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October 12, 2005

Cathy Wolff-White
United States Bureau of Land Management
Program Director
2610 Sweetwater Avenue
Lake Havasu City, AZ 86406

Subject: Biological Resources Survey Report for the Area of Potential Effect
Pacific Gas and Electric Company - Topock Project

Dear Ms. Wolff-White:

This letter transmits the *Biological Resources Survey Report for the Area of Potential Effect, Expanded Groundwater Extraction and Treatment System* at the Pacific Gas and Electric Company (PG&E) Topock site. This report was prepared in conformance with the BLM Action Memo signed September 17, 2004.

Future project related activities may occur within a larger footprint than the current Interim Measures; this area is identified as the Area of Potential Effect (APE). In consultation with the DTSC and Bureau of Land Management (BLM), approximately 1,800 acres is the proposed maximum APE. This report documents the biological resources survey that was conducted to identify federally listed species and potential project constraints within the APE. The survey results will be used as a planning tool for future project related activities to avoid, reduce, and mitigate potential impacts to sensitive biological resources and identify appropriate regulatory permits.

Please do not hesitate to call if you have any questions. I can be reached at (805) 546-5243.

Sincerely,

Teri Herson
for Yvonne Meeks

cc: John Earle, USFWS
Doug Adams, BLM
Arturo Delgado, CDFG
Yvonne Meeks, PG&E
Bob Doss, PG&E
Curt Russell, PG&E
Robert Knutson, PG&E

Biological Resources Survey Report For the Area of Potential Effect (APE) Topock Compressor Station Expanded Groundwater Extraction and Treatment System Needles, California

Prepared for

United States Bureau of Land Management

United States Fish and Wildlife Service

California Department of Fish and Game

on behalf of

Pacific Gas and Electric Company

October 2005

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Acronyms and Abbreviations

AGFD	Arizona Game and Fish Department
APE	Area of Potential Effect
BLM	United States Bureau of Land Management
BNSF	Burlington Northern Santa Fe
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DTSC	California Department of Toxic Substances Control
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
GIS	Geographic Information System
GPS	Global Positioning System
HNWR	Havasu National Wildlife Refuge
MBTA	Migratory Bird Treaty Act
OHWM	Ordinary High Water Mark
PG&E	Pacific Gas and Electric Company
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SCS	Soils Conservation Service
SP	Soil Test Pits
SUP	Special Use Permit
SWCA	Steven W. Carothers and Associates
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USC	United States Code
USFWS	United States Fish and Wildlife Service
WDM	Wetland Delineation Manual
WTI	Wetland Training Institute

1.0 Introduction

1.1 Project Description

Pacific Gas and Electric Company (PG&E) is addressing chromium in groundwater at the Topock Compressor Station under the oversight of the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). In a letter dated June 30, 2004, DTSC directed PG&E to implement Interim Measures for hydraulic control of the plume boundaries in the Colorado River floodplain and management of extracted groundwater. Future project related activities may occur within a larger footprint identified as the Area of Potential Effect (APE). In consultation with the DTSC and Bureau of Land Management (BLM), approximately 1,800 acres is the proposed maximum APE.

1.2 Project Location

The APE is located near Needles, California. Agriculture and public lands dominate the area. The APE includes the 100-acre property owned by PG&E (San Bernardino County Assessor's Parcel No. 650-151-06). Surrounding land is also owned and managed by a number of federal and regional agencies including the BLM, United States Fish and Wildlife Service (USFWS), United States Bureau of Reclamation (USBR), and San Bernardino County. Access to the APE is via I-40 that links Barstow, California and Topock, Arizona. The APE is bordered to the east by the Havasu National Wildlife Refuge (HNWR), to the north by Park Moabi Regional Park, to the south by the railroad and I-40, and to the west by the Chemehuevi Mountains. The general vicinity of the APE is depicted in Figure 1.

1.3 Purpose

The purpose of this report is to document the biological resources survey that was performed to identify federally listed species and potential project constraints within the APE. The survey results will be used as a planning tool for future project related activities to avoid, reduce, and mitigate potential impacts to sensitive biological resources and identify appropriate regulatory permits.

