwater and upland mesquite areas were combined to form the BBCA.

1.0 GENERAL SITE INFORMATION

1.1 Purpose

The purpose of the Big Bend Conservation Area (BBCA) is to protect an existing backwater from development. Several life stages of all three Lower Colorado River Multi-Species Conservation Program (LCR MSCP) covered native fish species (flannelmouth sucker, razorback sucker, and bonytail chub) have been contacted in and around the backwater. Due to the limited number of available backwaters within Reach 3 and increasing urban development in the surrounding areas, securing this property for native fishes is a priority of the LCR MSCP.

The upland mesquite portion is being restored by the Southern Nevada Water Authority (SNWA) to complement the conservation area. The area is not being managed as habitat for the LCR MSCP at this time; therefore, it is not described in this document.

1.2 Location/Description

The site is physically located in southern Nevada south of the town of Laughlin. Needles Highway and Hotel Casino Drive is the major nearby intersection. The conservation area is located between River Miles 265–266.

The property is a private in-holding of the Big Bend of the Colorado State Recreation Area. Figures 1–3 describe the location of the BBCA in more detail.

1.3 Landownership

The backwater portion is owned by the State of Nevada. In September 2005, the SNWA purchased the 15 acres of upland mesquite adjacent to the backwater.

1.4 Water

No water entitlement is required for management of the backwater.

1.5 Agreements

A Memorandum of Agreement was signed by the Bureau of Reclamation (Reclamation), SNWA, Nevada Department of Wildlife (NDOW), and Nevada

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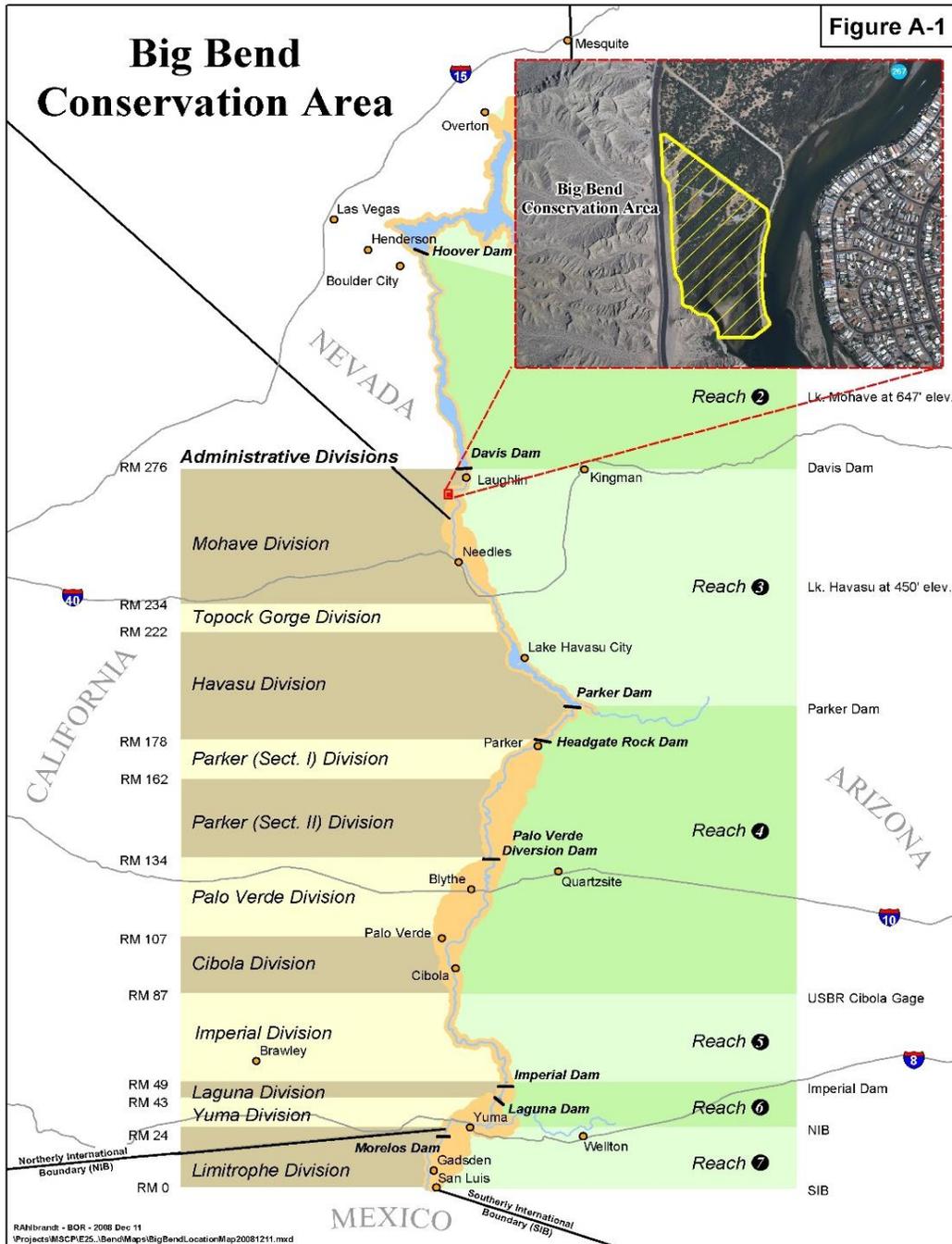


