Pacific Gas and Electric Company

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March 29, 2013

Ms. Cathy Wolff-White
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
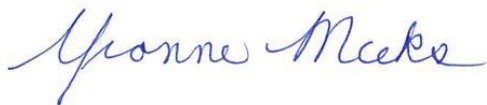Phoenix, AZ 85021

Subject: 2012 Focused Survey for the Yuma Clapper Rail and California Black Rail for the Pacific Gas and Electric Groundwater Remediation Project Site, Needles, California

Dear Ms. Wolff-White & Ms. Marr:

This letter transmits the results of the *2012 Focused Survey for the Yuma Clapper Rail and California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project.* This report was prepared in conformance with the Programmatic Biological Assessment, and includes information on the habitat suitability and presence of Yuma Clapper Rail (YUCR) and California Black Rail on lands near the PG&E Topock Compressor Station. The survey was conducted by John Konecny of Konecny Biological Services using protocol from the *Standardized North American Marsh Bird Monitoring Protocols* (Conway 2008), with a modification suggested by the Clapper Rail Study Team (2009) for projects that directly impact potential clapper rail habitat. One pair of Yuma clapper rails and two single advertising male Yuma clapper rails were detected during the 2012 survey.

If you have any questions, please do not hesitate to contact me at (805) 234-2257.

Sincerely,

Yvonne Meeks
Topock Project Manager

Cc: Pam Innis/DOI
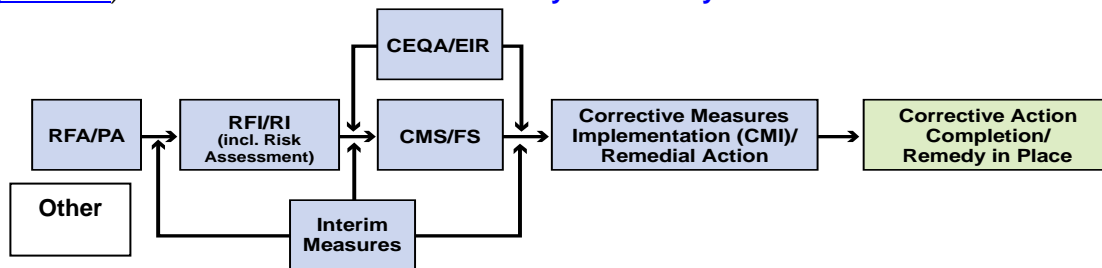   Aaron Yue/DTSC
        Victoria Chau/CDFW

Enclosure

Topock Project Executive Abstract

Document Title: 2012 Focused Survey for the Yuma Clapper Rail and California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project Site, Needles, California Submitting Agency/Authored by: BLM, USFWS Final Document? ☒ Yes ☐ No	Date of Document: March 29, 2013 Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other) Other – Konecny Biological Services

Priority Status: ☐ **HIGH**   ☐ **MED**   ☒ **LOW**
Is this time critical? ☐ Yes   ☒ No
Type of Document:
☐ Draft   ☒ Report   ☐ Letter   ☐ Memo
☐ Other / Explain:
	Action Required:
	☒ Information Only ☐ Review & Comment
	     Return to:_____
	     By Date: _____ _____
	
	☐ Other / Explain:

What does this information pertain to? ☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA) ☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment) ☐ Corrective Measures Study (CMS)/Feasibility Study (FS) ☐ Corrective Measures Implementation (CMI)/Remedial Action ☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR) ☐ Interim Measures ☒ Other / Explain: Programmatic Biological Assessment (PBA)	Is this a Regulatory Requirement? ☒ Yes ☐ No If no, why is the document needed?
What is the consequence of NOT doing this item? What is the consequence of DOING this item? This report is required by the approved PBA. Not performing the survey and preparing this report constitute non-compliance with the PBA.	Other Justification/s: ☐ Permit ☐ Other / Explain:

Brief Summary of attached document:
The 2012 Focused Survey for the Yuma Clapper Rail and California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project Site, Needles, California report presents the finding of the Yuma Clapper Rail (YUCR) and California Black Rail (CBR) protocol surveys conducted between March and May 2012 in areas near the PG&E Topock Compressor Station. One pair of Yuma clapper rails and two single advertising male Yuma clapper rails were detected in the Topock Marsh in Arizona during the 2012 survey. No Yuma clapper rails were detected on the California side of the Colorado River. No California black rails were detected anywhere in the project area.

Written by: PG&E

Recommendations:

This report is for information only.

How is this information related to the Final Remedy or Regulatory Requirements:

This report is a requirement of the PBA during and after the completion of construction activities.

Other requirements of this information?
None

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). **The link to the Documents Library is currently UNDER CONSTRUCTION.**

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                              ┌──────────────┐
                              │   CEQA/EIR   │
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┌─────────┐     ┌──────────────┐    ┌──────────┐    ┌────────────────────────┐    ┌──────────────────┐
│ RFA/PA  │ ──▶ │   RFI/RI     │──▶ │  CMS/FS  │──▶ │ Corrective Measures    │──▶ │ Corrective Action│
│         │     │ (incl. Risk  │    │          │    │ Implementation (CMI)/  │    │ Completion/      │
│         │     │ Assessment)  │    │          │    │ Remedial Action        │    │ Remedy in Place  │
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│  Other  │          │   Interim    │
│         │          │   Measures   │
└─────────┘          └──────────────┘
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Version 9

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

Konecny Biological Services

Biological Consulting, Research, Conservation

July 22, 2012
12-04-A

Environmental Services Business Group
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833

Attn: Ms. Marjorie A. Eisert

**Re: Results of a Focused Survey for the Yuma Clapper Rail and California Black Rail at
the Pacific Gas and Electric Groundwater Remediation Project Site near the
Topock Compressor Station (PG&E-1925), City of Needles, County of San
Bernardino, California, 2012.**

Dear Ms. Eisert:

This letter report presents the results of focused surveys for the Yuma clapper rail (*Rallus
longirostris yumanensis*), and California black rail (*Laterallus jamaicensis coturniculus*), at
Pacific Gas and Electric's (PG&E) Groundwater Remediation Project Site near the Topock
Compressor Station, City of Needles, San Bernardino County, California. The Yuma clapper rail
is listed as an endangered species by the United States Fish and Wildlife Service (USFWS), and
as a threatened species by the California Department of Fish and Game (CDFG). The California
black rail is listed as a threatened species by CDFG.

Surveys for the Yuma clapper rail and California black rail were conducted following protocol
established by Conway (2008), with a modification suggested by the Clapper Rail Study Team
(CRST 2009) for projects that directly impact potential clapper rail habitat. The surveys were
conducted by wildlife biologist John Konecny. PG&E biologist Melanie Day assisted on two
surveys. This activity is authorized by USFWS section 10(a) permit number TE837308-5, and a
CDFG Memorandum of Understanding.

