Lower Colorado River
Multi-Species Conservation Program

Balancing Resource Use and Conservation

Big Bend Conservation Area
Restoration Development and
Monitoring Plan: Overview

July 2009
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

**California Participant Group**
- California Department of Fish and Game
- 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
- The Cocopah Indian Tribe

**Conservation Participant Group**
- Ducks Unlimited
- Lower Colorado River RC&D Area, Inc.

**Other Interested Parties Participant Group**
- QuadState County Government Coalition
- Desert Wildlife Unlimited
Lower Colorado River
Multi-Species Conservation Program

Big Bend Conservation Area Restoration
Development and Monitoring Plan: Overview

Lower Colorado River
Multi-Species Conservation Program Office
Bureau of Reclamation
Lower Colorado Region
Boulder City, Nevada
http://www.lcrmscp.gov

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Executive Summary

Between 2005 and 2009, the Bureau of Reclamation, State of Nevada, and Southern Nevada Water Authority (SNWA) collaborated to secure the property known as Boy Scout Camp and an adjacent backwater near Laughlin, Nevada, for inclusion in the Lower Colorado River Multi-Species Conservation Program (LCR MSCP), a 50-year multi-partner program administered by Reclamation. Big Bend Conservation Area (BBCA) – which includes the 15 acres of upland in Boy Scout Camp purchased by SNWA and the 15 acres of backwater owned by the State of Nevada – will be managed by the LCR MSCP to help sustain populations of endangered fishes.

The conservation area is located on the Colorado River five miles south of Laughlin along the Needles Highway. The Boy Scout Camp property is an in-holding within the State of Nevada’s Big Bend State Recreation Area. Beginning in fiscal year 2009, the LCR MSCP has established Work Task E25: Big Bend Conservation Area to track accomplishments and expenditures associated with this location.

The portion of the Colorado River between Davis Dam and Parker Dam is home to the only self-sustaining population of flannelmouth sucker downstream of the Grand Canyon, and has very few undeveloped backwaters. This reach of the river is also experiencing extensive urban development in the form of homes, casinos, and marinas. Securing BBCA for the LCR MSCP ensures the commitment of adjacent land owners, and provides protection to the backwater to allow future restoration activities.

Past native fish monitoring efforts have indicated the presence of native fishes in and adjacent to the existing backwater. Successfully securing the site has resulted in the LCR MSCP acquiring 15 acres of backwater anticipated to benefit flannelmouth sucker, razorback sucker, and bonytail in Reach 3 of the LCR MSCP Planning Area. The 15 acres of backwater will be the focus of the Big Bend Conservation Area Restoration Development and Monitoring Plan.
Background

Big Bend Conservation Area is located on the Colorado River in Nevada’s Big Bend State Recreation Area five miles south of Laughlin on the Needles Highway. The Conservation Area encompasses 15 acres of upland owned by SNWA and 15 acres of Nevada State recreation area backwaters.

Previously known as Boy Scout Camp, the land was used for scouting activities from the late 1960s until the early 1990s. In September 2005, SNWA purchased the 15 acres (including a Colorado River water allocation of 10 acre-feet per year) from the Boy Scouts of America. The 15 acres of backwater on this property have been identified for habitat restoration for native fishes under the LCR MSCP, a 50-year multi-partner program administered by the Bureau of Reclamation.

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

Flannelmouth sucker were reintroduced into the Colorado River below Davis Dam by the Arizona Game and Fish Department in 1976 by transferring 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 of Grand Canyon.

Since 2007, all stakeholders involved have worked together to analyze both the backwater area and upland area as a potential LCR MSCP conservation area. Beginning in fiscal year 2009, both the backwater and upland area combined are known as Big Bend Conservation Area.