Figure 1.—Big Bend River location map.

E25: Big Bend Conservation Area

Exhibit A-2



Figure 2.—Big Bend State Park and BBCA boundaries.

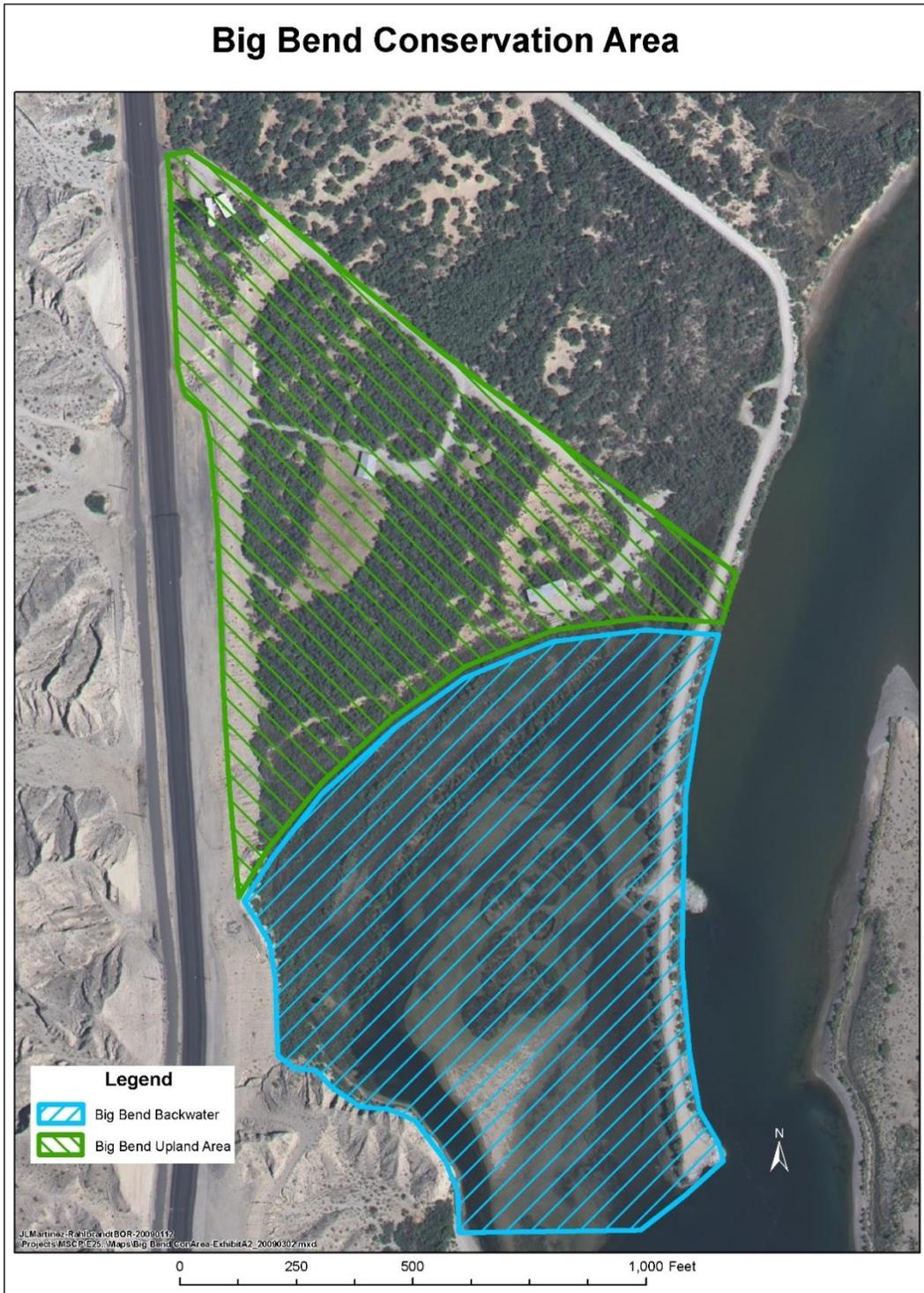


Figure 3.—BBCA backwater and upland boundaries.

State Parks, committing resources to the evaluation of the property as a LCR MSCP conservation area in 2007. A long-term Land Use Agreement was signed by Reclamation, SNWA, NDOW, Nevada State Parks, and the Nevada Department of Conservation and Natural Resources in February 2010, agreeing to the protection of the backwater and the restoration efforts by the SNWA on the upland mesquite area.

To establish the value of the land, a Federal appraisal was conducted. The appraisal price for the upland mesquite area was set at \$872,000. The compensation was split over two fiscal years (FY): FY10 and FY11. An in-kind contribution by the SNWA of \$436,000 was agreed upon for compensation each year. The 10 acre-feet of water attached to the Boy Scout property acquired by the SNWA was excluded from the Federal appraisal. Compensation was approved by the Steering Committee in October 2008. A long-term lease agreement was signed in March 2010 by the LCR MSCP and SNWA.

1.6 Public Use

The upland mesquite 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 their activities do not conflict with the LCR MSCP Habitat Conservation Plan.

1.7 Law Enforcement

The SNWA is responsible for law enforcement for the upland mesquite portion at the BBCA. The NDOW is responsible for law enforcement on the backwater portion. Reclamation will work with the SNWA and NDOW to ensure their activities do not conflict with the LCR MSCP Habitat Conservation Plan.

1.8 Wildfire Management

A LCR MSCP Conservation Area Specific Fire Management and Law Enforcement Strategy was finalized for the BBCA in August 2009 and posted to our Web site in January 2010.

2.0 HABITAT DEVELOPMENT AND MANAGEMENT

2.1 Buoy Installation

Coordination between the NDOW and the Nevada Wildlife Commission resulted in the installation of two buoys at the entrance to the backwater, consistent with a motion passed by the Nevada Wildlife Commission in FY10 for Commission General Regulation 382, Colorado River Regulation, LCB File No. R004-10. Under, Regulation 382, the BBKA backwater was approved as a no-wake zone. Two buoys were installed in June 2011 and restrict access to the backwater to only wake-less speed in order to decrease disturbance to wildlife.

3.0 MONITORING

3.1 Site Monitoring

Monitoring of the backwater is ongoing. Maintenance and adaptive management will be conducted as needed based on data collected during monitoring activities.