INTRODUCTION

The Yuma clapper rail is a slender, tawny-breasted bird with grayish edges on brown centered
back feathers, olive wing coverts, vertical white bars on the flanks, a white stripe over the eye,
and a partially orange bill. The Yuma clapper rail occurs along the lower Colorado River in
freshwater marsh dominated by cattails (*Typha* sp.), bulrush (*Scirpus* sp.), and common reed
(*Phragmites australis*), from Needles, California, south to the Colorado River delta (Tomlinson
and Todd 1973). Additional populations occur at the south end of the Salton Sea, and the Salt
and Gila Rivers (Eddleman 1989). Yuma clapper rails forage primarily on crustaceans and
minnows during the breeding season, and rely more on a diet of seeds and vegetation in the
winter. Recent claims of migratory movement along the lower Colorado River could not be
confirmed by radiotelemetry studies (Eddleman 1989, Conway 1990). Populations of Yuma
clapper rails have undergone decline in the United States due to their limited distribution, and
destruction and degradation of freshwater marsh habitat.

The California black rail is a small, sparrow-sized secretive rail, blackish above with white
speckling, has a chestnut nape, grayish-black underparts, narrow white barring on the flanks, and
a short black bill. The California black rail occurs in the lower Colorado River area from the

Imperial Dam, south to the Mexican border, with smaller, isolated populations scattered from Marin and San Luis Obispo Counties in coastal California, southward to San Diego County, northwestern Baja California, and the lower Imperial Valley (Eddleman *et al* 1994, Small 1994). California black rails tend to favor mixed pickleweed (*Salicornia* sp.), cordgrass (*Spartina foliosa*), and bulrush marshes in coastal habitats; and bulrush and cattail freshwater marshes in inland areas (Small 1994). Black rails typically forage on aquatic and terrestrial invertebrates and seeds. Like the Yuma clapper rail, the California black rail has undergone decline due to habitat degradation and destruction. The population of California black rails along the Colorado River from Needles, California, to Yuma, Arizona, probably numbers between 75-100 individuals (Evens et al. 1991).

PROJECT LOCATION

The Pacific Gas and Electric Groundwater Remediation Project Site near the Topock Compressor Station is located immediately north and south of Interstate-40 near the California/Arizona border. The Interstate-40 Bridge crossing of the Colorado River is approximately 11-miles (18-kilometers) southeast of the City of Needles, California (Figure 1). The project site extends northward of Interstate-40 on the California side for approximately one-mile (1.6-kilometers) toward the Moabi Regional Park; approximately three-tenths of a mile (one-half kilometer) southward on Pacific Gas and Electric property; and approximately two-tenths of a mile (three-tenths of a kilometer) eastward in Topock Marsh in Arizona and 1.5 miles (2.4 kilometers) eastward from the Colorado River. Specifically, the project area is located in Township 7 North, Range 24 East on the Needles, CA 7.5-minute quadrangle; and Township 15 North, Range 21 West on the Topock, AZ 7.5 minute quadrangle.

PROJECT SITE DESCRIPTION

The Colorado River in the vicinity of the Pacific Gas and Electric Topock Compressor Station site is wide and relatively slow moving. At times there is considerable recreational boat traffic in the area. Emergent bulrush, cattails, and common reed (*Phragmites australis*) are present in varying densities and patch size along both river banks in the project site area. Topock marsh in Arizona is a relatively undisturbed freshwater marsh located in a protected inlet of the river that transition northward as a lush bulrush and cattail marsh. Only a small boat dock is present in the southern area of the marsh.

Moabi Regional Park is present on the north side of Interstate-40 on the California side of the river and includes cabins and a boat basin. The Pacific Gas and Electric Topock Compressor Station is present south of the Interstate on the California side. A deeply incised drainage (known as the East Ravine) is present south of the access road to the compressor station and there is a large patch of common reed at its confluence with the river. A few small residences are located south of the Interstate on the Arizona side.

Upland vegetation in the area is characterized by tamarisk (*Tamarix* sp.), arrowweed (*Pluchea sericea*), and quailbush (*Atriplex lentiformis*), with an occasional honey mesquite (*Prosopis glandulosa*), and creosote bush (*Larrea tridentate*). The elevation of the Colorado River at the Topock Compressor Station site is approximately 456 feet (139 meters) above Mean Sea Level.

METHODS

Habitat Assessment

A habitat assessment of the project site was conducted on March 13, 2012. All areas within 300 feet (91 meters) of a potential action area were looked at by Yuma clapper rail permitted biologist John Konecny and PG&E biologist Melanie Day. All emergent shoreline vegetation was inspected from the water by boat and later ground truthed on foot from the shore. An aerial photograph (1 inch to 500 feet) and binoculars were used as an aid in determining vegetation location. Potential habitat was marked on the aerial photograph.

Focused Surveys

Six focused survey events for the Yuma clapper rail and California black rail were conducted at least one week apart between March 14th and May 19th, 2012 following the survey protocol of Conway 2008, with a modification suggested by the Clapper Rail Study Team (CRST 2009) for projects that directly impact potential clapper rail habitat. Eddlemann and Conway (1998) and Conway (2008 pers.comm.) suggest a 40% detection rate to clapper rail call prompting. Using a detection probability of 0.4 (undetection probability of 0.6), six survey events are required to achieve a value of $P = 0.05$, i.e. to say there is 95% confidence that clapper rails are not present in an area.

Each survey event had a dawn and dusk component. Dawn surveys were initiated approximately 30 minutes prior to sunrise, approximately 0500-0600, and continued until approximately 1000. Dusk surveys were initiated approximately two hours before sunset and continued until dark.

The surveys were conducted by stopping at twenty-three points that are at approximately 270 foot (120 meters) intervals along the Colorado River, Topock Marsh, and Moabi Regional Park (Figure 2A-C) and listening for Yuma clapper rails and California black rails for five minutes. If rails were not detected, a digital vocalization (call prompt), consisting of 30 seconds of California black rail followed by 30 seconds of silence, 30 seconds of least bittern (*Ixobrychus exillis*) followed by 30 seconds of silence, 30 seconds of Virginia rail (*Rallus limicola*) followed by 30 seconds of silence, and 30 seconds of Yuma clapper rail followed by 30 seconds of silence was played with an iPod and amplified speakers. A response was listened for during a one minute period following the recorded vocalizations before proceeding to the next station.