2.0 Federal and State Regulations

2.1 Federal Regulations

The following are the various federal and state regulations, provided here for general information purposes.

- Federal Endangered Species Act (FESA), including the coordination requirement of Section 7 (16 USC §§1531 *et seq.*; 50 Code of Federal Regulations [CFR] Part 402). Section 9 of FESA prohibits the "take" of species federally listed as threatened or endangered. "Take" is further defined to include any harm or harassment, including significant habitat modification or degradation that could potentially kill or injure wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Take" incidental to otherwise lawful activities can be authorized under Section 7 of FESA, where a federal agency is involved.

- Migratory Bird Treaty Act (MBTA) (16 USC 703-712; 50 CFR 10). "Take", as defined by 50 CFR 10.12 under the MBTA, means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound kill, trap, capture, or collect migratory birds or parts thereof.

- The U.S. Army Corps of Engineers (USACE) has jurisdictional authority under the Clean Water Act over "waters of the United States." 33 CFR Section 328.3 defines waters of the United States as waters having current or historic use for interstate or foreign commerce; all interstate waters including interstate wetlands; all other intrastate waters such as lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; tributaries to any of the aforementioned waters; territorial seas; and wetlands adjacent to waters (other than waters that are themselves wetlands) named above. Waters of the United States are generally described as the area of streambed located below the ordinary high water mark (OHWM) and adjacent or isolated wetlands as defined in the 1987 *Corps of Engineers Wetland Delineation Manual* (WDM) (Environmental Laboratory 1987). Wetlands are defined as:

  > "Those areas that are inundated or saturated by surface or groundwater [*wetland hydrology*] at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation [*hydrophytic vegetation*] typically adapted for life in saturated soil conditions [*hydric soils*]. Wetlands generally include swamps, marshes, bogs, and similar areas." *40 CFR 230.3 and 33 CFR 328*.

  The WDM requires an examination for the presence of indicators of three mandatory diagnostic environmental characteristics. These characteristics, or wetland parameters, are hydrophytic vegetation, hydric soils, and wetland hydrology.

Except in limited instances, the WDM requires that evidence of a minimum of one positive indicator from each of the three mandatory wetland parameters be present for an area to be called a wetland under Section 404 jurisdiction.

- Section 10 of the Rivers and Harbors Appropriations Act of 1899 relate to the protection of navigable water in the U.S. and regulates any construction affecting navigable waters and any obstruction, excavation, or filling. Section 10 requires permits for all structures, such as riprap, and activities, such as dredging, in navigable waters of the U.S. Navigable waters are defined as those subject to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means to transport interstate or foreign commerce. USACE grants or denies permits based on the effects on navigation. Most activities covered under this act are also covered under Section 404 of the CWA. All activities involving navigable waters of the U.S. require a Section 10 permit. Projects must obtain approval of plans for construction, dumping, and dredging permits (Section 10). Agencies involved in the coordination of the Rivers and Harbors Appropriations Act include the U.S. Coast Guard, USACE, the Environmental Protection Agency (EPA), as well as local and state agencies. Section 10 of the Rivers and Harbors Appropriations Act is administered by USACE.

2.2 State Regulations

- California Endangered Species Act (CESA) (California Fish and Game Code §§2050 *et seq.*). Section 2050 of the California Fish and Game Code prohibits any activities that would jeopardize or "take" a species listed as threatened or endangered within the state. CDFG Code §86 'Take' is defined as hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. Projects that have the potential to impact species listed as threatened or endangered by the state may require an Incidental Take Permit from the California Department of Fish and Game (CDFG) under Section 2081 of the Fish and Game code.

- CDFG Code 1600 – Streambed Alteration Agreements (California Fish and Game Code §1600). Section 1600 of the Fish and Game Code regulates the alteration of the bed, bank, or channel of a stream, river, or lake, including dry washes. Generally, CDFG asserts jurisdiction up to the top of significant bank cuts or to the outside of any riparian vegetation associated with a water course. Activities that have the potential to affect jurisdictional areas can be authorized through issuance of a Streambed Alteration Agreement (SAA).

