



Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Marsh Bird Surveys in Topock Gorge 2014 Annual Report



December 2016

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

Marsh Bird Surveys in Topock Gorge 2014 Annual Report

Prepared by:

Joseph Kahl, Wildlife Group

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

December 2016

Kahl, J. 2016. Marsh Bird Surveys in Topock Gorge, 2014 Annual Report. Prepared by the Bureau of Reclamation, Boulder City, Nevada.

ACRONYMS AND ABBREVIATIONS

BLRA	California black rail (<i>Lateralus jamaicensis coturniculus</i>)
CD	compact disc
CLRA	Yuma clapper rail (<i>Rallus longirostris yumanensis</i> also known as Ridgway's rail [<i>R. obsoletus</i>])
COGA	common gallinule (<i>Gallinula galeata</i>)
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
LEBI	western least bittern (<i>Ixobrychus exilis</i>)
NS	not surveyed
PBGR	pied-billed grebe (<i>Podilymbus podiceps</i>)
SORA	sora (<i>Porzana carolina</i>)
USFWS	U.S. Fish and Wildlife Service
VIRA	Virginia rail (<i>Rallus limicola</i>)

CONTENTS

	Page
Abstract.....	iii
Introduction.....	1
Survey Area	2
Methods.....	2
Results.....	5
Discussion.....	5
Topock Gorge	5
Literature Cited.....	11

Tables

Table	Page
1 Topock Gorge marsh bird survey results, 2014.....	6

Figures

Figure	Page
1 LCR MSCP planning area.	3
2 Topock Gorge.	4
3 Marsh bird survey trends in Topock Gorge, 2006–2014.....	8
4 Yuma clapper rail detections in Topock Gorge, 1996–2014.....	9

Attachments

Attachment	
1 Species List	
2 Survey Data Sheet	

ABSTRACT

In 2014, surveys for marsh birds were conducted by the Lower Colorado River Multi-Species Conservation Program under Work Task D1. Surveys were conducted during March, April, and May in Topock Gorge (see figures 1 and 2). Yuma clapper rails (*Rallus longirostris yumanensis* also known as Ridgway's rails [*R. obsoletus*]), California black rails (*Lateralus jamaicensis coturniculus*), western least bitterns (*Ixobrychus exilis*), and Virginia rails (*R. limicola*) were detected.

INTRODUCTION

The Yuma clapper rail (*Rallus longirostris yumanensis* also known as Ridgway's rail [*R. obsoletus*]) was listed as an endangered species by the Department of the Interior in 1967 under the Endangered Species Act of 1966 (Public Law 89-669) (U.S. Department of the Interior 1967). This protection continued under the Endangered Species Act of 1973 regulated by the U.S. Fish and Wildlife Service (USFWS). In addition, the species is presently listed as threatened in California and is a species of special concern in Arizona (Arizona Game and Fish Department 2006; California Department of Fish and Wildlife 2013). Nevada presently ranks the Yuma clapper rail as S1: critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors (Nevada Natural Heritage Program 2016).

In 2014, the American Ornithologist's Union split the clapper rail (*R. longirostris*) into three species: Ridgway's rail (*R. obsoletus*), Aztec rail (*R. tenuirostris*) and clapper rail (*R. crepitans*). The species formerly known as the Yuma clapper rail along the lower Colorado River became the Ridgway's rail (Chesser et al. 2014). The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) will refer to the rail as the Yuma clapper rail until the name is officially changed by the USFWS.

The California black rail (*Laterallus jamaicensis coturniculus*) has been identified by the USFWS as a bird of conservation concern (USFWS 2008). In California, this species is listed as threatened and is also listed as a species of special concern in Arizona (Arizona Game and Fish Department 2002; California Department of Fish and Wildlife 2013).

The western least bittern (*Ixobrychus exilis*) has been identified by the USFWS as a bird of conservation concern (USFWS 2008) and a species of special concern in Arizona and California (Arizona Game and Fish Department 2001; Sterling 2008). It is a protected species in Nevada (Nevada Natural Heritage Program 2016)

Conservation measures in the Habitat Conservation Plan of the LCR MSCP provide for monitoring and research of the Yuma clapper rail, California black rail, and western least bittern (Bureau of Reclamation 2004). Surveys for these three covered species are conducted in existing habitat as part of system-wide monitoring and at sites prior to and after creation of marshland habitat (Bureau of Reclamation 2004). This report summarizes the results of system-wide surveys conducted under *Work Task D1: Marsh Bird Surveys* within Topock Gorge.