Beginning with the third survey event on March 29th and 30th, three additional species; the pied-billed grebe (*Podilymbus podiceps*), common gallinule (*Gallinula galeata*), and American coot (*Fulica americana*) were added as target species at station three (USFWS Point 49; 34.714573, -114.486672) and seven (USFWS Point 50; 34.717854, -114.488407) at the request of the USFWS. Digital vocalizations of these three species were not played.

Weather conditions during the three surveys are summarized in Table 1. Copies of data sheets are included as Attachment 1.

Table 1. Environmental Conditions During Five Yuma Clapper Rail and California Black Rail Surveys at the Pacific Gas and Electric Groundwater Remediation Project Site (PG&E-1925), City of Needles, County of San Bernardino, California, 2012.

Survey #	Date	Surveyor (Species) *	Time	Weather Conditions (OC = overcast)
1A	03/14/12	JK, MD (YCR, CBR)	1630-1925	75-72F, wind 1-5 mph, 0% OC
1B	03/15/12	JK, MD (YCR, CBR)	0619-0959	53-65F, wind 1-5 mph, 0% OC
2A	03/21/12	JK, (YCR, CBR)	1700-1905	83-72F, wind 3-5 mph, 0% OC
2B	03/22/12	JK (YCR, CBR)	0610-1030	54-71F, wind 3-5 mph, 0% OC
3A	03/29/12	JK, (YCR, CBR)	1625-1850	86-80 F, wind 3-10 mph, 20 % OC
3B	03/30/12	JK. (YCR, CBR)	0559-0930	61-73F, wind 4-7 mph, 10 % OC
4A	04/19/12	JK, (YCR, CBR)	0510-0836	69-77F, wind 1-5 mph, 10 % OC
4B	04/20/12	JK, (YCR, CBR)	1800-2120	94-87F, wind 5-10 mph, 10 % OC
5A	04/27/12	JK, (YCR, CBR)	0500-0816	66-78F, wind 6-15 mph, 10% OC
5B	04/28/12	JK, (YCR, CBR)	1750-2050	91-80F, wind 3-5 mph, 10% OC
6A	05/18/12	JK, (YCR, CBR)	0500-0815	80-89F, wind 7-15 mph, 10% OC
6B	05/19/12	JK, (YCR, CBR)	1810-2125	96-87F, wind 5-10 mph, 10% OC

*   JK-John Konecny; MD-Melanie Day; YCR-Yuma clapper rail; CBR-California black rail

RESULTS

Habitat Assessment

Field reconnaissance of the site yielded 24 points of potential Yuma clapper rail or California black rail habitat in the project area. Calls prompt stations were established at twenty three of these points. There was no call prompt station established at point #19. This location was within 300 feet of a potential project action, but could only be reached by boat, so it is only referred to as a location, not by station number. This location was within audible distance of the call prompt from station #20. Seven points (six stations and one additional location (#19)) are located on the Arizona side of the river and 21 stations are located on the California side. The highest quality habitat, based on vegetation species composition, i.e. cattails and bulrush, and degree of being isolated from disturbance is in the Topock Marsh. The twenty-four locations are shown in Figures 2A-2C in Attachment 2.

Focused Surveys

One pair of Yuma clapper rails and two single advertising male Yuma clapper rails were detected during the 2012 survey (Figure 3). Each of these three locations was located in the Topock Marsh in Arizona. No Yuma clapper rails were detected on the California side of the Colorado River. The two single Yuma clapper rails were detected during all six survey events. The Yuma clapper rail pair was detected on five of the six survey events. The Yuma clapper rail pair that was detected at location #19 and station 20 is likely the same pair. No California black rails were detected anywhere in the project area.

American coots were detected visually at both station #3 and station #7 for the USFWS survey. A pied-billed grebe was detected auditorally at station #7. No common gallinules were detected.

DISCUSSION

No California black rails were detected in the survey area. California black rails are habitat specialists that require at least 1.25 acres (0.5 hectares) of emergent marsh and shallow water that is less than one and one-half inches (two centimeters) in depth (Conway and Sulzman 2007, Eddleman 1994). Given those habitat requirements, California black rail habitat is not present for the most part on the west side of the river. The Colorado River is known to fluctuate by up to four feet (meters) daily, due to release of water at the Davis Dam, 37 miles (54 kilometers) upstream. The upper areas of the protected Topock Marsh may offer some areas of breeding habitat for the California black rail. Small (1994) estimates that 75 to 100 individuals may be present on the lower Colorado River, with the majority being located around the Imperial Dam and farther south.

No Yuma clapper rails were detected on the California side of the Colorado River. This is likely due to the high daily fluctuation of water level of the river and disturbance from boat traffic. Very few crushed crayfish (*Procambarus clarkii*) carapaces or other invertebrates that are preferred food items of the Yuma clapper rail were found in these areas. The upper reach (northwest most) area of Moabi Regional Park appears to be suitable habitat, with fewer disturbances then the boat basin proper. This area may serve as breeding habitat in optimal years of reproduction and may represent an expansion of the local breeding area in those years.

The area of highest habitat quality identified is the Topock Marsh area and was consequently found to be occupied by Yuma clapper rails, with the two single advertising males located in the periphery of the marsh and the pair embedded deeper in the marsh.

CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represent my work. The results of focused surveys for listed species are typically considered valid for one year by the USFWS and CDFG. If you have any questions or require additional information, please contact me at (760) 489-5276, the letterhead address, or jkonecny@cox.net.

Sincerely,

John K. Konecny
Wildlife Biologist
TE837308-5

REFERENCES CITED

Conway, C.J. 2008. Standardized North American Marsh Bird Monitoring Protocols. Wildlife Research Report #2008-01. U.S. Geological Survey, Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.

Conway, C.J. and C. Sulzman. 2007. Status and Habitat Use of the California Black Rail in the Southwestern USA. WETLANDS, Vol. 27, No. 4, December 2007, pp. 987-998.

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Clapper Rail Study Team. 2009. Survey Guidelines to Determine Presence/Absence of the Light-footed Clapper Rail in Southern California; Recommendations of the Clapper Rail Study Team (John Konecny, Richard Zembal, Susan Hoffman). Draft Recommendations Provided to the Fish and Wildlife Service. 2pp.

Eddleman, W.R., and C.J. Conway. 1998. Clapper Rail (*Rallus longirostris*). In The Birds of North America, No. 340 (A. Poole and F. Gill eds.). The Birds of North America, Inc., Philadelphia, PA. 32pp.

Eddleman, W.R., R.E. Flores, and M.L. Legare. 1994. Black Rail, (*Laterallus jamaicensis*). *In* The Birds of North America, No. 123 (A. Poole and F. Gill, Eds). Philadelphia: The Academy of Natural Sciences; Washington D.C.: The American Ornithologists Union. 20pp.