- State Clean Water Act (CWA) – Section 401 of the CWA. Projects requiring a Section 404 permit also require a CWA Section 401 Water Quality Certification issued by the appropriate Regional Water Quality Control Board (RWQCB). Section 401 of the CWA, governed by 33 USC 1341 and 40 CFR 121, requires a water quality certification from the State Board or Regional Board when a project: (1) requires a federal license or permit and (2) will result in a discharge to waters of the United States.

- California Fully-protected Wildlife Species Provisions (California Fish and Game Code§§3511, 4700, 5050, and 5515). These provisions prohibit the taking of fully-protected birds, mammals, amphibians, and fish.
- Birds of Prey Protection Provision (California Fish and Game Code § 3503.5). This provision prohibits the taking of birds of prey, including any birds of the order Falconiformes or Strigiformes, and including nests or eggs of such birds.

3.0 Methodology

3.1 Background Research

Background research of databases, literature, and technical reports was performed and the following agencies/firms were consulted regarding federally listed species in the area: BLM, USBR, USFWS, California Department of Fish and Game (CDFG), Arizona Game and Fish Department (AGFD), and Steven W. Carothers and Associates (SWCA). Several sensitive biological resources were identified including wetlands, waters of the U.S., and federally listed wildlife species. No federally listed plant species were identified during the background search. The federally listed wildlife species potentially occurring within the APE are identified in Table 1. A work plan identifying the APE survey approach was submitted to BLM, USFWS, and CDFG (Appendix A).

Table 1

Federally Listed Wildlife Species Potentially Occurring within APE

Common Name	Scientific Name	Status
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered
Yuma clapper rail	*Rallus longirostris yumanensis*	Endangered
Desert tortoise	*Gopherus agassizii*	Threatened
Colorado pikeminnow	*Ptychocheilus lucius*	Endangered
Bonytail chub	*Gila elegans*	Endangered
Razorback sucker	*Xyrauchen texanus*	Endangered

3.2 Reconnaissance Survey

Upon completion of the background search, a reconnaissance survey was performed to identify areas within the 1,800 acre APE that were: 1) in need of wetlands and waters of U.S. delineation, 2) suitable habitat for the aforementioned listed species, and 3) in need of USFWS protocol surveys. The necessary approvals including a Special Use Permit (SUP) were obtained from the BLM and USFWS to perform the reconnaissance survey on lands managed by these agencies (Appendix A).

3.3 Waters of the United States

Jurisdictional limits of the USACE were delineated in the field using a combination of GPS technology and aerial photographs based on the criteria outlined above in section 2.1. Waters located within the APE were delineated using a Trimble Geo XT Global Positioning System (GPS) unit and photo documented with a digital camera. The GPS data was downloaded into the Geographic Information System (GIS) to plot the delineations on an aerial map. The site was initially surveyed by foot in order to define the potential areas of jurisdiction. Then a more detailed evaluation was undertaken to record channel widths, adjacent vegetation types, hydrology characteristics and soil characteristics.

Drainages including ephemeral washes were mapped in the field. The limit of waters of the U.S. is generally identified as the limits of the OHWM of a stream or drainage as extended by any adjacent wetlands. The Corps also have jurisdiction over isolated wetlands. The OHWM is generally considered to be the highest level to which water flows at least every other year (50 out of 100 years) the OHWM was identified by observing a distinct or subtle bed or bank, or shelving. When more than one level of channel shelving occurred, professional judgment and experience were used to distinguish the OHWM from the low flow channel or the extreme high water mark.

3.4 Wetlands

The wetland delineations were conducted in accordance with the USACE and Wetland Training Institute (WTI) guidelines. Wetlands located within the APE were delineated using a Trimble Geo XT GPS unit and photo documented with a digital camera. The GPS data was downloaded into the GIS to plot the delineations on an aerial map.

A total of 53 wetland sampling points were located within the APE study area. At each sampling point, information on vegetation, soils and hydrology were recorded on data forms. Dominant plant species in each strata that occurred within 20 feet of the sampling point were recorded. Soil pits (SP) were dug to a depth of approximately 13 inches below ground surface. Soils were identified based on criteria established by the Soils Conservation Service (SCS) and described in the WDM. Soils colors were determined using Munsel Soil Color Chart descriptions. Observed ground water levels in the pit, observations of inundation and saturation, observations of drainage patterns and the sample point's landscape position (elevation) were used to determine the presence or absence of wetland hydrology for the sample point.