SURVEY AREA

Topock Gorge is located along the lower Colorado River between Needles, California, and Lake Havasu City, Arizona, in the Havasu National Wildlife Refuge, and is also located in Reach 3 (figures 1 and 2). The survey route in Topock Gorge runs from River Mile 233 to just past River Mile 218, a distance of 15.3 miles (24.6 kilometers). Marshes are located on both the California and Arizona sides of the river, with the largest marsh complexes on the Arizona side just north and south of Blankenship Bend (River Mile 222.5). The predominant vegetation consists of California bulrush (*Schoenoplectus californicus*), narrowleaf cattail (*Typha augustifolia*), and common reed (*Phragmites communis*) interspersed with stands of saltcedar (*Tamarix* sp.) and coyote willow (*Salix exigua*). There are 52 survey points in Topock Gorge.

METHODS

Surveys for the California black rail, western least bittern, Virginia rail (*R. limicola*), and Yuma clapper rail were performed between March 15 and May 31 using a standardized protocol from the National Marsh Bird Monitoring Program (Conway 2009). Up to three surveys were conducted at each survey point. A standardized survey form was used to record the date, start and end time, location, route, observers, environmental data, and other comments as well as selected marsh birds encountered, their responses, and the direction and distance from the survey point (attachment 2). The locations and numbers of pied-billed grebe (*Podilymbus podiceps*), sora (*Porzana carolina*), and common gallinule (*Gallinula galeata*) were also recorded. The number of marsh wren (*Cistothorus palustris*) observed at each point was also noted.

Surveys began 30 minutes before sunrise and continued until marsh birds ceased calling, usually by 10:00 a.m. Surveys ceased when the windspeed was greater than 12 miles per hour (20 kilometers per hour) because, at this windspeed, the detection of birds was impaired by noise from rustling vegetation. Surveys were not conducted during periods of sustained rain or heavy fog (Conway 2009).

Portable compact disc (CD) players with amplified speakers were used to broadcast calls of the California black rail, western least bittern, Virginia rail, and Yuma clapper rail. The CD consisted of 5 minutes of silence followed by 30 seconds of selected calls and 30 seconds of silence for each of the species. The specific calls used were “kicky-doo” and “gr” for black rails, “coo” and “kak” for western least bitterns, “grunt,” “ticket,” and “kicker” for Virginia rails, and “clatter,” “kek,” and “kek-burr” for clapper rails. The calls were played at a volume of 80–90 decibels measured 1 meter from the speakers.