Eddleman, E. R. 1989. Biology of the Yuma Clapper Rail in the Southwestern U.S. and Northwestern Mexico. Final report submitted to the Bureau of Reclamation, Yuma Projects Office, and U.S. Fish and Wildlife Service Region 2. Intra-Agency agreement No. 4-AA-30-02060. 177pp.

Evens, J.G., G.W. Page, S.A. Laymon, and R.W. Stallcup. 1991. Distribution, Relative Abundance, and Status of the California Black Rail in Western North America. Condor 93:952-966.

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Tomlinson, R.E. and R.L Todd. 1973. Distribution of Two Western Clapper Rail Races as Determined by Responses to Taped Calls. Condor 75:177-183.
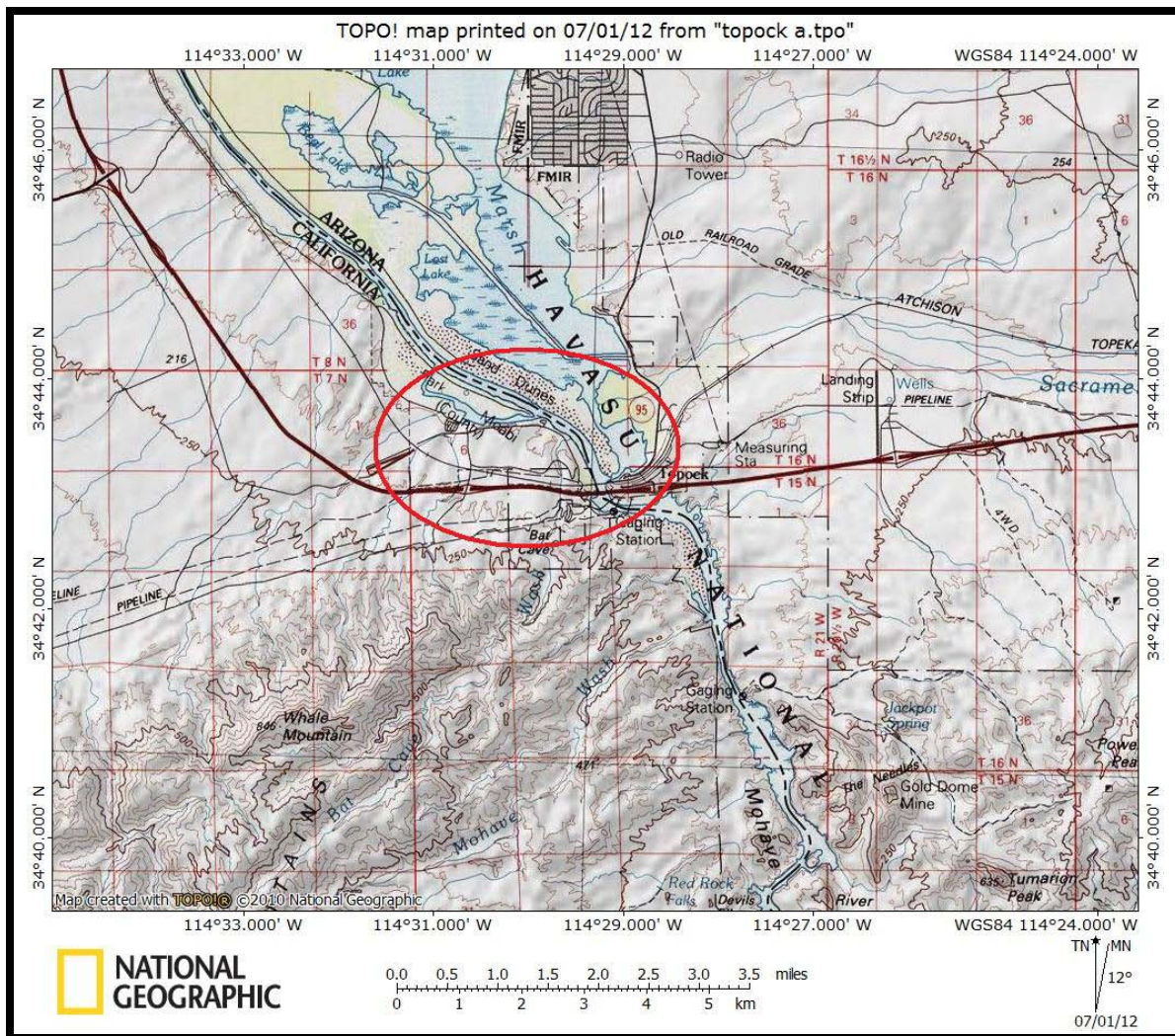
Figure 1. **Location of a Focused Survey (within red oval) for the Yuma Clapper Rail and California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project Site (PG&E-1925), City of Needles, County of San Bernardino, California, 2012.**
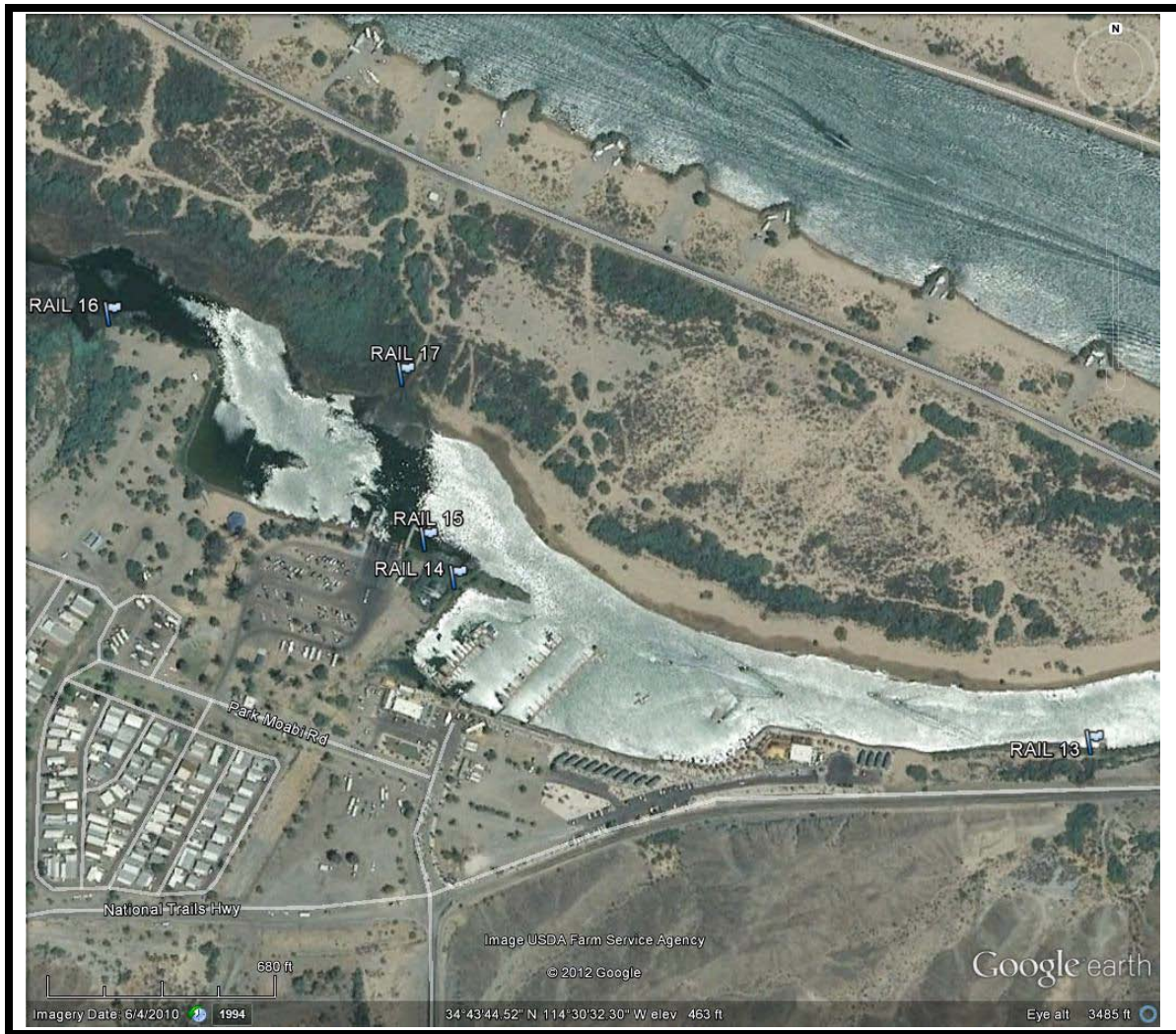
Figure 2A.   **Location of North Survey Locations for the Focused Survey for the Yuma Clapper Rail and California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project Site (PG&E-1925), City of Needles, County of San Bernardino, California, 2012.**

