



Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Threecorner Milkvetch and Sticky Buckwheat Conservation in the Lake Mead National Recreation Area

Fiscal Year 2020



February 2021

Work conducted under LCR MSCP Work Task C2

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

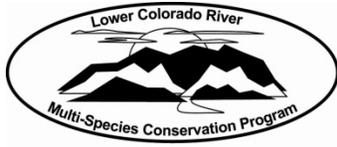
Colorado River Commission of Nevada
Nevada Department of Wildlife
Southern Nevada Water Authority
Colorado River Commission Power Users
Basic Water Company

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



— BUREAU OF —
RECLAMATION

Lower Colorado River Multi-Species Conservation Program

Threecorner Milkvetch and Sticky Buckwheat Conservation in the Lake Mead National Recreation Area

Fiscal Year 2020

Prepared by:

Carrie Norman,¹ National Park Service

¹ Vegetation Biologist, Carrie_Norman@nps.gov, 702-293-8734

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

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ACRONYMS AND ABBREVIATIONS

GPS	Global Positioning System
Lake Mead NRA	Lake Mead National Recreation Area
LCR	lower Colorado River
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
NPS	National Park Service

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INTRODUCTION

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) is a coordinated, comprehensive, long-term multi-agency effort to conserve and recover endangered species and to protect and maintain wildlife habitat on the lower Colorado River (LCR). The LCR MSCP's purposes are to (1) protect the LCR environment while ensuring the certainty of existing river water and power operations, (2) address the needs of threatened and endangered wildlife under the Endangered Species Act, and (3) prevent the listing of additional LCR species (LCR MSCP 2004). Two rare plant species occur within the covered areas designated in the LCR MSCP: threecorner milkvetch (*Astragalus geyeri* var. *triquetrus*) and sticky buckwheat (*Eriogonum viscidulum*). Both species occur within the Lake Mead National Recreation Area (Lake Mead NRA), which is administered by the National Park Service (NPS).

Conservation measure goals were created under the LCR MSCP to provide funding for threecorner milkvetch and sticky buckwheat conservation programs. A total of \$10,000 per year will be provided under the LCR MSCP until 2030, which will go toward an ongoing conservation program for the two rare plants or to another entity that has been approved by the U.S. Fish and Wildlife Service to implement conservation activities for these plant species.

Conservation opportunities at the Lake Mead NRA include:

1. Monitoring populations of rare plants to identify threats
2. Conserving rare plant populations through reduction of threats at a site-specific level, which may include removal of exotic plants and efforts to exclude activities such as off-highway vehicles that degrade habitat.

This summary report was prepared to update the status, monitoring results, and conservation actions for these rare plant species at the Lake Mead NRA for fiscal year 2020.

METHODS

Threecorner Milkvetch Population Monitoring

In previous years, the NPS did a complete survey of threecorner milkvetch locations using a grid approach at Sandy Cove. After collecting many years of data, the NPS decided it was not necessary, or efficient with limited staffing, to do this intensive survey every year. Instead, during low precipitation years, surveys will consist of recording the number of plants in high density squares (101+), documented in previous years' complete surveys.

Threecorner Milkvetch and Sticky Buckwheat Conservation in the Lake Mead National Recreation Area, Fiscal Year 2020

Additional populations or potential habitat areas were surveyed by walking in the appropriate habitat and logging the route walked during the surveys with a tracklog on the Global Positioning System (GPS) unit. Threecorner milkvetch observed within 1 meter on either side of the tracklog were counted and documented as either a point, line, or polygon, and the number of plants was recorded, per feature, on the GPS unit.

Due to the Lake Mead NRA being closed to the public and the mandated State COVID-19 lockdown, the NPS was unable to survey any areas for threecorner milkvetch in fiscal year 2020.

Threecorner Milkvetch Habitat Treatments

This season, the NPS wanted to control native six-weeks fescue (*Vulpia octoflora*) and non-native Mediterranean grass (*Schismus* spp.), which are stabilizing the dunes, using both an herbicide and mechanical treatment. By controlling these grassy areas, more habitat will be created over time for threecorner milkvetch. The NPS will be utilizing the same 30-meter square plots as in the monitoring grid (used in previous monitoring years) but only treating a percentage of the squares that resulted in zero threecorner milkvetch numbers over the past 6 years.

Sticky Buckwheat Population Monitoring

The highest density of sticky buckwheat at the Lake Mead NRA is located between Lime Cove and Glory Hole. The locations of sticky buckwheat were documented, logging the route walked during the surveys with a tracklog on the Global Positioning System (GPS) unit. Plants were counted and documented as either a point, line, or polygon, and the number of plants was recorded, per feature, on the GPS unit. Sticky buckwheat plants were counted within 1 meter on either side of the tracklog.