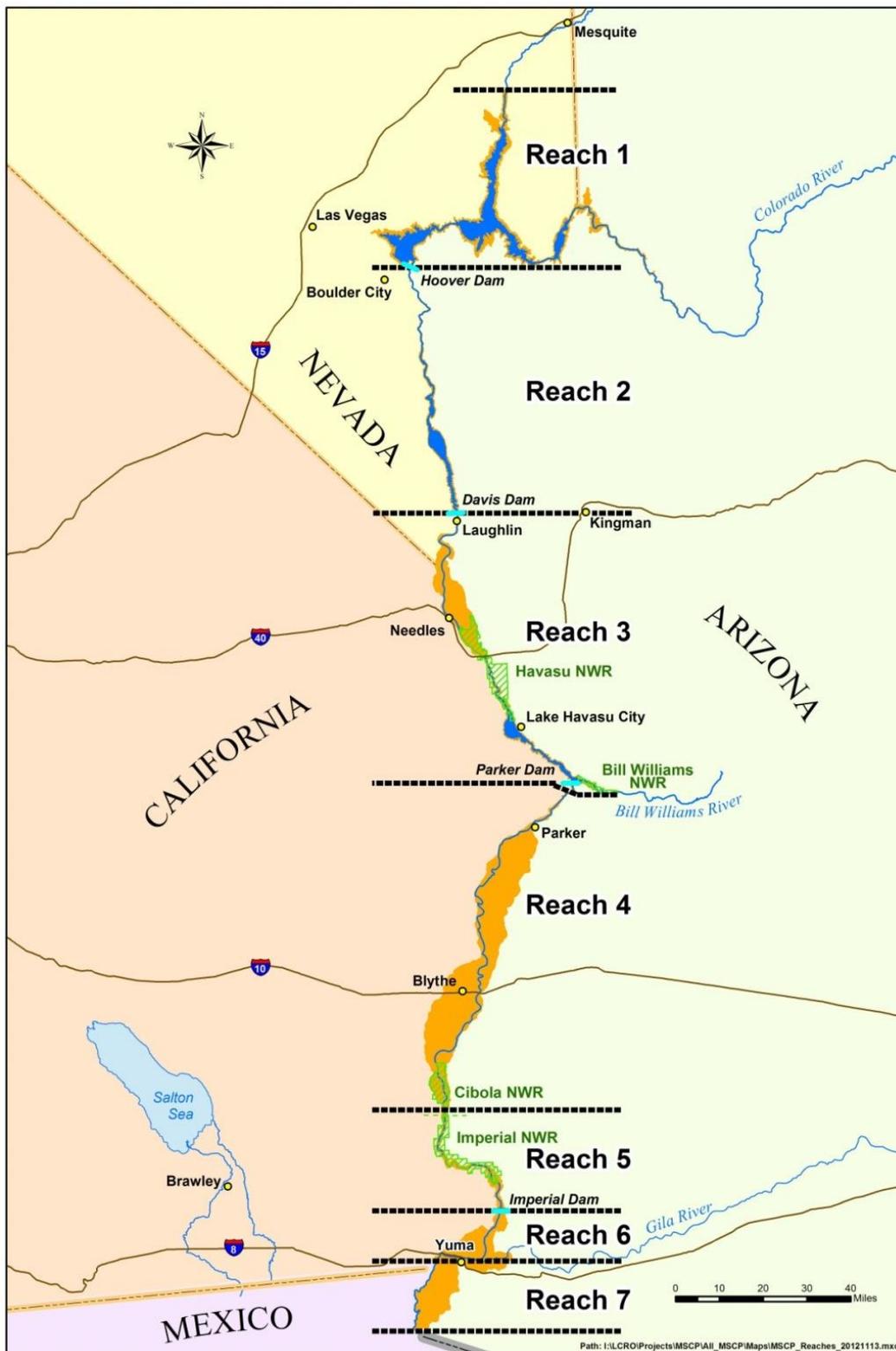


Figure 1.—LCR MSCP planning area.