Figure 2B. **Location of Central Survey Locations for the Focused Survey for the Yuma Clapper Rail and California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project Site (PGE-1925), City of Needles, County of San Bernardino, California, 2012.**
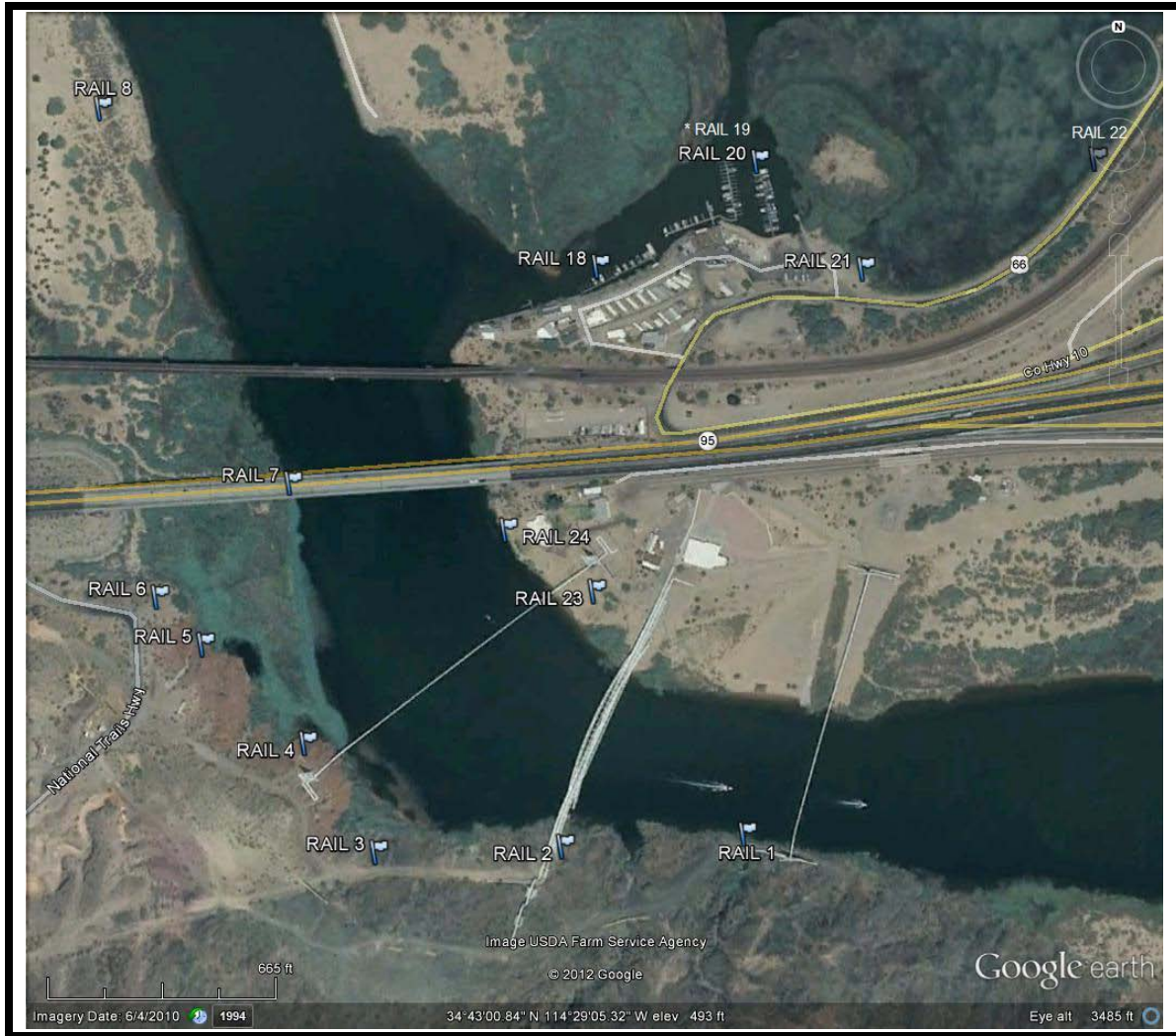
Figure 2C. **Location of South Survey Locations for the Focused Survey for the Yuma Clapper Rail and California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project Site (PG&E-1925), City of Needles, County of San Bernardino, California, 2012.**