Due to the Lake Mead NRA being closed to the public and the mandated State COVID-19 lockdown, the NPS was unable to survey any areas for sticky buckwheat in fiscal year 2020.

RESULTS

Threecorner Milkvetch Population Monitoring

There are no results to report on the status of threecorner milkvetch due to COVID-19 restrictions. The Lake Mead NRA was closed.

Threecorner Milkvetch Habitat Treatments

As a result of COVID-19 restrictions, the NPS was only able to treat a 0.125-acre grassy area (shown on figure 1) with herbicides and unable to go back to report the results. The area marked “Herbicide treatment” on figure 1 was a pre-emergent application to treat native six-weeks fescue and non-native Mediterranean grass. In addition, 19 acres at Sandy Cove was surveyed for Sahara mustard (*Brassica tournefortii*) (figure 1). Sahara mustard was removed manually from 0.3 acre in the dunes, sandy areas, and beaches. No exotic plant removal was conducted at Lime Cover, Ebony Cove, or Middle Point.

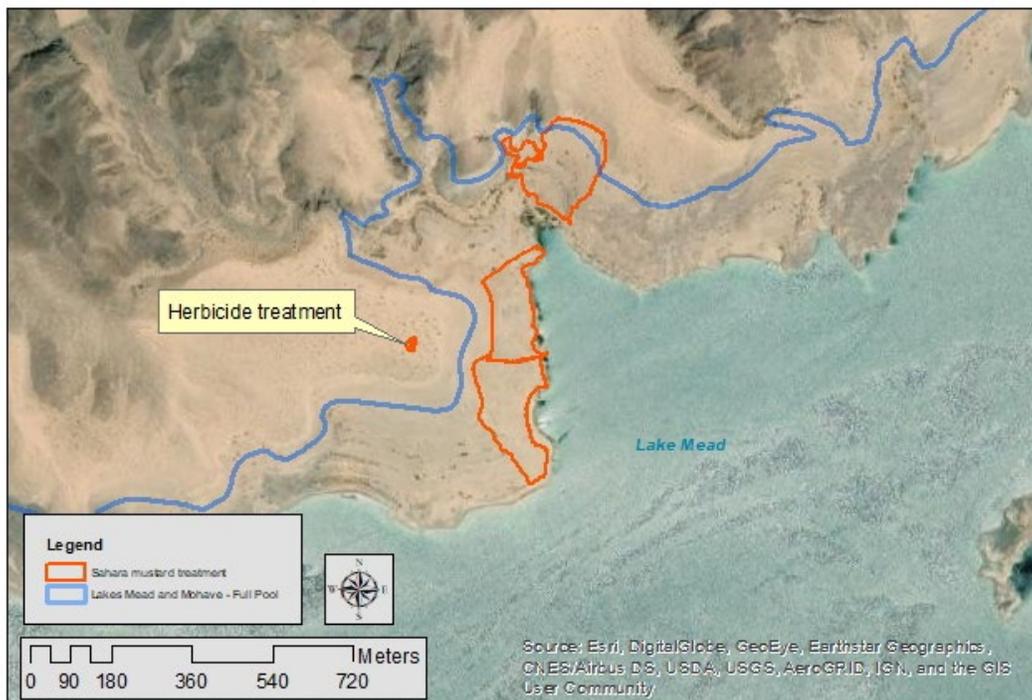


Figure 1.—Sahara mustard removal at Sandy Cove, totaling 19 acres.

**Threecorner Milkvetch and Sticky Buckwheat Conservation
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Sticky Buckwheat Population Monitoring

There are no results to report on the status of sticky buckwheat due to COVID-19 restrictions. The Lake Mead NRA was closed.

DISCUSSION

Threecorner Milkvetch

There have been 6 years with a complete census of the threecorner milkvetch population at Sandy Cove. The NPS has seen the population size increase and decrease depending on environmental cues.

In fiscal year 2021, the NPS will spray pre-emergent herbicide on native six-weeks fescue and non-native Mediterranean grass in specific plots that have no prior history of threecorner milkvetch populations in hopes of increasing threecorner milkvetch habitat. Sahara mustard may also be removed.

Sticky Buckwheat

Sticky buckwheat are annual plants that emerge in different places each year. The fluctuating water levels of Lake Mead may enable the plant to expand its population and density levels at Lime Cove. The Glory Hole area has not been surveyed recently due to fluctuating water levels limiting access.

**Threecorner Milkvetch and Sticky Buckwheat Conservation
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LITERATURE CITED

Lower Colorado River Multi-Species Conservation Program. 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. December 17 (J&S 00450.00). Sacramento, California.