Marsh Bird Surveys in Topock Gorge 2014 Annual Report

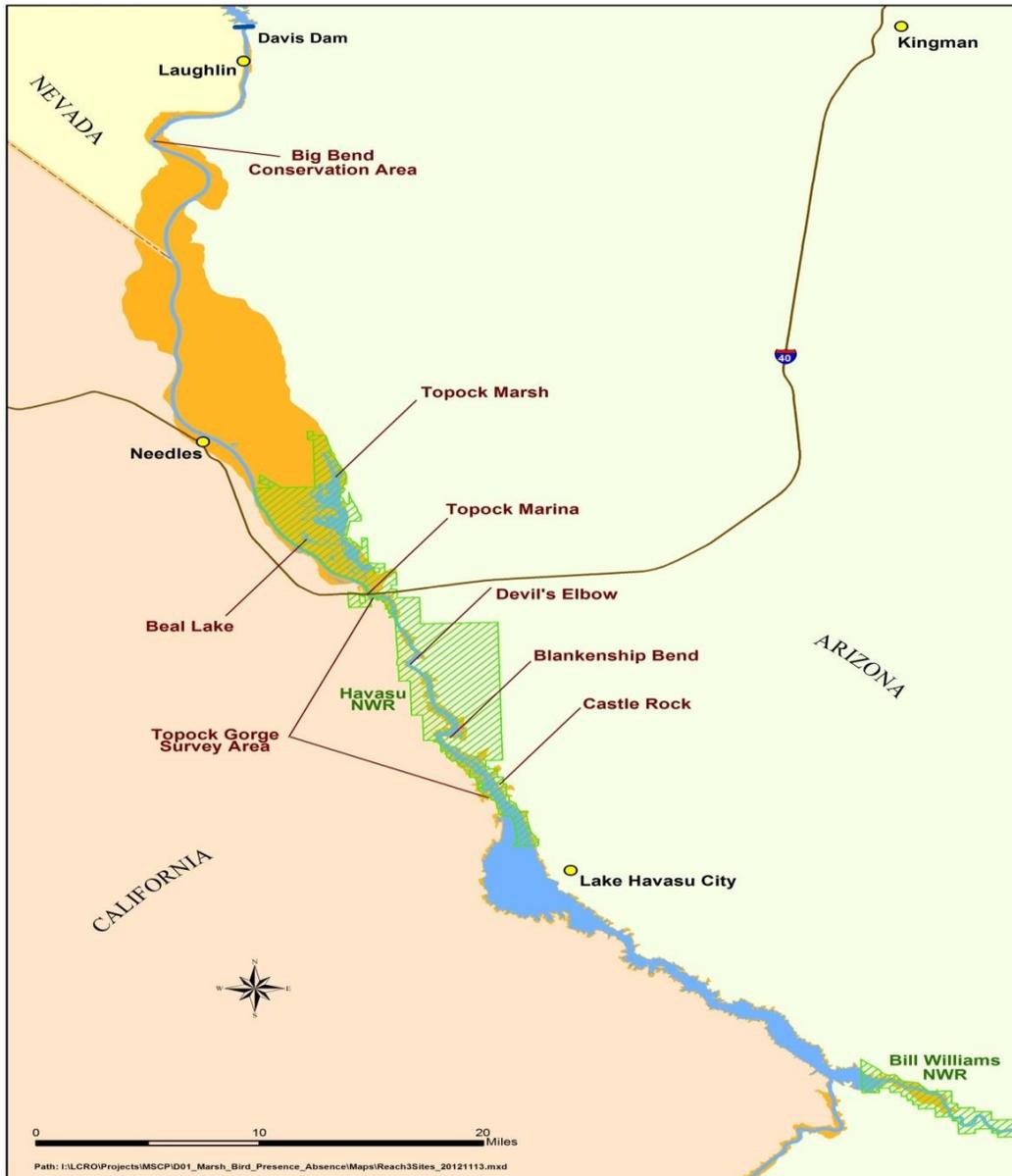


Figure 2.—Topock Gorge.

Birds encountered before or after the official 9-minute survey period were also noted on the survey form (attachment 2). Maps of the survey sites showing the general location of the birds encountered were marked, and Universal Transverse Mercator coordinates were recorded using a Global Positioning System. Surveys in Topock Gorge were conducted using a motorized boat.

Prior to 2006, surveys were conducted primarily for the detection of the Yuma clapper rail. In 2006, the surveys were expanded to include the California black rail, western least bittern, and Virginia rail (Conway 2005).

RESULTS

Surveys in Topock Gorge were conducted March 18–21, April 8–11, and May 20–23, 2014 (table 1; figure 3). Yuma clapper rails, western least bitterns, and Virginia rails were detected during all three surveys. California black rails were detected during the April and May surveys.

In March, survey points 24 through 28 were not surveyed due to time constraints, and point 46 was not surveyed due to access issues. In March, 24 Yuma clapper rails, 2 western least bitterns, 7 Virginia rails, 7 soras, 16 pied-billed grebes, and 5 common gallinules were detected during the survey period. In April, survey point 46 was not surveyed due to access issues. During the April surveys, 82 Yuma clapper rails, 13 western least bitterns, 1 California black rail, 11 Virginia rails, 14 soras, 64 pied-billed grebes, and 20 common gallinules were detected. The May surveys resulted in detections of 66 Yuma clapper rails, 23 western least bitterns, 1 California black rail, 3 Virginia rails, 63 pied-billed grebes, and 12 common gallinules. A list of other bird species observed during the surveys can be found in attachment 1.

DISCUSSION

Topock Gorge

All three LCR MSCP covered species were encountered during surveys in Topock Gorge (figure 3). Surveys in April resulted in the detection of 82 Yuma clapper rails – the highest of all 3 surveys. There were 24 Yuma clapper rails detected in March and 66 in May. Western least bittern detections were highest in May, with 23 detected. The detection of 11 Virginia rails, the highest number detected, occurred in April. One California black rail was detected in April and one in May (table 1).

**Marsh Bird Surveys in Topock Gorge
2014 Annual Report**

Table 1.—Topock Gorge marsh bird survey results, 2014

(CLRA – Yuma clapper rail, LEBI – western least bittern, BLRA – California black rail, VIRA – Virginia rail, SORA – sora, PBGR – pied-billed grebe, and COGA – common gallinule)

Point	March 18–21							April 8–11							May 20–23						
	CLRA	LEBI	BLRA	VIRA	SORA	PBGR	COGA	CLRA	LEBI	BLRA	VIRA	SORA	PBGR	COGA	CLRA	LEBI	BLRA	VIRA	SORA	PBGR	COGA
1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	2	0
2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	2	1
4	0	0	0	0	0	1	0	1	1	0	0	0	2	0	0	1	0	0	0	3	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0
6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
7	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
10	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	2	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
15	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	2	0	0	0	3	2	0	1	0	0	0	2	0
17	0	0	0	0	0	0	0	2	0	0	1	0	0	0	2	0	0	0	0	2	0
18	0	0	0	1	0	0	0	4	0	0	1	0	2	0	5	0	1	0	0	1	0
19	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	5	0
20	0	0	0	0	0	1	0	1	1	1	0	1	2	0	4	0	0	0	0	2	0
21	1	0	0	0	0	0	0	3	0	0	2	0	0	0	2	0	0	1	0	1	1
22	0	0	0	0	0	0	0	1	0	0	1	0	1	2	2	1	0	0	0	2	0
23	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	2	0	0	0	0	0
24	NS ¹	NS	NS	NS	NS	NS	NS	1	0	0	0	0	0	0	1	1	0	0	0	1	0
25	NS	NS	NS	NS	NS	NS	NS	0	0	0	0	0	3	0	0	0	0	0	0	0	0
26	NS	NS	NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	0	0	0	0	1	0
27	NS	NS	NS	NS	NS	NS	NS	0	0	0	0	0	0	0	2	0	0	0	0	0	0
28	NS	NS	NS	NS	NS	NS	NS	0	0	0	0	0	3	0	0	2	0	0	0	0	0
29	0	0	0	0	0	0	0	1	0	0	0	3	0	0	1	0	0	0	0	0	0

