



**Pacific Gas and  
Electric  
Company**

---

**Yvonne J. Meeks**  
Manager

Environmental Remediation  
Gas Transmission & Distribution

*Mailing Address*  
4325 South Higuera Street  
San Luis Obispo, CA 93401

*Location*  
6588 Ontario Road  
San Luis Obispo, CA 93405

805.234.2257  
Fax: 805.546.5232  
E-mail: [YJM1@pge.com](mailto:YJM1@pge.com)

December 22, 2014

Ms. Amanda Dodson  
U.S. Department of the Interior  
Bureau of Land Management  
2610 Sweetwater Avenue  
Lake Havasu City, AZ 86406

Ms. Carrie Marr  
U.S. Fish and Wildlife Service Project Manager  
2321 W Royal Palm Road, Suite 103  
Phoenix, AZ 85021

**Subject:** 2014 Western Yellow-Billed Cuckoo Presence/Absence Surveys for the PG&E Topock Compressor Station

Dear Ms. Dodson & Ms. Marr:

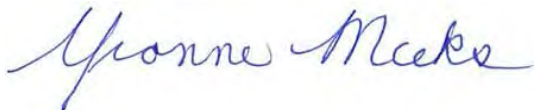
This letter transmits the *2014 Western Yellow-Billed Cuckoo Presence/Absence Surveys for the PG&E Topock Compressor Station*. This report was prepared in conformance with the 2014 Programmatic Biological Assessment, western yellow-billed cuckoo (YBCU) mitigation measure 2 (Section 5.2.2.8), and includes information on the 2014 annual field survey for the western yellow-billed cuckoo (YBCU) on lands near the PG&E Topock Compressor Station. The survey was conducted by Garcia and Associates (GANDA), and followed protocols outlined in the 2011 draft: *A Natural History Summary and Survey Protocol for the Western Yellow-billed Cuckoo Population* (Halterman *et al.* 2011).

One YBCU was observed during the 2014 survey. The observation was a single detection occurring during a single survey period and at a time when YBCU could be expected to be transient and migrating through the area. According to the protocol, YBCU must be detected during more than one period to be considered breeding in the area. However, due to the cryptic nature of the species, quality of the habitat, and that this is the fourth year in which YBCU were observed (as incidental observations during protocol surveys for southwester willow flycatcher surveys), there is potential for YBCU to breed in the survey area in the future.

As approved in the Final Groundwater Remedy Programmatic Biological Assessment on July 7, 2014, another YBCU survey will be conducted in 2015. The decision for the frequency of subsequent YBCU surveys will be made in conjunction with regulators based on the findings of the first two years of protocol YBCU surveys.

If you have any questions, please do not hesitate to contact me at (805) 546-5243.

Sincerely,



Yvonne Meeks  
Topock Remediation Project Manager

Cc:

Aaron Yue / DTSC  
David Vigil / CDFW  
Dawn Addelson / ADGF  
Linda Miller/ HNWR

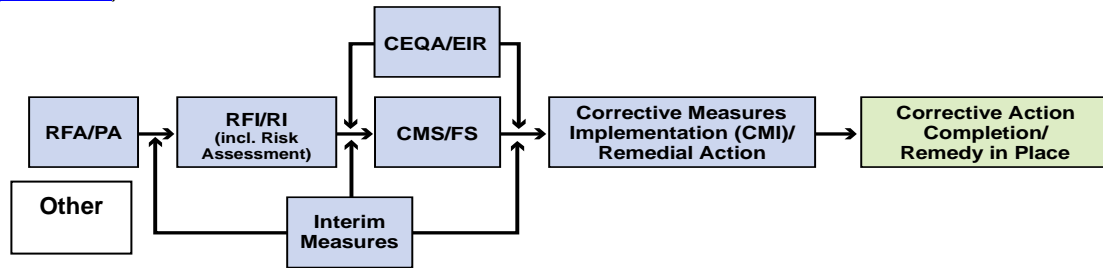
Enclosure

# Topock Project Executive Abstract

<p>Document Title:</p> <p>2014 Western Yellow-Billed Cuckoo Presence/Absence Surveys for the PG&amp;E Topock Compressor Station Needles, California</p> <p>Final Document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Date of Document: December 22, 2014</p> <p>Who Created this Document?: (i.e. PG&amp;E, DTSC, DOI, Other)</p> <p>PG&amp;E</p>
<p>Priority Status: <input type="checkbox"/> <b>HIGH</b> <input type="checkbox"/> <b>MED</b> <input checked="" type="checkbox"/> <b>LOW</b></p> <p>Is this time critical? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Action Required:</p> <p><input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Review &amp; Comment</p> <p>Return to: _____</p> <p>By Date: _____</p> <p><input type="checkbox"/> Other / Explain:</p>
<p>Type of Document:</p> <p><input type="checkbox"/> Draft <input checked="" type="checkbox"/> Report <input type="checkbox"/> Letter <input type="checkbox"/> Memo</p> <p><input type="checkbox"/> Other / Explain:</p>	<p><input type="checkbox"/> Other / Explain:</p>
<p>What does this information pertain to?</p> <p><input type="checkbox"/> Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)</p> <p><input type="checkbox"/> RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)</p> <p><input type="checkbox"/> Corrective Measures Study (CMS)/Feasibility Study (FS)</p> <p><input type="checkbox"/> Corrective Measures Implementation (CMI)/Remedial Action</p> <p><input type="checkbox"/> California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)</p> <p><input type="checkbox"/> Interim Measures</p> <p><input checked="" type="checkbox"/> Other / Explain: Biological Reports</p>	<p>Is this a Regulatory Requirement?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If no, why is the document needed?</p>
<p>What is the consequence of NOT doing this item? What is the consequence of DOING this item?</p> <p>This report is required by the approved 2014 Programmatic Biological Assessment (PBA). Not performing the survey and preparing this report constitute non-compliance with the PBA.</p>	<p>Other Justification/s:</p> <p><input type="checkbox"/> Permit <input type="checkbox"/> Other / Explain:</p>
<p>Brief Summary of attached document:</p> <p>The 2014 Western Yellow-Billed Cuckoo Presence/Absence Surveys Report presents the finding of the four Western Yellow-Billed Cuckoo (YBCU) protocol surveys conducted between June and August 2014 in areas near the PG&amp;E Topock Compressor Station. One YBCU was observed during the 2014 survey. The observation was a single detection occurring during a single survey period and at a time when YBCU could be expected to be transient and migrating through the area. According to the protocol, YBCU must be detected during more than one period to be considered breeding in the area. However, due to the cryptic nature of the species, quality of the habitat and that this is the fourth year in which YBCU were observed, there is potential for YBCU to breed in the survey area in the future.</p> <p>Written by: PG&amp;E</p>	
<p>Recommendations:</p> <p>This report is for information only.</p>	
<p>How is this information related to the Final Remedy or Regulatory Requirements:</p> <p>The survey and this report fulfill the requirement of YCBU Mitigation Measure 2 (Section 5.2.2.8) of the 2014 PBA.</p>	
<p>Other requirements of this information?</p> <p>None.</p>	

Related Reports and Documents:

Click any boxes in the Regulatory Road Map (below) to be linked to the Documents Library on the DTSC Topock Web Site ([www.dtsc-topock.com](http://www.dtsc-topock.com)).