Figure 3.   **Location of the Three Yuma Clapper Rail Territories Detected (South Topock Marsh Area) During the Focused Survey for the Yuma Clapper Rail and California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project Site (PG&E-1925), City of Needles, County of San Bernardino, California, 2012. (yellow "K" represents kekking male, yellow "P" represents duetting pair).**

Konecny Biological Services

Biological Consulting, Research, Conservation

Attachment 1.   Yuma Clapper Rail Data Sheets

National Marsh Bird Monitoring Program Survey Data Sheet   Pg 1 of 1

Date 14 March 2012; 15 March

(14th) Before | After   15th Before | Aft

Name of marsh or route: Topock Compressor Station

Observer(s) (list all)*: John Konecny / Melanie Day

Survey replicate #: 1 of 6

	(14th) Before	After	15th Before	Aft
Temperature (°F):	75	72	53	65
Wind speed (mph):	1-5	3-5	1-3	3-5
Cloud cover (%):	∅	30	∅	∅
Precipitation (see below):	∅	∅	∅	∅

*list all observers in order of their contribution to the data collected

put an "S" in the appropriate column if the bird was seen, a "1" if the bird was heard, and "1S" if both heard and seen

Station#	Start Time (military)	Background noise	Species	Before	Pass 0-1	Pass 1-2	Pass 2-3	Pass 3-4	Pass 4-5	BLRA 5-6	LEBI 6-7	VIRA 7-8	CLRA 8-9	After	Call Type(s)	Direction	Distance (meters)	Detected at a Previous Point	Comments
1	1631	2	∅													○			
2	1656	2	∅													○			
3	1710	1	∅													○			
4	1721	1	∅													○			
5	1733	1	∅													○			
6	1745	2	∅													○			
7	1800	2	∅													○			
8	1829	1	∅													○			
9	1846	1	∅													○			
10	1901	1	∅													○			
11	1914	1	∅													○			
																○			
3/15/12																	○			
13	0619	∅	∅													○			
12	0635	∅	∅													○			
14	0718	∅	∅													○			
15	0657	∅	∅													○			
16	0726	∅	∅													○			
17	0751	∅	∅													○			
18	0818	∅	∅													○			
19	0830	∅	∅													○			
20	0844	∅	∅													○			
21	0900	1	CLRA	∅	∅	∅	∅	∅	∅	1	∅	∅	∅	1	Kek	Ⓝ	20	No	
22	0914	1	CLRA	∅	∅	∅	∅	∅	∅	∅	1	∅	1	1	Kek	Ⓝ	30	Yes	heard concurrent w/21
23	0928	3	∅													○			
24	0949	2	∅													○			

Call Types: BLRA: *kicky-doo, grr, churt* CLRA: *citr, kburr, kek, khurrah* LEBI: *coo, kak, ert* VIRA: *grunt, ticket, kicker*

If the call type is not one of the above listed types, describe the call in the comments column

Precipitation: light rain, rain, heavy rain, light snow, snow, heavy snow, fog, none

Background noise: 0 *no noise* 1 *faint noise* 2 *moderate noise (probably can't hear some birds beyond 100m)*
  3 *loud noise (probably can't hear some birds beyond 50m)* 4 *intense noise (probably can't hear some birds beyond 25m)*

✱ No point taken, but distance covered from Station 20

National Marsh Bird Monitoring Program Survey Data Sheet   Pg 1 of 1

Date 21 March 2012; 22 March

Name of marsh or route : Topock Compressor Station

Observer(s) *(list all)*: John Konecny / Melanie Day

Survey replicate # : 2 of 6

	(21st) Before	After	(22nd) Before	After
Temperature (°F):	83	72	54	71
Wind speed (mph):	3-5	3-5	3-5	3-5
Cloud cover (%):	5	10	Ø	Ø
Precipitation (see below):	Ø	Ø	Ø	Ø

*list all observers in order of their contribution to the data collected

put an "S" in the appropriate column if the bird was seen, a "1" if the bird was heard, and "1S" if both heard and seen

Station#	Start Time (military)	Background noise	Species	Before	Pass 0-1	Pass 1-2	Pass 2-3	Pass 3-4	Pass 4-5	BLRA 5-6	LEBI 6-7	VIRA 7-8	CLRA 8-9	After	Call Type(s)	Direction	Distance (meters)	Detected at a Previous Point	Comments
24	1702	1	Ø													N			
23	1715	1	Ø													N			
22	1730	1	CIRA	1	1	1	1	1	1	1	1	1	1	1	Kek	N	30	No	
21	1743	1	CIRA	Ø	Ø	1	1	1	1	1	1	1	Ø	Ø	Kek	E	10	Yes	
20	1754	1	CIRA	Ø	1	1	1	Ø	Ø	1	1	Ø	1	Ø	Keh	E	60	Yes	same as 31
*19	1804	1	CIRA	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	1	Ø	Cl+R	N	90	Yes	taken from 20
18	1824	Ø	VIRA	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	1	1	1	KKR	W	25	No	
17	1838	Ø	Ø													N			
16	1852	Ø	Ø													N			
																N			
3/22																N			
15	0610	Ø	Ø													N			
14	0623	Ø	Ø													N			
13	0653	Ø	Ø													N			
12	0706	Ø	Ø													N			
11	0730	Ø	Ø													N			
10	0740	Ø	Ø													N			
9	0758	Ø	Ø													N			
8	0821	Ø	Ø													N			
7	0841	Ø	Ø													N			
6	0854	Ø	Ø													N			
5	0912	Ø	Ø													N			
4	0933	Ø	Ø													N			
3	0954	Ø	Ø													N			
2	1008	Ø	Ø													N			
1	1080	Ø	Ø													N			

Call Types: BLRA: *kicky-doo, grr, churt* CLRA: *cltr, kburr, kek, khurrah* LEBI: *coo, kak, ert* VIRA: *grunt, ticket, kicker*

If the call type is not one of the above listed types, describe the call in the comments column

Precipitation: light rain, rain, heavy rain, light snow, snow, heavy snow, fog, none

Background noise: 0 *no noise* 1 *faint noise* 2 *moderate noise (probably can't hear some birds beyond 100m)*
 3 *loud noise (probably can't hear some birds beyond 50m)* 4 *intense noise (probably can't hear some birds beyond 25m)*

* taken from Station 20

NATIONAL MARSH BIRD SURVEY DATA SHEET   PG _1_ of _1_

Date: 29 March 2012; 30 March
Name of marsh or route: Topoch Compressor Station
Observer(s) (list all)*: John Konecm
Survey replicate #: 3 of 6