**Marsh Bird Surveys in Topock Gorge
2014 Annual Report**

Table 1.—Topock Gorge marsh bird survey results, 2014

(CLRA – Yuma clapper rail, LEBI – western least bittern, BLRA – California black rail, VIRA – Virginia rail, SORA – sora, PBGR – pied-billed grebe, and COGA – common gallinule)

Point	March 18–21							April 8–11							May 20–23							
	CLRA	LEBI	BLRA	VIRA	SORA	PBGR	COGA	CLRA	LEBI	BLRA	VIRA	SORA	PBGR	COGA	CLRA	LEBI	BLRA	VIRA	SORA	PBGR	COGA	
30	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	1	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0
33	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	1	0	0	0	0	0	0
34	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4	1	0	0	0	0	0	0
35	5	0	0	0	0	1	0	3	0	0	0	0	2	0	6	1	0	0	0	2	0	
36	2	0	0	0	0	0	0	7	0	0	0	0	1	2	6	0	0	0	0	2	0	
37	4	0	0	2	0	1	0	5	0	0	0	0	0	1	7	0	0	0	0	0	0	
38	1	0	0	0	1	0	0	10	0	0	1	1	4	1	4	0	0	0	0	0	0	
39	3	0	0	0	2	4	0	5	1	0	0	3	6	2	4	1	0	1	0	4	2	
40	0	0	0	0	0	1	1	1	0	0	0	0	2	0	2	1	0	0	0	2	0	
41	0	0	0	0	1	0	1	2	0	0	0	0	3	3	0	0	0	0	0	2	0	
42	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	2	0	
43	0	0	0	0	0	3	0	6	1	0	0	0	3	0	2	1	0	0	0	1	2	
44	1	0	0	0	1	0	0	5	0	0	0	1	2	1	3	0	0	0	0	5	0	
45	0	0	0	0	1	1	1	7	0	0	0	1	5	2	0	1	0	0	0	1	2	
46	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1	1	0	0	0	3	3	
47	0	0	0	0	0	1	0	3	0	0	0	1	1	1	0	0	0	0	0	1	0	
48	0	0	0	0	1	0	1	5	0	0	1	1	0	1	1	2	0	0	0	1	1	
49	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
50	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	
51	0	0	0	0	0	0	0	3	2	0	0	0	2	0	3	0	0	0	0	0	0	
52	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
Total	24	2	0	7	7	16	5	82	13	1	11	14	64	20	66	23	1	3	0	63	12	

¹ NS – not surveyed.

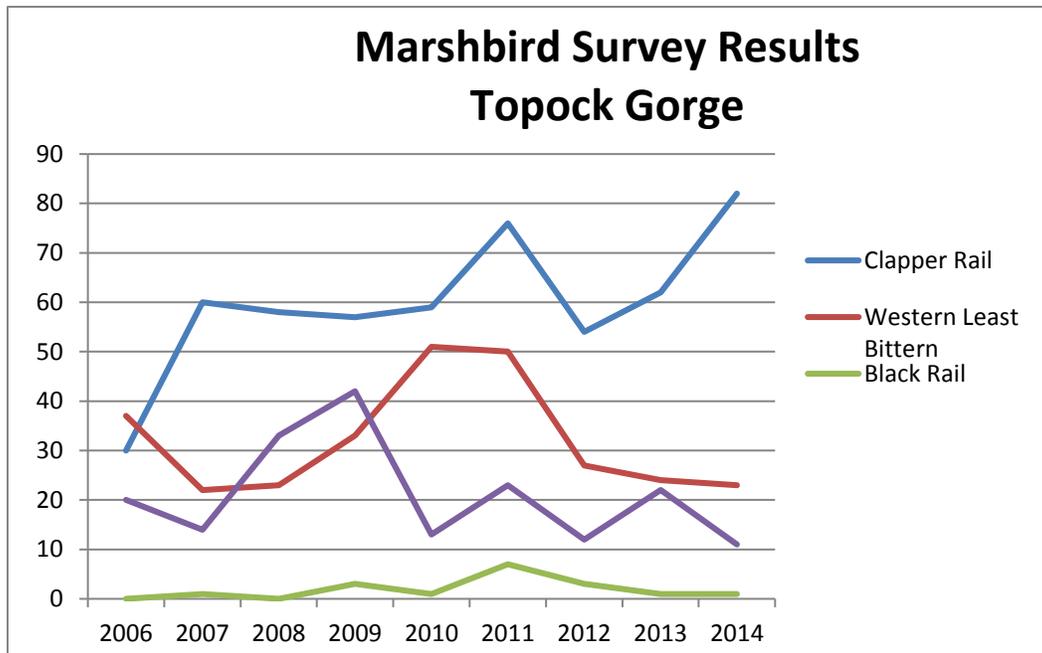


Figure 3.—Marsh bird survey trends in Topock Gorge, 2006–2014.