**Legend**

RFA/PA – RCRA Facility Assessment/Preliminary Assessment

RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment)

CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study

CEQA/EIR – California Environmental Quality Act/Environmental Impact Report

Version 10

# WESTERN YELLOW-BILLED CUCKOO PRESENCE / ABSENCE SURVEYS FOR THE PG&E TOPOCK COMPRESSOR STATION

December 2014

Garcia and Associates  
Natural and Cultural Resource Consultants



## PREPARED BY:

Garcia and Associates  
2601 Mission Street, Suite 600  
San Francisco, California 94110

## Table of Contents

Introduction.....	1
Purpose and Need .....	1
Site Description and Habitat Quality .....	3
Habitat Quality.....	3
Survey Methods .....	6
Results.....	6
Incidental Species .....	7
Conclusions.....	7
References.....	7

## Figures

Figure 1. YBCU CNDDDB Occurrences and USFWS Critical Habitat. ....	1
Figure 2. Topock YBCU Site 1.....	4
Figure 3. Topock YBCU Site 2.....	5

## Appendices

Appendix A: Photo Log	
Appendix B: Incidental Plant, Vertebrate and Avian Species	
Appendix C: Survey Forms	
Appendix D: Call Points and Detection UTM Coordinates	



## Introduction

Under contract to CH2M HILL, Garcia and Associates (GANDA) conducted a protocol survey for the western yellow-billed cuckoo (YBCU) (*Coccyzus americanus*) for Pacific Gas and Electric (PG&E) for the Topock Groundwater Remedy Project, 15 miles southeast of Needles, California. The purpose of the survey was to confirm the presence or absence of YBCU in the project area and determine if any were breeding in the project area. On October 3, 2014, the U.S. Fish and Wildlife Service (USFWS October 2014) published a final rule designating the western population of the species as threatened and recommending the establishment of critical habitat for the species (USFWS 2014). YBCU are listed as sensitive species by the Arizona Game and Fish Department (AZGFD) and as endangered by the California Department of Fish and Wildlife (CDFW). This is the first year that PG&E has sponsored focused surveys for YBCU in the project area. The survey was conducted following the survey protocol outlined in the 2011 draft: *A Natural History Summary and Survey Protocol for the Western Yellow-billed Cuckoo Population* (Halterman *et al.* 2011).

This report fulfills Mitigation Measure 2 of the Programmatic Biological Assessment Final Groundwater Remedy (PBA) prepared for the project (CH2M HILL 2014), which states:

*Riparian areas surrounding the designated work areas and subject to influence of operations and maintenance activities shall be surveyed by a USFWS permitted biologist for western yellow-billed cuckoo according to the protocol established by the USFWS. After the initial 2 years of surveys, ongoing surveys shall be performed according to USFWS's recommendations until the action has been completed and all facilities have been removed. Reports shall be provided to the biologists in the BLM Lake Havasu Field Office and to the USFWS's Phoenix AESO each time they are performed.*

## Purpose and Need

The California Natural Diversity Database (CNDDDB) contains one occurrence record for YBCU within 20 miles of the Survey Area (Figure 1) (CDFW 2014). This large occurrence record is located on both sides of the Colorado River in the Havasu National Wildlife Refuge and contains multiple reports of YBCU spanning from 1977 to 2009. Some of the reports for this occurrence assume that the YBCU are breeding in the area. This occurrence record is as close as 3 miles from the survey area.

Additionally, the presence of YBCU in the project vicinity had been established through observations of YBCU at YBCU Site 1 (Figure 2) while conducting southwestern willow flycatcher surveys (*Empidonax traillii extimus*) (SWFL). All observations were of a single individual. The first observation was in 2008 and one has been observed during every survey year except 2012, when no YBCU were observed. Previously, YBCU were observed at call point AZ1-11 in 2008, at call point AZ1-19 in 2009, and at call points AZ1-15 and AZ1-19 in 2010 (GANDA 2008, GANDA 2009, GANDA 2010, GANDA 2012, GANDA 2014). The locations of all YBCU observations recorded are shown in Figure 2. Although the presence of YBCU had

been established, it had not yet been determined if they were breeding in the Topock project area or if they were transients.

The proposed YBCU critical habitat (USFWS August 2014) includes a portion of the Colorado River that flows near the project at YBCU Site 1 (Figure 1).



