Lower Colorado River Multi-Species Conservation Program

Hunters Hole

2015 Annual Report

July 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

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- 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

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- Arizona Power Authority
- Central Arizona Water Conservation District
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- City of Lake Havasu City
- City of Mesa
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- Mohave Water Conservation District
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- Town of Fredonia
- Town of Thatcher
- Town of Wickenburg
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- 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

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- Colorado River Indian Tribes
- Chemehuevi Indian Tribe

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

**Other Interested Parties Participant Group**
- QuadState Local Governments Authority
- Desert Wildlife Unlimited
Lower Colorado River
Multi-Species Conservation Program

Hunters Hole

2015 Annual Report

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## Acronyms and Abbreviations

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<td>AWPF</td>
<td>Arizona Water Protection Fund</td>
</tr>
<tr>
<td>Border Patrol</td>
<td>U.S. Border Patrol</td>
</tr>
<tr>
<td>FY</td>
<td>Fiscal year</td>
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<td>LCR MSCP</td>
<td>Lower Colorado River Multi-Species Conservation Program</td>
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<tr>
<td>lidar</td>
<td>Light detection and ranging</td>
</tr>
<tr>
<td>MODE</td>
<td>Maintenance Outlet Drain Extension</td>
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<td>Reclamation</td>
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LCR MSCP bat detections by month at Hunters Hole, FY15
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1.0 INTRODUCTION

The purpose of this annual report is to summarize all activities that have occurred at Hunters Hole 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

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-Goooding’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 main stem of the river. Most of the habitat was eventually lost due to declining groundwater 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 to increase public safety and border security. The restoration concept, including site drawings and the implementation schedule, were reviewed with the U.S. Border Patrol (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 (LCR MSCP), 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 reeds (giant reed [Arundo donax] and common reed [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 Hunters Hole 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 southwestern willow flycatchers (*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 Landownership

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 through FY15.

<table>
<thead>
<tr>
<th>Managed Area</th>
<th>Land Cover Type</th>
<th>Year Established</th>
<th>Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell 1</td>
<td>CW</td>
<td>FY12</td>
<td>11</td>
</tr>
<tr>
<td>Cell 2</td>
<td>CW</td>
<td>FY12</td>
<td>6</td>
</tr>
<tr>
<td>Cell 3</td>
<td>CW</td>
<td>FY12</td>
<td>7</td>
</tr>
<tr>
<td>Cell 4</td>
<td>CW</td>
<td>FY12</td>
<td>12</td>
</tr>
<tr>
<td>Cell 5</td>
<td>CW</td>
<td>FY12</td>
<td>8</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>44</strong></td>
</tr>
</tbody>
</table>
2.7 Law Enforcement

The 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 Border Patrol regarding security issues and notifies them by phone prior to each site visit.

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 (Cells 1–5), using separate valves for each cell.

3.0 Habitat Development and Management

3.1 Planting

No planting occurred at Hunters Hole in 2015.

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. As of May 1, 2015, a hydrologist at the Yuma Area Office has been in charge of monitoring the programmed irrigation schedule (provided by the LCR MSCP) during the irrigation season via the electronic monitoring system at the area office. During the FY15 irrigation season, the site was irrigated once every 3 weeks (February – November) (figure 3).
Figure 3.—Hunters Hole irrigation schedule, FY15.
A significant irrigation infrastructure upgrade was completed in January 2015, which included the installation of six new, remote-controlled irrigation valves. The remote-controlled system was implemented by the Yuma Area Office and became fully operational in May 2015. This upgrade was implemented in order to allow all six of the irrigation valves and well pump to be controlled electronically and remotely from the area office and the LCR MSCP. This has significantly reduced the staff labor hours required to travel to the site for manual irrigation and increased personnel safety at this remote site near the International Border with Mexico.

### 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. Maintenance activities are coordinated with the Border Patrol.

In August 2015, an 80-foot section of coyote willows (*Salix exigua*) were trimmed in irrigation Cell 5 (between the irrigation water outlet and the 21-mile spillway outlet of the MODE canal). This removal work was conducted by the Border Patrol in order to increase visibility for their agents to detect illegal immigrants crossing the U.S./Mexico border through a culvert extending under the MODE canal and U.S./Mexico border fence. This work was authorized and conducted due to U.S. national security concerns.

### 4.0 Monitoring

#### 4.1 Avian Monitoring

Avian monitoring in FY14 included surveys for southwestern willow flycatchers, yellow-billed cuckoos (*Coccyzus americanus occidentalis*), and riparian breeding birds.

##### 4.1.1 Southwestern Willow Flycatcher Surveys

Surveys to detect the presence of southwestern willow flycatchers were conducted three times during FY15 in cottonwood-willow habitat. No resident or breeding southwestern willow flycatchers were detected. Several migrant willow flycatchers (*Empidonax trailli*) were detected before June 24 and were not considered to be southwestern willow flycatchers. Birds detected before June 24 and those detected only once after June 24 are considered migrant willow flycatchers.
4.1.2 Yellow-billed Cuckoo Surveys
Hunters Hole was surveyed for yellow-billed cuckoos once in June and once in July using passive detection methods. No yellow-billed cuckoos were detected.

4.1.3 General Bird Surveys
Bird surveys were conducted to detect breeding LCR MSCP riparian bird species and other territorial riparian bird species. General bird surveys resulted in the detection of five species (nine pairs) of birds breeding within Hunters Hole. There were no LCR MSCP species confirmed breeding at Hunters Hole in FY15.

4.2 Small Mammal Monitoring
4.2.1 Bat Monitoring
Acoustic methods were used to monitor bats in order to document the presence of species using the conservation area.

4.2.1.1 Acoustic Surveys
One long-term monitoring acoustic monitoring station was operated at Hunters Hole. The LCR MSCP species detected were western red bats (Lasiurus blossevillii), western yellow bats (Lasiurus xanthinus), and California leaf-nosed bats (Macrotus californicus). Table 1 summarizes the total number of nights that LCR MSCP species were detected in FY15 (Mixan and Diamond, in press).

Table 1.—LCR MSCP bat detections by month at Hunters Hole, FY15

<table>
<thead>
<tr>
<th>Month</th>
<th>Number of nights recorded</th>
<th>Western red bat</th>
<th>Western yellow bat</th>
<th>California leaf-nosed bat</th>
<th>Pale Townsend’s big-eared bat</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>30</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>July</td>
<td>31</td>
<td>1</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>August</td>
<td>31</td>
<td>1</td>
<td>12</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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 U.S. Fish and Wildlife Service.
4.2.2 Rodent Monitoring
Live trapping was conducted once in fall and once in spring to determine
the presence of Yuma hispid cotton rats (*Sigmodon hispidus eremicus*) at
Hunters Hole. A total of 180 traps were set over 2 nights. No Yuma hispid cotton
rats were captured (Hill 2017).

4.3 MacNeill’s Sootywing Skipper Monitoring
Surveys for MacNeill’s sootywing skippers (*Pholisora gracielae* = *Hesperopsis
gracielae* [MacNeill]) were conducted in May and June. Four adults were
detected in May and two adults were detected in June (Nelson et al. 2017).

5.0 HABITAT CREATION AND 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
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).
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 Hunters Hole, recommendations may be made through the adaptive management process for site improvements in the future.

There are no adaptive management recommendations for Hunters Hole at this time.
LITERATURE CITED


