Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Hunters Hole

Fiscal Year 2013 Annual Report

June 2018

Work conducted under LCR MSCP Work Task E31

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

Hunters Hole

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ACRONYMS AND ABBREVIATIONS

AWPF	Arizona Water Protection Fund
FY	fiscal year
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
Reclamation	Bureau of Reclamation

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1.0 INTRODUCTION

The purpose of this annual report is to summarize all activities, including planning, design, construction, restoration, monitoring, and adaptive management that have occurred at Hunters Hole from October 1, 2012, through September 30, 2013, which is federal fiscal year (FY) 2013. Water usage is presented as a calendar year, January 1, 2013, through December 31, 2013, consistent with water accounting reporting.

1.1 Background

Hunters Hole, 44 acres in size, is located in Arizona just south of Yuma and north of San Luis. In the 1950s, flood events formed a series of interconnected ponds with adjacent marsh areas and Fremont cottonwood-Goodding's willow (*Populus fremontii-Salix gooddingii*) (hereafter cottonwood-willow) stands. Water levels were subsequently maintained by groundwater, irrigation drain flows, and a connecting channel to the main river channel. Over time, the habitat became degraded due to reduced flows, which isolated the area from the mainstem of the river. Most of the habitat was eventually lost due to declining groundwater water levels and wildfires.

In 2001, local officials from State, Tribal, and Federal agencies worked together to develop a plan to restore wildlife habitat in the area, as well as increase public safety and border security. The restoration concept, including site drawings and the implementation schedule, were reviewed with the United States Border Patrol to ensure compatibility with international border security concerns.

In 2010, the Yuma Crossing National Heritage Area Corporation, a 501(c)3 non-profit organization, restored 44 acres at Hunters Hole. The Arizona Water Protection Fund (AWPF), in cooperation with the Lower Colorado River Multi-Species Conservation Program, funded the Hunters Hole restoration project. The AWPF-provided funding was used to clear non-native vegetation and to contour the site. The LCR MSCP provided funding for rehabilitation of the existing groundwater well and fabrication of the irrigation system manifold to allow for automation in the future. The restored site consisted of riparian and dry upland habitats. Restoration activities included selective clearing of invasive giant reeds (*Arundo donax*), common reeds (*Phragmites australis*) and saltcedar (*Tamarix* spp.), installation of infrastructure to allow for managed flooding, and the planting of cottonwood-willow and honey mesquite (*Prosopis glandulosa*).

After the project was completed in 2013, the LCR MSCP agreed to manage the site as a conservation area and provide funding for its long-term operation and maintenance. The LCR MSCP is responsible for the long-term maintenance costs of this conservation area through 2055 (the life of the program).

2.0 CONSERVATION AREA INFORMATION

2.1 Purpose

The purpose of Hunters Hole is to create 44 acres of riparian habitat that will be managed for the southwestern willow flycatcher (*Empidonax traillii extimus*) and other LCR MSCP covered species that utilize the cottonwood-willow and honey mesquite land cover types.

2.2 Location

Hunters Hole is located in Arizona in Reach 7 of the LCR MSCP planning area at River Mile 3 (figure 1). The total project footprint is 44 contiguous acres (figure 2).

2.3 Land Ownership

Hunters Hole is owned and managed by the Bureau of Reclamation (Reclamation) and is on Reclamation withdrawn lands.

2.4 Water

Hunters Hole does not have a Colorado River water entitlement. The AWPF, in concert with the Arizona Water Resources Department, governs the use of Arizona State groundwater. When Hunters Hole was approved for development, up to 3,000 acre-feet of water was allocated for irrigation of native habitat. Irrigation water is pumped from the existing groundwater well; a flow meter was installed to track usage.

2.5 Agreements

Hunters Hole is located on lands owned and managed by Reclamation; therefore, no agreements with other parties have been signed.

2.6 Public Use

Hunters Hole is open to the public; however, activities may be restricted depending on safety concerns.