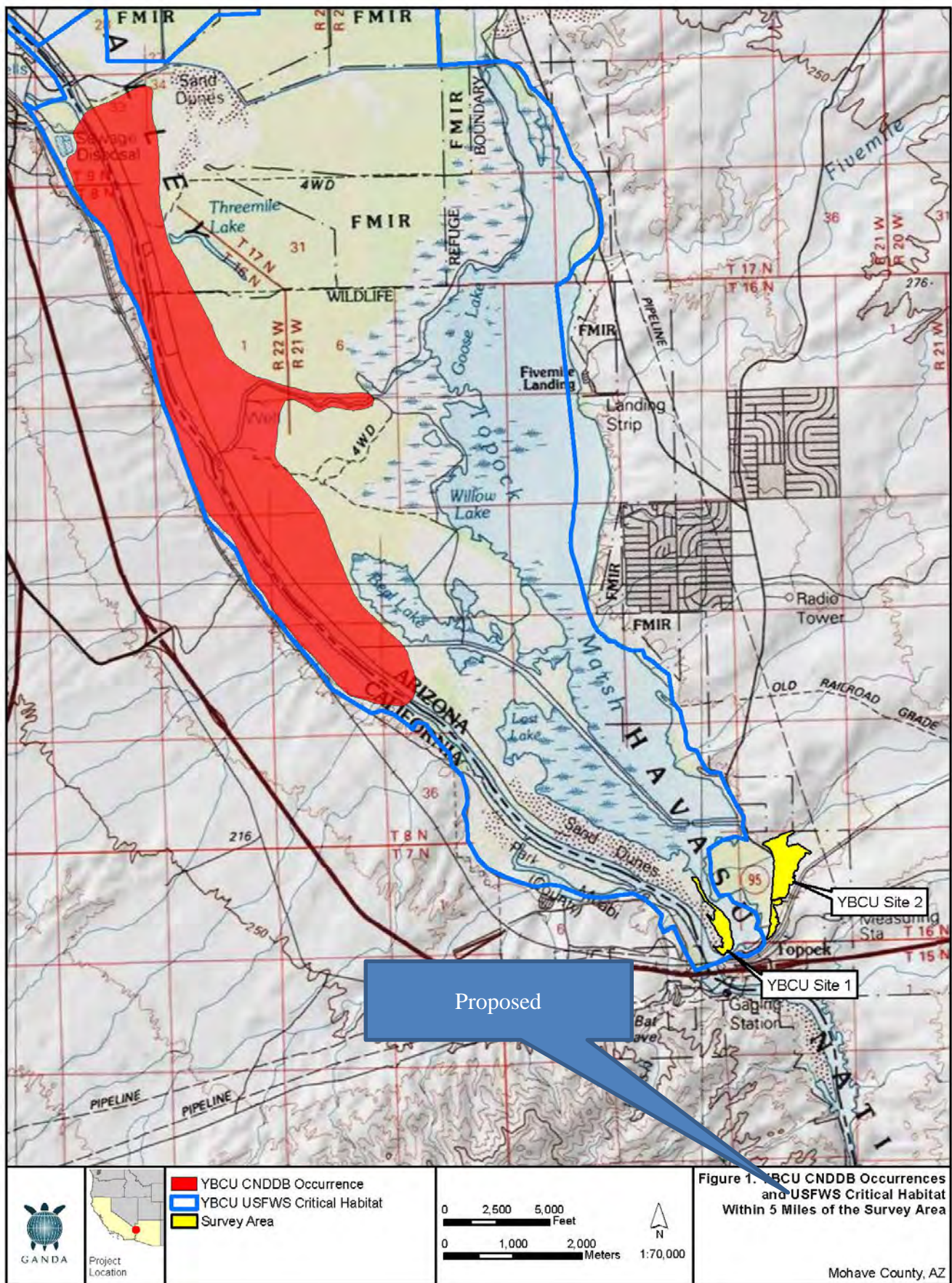


Figure 1. YBCU CNDDDB Occurrences and USFWS Critical Habitat.

## Site Description and Habitat Quality

The survey area consists of two sites near the Topock Compressor Station. The two sites were identified in the field as having suitable habitat to support breeding YBCU. The sites were identified by their size and habitat type. The sites are located along the Arizona side of the Colorado River in Mohave County, Arizona. Both sites are located in the USFWS Havasu National Wildlife Refuge (Figure 1). The survey protocol suggests that appropriate habitat greater than 12.35 acres in size should be surveyed for YBCU. Survey site 1 totals 39.5 acres and site 2 totals 93.16 acres. The sites vary in elevation from 400 to 500 feet above sea level. Photographs of the survey sites are provided in Appendix A.

The most abundant plant species in YBCU Site 1 are coyote willow (*Salix exigua*), tamarisk (*Tamarix ramosissima* and *Tamarix aphylla*), catclaw acacia (*Senegalia greggii*) and arrow weed (*Pluchea sericea*). Coyote willow is the most dominant plant species throughout the survey area. The most abundant plant species in YBCU Site 2 are tamarisk, catclaw acacia, coyote willow and arrow weed. Tamarisk is the dominant species throughout the survey area, often forming dense thickets over eight feet in height. A complete list of the plant species observed is included in Appendix B.

## Habitat Quality

Overall, the survey area is of moderate habitat quality for YBCU. The Colorado River provides standing surface water throughout the breeding season and includes suitable vegetation composition; however, habitat fragmentation and human disturbance detract from the overall habitat quality. YBCU Site 1 (Figure 2) is located on a large peninsula and is bordered by contiguous riparian habitat and bulrush-dominated marsh. YBCU Site 2 is large and almost completely composed of tamarisk that forms a dense, almost impenetrable stand (Figure 3). However, both sites (Figure 2 and Figure 3) are also adjacent to Old Route 66, the Burlington Northern Santa Fe Railway and the Topock Marina, a community that includes several houses and businesses. Recreational watercraft, frequently observed on the Colorado River and in the Topock Marsh, contribute to regular human disturbance at both sites. Additionally, a fire destroyed a large portion of potentially suitable habitat adjacent to the sites in 2009, and this, combined with the mechanical clearing of the vegetation in that area, may be contributing to the degradation of habitat quality for YBCU at these sites. Appendix A provides representative views of each survey site.