3.2 Marsh Bird Surveying

Using a standardized protocol from the National Marsh Bird Monitoring Program, surveys for the California black rail, least bittern, Virginia rail, and Yuma clapper rail were performed between March 15 and May 31 (U.S. Fish and Wildlife Service 2003, 2006; Conway 2008). Three surveys were conducted during the appropriate time period during 2011. Surveys began 30 minutes before sunrise and continued until marsh birds ceased calling, but never continued later than 10:00 a.m. Four survey stations were surveyed for each of the three surveys conducted on March 30, April 29, and May 13. There were no LCR MSCP covered species detected. A sora and Virginia rail were detected in the first survey period.

3.3 Fish Surveying

Presence/absence surveys were performed monthly between March 1 and May 10 for covered fish species of the LCR MSCP. The timing of the surveys was selected to coincide with spawning activities of the razorback and flannelmouth sucker (Mueller 2003). All trips consisted of two nights of sampling and included trammel netting, electrofishing, and larval collections.

Seven to 10 net survey nights were conducted at locations determined by water elevation and/or historic contacts of native fish. Nets of varying mesh sizes (0.5–1.5 inches) were used. Electrofishing was conducted in the evening along the perimeter and body of the backwater where water depths were less than 8 feet. Larval collections were conducted in 15-minute intervals at a minimum of three locations per night using protocols similar to Albrecht et al. 2010.

Trammel netting yielded three razorback suckers ranging in size from 351–470 millimeters and a single subadult flannelmouth at 365 millimeters. Zero natives were contacted during electrofishing surveys, while larval surveys resulted in the capture of approximately 30 flannelmouth suckers (18 positively identified).

Water quality was monitored during each of the fish surveys along with supplemental water quality surveys in June, July, and September. Vertical profiles were recorded from the deepest point of the backwater at 0.5-meter increments using a YSI professional plus multi-parameter probe or similar instrument. Nominal parameters measured included temperature, conductivity, dissolved oxygen (DO) and pH. A 24-hour surface deployment of an In Situ Troll© 9500 was used to supplement and validate the vertical profiles and to further monitor diel changes. Water quality results showed that the minimum and maximum values for each parameter of interest remained within the range of acceptability for native fish. The recorded ranges within the backwater were: temperature (14.6–22.5 degrees Celsius), pH (7.81–8.46), DO (5.95–16.26 milligrams per liter), and conductivity (912–971 microsiemens per centimeter).

Additional backwater monitoring included a single collection of water samples for chemical analyses as well as a single zooplankton sample. The lab analyses for water chemistry included parameters related to general chemistry, nutrients, and metals. Additional water and zooplankton monitoring was conducted to establish baseline data and a trend analysis. The results of the analyses will be incorporated into future reports.

4.0 HABITAT CREATION CONSERVATION MEASURE ACCOMPLISHMENT

The Final Habitat Creation Conservation Measure Accomplishment Tracking Process was finalized in October 2011 (Reclamation 2011). The BBCA was brought into the LCR MSCP to benefit the flannelmouth sucker (FLSU1), razorback sucker (RASU2), and bonytail (BONY2), including other covered species.

The species-specific conservation measure creditable total acres are provided in table 1.

Table 1.—Species-specific habitat creation conservation measure creditable total acres for 2011

Species-specific habitat creation conservation measure	FLSU1	RASU2	BONY2
Creditable acres in 2011	15	15	15

In 2011, the percent of open water and marsh was delineated using aerial imagery in ArcGIS. The BBCA supports approximately 7 acres of open water and 8 acres of marsh, which may provide rearing habitat for young fishes.

5.0 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 (Reclamation 2007). Under the Adaptive Management Program, habitat creation sites will be assessed for biological effectiveness and whether they fulfill the conservation measures outlined in the Habitat Conservation Plan for 26 covered species and 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.

In 2011, management guidelines were identified for each of the targeted covered species at the BBCA. Data collection for these guidelines will commence in 2012.

At this time, there are no adaptive management recommendations for the site.

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