During the 2014 survey season, Yuma clapper rails were detected at 32 sites, California black rails at 2 sites, western least bitterns at 24 sites, and Virginia rails at 14 sites (see table 1). Yuma clapper rails, western least bitterns, soras, pied-billed grebes, and common gallinules were distributed throughout Topock Gorge. Virginia rails were not found south of Castle Rock. California black rails were detected above Blankenship Bend.

This year’s high number of 82 Yuma clapper rails detected surpassed the previous high of 76 Yuma clapper rails detected during the April 2011 survey, which had been the highest count for Bureau of Reclamation surveys since 1996 (figure 4). Prior to 2006, surveys were directed at Yuma clapper rails, and the other marsh bird species encountered were noted on the survey sheets. Starting in 2006, calls for California black rails, western least bitterns, and Virginia rails were incorporated into the survey protocol (Conway 2005).

California black rail detections have varied in Topock Gorge since first detected in March and April 2007; one was detected during each survey. There were no detections in 2008. In 2009, one was detected in March, three in April, and one in May. One California black rail was detected in April 2010. In 2011, four were detected in March, three in April, and seven in May. During the 2012 surveys, three were detected in March. One California black rail was detected in March and one in April 2013 (see figure 3). The area that California black rails have been detected is roughly 6 miles (10 kilometers) long, ranging from survey point 12 at River Mile 226.5 to survey point 35 at River Mile 220.6. This is 4 miles (6 kilometers) above and 2 miles (3 kilometers) below Blankenship Bend (see figure 2).

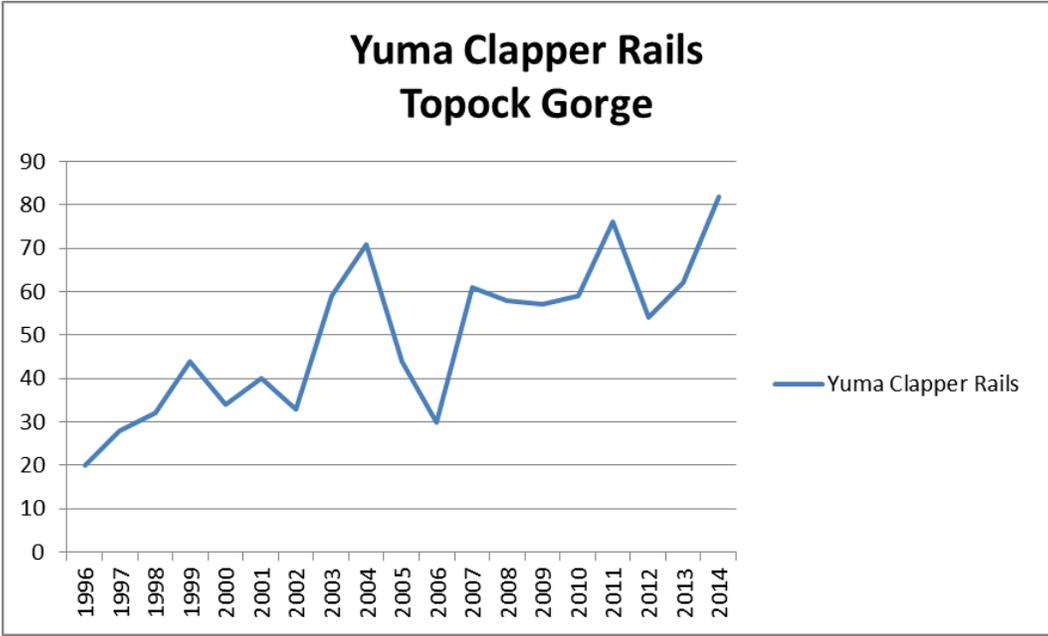


Figure 4.—Yuma clapper rail detections in Topock Gorge, 1996–2014.