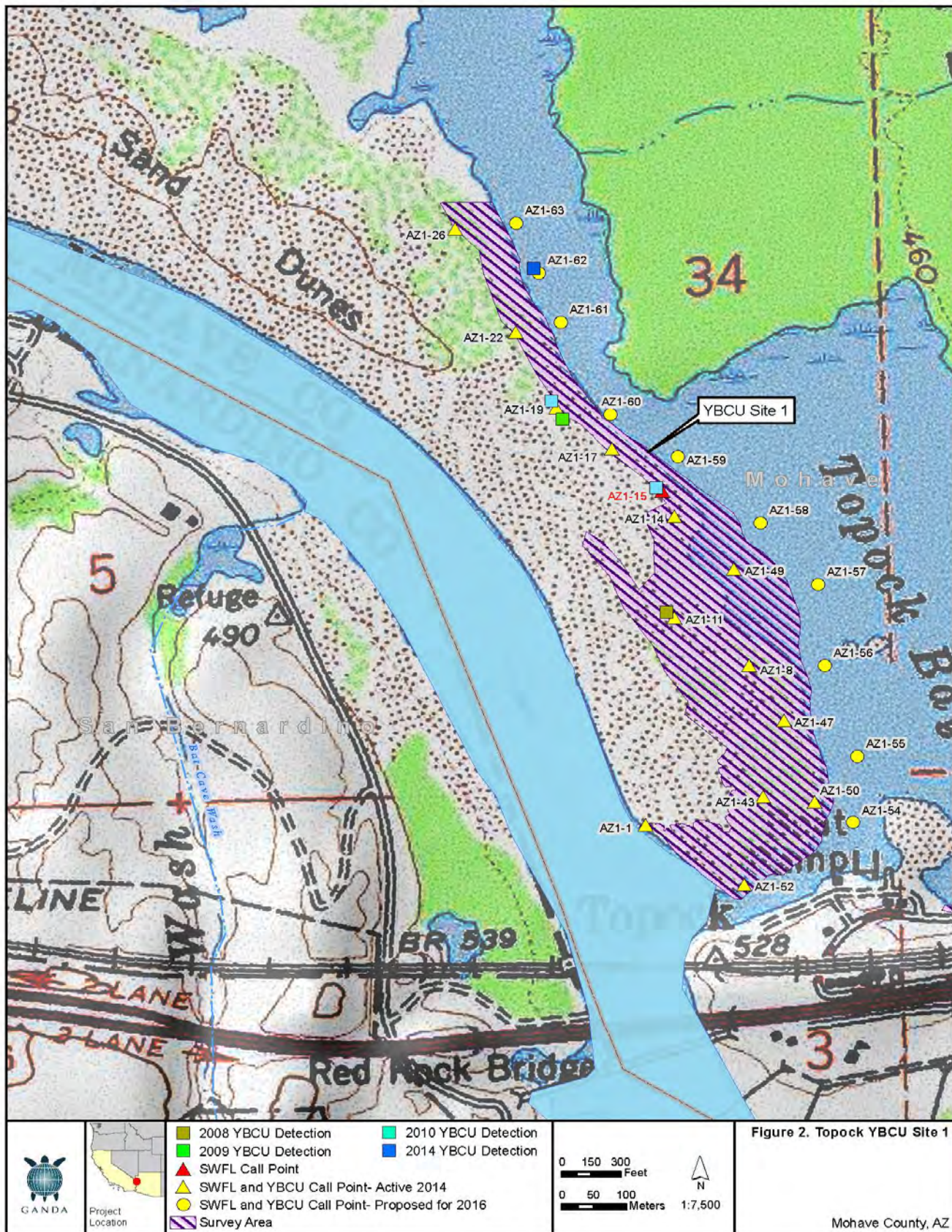


Figure 2. Topock YBCU Site 1



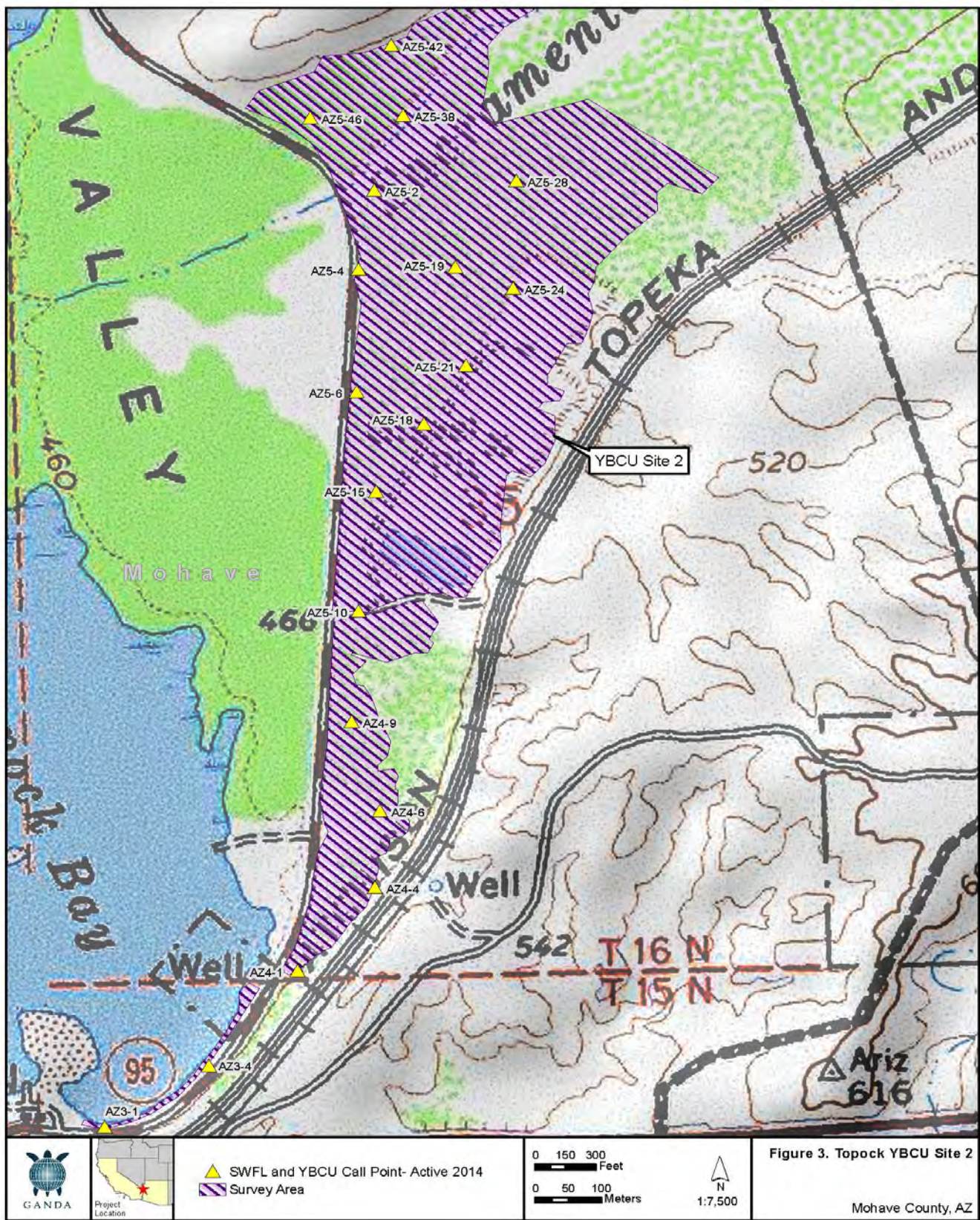


Figure 3. Topock YBCU Site 2



## Survey Methods

Surveys were conducted by GANDA wildlife biologist Jeff Steinman (USFWS Permit #TE-085026-4, AZGFD Permit #SP-665037, and CDFW Permit SC-007801). Mr. Steinman has a MOU with both California and Arizona to conduct YBCU surveys. A federal permit was not required because YBCU were not listed by the USFWS until after the surveys were completed. Surveys followed the protocol outlined by Halterman *et al.* (2011). The protocol recommends that four surveys be conducted between June 15 and August 15, with a minimum of 12 days between each survey visit. Mr. Steinman conducted the YBCU surveys on June 16 and 17, July 2 and 3, July 16 and 17, and August 6 to 8. During the final survey round YBCU Site 1 was surveyed over a two-day period. Additional call points were added for a new boat survey route due to a detection of YBCU in the area during a previous survey. All surveys were conducted between 0500 hours and 1000 hours. Completed survey forms for each site are included in Appendix C. Surveys were conducted concurrently with SWFL surveys on June 16-17, July 2 and July 16-17. Figures 2 and 3 show the call points that were surveyed for SWFL and call points that were surveyed for both species. The SWFL survey results are addressed in a separate report (GANDA 2014).