3.5 Southwestern Willow Flycatcher

The southwestern willow flycatcher presence/absence surveys were conducted in accordance with protocols established by Sogge et al. (1997) and revised by the USFWS (2000). The surveys were performed within approximately 80 acres of potential flycatcher suitable habitat located in the APE. Those areas containing a relatively consistent salt cedar thicket stand were identified as potential suitable habitat. As several *Empidonax* flycatchers look very similar and may pass through the Topock Marsh and Gorge areas of the Colorado River, positive identification of a southwestern willow flycatcher constituted hearing the "fitz-bew" song. All flycatcher detections and non-detections were recorded on standardized data sheets from the USFWS protocol. Call point locations were documented with a GPS unit and mapped using GIS technology.

3.6 Yuma Clapper Rail

Each year, the USFWS and USBR conduct presence/absence surveys for the Yuma clapper rail along the Colorado River and within the Topock Marsh. Yuma clapper rail habitat has been surveyed on the HNWR each year since 1969. All suitable habitat is surveyed, including habitat within the APE. The USFWS plans to continue these monitoring activities. Because Yuma clapper rail surveys will continue to be conducted within suitable habitat of the APE by the USFWS, it was determined that PG&E should not duplicate these efforts. Additional surveys would only increase the disturbance to the Yuma clapper rails within

the APE. The USFWS specifically requested that additional surveys not be conducted for this reason. A letter from the HNWR manager, John Earle, stating this request is provided in Appendix A.

3.7 Desert Tortoise

The desert tortoise presence/absence surveys were conducted in accordance with the USFWS survey protocol (USFWS, 1990b). The surveys were performed within approximately 650 acres of potential desert tortoise suitable habitat located in the APE. The area bound by Park Moabi Road and the Burlington Northern Santa Fe (BNSF) railroad has been previously surveyed (CH2M HILL 2004). Additionally, those areas that are previously disturbed and no longer considered suitable habitat were not included in the survey area (e.g.; PG&E compressor station and holding ponds, Moabi Regional Park, I-40 freeway, and BNSF railroad). Zone of Influence transects were not performed due to natural and man-made barriers to the desert tortoise outside the full coverage survey area. All tortoise sign (live tortoises, carcasses, scats, burrows, etc.) detected within the APE were documented using the standardized field forms. Locations of live tortoises, carcasses, and burrows were documented with a GPS unit and mapped using GIS technology.

3.8 Colorado Pikeminnow, Bonytail Chub, and Razorback Sucker

Due to very low abundance within the lower Colorado River, presence/absence surveys were not performed for these listed fish species. Similar to the other listed species, a literature review was performed. Presence/absence of these fish species within the APE was based solely on the literature review.

4.0 Results

4.1 Waters of the United States

Several intermittent drainages were documented as occurring within the APE. Figure 2 depicts the delineations within the APE. Photographs of the waters of U.S. are located in Appendix B. The drainages are primarily precipitation-driven systems that appear to flow only in response to rainfall events, and are tributaries to the Colorado River. The upper reaches of the drainages are primarily dominated by upland vegetation including creosote bush (*Larrea tridentata*), beavertail cactus (*Opuntia basilaris*), palo verde (*Cercidium* sp.), and allscale saltbush (*Atriplex polycarpa*). Salt cedar (*Tamarix* sp), cat-claw acacia (*Acacia greggii*), honey mesquite (*Prosopis glandulosa*), and screwbean mesquite (*Prosopis pubescens*) occur near their confluence with the Colorado River. These drainages have bed and bank connection to jurisdictional waters of the U.S.; therefore, the intermittent drainages fall under the jurisdiction of USACE.

Table 2 shows the extent of USACE jurisdiction within the APE. Table 2 also summarizes the delineated areas by habitat type.