	Before	After
Temperature:	56	80
Wind Speed (mph):	3-5	7-10
Weather**:	2	2

*list all observers in order of their contributions to the data collected

**Weather conditions: 0 calm and clear 1 partly cloudy 2 cloudy 3 light rain 4 rain 5 sleet 6 snow

***put an "S" in the appropriate column if the bird was seen, a "1" if the bird was heard, and "1S" if both heard and seen

~Background noise: 0 no noise 1 calls can't be heard over 200m 2 call can't be heard over 100m

	Before	30th	After
		61	73
		4-7	4-7
		1	1

Station#	Start Time (hh:mm)	Background~	Individual (ex: A,B,C)	Species	Pass 0-1	Pass 1-2	Pass 2-3	Pass 3-4	Pass 4-5	BLRA 5-6	LEBI 6-7	VIRA 7-8	CLRA 8-9	Call Type(s)	Distance (m)	AMCO (Y/N)	Repeat(Y/N)
24	1625	1	Ø	Ø													
23	1627	1	Ø	Ø													
22	1652	1	A	CIRA	Ø	Ø	1	Ø	1	1	Ø	Ø	1	Kek	20	N	N
21	1715	1	A	CIRA	Ø	Ø	Ø	1	1	1	1	1	1	Kek	20	N	N
20	1726	1	Ø	Ø													
19	1736	1	A	CIRA	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	1	Cl+r	80	N	N
18	1756	Ø	Ø	Ø													
17	1810	Ø	Ø	Ø													
16	1824	Ø	Ø	Ø													
15	1834	Ø	Ø	Ø													
3/30																	
14	0554	Ø	Ø	Ø													
13	0620	Ø	Ø	Ø													
12	0634	Ø	Ø	Ø													
11	0658	Ø	Ø	Ø													
10	0710	Ø	Ø	Ø													
9	0728	Ø	Ø	Ø													
8	0751	Ø	Ø	Ø													
7	0812	Ø	A	PBGR	1	Ø	Ø	Ø	1	1	Ø	Ø	1	Kow-Kow-Kowp	40	N	N
6	0827	Ø	Ø	Ø													
5	0840	Ø	Ø	Ø													
4	0900	Ø	Ø	Ø													
3	0921	Ø	Ø	Ø													
2	0935	Ø	Ø	Ø													
1	0947	Ø	Ø	Ø													

(notations in left margin: Amco next to station 7, Anco next to station 3)

* Location 19 taken from Station 20

NATIONAL MARSH BIRD SURVEY DATA SHEET   PG __ of __

Date: 19 April 2012; 20 April
Name of marsh or route: Topock Compressor Station
Observer(s) (list all)*: John Konecny
Survey replicate #: 4 of 6

	Before (19th)	After
Temperature:	69	77
Wind Speed (mph):	1-3	3-5
Weather**:	1	1

	Before (20th)	After
	94	87
	5-7	7-10
	1	1

*list all observers in order of their contributions to the data collected

**Weather conditions: 0 calm and clear 1 partly cloudy 2 cloudy 3 light rain 4 rain 5 sleet 6 snow

***put an "S" in the appropriate column if the bird was seen, a "1" if the bird was heard, and "1S" if both heard and seen

~Background noise: 0 no noise 1 calls can't be heard over 200m 2 call can't be heard over 100m

Station#	Start Time (hh:mm)	Background~	Individual (ex: A,B,C)	Species	Pass 0-1	Pass 1-2	Pass 2-3	Pass 3-4	Pass 4-5	BLRA 5-6	LEBI 6-7	VIRA 7-8	CLRA 8-9	Call Type(s)	Distance (m)	AMCO (Y/N)	Repeat(Y/N)
1	0510	2	Ø	Ø													
2	0536	2	Ø	Ø													
3 (Amco)	0550	1	Ø	Ø													
4	0602	1	Ø	Ø													
5	0614	1	Ø	Ø													
6	0626	2	Ø	Ø													
7 (Amco)	0641	2	Ø	Ø													
8	0710	2	Ø	Ø													
9	0728	1	Ø	Ø													
10	0743	1	Ø	Ø													
11	0756	1	Ø	Ø													
12	0810	Ø	Ø	Ø													
13	0826	Ø	Ø	Ø													
4/20/12																	
14	1800	Ø	Ø	Ø													
15	1817	Ø	Ø	Ø													
16	1847	Ø	Ø	Ø													
17	1912	Ø	Ø	Ø													
18	1939	Ø	Ø	Ø													
19 *	1951	Ø	Ø	Ø													
20	2003	Ø	A	CIRA	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	1	Cl+c	60	N	N
21	2018	1	A	CIRA	1	1	Ø	Ø	1	1	Ø	Ø	1	KcH	20	ν	N
22	2032	1	A	CIRA	1	1	1	1	Ø	Ø	Ø	Ø	1	KcH	20	N	N
23	2056	1	Ø	Ø													
24	2107	1	Ø	Ø													

* No call prompt at 19, taken from #20

NATIONAL MARSH BIRD SURVEY DATA SHEET   PG __1__ of __1__

Date: 28 April 2015; 29 April
Name of marsh or route: Topoch Compressor Site
Observer(s) (list all)*: John Konecny
Survey replicate #: 5 of 6

	Before (28th)	After
Temperature:	66	78
Wind Speed (mph):	6-8	10-15
Weather**:	1	1

	Before (29th)	After
	91	80
	3-5	3-5
	1	1

*list all observers in order of their contributions to the data collected

**Weather conditions: 0 calm and clear 1 partly cloudy 2 cloudy 3 light rain 4 rain 5 sleet 6 snow

***put an "S" in the appropriate column if the bird was seen, a "1" if the bird was heard, and "1S" if both heard and seen

~Background noise: 0 no noise 1 calls can't be heard over 200m 2 call can't be heard over 100m

Station#	Start Time (hh:mm)	Background~	Individual (ex: A,B,C)	Species	Pass 0-1	Pass 1-2	Pass 2-3	Pass 3-4	Pass 4-5	BLRA 5-6	LEBI 6-7	VIRA 7-8	CLRA 8-9	Call Type(s)	Distance (m)	AMCO (Y/N)	Repeat(Y/N)
1	0500	1	Ø	Ø													
2	0523	1	Ø	Ø													
3 (AMCO)	0537	1	Ø	Ø													
4	0549	1	Ø	Ø													
5	0602	1	Ø	Ø													
6	0615	1	Ø	Ø													
7	0630	1	A	PBGR	Ø	1	Ø	Ø	Ø	1	Ø	Ø	Ø	Kow-Kowp	50	N	N
8	0647	1	Ø	Ø													
9	0704	1	Ø	Ø													
10	0719	1	Ø	Ø													
11	0732	1	Ø	Ø													
12	0746	Ø	Ø	Ø													
13	0802	Ø	Ø	Ø													
14	0816	Ø	Ø	Ø													
4/29/15																	
15	1750	Ø	Ø	Ø													
16	1818	Ø	Ø	Ø													
17	1843	Ø	Ø	Ø													
18	1910	Ø	A	VIRA										KKR	40	N	N
19*	1926	Ø	Ø	Ø													
20	1936	Ø	Ø	Ø													
21	1952	1	A	CLRA	Ø	Ø	1	Ø	Ø	Ø	Ø	Ø	1	Keh	55	N	N
22	2006	1	A	CLRA	Ø	Ø	Ø	Ø	1	1	Ø	1	1	Kek	20	N	N
23	2030	1	Ø	Ø													
24	2040	1	Ø	Ø													