The survey method consisted of using an MP3 player and speaker system to broadcast YBCU calls from established call points. Call points were established in the field using aerial photographs, topographic maps, and global positioning system (GPS) units. Call points were placed between 50 and 100 meters apart, depending on the quality of the habitat, thickness of vegetation, and accessibility. Appendix D includes a complete list of call points surveyed and their corresponding Universal Transverse Mercator (UTM) coordinates.

At each call point, YBCU “kowlp” calls were broadcast once every minute for five minutes following an initial one-minute listening period. To reduce bias, start times at each site and the order in which call points were surveyed were intentionally varied from one visit to the next. On July 16, in addition to surveying established call points in YBCU Site 1, YBCU “kowlp” calls were broadcast every minute for approximately 10 minutes while traveling between call points by boat.

## Results

No YBCU were detected during the normal survey effort, however, a single YBCU was detected on July 16 at SWFL call point AZ-62 (Figure 2). The detection occurred at 0731 hours while traveling by boat between call points and broadcasting YBCU calls once every minute along the way. The YBCU was observed visually at 0731 hours and then heard audibly at 0747 hours. The vocalization heard was the “kowlp” call, which is distinct to the species. Upon visual detection of the YBCU, the broadcasting device was turned off, since protocol requires no broadcasting within 300 meters of a detection to avoid harassment to the individual detected and to avoid accidentally counting the same individual as a second detection. The nearest call points that were surveyed before the YBCU detection were call points AZ1-22 (approximately 93 meters from the detection) and AZ1-26 (114 meters from the detection) and the first call point surveyed after

the detection was AZ1-17 (approximately 320 meters from the detection). Call point AZ1-19 was not surveyed for YBCU because it was within 300 meters of the detection location. The survey effort was terminated at 0900 hours and no additional YBCU were detected. During the last survey period new call points were established and surveyed along the water including a call point at the detection location (Figure 2). No additional YBCU were detected during any of the other surveys or at any of the other survey sites.

## Incidental Species

Many additional wildlife species were observed during the YBCU survey. The diversity and abundance of wildlife species encountered are influenced by the proximity of the survey area to the creosote-dominated desert and the Topock Marsh, a large wetland with abundant wildlife. The most commonly observed non-avian wildlife species were black-tailed jackrabbit (*Lepus californicus*) and western side-blotched lizard (*Uta stansburiana*). The most commonly observed avian species were great-tailed grackle (*Quiscalus mexicanus*), white-winged dove (*Zenaida asiatica*) and black-tailed gnatcatcher (*Poliophtila melanura*). Complete lists of wildlife species observed are included in Appendix B.

Notable observations during the 2014 surveys were detections of Arizona Bell's vireo (*Vireo bellii arizonae*), brown-headed cowbird (*Molothrus ater*), yellow warbler (*Setophaga petechia*) and Yuma clapper rail (*Rallus longirostris yumanensis*). Two great blue heron nests (*Ardea herodias*) were observed in YBCU Site 2 at the same location that contained a single nest in 2012.

## Conclusions

One YBCU was observed during the 2014 survey. The observation was a single detection occurring during a single survey period and at a time when YBCU could be expected to be transient and migrating through the area. According to the protocol, YBCU must be detected during more than one period to be considered breeding in the area. However, due to the cryptic nature of the species, quality of the habitat and that this is the fourth year in which YBCU were observed, there is potential for YBCU to breed in the survey area in the future. Given these conditions, the listing of the species by the USFWS, and that one of the survey areas is in designated critical habitat, continuing to survey for the species is recommended. Additionally, given the observation of the YBCU from the water in 2014 it is recommended that the new call points established during the last survey be included in future surveys.

## References

California Department of Fish and Game (CDFW). 2014. California Natural Diversity Database (CNDDB). Biogeographic Data Branch, California Department of Fish and Game, Sacramento.

- CH2M HILL. 2014. Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Final Groundwater Remedy. April.
- Garcia and Associates (GANDA). 2008. Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Compressor Station Expanded Groundwater Extraction and Treatment System, Topock, California. August 2008.
- \_\_\_\_\_. 2009. Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Topock Compressor Station. September 2009.
- \_\_\_\_\_. 2010. Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Topock Compressor Station. September 2010.
- \_\_\_\_\_. 2012. Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Topock Compressor Station. September 2012.
- \_\_\_\_\_. 2014. Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Topock Compressor Station. September 2014.
- Halterman, Murrelet, Johnson, M.J., and Holmes, J.A., 2011. A Natural History Summary and Survey Protocol for the Western Yellow-billed Cuckoo Population; Draft May 2011.
- U.S. Fish and Wildlife Service (USFWS) 2014. Federal Register, Department of the Interior, Fish and Wildlife Service. Endangered and Threatened Wildlife and Plants; Determination of threatened Status for the Western Distinct Population Segment of the Yellow-Billed Cuckoo; Final Rule. 50 CFR Part 17. RIN 1018-AY53. October 3, 2014.
- \_\_\_\_\_. 2014. Federal Register, Department of the Interior, Fish and Wildlife Service. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo; Proposed Rule. 50 CFR Part 17. RIN 1018-AZ44. August 15, 2014.



## **Appendix A**

### **Photo Log**



**YBCU Site 1 Exterior**



**YBCU Site 1 Interior**



**YBCU Site 2 Exterior**



**YBCU Site 2 Interior**

## **Appendix B**

### **Plant and Animal Species**



## Plants

Common Name	Scientific Name
Arrowweed	<i>Pluchea sericea</i>
Athel Salt Cedar	<i>Tamarix aphylla</i>
Cheesebush	<i>Hymenoclea salsola</i>
Prickly Lettuce	<i>Lactuca serriola</i>
Russian Thistle	<i>Salsola tragus</i>
Catclaw Acacia	<i>Acacia greggii</i>
Screw Bean Mesquite	<i>Prosopis pubescens</i>
Palo Verde	<i>Cercidium microphyllum</i>
Salt Cedar	<i>Tamarix ramosissima</i>
Coyote Willow	<i>Salix exigua</i>
Gooding's Willow	<i>Salix gooddingii</i>
Cattail	<i>Typha angustifolia</i>

## Animals

Common Name	Scientific Name
American Bullfrog	<i>Rana catesbeiana</i>
Beaver	<i>Castor canadensis</i>
Black-tailed Jackrabbit	<i>Lepus californicus</i>
Coyote	<i>Canis latrans</i>
Desert Cottontail	<i>Sylvilagus audubonii</i>
Feral Hog	<i>Sus scrofa</i>