LITERATURE CITED

- Arizona Game and Fish Department. 2001. *Ixobrychus exilis*. Unpublished abstract compiled and edited by the Heritage Management System, Arizona Game and Fish Department, Phoenix, Arizona. 8 p.
- _____. 2002. *Laterallus jamaicensis coturniculus*. Unpublished abstract compiled and edited by the Heritage Management System, Arizona Game and Fish Department, Phoenix, Arizona. 5 p.
- _____. 2006. *Rallus longirostris yumanensis*. Unpublished abstract compiled and edited by the Heritage Management System, Arizona Game and Fish Department, Phoenix, Arizona. 11 p.
- Bureau of Reclamation. 2004. Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan, Final. Sacramento, California.
- California Department of Fish and Wildlife. 2013. State and Federally Listed Endangered and Threatened Animals of California. California Department of Fish and Wildlife, Sacramento, California. 14p.
- Chesser, R.T., R.C. Banks, C. Cicero, J.L. Dunn, A.W. Kratter, I.J. Lovette, A.G. Navarro-Sigüenza, P.C. Rasmussen, J.V. Remsen, Jr., J.D. Rising, D.F. Stotz, and K. Winker. 2014. Fifty-fifth supplement to the American Ornithologist's Union Checklist of North American Birds. *The Auk*: October 2014, Vol. 131, No. 4, pp. CSi-CSxv.
- Conway, C.J. 2005. Standardized North American Marsh Bird Monitoring Protocols. Wildlife Research Report #2005-04. U.S. Geological Survey, Arizona Cooperative Fish and Wildlife Research Unit, Tucson, Arizona.
- _____. 2009. Standardized North American Marsh Bird Monitoring Protocols. Wildlife Research Report # 2009-02. U.S. Geological Survey, Arizona Cooperative Fish and Wildlife Research Unit, Tucson, Arizona.
- Nevada Natural Heritage Program. 2016. Animal and Plant At-Risk Tracking List. Department of Conservation and Natural Resources, Carson City, Nevada. 23 p.

**Marsh Bird Surveys in Topock Gorge
2014 Annual Report**

Sterling, J. 2008. Least bittern (*Ixobrychus exilis*) in California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies and Distinct Population of Birds of Immediate Conservation Concern in California (W.D. Shuford and T. Gardali, editors). Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento, California.

U.S. Department of the Interior. 1967. Federal Register, Vol. 32, No. 48, p. 4001.

U.S. Fish and Wildlife Service (USFWS). 2008. Birds of Conservation Concern, 2008. U.S. Department of the Interior, U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 p.

ATTACHMENT 1

Species List

Table 1-1.—Birds observed or encountered during marsh bird surveys in Topock Gorge, 2014

Common name	Scientific name	March	April	May
Abert's towhee	<i>Melospiza aberti</i>	X	X	X
American avocet	<i>Recurvirostra americana</i>	X	X	
American coot	<i>Fulica americana</i>	X	X	X
American kestrel	<i>Falco sparverius</i>		X	
American wigeon	<i>Anas americana</i>	X		
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	X	X	X
Barn owl	<i>Tyto alba</i>	X		
Barn swallow	<i>Hirundo rustica</i>	X	X	
Bell's vireo	<i>Vireo bellii</i>		X	X
Belted kingfisher	<i>Megaceryle alcyon</i>		X	
Black phoebe	<i>Sayornis nigricans</i>	X	X	X
Black-chinned hummingbird	<i>Archilochus alexandri</i>			X
Black-tailed gnatcatcher	<i>Polioptila melanura</i>	X	X	X
Black-throated sparrow	<i>Amphispiza bilineata</i>	X		
Brown-headed cowbird	<i>Molothrus ater</i>		X	X
Bufflehead	<i>Bucephala albeola</i>	X	X	
Cactus wren	<i>Campylorhynchus brunneicapillus</i>		X	X
California black rail	<i>Latterallus jamaicensis coturniculus</i>		X	X
California gull	<i>Larus californicus</i>	X		
Canada goose	<i>Branta canadensis</i>	X		
Canvasback	<i>Aythya valisineria</i>		X	
Canyon wren	<i>Catherpes mexicanus</i>	X	X	X
Caspian tern	<i>Hydroprogne caspia</i>			X
Chipping sparrow	<i>Spizella passerina</i>			X
Cinnamon teal	<i>Anas cyanoptera</i>	X		
Clark's grebe	<i>Aechmophorus clarkii</i>		X	
Cliff swallow	<i>Petrochelidon pyrrhonota</i>	X	X	X
Common gallinule	<i>Gallinula galeata</i>	X	X	X
Common raven	<i>Corvus corax</i>	X	X	X
Common yellowthroat	<i>Geothlypis trichas</i>	X	X	X
Cooper's hawk	<i>Accipiter cooperii</i>	X		
Double-crested cormorant	<i>Phalacrocorax auritus</i>	X	X	X
Dusky flycatcher	<i>Empidonax oberholseri</i>			X

Table 1-1.—Birds observed or encountered during marsh bird surveys in Topock Gorge, 2014