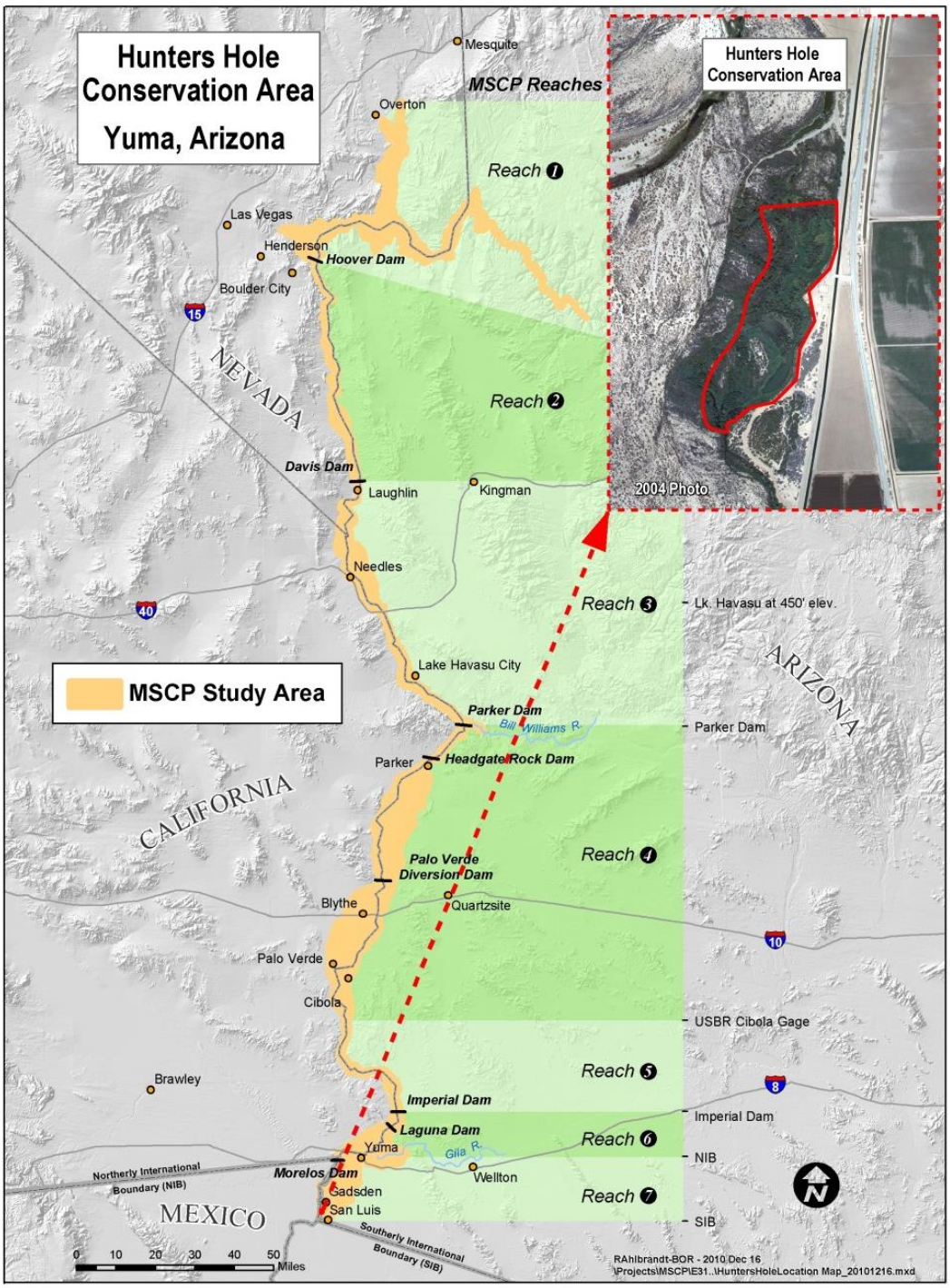

Figure 1.—LCR MSCP planning area with Hunters Hole inset.