## Birds

Common Names	Scientific Names
Abert's Towhee	<i>Pipilo aberti</i>
American Coot	<i>Fulica americana</i>
American Kestrel	<i>Falco sparverius</i>
Arizona Bell's Vireo	<i>Vireo bellii</i>
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>
Bewicks Wren	<i>Thryomanes bewickii</i>
Black-chinned Hummingbird	<i>Archilochus alexandri</i>
Black-tailed Gnatcatcher	<i>Poliophtila melanura</i>
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Bushtit	<i>Psaltiriparus minimus</i>
California Gull	<i>Larus californicus</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Common Raven	<i>Corvus corax</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Double-crested Cormorant	<i>Phalacrocorax auritus</i>
Gambel's Quail	<i>Callipepla gambelii</i>
Great Blue Heron	<i>Ardea herodias</i>
Greater Roadrunner	<i>Geococcyx californianus</i>
Great-tailed Grackle	<i>Quiscalus mexicanus</i>
Green Heron	<i>Butorides virescens</i>
House Finch	<i>Carpodacus mexicanus</i>
Lesser Goldfinch	<i>Carduelis psaltria</i>
Killdeer	<i>Charadrius vociferous</i>
Lesser Nighthawk	<i>Chordeiles acutipennis</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
Marsh Wren	<i>Cistothorus palustris</i>
Mourning Dove	<i>Zenaida macroura</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Summer Tanager	<i>Piranga rubra</i>
Snowy Egret	<i>Egretta thula</i>
Song Sparrow	<i>Melospiza melodia</i>
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>
Townsend's Warbler	<i>Dendroica townsendi</i>
Turkey Vulture	<i>Cathartes aura</i>
Verdin	<i>Auriparus flaviceps</i>
Western Grebe	<i>Aechmophorus occidentalis</i>
Western Kingbird	<i>Tyrannus verticalis</i>
White-faced Ibis	<i>Plegadis chihi</i>
White-winged Dove	<i>Zenaida asiatica</i>
Wilson's Snipe	<i>Gallinago delicata</i>
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Yellow-Headed Blackbird	<i>Xanthocephalus xanthocephalus</i>
Yuma Clapper Rail	<i>Rallus longirostris yumanensis</i>



## **Appendix C**

### **Survey Forms**

Page 1 of 1

Site Code: YBCU-1		Site Name: Topock YBCU Site 1		Survey Period: 1		Date (mm/dd/yy): 06/16/14	
Survey Start Time: 0547		Wind: 1	Cloud cover (%): 0	Precip: 0	Noise: 0	# of stops 13	
Survey Stop Time: 0857		Wind: 1	Cloud cover (%): 0	Precip: 0	Noise: 0	Observers: Jeff Steiman	
Zone: 11	GPS #: N/A	GPS acc. (m): 3	Hours surveying: 3.0	Estimated # of individual YBCU: 0			

[illegible]

**Notes:**

	Date	Initials
Data Entry:		
Data Proof:		
Data Scan :		

## Page \_\_\_\_ of \_\_\_\_

[illegible]

**Notes:**

	Date	Initials
Data Entry:		
Data Proof:		
Data Scan :		



## Page 1 of 1

[illegible]

Notes: I Karyaxed into the site. I played a recording of YBCW calls that called every minute. I had played 6 calls moving North to South to location AZ1-62 when I observed a YBCW fly into the area from the North and perch 30 meters away. I stopped playing calls and watched as it moved a couple of times. At 0747 it called with a Kowp followed by several Knocks. It eventually disappeared at 0749 and I moved on. I skipped AZ1-17 because it was within 300 meters of the detector.

	Date	Initials
Data Entry:		
Data Proof:		
Data Scan :		

# Yellow-Billed Cuckoo (YBCU) Survey Form

Page 1 of 1

Site Code: YBCU-1	Site Name: Topock YBCU Site 1	Survey Period: 4	Date (mm/dd/yy): 08/06/14
Survey Start Time: 524	Wind: 0	Cloud cover (%): 0	Precip: 0
Survey Stop Time: 820	Wind: 0	Cloud cover (%): 0	Precip: 0
Zone: 11	GPS #: 11A	GPS acc. (m): 3	Hours surveying: 2.5
Estimated # of individual YBCU: 0			# of stops: 13
			Observers: Jeff Steinman

Point Start Time	UTM Coordinates		Waypoint Number	#	Broadcast Plays	Cuckoo #	Detection Type (N or R)	Time of Detection	How Detected (A, V, or B)	Compass Bearing	Estimated Distance (m)	Dist. Acc.	Vocal Code	Behavior / Breeding	Note #
	Easting (6 digits)	Northing (7 digits)													
524	730119	3844889	1	5	0										
550	729823	3845857	26												
621	729917	3845696	22												
628	729780	3845567	19												
636	730067	3845500	17												
647	730164	38453390	14												
659	730256	3845305	49												
708	730164	3845226	11												
715	730280	3845148	8												
726	730334	3845059	47												
734	730382	3844927	50												
750	730302	3844935	43												
801	730272	3844772	52												

Notes:

	Date	Initials
Data Entry:		
Data Proof:		
Data Scan:		

Page 1 of 1[illegible]

**Notes:**

	Date	Initials
Data Entry:		
Data Proof:		
Data Scan :		



# Yellow-Billed Cuckoo (YBCU) Survey Form

Page 1 of 2

Site Code: YBCU-2	Site Name: Topock YBCU site 2	Survey Period: 1	Date (mm/dd/yy): 06/17/14
Survey Start Time: 0523	Wind: 1	Cloud cover (%): 0	Precip: 0 Noise: 0 # of stops: 19
Survey Stop Time: 0950	Wind: 1	Cloud cover (%): 0	Precip: 0 Noise: 0 Observers: Jeff Steinman
Zone: 11	GPS #: N/A	GPS acc. (m): 3	Hours surveying: 4.0 Estimated # of individual YBCU: 0

Point Start Time	UTM Coordinates		Waypoint Number	# Broadcast Plays	Cuckoo #	Detection Type (N or R)	Time of Detection	How Detected (A, V, or B)	Compass Bearing	Estimated Distance (m)	Dist. Acc.	Vocal Code	Behavior / Breeding	Note #
	Easting (6 digits)	Northing (7 digits)												
523	730774	3844846	3-1	5	0									
535	730774	3844846	3-4											
550	730909	3844998	4-1											
603	731026	3845131	4-4											
612	731033	3845254	4-6											
622	730991	3845397	4-9											
630	731001	3845574	5-10											
646	731001	3846123	5-4											
657	730998	3845926	5-6											
708	731028	3845766	5-15											
718	731100	3845875	5-18											
729	731163	3845968	5-21											
743	731235	3846092	5-24											
754	731148	3846127	5-19											
811	731240	3846265	5-28											