1.0 Introduction

Reach 3 of the LCR MSCP Planning Area maintains the only self-sustaining population of flannelmouth sucker in the Colorado River below Grand Canyon and has very few undeveloped backwaters. This area between Davis and Parker dams is experiencing extensive urban development in the form of homes, casinos, and marinas. The BBCA features river access via an adjacent backwater, making the area a likely candidate for development. Securing the property for the LCR MSCP ensures the commitment of adjacent land owners, and provides protection to the backwater to allow for future restoration activities.

Boy Scout Camp, purchased by SNWA, combined with the adjacent backwater managed by the State of Nevada, has collectively been identified as BBCA. The conservation area
includes approximately 15 acres of backwater on the Colorado River that will be protected, and approximately 15 acres of upland area adjacent to the backwater. The 15 acres of backwater will be the focus of the Big Bend Conservation Area Restoration Development and Monitoring Plan.

Past native fish monitoring efforts have indicated the presence of native fishes in and adjacent to the existing backwater. Successfully securing the site will result in 15 acres of backwater habitat credit that benefits flannelmouth sucker, razorback sucker, and bonytail in Reach 3 of the LCR MSCP Planning Area.

**Purpose**

Management of BBCA under the LCR MSCP will protect and maintain an existing backwater habitat on the Colorado River. Several life stages of three LCR MSCP covered native fish species (flannelmouth sucker, razorback sucker, and bonytail) 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.

**Location/Description**

The site is physically located on the Colorado River between river miles 265 and 266 in Nevada’s Big Bend State Recreation Area five miles south of Laughlin along the Needles Highway (Figure 1). The property is a private in-holding of the State Recreation Area. Figures 2 and 3 show the location and range of BBCA in detail.
Figure 2: Big Bend Conservation Area Boundary
Figure 3: Big Bend Conservation Area Upland and Backwater Area
Land Ownership

In 1966 the land was federally withdrawn by the U.S. Department of the Interior and transferred to Clark County, Nevada. In 1968 the land was sold to the Boy Scouts of America (BSA), which continued to actively use the location through the early 1990s. In September 2005, SNWA purchased from the BSA the 15 acres of upland adjacent to the backwater.

Water Entitlement

The Boy Scout Camp property maintains two wells and has an annual entitlement of 10 acre feet of Colorado River water. Pursuant to Assignment No. 1 of Contract No. 9-07-30-W0011, dated January 23, 2007, SNWA was assigned the right to divert up to 10 acre-feet per year of Colorado River water for use on lands in Nevada.

Agreements

In September 2007, the LCR MSCP, SNWA, Nevada Department of Wildlife (NDOW), and Nevada Division of State Parks signed a Memorandum of Agreement committing resources to the evaluation of the property as an LCR MSCP Conservation Area.

In June 2008, Work Task E25: Big Bend Conservation Area was submitted to the LCR MSCP Steering Committee as a proposed new start in FY 2009. The work plan was approved and minimal program funding has been made available. For more information regarding Work Plan E25: Big Bend Conservation Area, please see Final Implementation Report, Fiscal Year 2010 Work Plan and Budget, Fiscal Year 2008 Accomplishment Report (LCR MSCP 2009).

In 2008 and 2009, all interested parties collaborated on a Land Use Agreement (LUA) for the life of the program. This agreement will spell out the roles and responsibilities of each party, and stipulate that the backwater portion of the conservation area can only be managed for native species habitat. The LUA is scheduled to be signed by all parties in the fall of 2009.

Also in 2008 and 2009, the LCR MSCP and SNWA collaborated on a long-term lease agreement for the rental of SNWA’s 15 acres of upland. The lease price, established through a federal appraisal, will be a time payment or in-kind contribution of $872,000 for the 50-year life of the program with an option to renew the lease at no additional cost at the end of the program. The lease is scheduled to be signed by both parties in 2009.

Land Manager

Currently, the property does not have an on-site management presence; the site has been vacant since 1996 and has a chain-link fence bordering the perimeter. However, on a bi-
weekly basis, Nevada state park rangers from the Big Bend of the Colorado State Recreation Area conduct visual inspections for squatters or signs of vandalism. The Recreation Area also has on-site managers who collect daily use fees and control gate access, and are trained as first-response fire fighters.