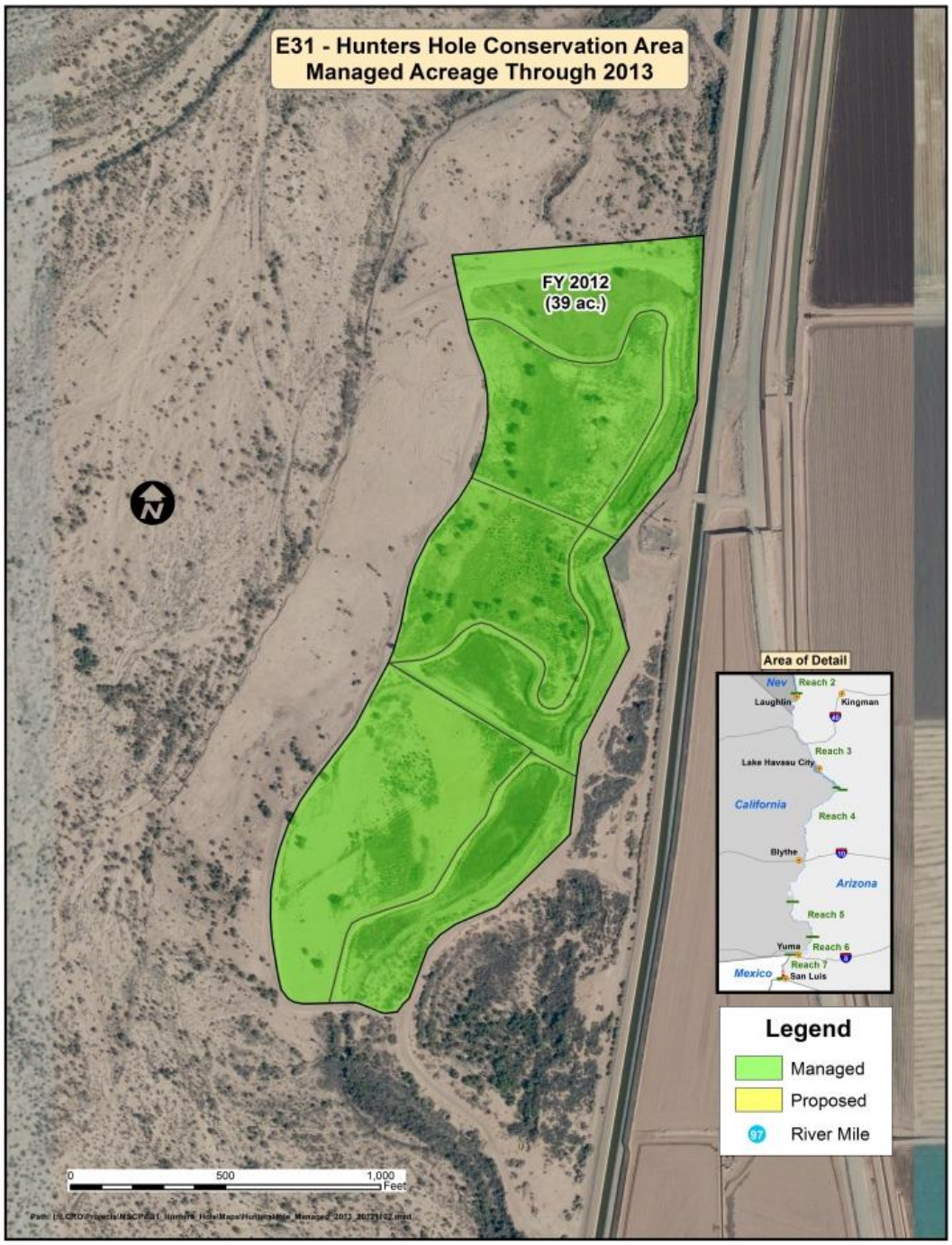

Figure 2.—Hunters Hole managed acreage map.