* No call prompt at #19, done from #20

NATIONAL MARSH BIRD SURVEY DATA SHEET   PG __ of __

Date: 18 May 2012; 19 May

Name of marsh or route: Topock Compressor Station

Observer(s) (list all)*: John Konecny

Survey replicate #: 6 of

	Before (18th)	After
Temperature:	80	84
Wind Speed (mph):	7-10	10-15
Weather**:	1	1

	Before (19th)	After
	96	87
	7-10	5-7
	1	1

*list all observers in order of their contributions to the data collected

**Weather conditions: 0 calm and clear 1 partly cloudy 2 cloudy 3 light rain 4 rain 5 sleet 6 snow

***put an "S" in the appropriate column if the bird was seen, a "1" if the bird was heard, and "1S" if both heard and seen

~Background noise: 0 no noise 1 calls can't be heard over 200m 2 call can't be heard over 100m

Station#	Start Time (hh:mm)	Background~	Individual (ex: A,B,C)	Species	Pass 0-1	Pass 1-2	Pass 2-3	Pass 3-4	Pass 4-5	BLRA 5-6	LEBI 6-7	VIRA 7-8	CLRA 8-9	Call Type(s)	Distance (m)	AMCO (Y/N)	Repeat(Y/N)
24	0500	1	Ø	Ø													
23	0513	1	Ø	Ø													
22	0529	1	A	CIRA	Ø	Ø	Ø	Ø	Ø	Ø	Ø	1	1	KeK	20	N	N
21	0543	1	A	CIRA	Ø	Ø	Ø	Ø	Ø	1	Ø	1	1	KeK	25	N	N
20	0556	1	Ø	Ø													
19	0607	1	A	CIRA	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	1	CHr	60	N	V
18	0627	Ø	Ø	Ø													
17	0641	Ø	Ø	Ø													
16	0655	Ø	Ø	Ø													
15	0710	Ø	Ø	Ø													
14	0734	Ø	Ø	Ø													
13	0805	Ø	Ø	Ø													
5/19																	
12	1810	Ø	Ø	Ø													
11	1834	Ø	Ø	Ø													
10	1846	Ø	Ø	Ø													
9	1858	Ø	Ø	Ø													
8	1920	Ø	Ø	Ø													
7	1940	Ø	Ø	Ø													
6	1958	Ø	Ø	Ø													
5	2010	Ø	Ø	Ø													
4	2030	Ø	Ø	Ø													
3	2049	Ø	Ø	Ø													
2	2103	Ø	Ø	Ø													
1	2115	Ø	Ø	Ø													

(AMCO) — next to station 7

(AMCO) — next to station 3

* 19 not call prompted from station, taken from #20

Attachment 2.   Photographs of Survey Locations.
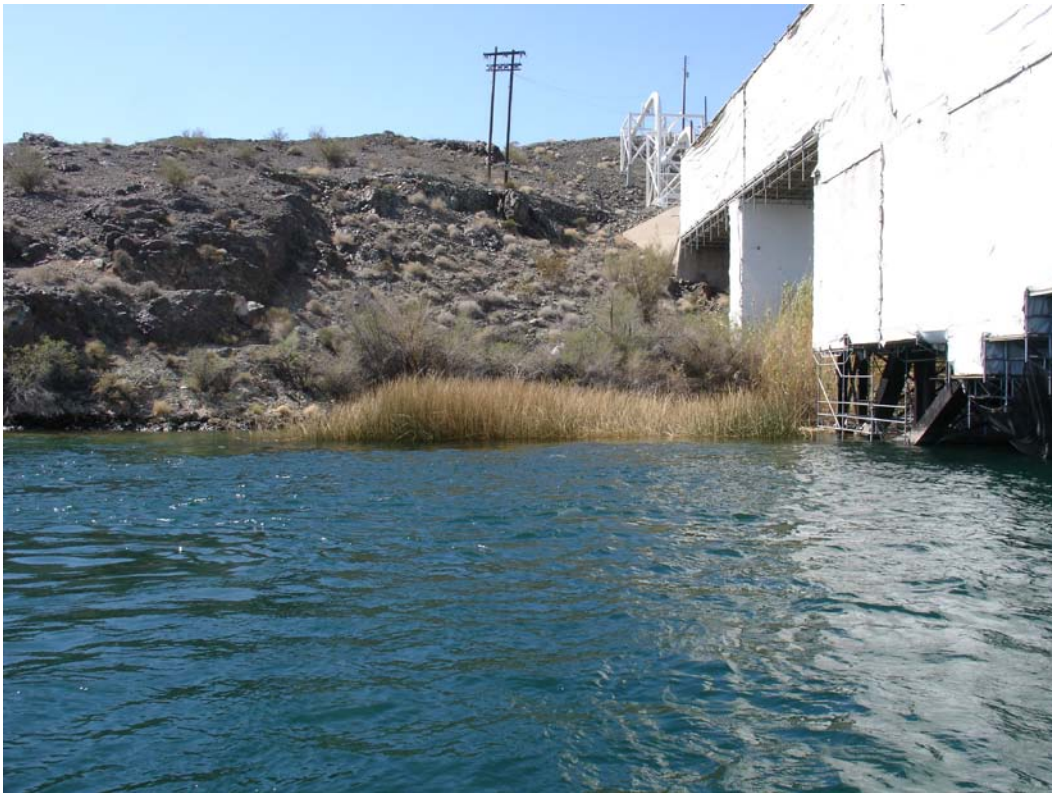
Station 2

Station 4 in foreground, Station 3 in background.

Station 7 in foreground, Station 6 in background.

Station 8.

Station11.

Station 12

Station 13.

Station 14.

Station 15.

Station 16.

Station 17.

Station 18.

Station 19, with Station 20 in right background.

Station 23.

Station 24.