Common name	Scientific name	March	April	May
Eared grebe	<i>Podiceps nigricollis</i>	X	X	X
Eurasion collared-dove	<i>Streptopelia decaocto</i>			X
Franklin's gull	<i>Leucophaeus pipixcan</i>		X	
Gambel's quail	<i>Callipepla gambelii</i>		X	X
Great blue heron	<i>Ardea herodias</i>	X	X	X
Great egret	<i>Ardea alba</i>	X	X	
Great horned owl	<i>Bubo virginianus</i>	X	X	X
Greater roadrunner	<i>Geococcyx californianus</i>	X	X	
Great-tailed grackle	<i>Quiscalus mexicanus</i>	X	X	X
Green heron	<i>Butorides virescens</i>		X	X
Horned grebe	<i>Podiceps auritus</i>		X	
House finch	<i>Haemorhous mexicanus</i>	X		X
Killdeer	<i>Charadrius vociferus</i>	X		
Ladder-backed woodpecker	<i>Picoides scalaris</i>		X	X
Lesser nighthawk	<i>Chordeiles acutipennis</i>		X	X
Lesser scaup	<i>Aythya affinis</i>		X	
Loggerhead shrike	<i>Lanius ludovicianus</i>			X
Long-billed curlew	<i>Numenius americanus</i>	X		
Lucy's warbler	<i>Oreothlypis luciae</i>	X	X	X
Mallard	<i>Anas platyrhynchos</i>	X	X	X
Marsh wren	<i>Cistothorus palustris</i>	X	X	X
Mourning dove	<i>Zenaida macroura</i>	X	X	
Northern harrier	<i>Circus cyaneus</i>	X	X	
Northern pintail	<i>Anas acuta</i>		X	
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	X	X	X
Northern shoveler	<i>Anas clypeata</i>	X	X	X
Orange-crowned warbler	<i>Oreothlypis celata</i>			X
Pacific-slope flycatcher	<i>Empidonax difficilis</i>			X
Phainopepla	<i>Phainopepla nitens</i>	X	X	
Pied-billed grebe	<i>Podilymbus podiceps</i>	X	X	X
Red-breasted merganser	<i>Mergus serrator</i>		X	
Redhead	<i>Aythya americana</i>	X	X	X
Red-tailed hawk	<i>Buteo jamaicensis</i>		X	X

Table 1-1.—Birds observed or encountered during marsh bird surveys in Topock Gorge, 2014

Common name	Scientific name	March	April	May
Red-winged blackbird	<i>Agelaius phoeniceus</i>	X	X	X
Ring-billed gull	<i>Larus delawarensis</i>		X	
Rock pigeon	<i>Columba livia</i>		X	
Rock wren	<i>Salpinctes obsoletus</i>	X	X	X
Ruddy duck	<i>Oxyura jamaicensis</i>	X	X	X
Say's phoebe	<i>Sayornis saya</i>			X
Snowy egret	<i>Egretta thula</i>		X	
Song sparrow	<i>Melospiza melodia</i>	X	X	X
Sora	<i>Porzana carolina</i>	X	X	
Spotted sandpiper	<i>Actitis macularius</i>			X
Tree swallow	<i>Tachycineta bicolor</i>	X		X
Turkey vulture	<i>Cathartes aura</i>	X	X	X
Verdin	<i>Auriparus flaviceps</i>	X	X	X
Violet-green swallow	<i>Tachycineta thalassina</i>	X		X
Virginia rail	<i>Rallus limicola</i>	X	X	X
Western grebe	<i>Aechmophorus occidentalis</i>	X		X
Western least bittern	<i>Ixobrychus exilis</i>	X	X	X
Western tanager	<i>Piranga ludoviciana</i>			X
Western wood-peewee	<i>Contopus sordidulus</i>			X
White-crowned sparrow	<i>Zonotrichia leucophrys</i>		X	
White-faced ibis	<i>Plegadis chihi</i>			X
White-throated swift	<i>Aeronautes saxatalis</i>		X	
White-winged dove	<i>Zenaida asiatica</i>		X	X
Willow flycatcher	<i>Empidonax traillii</i>			X
Wilson's snipe	<i>Gallinago delicata</i>		X	
Wilson's warbler	<i>Cardellina pusilla</i>			X
Yellow warbler	<i>Setophaga petechia</i>			X
Yellow-breasted chat	<i>Icteria virens</i>			X
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>		X	X
Yellow-rumped warbler	<i>Setophaga coronata</i>	X	X	
Yuma clapper rail	<i>Rallus longirostris yumanensis</i> (also known as Ridgway's rail [<i>R. obsoletus</i>])	X	X	X

ATTACHMENT 2

Survey Data Sheet