2.7 Law Enforcement

The United States Border Patrol is responsible for all law enforcement at Hunters Hole due to its location along the U.S. border security fence near the international boundary between Arizona and Mexico. Reclamation continues to work with the patrol regarding security issues and notifies them by phone prior to each site visit using an established visitation protocol.

2.8 Wildfire Management

Federal, State, and local fire agencies, either by existing management agreements or mutual aid agreements, will provide wildland fire suppression, incident dispatch, fire investigation, and potential fire restrictions. The full range of suppression strategies is available to managers provided that selected options do not compromise firefighter or public safety, are cost effective, consider the benefits of suppression and the values to be protected, and are consistent with resource objectives (LCR MSCP 2010). Reclamation may assist the Bureau of Land Management with fire suppression by activating the electrical groundwater pump located within the security fencing enclosure. The pump can be turned on remotely from Reclamation's Yuma Area Office, or manually onsite, to flood each irrigation cell (1–5) using separate valves for each cell.

3.0 HABITAT DEVELOPMENT AND MANAGEMENT

3.1 Planting

No additional habitat development was conducted in FY13.

3.2 Irrigation

Irrigation water is pumped using a 100-horsepower electric motor coupled to a groundwater pump. After reaching the surface, irrigation water is routed through an irrigation manifold that delivers water to the five habitat cells. The year 2012 was the first growing season for Hunters Hole. The irrigation schedule was refined in 2013. During FY13, the site was irrigated biweekly in spring and fall, irrigated weekly during summer, and irrigated two times per month during winter (November – February).

3.3 Site Management

Maintenance activities can be separated into two categories: infrastructure maintenance and habitat maintenance. Infrastructure maintenance includes maintenance of roads, groundwater pumps, outfall structures, and water control valves used to operate and maintain the conservation area. Habitat maintenance includes manual weeding of invasive species and application of herbicides as necessary.

4.0 MONITORING

4.1 Avian Monitoring

Avian monitoring in FY14 consisted of surveys for riparian breeding birds.

4.1.1 General Avian Surveys

Bird surveys were conducted in order to detect breeding LCR MSCP riparian bird species and other territorial riparian bird species. Surveys were conducted within areas of cottonwood-willow and honey mesquite land cover types that were of adequate growth to support breeding birds. No LCR MSCP species were observed (Fred Phillips Consulting 2014). Riparian and wetland restoration at Hunters Hole was completed in spring 2012, and the habitats are still immature.

4.2 Small Mammal Monitoring

4.2.1 Rodent Monitoring

Live trapping was conducted in the fall and spring of FY13 in order to detect the presence of Yuma hispid cotton rats (*Sigmodon hispidus eremicus*). Sixty traps were set out in transects in Cells 2 and 3 for 1 night each season. No LCR MSCP species were captured in FY13 (Hill and Calvert 2016).

5.0 HABITAT CREATION AND CONSERVATION MEASURE ACCOMPLISHMENT

5.1 Vegetation Monitoring

Vegetation measurements were collected using remote sensing and ArcGIS techniques to evaluate the vegetation structure from the ground layer to the upper canopy layer. Parameters included tree and shrub density, tree heights, and canopy closure.

5.2 Evaluation of Conservation Area Habitat

The process for habitat creation conservation measure accomplishment was finalized in October 2011 (LCR MSCP 2011). All areas within Hunters Hole were designed to benefit covered species at the landscape level.

To meet species habitat creation requirements, the Habitat Conservation Plan 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, 1984b). In 2013, there were no species with creditable acres at Hunters Hole.

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). 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 27 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 Hunters Hole, recommendations may be made through the adaptive management process for site improvements in the future. At this time, there are no adaptive management recommendations for Hunters Hole.

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