Notes:

	Date	Initials
Data Entry:		
Data Proof:		
Data Scan :		





# Yellow-Billed Cuckoo (YBCU) Survey Form

Page 1 of 2

Site Code: YBCU-2	Site Name: Topock YBCU site 2	Survey Period: 2	Date (mm/dd/yy): 07/03/14
Survey Start Time: 0737	Wind: 1	Cloud cover (%): 0	Precip: 0
Survey Stop Time: 1059	Wind: 2	Cloud cover (%): 0	Precip: 0
Zone: 11	GPS #: 111A	GPS acc. (m): 3	Hours surveying: 3.5
Estimated # of individual YBCU: 0			Observers: Jeff Steinman

Point Start Time	UTM Coordinates		Waypoint Number	# Broadcast Plays	Cuckoo #	Detection Type (N or R)	Time of Detection	How Detected (A, V, or B)	Compass Bearing	Estimated Distance (m)	Dist. Acc.	Vocal Code	Behavior / Breeding	Note #
	Easting (6 digits)	Northing (7 digits)												
737	731024	3846250	5-2	5	0									
744	731028	3846370	5-38											
754	731050	3846482	5-42											
804	730927	3846366	5-46											
816	731001	3846123	5-4											
824	730998	3845926	5-6											
833	731001	3845574	5-10											
846	731008	3845766	5-15											
856	731100	3845845	5-18											
907	731163	3845968	5-21											
916	731235	3846092	5-24											
926	731148	3846127	5-19											
939	731240	3846265	5-28											
1009	730909	3844998	4-1											
1017	731026	3845131	4-4											

Notes:

Date	Initials
Data Entry:	
Data Proof:	
Data Scan :	

[illegible]

Site: Topack YBCU site 2

Date: 7/3/14

Page 2 of 2



# Yellow-Billed Cuckoo (YBCU) Survey Form

Page 1 of 2

Site Code: <u>YBCU-2</u>	Site Name: <u>Topock YBCU Site 2</u>	Survey Period: <u>3</u>	Date (mm/dd/yy): <u>07/17/14</u>
Survey Start Time: <u>540</u>	Wind: <u>0</u>	Cloud cover (%): <u>0</u>	Precip: <u>0</u>
Survey Stop Time: <u>919</u>	Wind: <u>0</u>	Cloud cover (%): <u>0</u>	Precip: <u>0</u>
Zone: <u>11</u>	GPS #: <u></u>	GPS acc. (m): <u>3</u>	Hours surveying: <u>3.5</u>
Estimated # of individual YBCU: <u>0</u>			Observers: <u>Jeff Steinman</u>

Point Start Time	UTM Coordinates		Waypoint Number	# Broadcast Plays	Cuckoo #	Detection Type (N or R)	Time of Detection	How Detected (A, V, or B)	Compass Bearing	Estimated Distance (m)	Dist. Acc.	Vocal Code	Behavior / Breeding	Note #
	Easting (6 digits)	Northing (7 digits)												
540	731024	3846250	5-2	5	0									
550	731001	3846123	5-4											
601	730998	3845926	5-6											
611	731028	3845766	5-15											
624	731100	3845875	5-18											
634	731163	3845968	5-21											
646	731235	3846092	5-24											
658	731148	3846127	5-19											
715	731240	3846265	5-28											
734	731068	3846370	5-38											
748	731050	3846482	5-42											
809	730927	3846366	5-46											
826	731001	3845574	5-10											
850	730991	3845397	4-9											
901	731033	3845254	4-6											

Notes:

Date Entry:	Date	Initials
Data Proof:		
Data Scan :		

[illegible]Page 2 of 2

# Yellow-Billed Cuckoo (YBCU) Survey Form

Page 1 of 2

Site Code: 4BCU-2	Site Name: Topock YBCU site 2	Survey Period: 4	Date (mm/dd/yy): 08/08/14
Survey Start Time: 0615	Wind: 0	Cloud cover (%): 0	Precip: 0
Survey Stop Time: 0932	Wind: 0	Cloud cover (%): 0	Precip: 0
Zone: 11	GPS #: N/A	GPS acc. (m): 3	Hours surveying: 3.0
Estimated # of individual YBCU: 0			# of stops: 19
			Observers: Jeff Steinman

Point Start Time	UTM Coordinates		Waypoint Number	#	Broadcast Plays	Cuckoo #	Detection Type (N or R)	Time of Detection	How Detected (A, V, or B)	Compass Bearing	Estimated Distance (m)	Dist. Acc.	Vocal Code	Behavior / Breeding	Note #
	Easting (6 digits)	Northing (7 digits)													
615	730616	3844747	3-1	5	0										
624	730774	3844846	3-4												
633	730909	3844998	4-1												
642	731026	3845131	4-4												
650	731033	3845254	4-6												
658	730991	3845397	4-9												
707	731001	3845574	5-10												
718	731028	3845766	5-15												
729	731100	3845815	5-18												
739	731163	3845968	5-21												
750	731235	3846092	5-24												
800	731148	3846127	5-19												
810	731240	3846265	5-28												
824	731068	3846370	5-38												
840	731050	3846482	5-42												

Notes:

	Date	Initials
Data Entry:		
Data Proof:		
Data Scan:		