The NDOW has also expressed interest in protecting the backwater for native fish. Commencing in 2009, NDOW game wardens will frequently patrol the area by boat to enforce Nevada state navigational regulations.

**Law Enforcement & Wildland Fire Management**

Law enforcement is addressed by the Las Vegas Metropolitan Police Department (Metro) and NDOW game wardens. In the event of trespassing on the site, state park rangers will notify the local Metro dispatch center and an officer will be called out to the site. In the event of trespassers entering the site by water, an NDOW game warden will be dispatched to the site.

The site currently does not have a wildland fire management plan. In 2009 the LCR MSCP office is working with a law enforcement and fire contractor to help develop a comprehensive LCR MSCP Law and Fire Strategy. Contractors are also developing individual conservation area-specific law and fire strategies, including one for BBCA.

**Public Use**

Currently, the land area within BBCA is closed to the public and only the backwater portion of the conservation area is accessible for public use. A low impact recreational hiking trail/wildlife viewing area is planned for the upland portion of BBCA with interpretive information panels designed and coordinated by the land owner, SNWA. Although the LCR MSCP has limited involvement in the interpretive area, activities conducted on the site will be consistent with the goals and objectives of the program.

**Environmental Compliance**

In March 2008, a Reclamation archeologist surveyed the upland portion of the conservation area, comprising 18.5 acres. No historic or prehistoric cultural manifestations were found during the survey. Reclamation has determined “no property, no effect” for BBCA.
2.0 Backwater Monitoring Plan

Both the open water and emergent marsh portions of BBCA are being monitored. Monitoring of the backwater is being conducted and tracked under Work Task C15: Flannelmouth Sucker Habitat Use, Preference and Recruitment Downstream of Davis Dam, and Work Task D-8: Razorback Sucker and Bonytail Stock Assessment. Monitoring of the emergent marsh is being conducted and tracked under Work Task D1: Marsh Bird Surveys. Summaries of both reports can be found in the Final Implementation Report, Fiscal Year 2010 Work Plan and Budget, Fiscal Year 2008 Accomplishment Report.

Backwater Monitoring

Annual monitoring of fish species for this backwater is being accomplished through multiple work tasks of the LCR MSCP, particularly D-8 (Razorback Sucker and Bonytail Stock Assessment) and C-15 (Flannelmouth Sucker Habitat Use and Preference). Monitoring efforts are typically completed in the spring and include trammel netting, electro-fishing, and larval surveys. Trammel nets are set in the evenings and allowed to fish throughout the night before they are retrieved the next morning. Electro-fishing and larval surveys occur after dark, and are timed to compare relative catch rates. Any resulting captures of native fishes will result in the fish being scanned for PIT tags, measured, and weighed. If no tag is detected, the fish will be implanted with a 134.2-kHz PIT tag prior to release.

Marsh Bird Monitoring

Three survey points will be established in the marsh habitat. Each survey point will be no more than 400 m (1,312 ft) apart. The Universal Transverse Mercator (UTM) coordinates will be recorded for each survey point. From each point, a marsh bird call/playback survey will be conducted three times per year. One survey will be conducted monthly from March through May, with each survey being at least 2 weeks apart.

The survey protocol used will be the Standardized North American Marsh Bird Monitoring Protocols (Conway 2006), which is the same protocol the LCR MSCP uses for all marsh bird surveys. At each survey point, a 10-minute recording will be played. The recording consists of 5 minutes of silence, followed by 30 seconds of recorded calls and 30 seconds of silence, for four different marsh bird species, including black rail \( (Laterallus jamaicensis) \), Yuma clapper rail \( (Rallus longirostris) \), western least bittern \( (Ixobrychus exilis hesperis) \), and Virginia rail \( (Rallus limicola) \). During the entire 10-minute period, any marsh birds aurally or visually detected will be recorded on a standardized data sheet. The periods of silence are designed to facilitate the aural detection of birds before and after the playing of calls. Surveys will begin approximately
half an hour before sunrise and will end no later than 9 a.m. All marsh bird data will be entered into a spreadsheet or database. This data will be used over a period of several years to create indices of density and abundance, and to estimate population trends.