## **Appendix D**

### **Call Points and Detection UTM Coordinates**

Name	SWFL/YBCU	State	Easting	Northing
<b>YBCU-1</b>				
AZ1-1	SWFL/YBCU	AZ	730119	3844889
AZ1-2	SWFL	AZ	730198	3844830
AZ1-4	SWFL	AZ	730251	3845035
AZ1-6	SWFL	AZ	730250	3845090
AZ1-7	SWFL	AZ	730327	3845103
AZ1-8	SWFL/YBCU	AZ	730280	3845148
AZ1-9	SWFL	AZ	730223	3845178
AZ1-10	SWFL	AZ	730154	3845179
AZ1-11	SWFL/YBCU	AZ	730164	3845226
AZ1-12	SWFL	AZ	730149	3845290
AZ1-13	SWFL	AZ	730185	3845344
AZ1-14	SWFL/YBCU	AZ	730164	3845390
AZ1-15	SWFL	AZ	730145	3845431
AZ1-16	SWFL	AZ	730108	3845465
AZ1-17	SWFL/YBCU	AZ	730067	3845500
AZ1-18	SWFL	AZ	730027	3845533
AZ1-19	SWFL/YBCU	AZ	729980	3845567
AZ1-20	SWFL	AZ	729943	3845609
AZ1-21	SWFL	AZ	729929	3845657
AZ1-22	SWFL/YBCU	AZ	729917	3845690
AZ1-23	SWFL	AZ	729891	3845727
AZ1-24	SWFL	AZ	729867	3845759
AZ1-25	SWFL	AZ	729873	3845812
AZ1-26	SWFL/YBCU	AZ	729823	3845857
AZ1-40	SWFL	AZ	730269	3844972
AZ1-41	SWFL	AZ	730173	3844898
AZ1-42	SWFL	AZ	730259	3844828
AZ1-43	SWFL/YBCU	AZ	730302	3844935
AZ1-44	SWFL	AZ	730300	3845020
AZ1-45	SWFL	AZ	730329	3844908
AZ1-47	SWFL/YBCU	AZ	730334	3845059
AZ1-48	SWFL	AZ	730180	3845295
AZ1-49	SWFL/YBCU	AZ	730256	3845305
AZ1-50	SWFL/YBCU	AZ	730382	3844927
AZ1-51	SWFL	AZ	730379	3844901
AZ1-52	SWFL/YBCU	AZ	730272	3844792
AZ1-53	SWFL	AZ	730289	3844962
AZ1-54	new YBCU surveyed 7/6 only	AZ	730441	3844892
AZ1-55	new YBCU surveyed 7/6 only	AZ	730442	3844986
AZ1-56	new YBCU surveyed 7/6 only	AZ	730400	3845117
AZ1-57	new YBCU surveyed 7/6 only	AZ	730398	3845202
AZ1-58	new YBCU surveyed 7/6 only	AZ	730296	3845378
AZ1-59	new YBCU surveyed 7/6 only	AZ	730168	3845486
AZ1-60	new YBCU surveyed 7/6 only	AZ	730063	3845555
AZ1-61	new YBCU surveyed 7/6 only	AZ	729986	3845704
AZ1-62	new YBCU surveyed 7/6 only	AZ	729952	3845785
AZ1-63	new YBCU surveyed 7/6 only	AZ	729917	3845866
<b>AZ-3</b>				
AZ3-1	SWFL/YBCU	AZ	730616	3844747
AZ3-2	SWFL	AZ	730683	3844764

Name	SWFL/YBCU	State	Easting	Northing
AZ3-3	SWFL	AZ	730740	3844808
AZ3-4	SWFL/YBCU	AZ	730774	3844846
<b>AZ-4</b>				
AZ4-1	SWFL/YBCU	AZ	730909	3844998
AZ4-10	SWFL	AZ	730976	3845444
AZ4-11	SWFL	AZ	730962	3845519
AZ4-12	SWFL	AZ	730975	3845261
AZ4-13	SWFL	AZ	730952	3845205
AZ4-14	SWFL	AZ	730936	3845148
AZ4-2	SWFL	AZ	730945	3845027
AZ4-3	SWFL	AZ	730988	3845077
AZ4-4	SWFL/YBCU	AZ	731026	3845131
AZ4-5	SWFL	AZ	731051	3845213
AZ4-6	SWFL/YBCU	AZ	731033	3845254
AZ4-7	SWFL	AZ	731021	3845283
AZ4-8	SWFL	AZ	730996	3845334
AZ4-9	SWFL/YBCU	AZ	730991	3845397
<b>AZ-5</b>				
AZ5-1	SWFL	AZ	731062	3846290
AZ5-2	SWFL/YBCU	AZ	731024	3846250
AZ5-3	SWFL	AZ	730991	3846205
AZ5-4	SWFL/YBCU	AZ	731001	3846123
AZ5-5	SWFL	AZ	731005	3846021
AZ5-6	SWFL/YBCU	AZ	730998	3845926
AZ5-7	SWFL	AZ	730984	3845838
AZ5-8	SWFL	AZ	730978	3845736
AZ5-9	SWFL	AZ	730976	3845682
AZ5-10	SWFL/YBCU	AZ	731001	3845574
AZ5-11	SWFL	AZ	731071	3845586
AZ5-12	SWFL	AZ	731029	3845643
AZ5-13	SWFL	AZ	731040	3845694
AZ5-14	SWFL	AZ	731040	3845735
AZ5-15	SWFL/YBCU	AZ	731028	3845766
AZ5-16	SWFL	AZ	731039	3845808
AZ5-17	SWFL	AZ	731069	3845849
AZ5-18	SWFL/YBCU	AZ	731100	3845875
AZ5-19	SWFL/YBCU	AZ	731148	3846127
AZ5-20	SWFL	AZ	731137	3845931
AZ5-21	SWFL/YBCU	AZ	731163	3845968
AZ5-22	SWFL	AZ	731176	3845994
AZ5-23	SWFL	AZ	731211	3846046
AZ5-24	SWFL/YBCU	AZ	731235	3846092
AZ5-25	SWFL	AZ	731196	3846128
AZ5-26	SWFL	AZ	731248	3846132
AZ5-27	SWFL	AZ	731244	3846178
AZ5-28	SWFL/YBCU	AZ	731240	3846265
AZ5-29	SWFL	AZ	731255	3846296
AZ5-30	SWFL	AZ	731309	3846309
AZ5-31	SWFL	AZ	731375	3846309
AZ5-32	SWFL	AZ	731306	3846378
AZ5-33	SWFL	AZ	731198	3846338

Name	SWFL/YBCU	State	Easting	Northing
AZ5-35	SWFL	AZ	731134	3846395
AZ5-36	SWFL	AZ	731021	3846316
AZ5-37	SWFL	AZ	731048	3846338
AZ5-38	SWFL/YBCU	AZ	731068	3846370
AZ5-39	SWFL	AZ	731034	3846406
AZ5-40	SWFL	AZ	731028	3846427
AZ5-41	SWFL	AZ	730965	3846465
AZ5-42	SWFL/YBCU	AZ	731050	3846482
AZ5-43	SWFL	AZ	731118	3846529
AZ5-44	SWFL	AZ	730920	3846426
AZ5-45	SWFL	AZ	730924	3846391
AZ5-46	SWFL/YBCU	AZ	730927	3846366
AZ5-47	SWFL	AZ	730902	3846345
AZ5-48	SWFL	AZ	730868	3846365
AZ5-49	SWFL	AZ	730948	3846298
<b>Detections</b>				
SWFL AZ4-10		AZ	730951	3845404
SWFL AZ1		AZ	730158	3845482
YUCR AZ3-4		AZ	730778	3844843
YEWB AZ5-21		AZ	731156	3845961
AZBV AZ1		AZ	729949	3845787
AZBV AZ3		AZ	730839	3844943
GBHE nests		AZ	731132	3845968