At each survey point, a vegetation survey will be conducted once per year, during the same time as the marsh bird surveys are conducted (April-May). The general methodology will follow what is outlined under habitat measurements in the North American Marsh Bird Survey Protocol (Conway 2006). Vegetation will be quantified by the percentage of major plant species in a 50-meter (164-ft) radius around each survey point, through a careful visual inspection. The data will be used to track any changes in the proportion of vegetation types present at each survey point from year to year. Aerial photographs of the site will also be taken on a yearly basis and these will similarly be used to quantify the proportion of vegetation types.

Analysis of the marsh bird surveys will consist of an annual summation of birds detected. Percent vegetation cover, per cover type, will be summarized in the annual report. Aerial photos will be used to classify the vegetation according to the Anderson and Ohmart (1976, 1984) vegetation classification system for the Lower Colorado River. After sufficient post-monitoring data have been collected, the data will be summarized and an analysis of population trends will be made. Number of birds detected will be tracked and any statistically significant increases for the project will be noted.

### 3.0 Adaptive Management

Currently the backwater portion of Big Bend Conservation Area is benefiting all three of the covered LCR MSCP fish species that are present. Species monitoring has indicated that no modifications to the backwater habitat are necessary. For reference purposes, excerpts from the Program’s Habitat Conservation Plan & Annual Work Plan in regard to the Adaptive Management Process (AMP) are listed below:

“The LCR MSCP adaptive management process is intended to be a flexible, iterative approach to long-term habitat creation and management of biological resources and will be influenced over time by the results of ongoing monitoring, research, and other sources of information. Conservation measures, habitat creation activities, and resource management techniques will be regularly evaluated in light of monitoring and research results regarding species needs, habitat creation successes and failures, and other factors. The intent of this evaluation process is to better achieve overall conservation and management goals as defined by measureable biological objectives.” (LCR MSCP HCP, 2004)

“The Adaptive Management Process will address uncertainties encountered during the Program implementation by gauging the effectiveness of existing conservation measures, proposing alternative or modified conservation measures as needed, and addressing changes or unforeseen circumstances. The Final Science Strategy details the AMP
process for the research and monitoring programs at the project and programmatic levels. A 5-year planning cycle has been identified to allow for the receipt of new information, the analysis of the information, and the incorporation of the new information into design or direction of future work tasks. The 5-year planning cycle will allow for a review of past activities and the setting of priorities for the next 5-year cycle.” (LCR MSCP 2009)

4.0 Reports

Several reports will be made available throughout the life of this project, including:

- Annual work plans for Work Task E25: Big Bend Conservation Area published in the LCR MSCP Annual Work Plan and Budget
- Annual reports for Work Task: E25 Big Bend Conservation Area
- Final report to be submitted at the completion of all conservation measures

Annual Reports

Toward the end of FY09, an annual report for BBCA will be available on the LCR MSCP Web site (www.lcrmscp.gov). The annual report will be made available each calendar year, and will summarize the following:

- Specific description of the project status and the effects on the covered species
- A table from the Mitigation Monitoring and Reporting Program (MMRP) indicating current implementation status of each mitigation measure
- A description of all restoration activities, monitoring actions, and research conducted over the past year
- Results and analysis of monitoring and research data
- The total area planted or maintained
- The total habitat area that meets or exceeds the performance standards
- Any other applicable information

Final Report

A final report will be prepared by Reclamation and submitted no later than 180 days after the completion of all mitigation measures. The final report is anticipated in 2055 and will include the following information:

- A copy of the table in the MMRP with notes showing when each mitigation measure was implemented
- Recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the species
- An “as-built” engineering drawing describing infrastructure and habitat acreage
- Any other pertinent information
Literature Cited