Table 2

USACE Jurisdictional Drainages within the APE

	Total In APE (Acres)	**Type of Drainage**	
		Ephemeral Drainage	Navigable Waters
USACE Jurisdictional Drainages	**239.88**	71.07	168.81

4.2 Wetlands

Several wetlands were delineated along the Colorado River. Figure 2 depicts the delineations within the APE. Photographs of the wetlands are located in Appendix C. The standardized wetland delineation field forms are located in Appendix D.

The Colorado River is the primary aquatic habitat located approximately 1,300 feet east of the Topock Compressor Station. Little to no submergent vegetation exists within the river. However; fringe wetlands and adjacent wetlands associated with the Colorado River and where groundwater contributes directly to hydrology occur as small patches of emergent vegetation along or near the banks. Wetland vegetation consists primarily of common reed (*Phragmites communis*), cattails (*Typha* sp.), sedges (*Carex* sp.), and bulrush (*Scirpus* sp.). Several of these wetland patches are located at the confluence of Bat Cave Wash, near Moabi Regional Park, and below the I-40 over crossing. A large marsh also exists along the eastern

bank of the peninsula near the Topock Marina. The Topock Marsh, located northeast of the study area within the HNWR, provides important aquatic marsh and riparian habitat in the local vicinity.

Table 3 shows the extent of USACE wetland jurisdiction within the APE. Table 3 also summarizes the delineated areas by habitat type.

Table 3

USACE Jurisdictional Wetlands within the APE

	Total In APE (Acres)	**Type of Wetland**	
		Fringe Wetlands	Adjacent Wetlands
USACE Jurisdictional Wetlands	**4.11**	2.05	2.06

4.3 Southwestern Willow Flycatcher

The report documenting the 2005 survey results is located in Appendix E. Figure 3 depicts the survey area for this species. One possible southwestern willow flycatcher was detected along the California side of the APE near Moabi Regional Park. Although the bird was visually identified as a southwestern willow flycatcher, the distinctive "fitz-bew" call required for positive identification was not heard. This bird was possibly a transient since there were no subsequent detections of this species. Other than this single observation, no other flycatchers were seen or heard during the protocol survey of the APE.

4.4 Yuma Clapper Rail

The USFWS data documenting the 2004 survey results is located in Appendix F. Figure 3 depicts the survey area for this species. Several call stations within the APE have been surveyed annually for Yuma clapper rail. In 2004, 36 individuals were detected in the Topock Marsh. In past years, including 2004, this species has been detected south of the new south dike and north of the Topock Marina which is located within the APE. Additionally, the USBR monitors Yuma clapper rail habitat on lands in which it administers with the nearest detections occurring in Topock Gorge, south of the APE. Survey data is on file at the HNWR office in Needles, California and the USFWS Ecological Services office in Phoenix, Arizona.

4.5 Desert Tortoise

The report documenting the 2005 survey results is located in Appendix G. Figure 3 depicts the survey area for this species. No live desert tortoises were detected within the survey area. However, a disarticulated desert tortoise carcass was observed. The desert tortoise carcass indicates historical use of the area; however, no live desert tortoises, scats, tracks, or other evidence of recent use was observed. Burrows with entrances large enough to accommodate a desert tortoise were also observed during the surveys. The possible desert tortoise burrows had no scat, tracks, or other signs within or surrounding the burrows and were

likely created by a black-tailed jackrabbit or one of the other small burrowing mammal species that were observed during the survey.

4.6 Colorado Pikeminnow, Bonytail Chub, and Razorback Sucker

The Colorado pikeminnow is considered extirpated from the lower Colorado River.

Figure 3 depicts the area that the razorback sucker may occur within the APE. Extinction of the razorback sucker in the wild throughout the historic range is being forestalled by stocking of sub-adult fish into the remaining wild populations. Where natural recruitment is occurring, it is not known if the current level of recruitment will sustain the existing population levels. Where recruitment is not occurring, loss of the remaining wild populations is expected. Studies on the two populations where natural recruitment has been documented (Lake Mead and the Green River) are ongoing to obtain additional information that may be useful for future management that could provide for self sustaining populations.

Figure 3 depicts the area that the bonytail chub may occur within the APE. Extinction of the bonytail chub in the wild throughout its historic range is being forestalled by the stocking of sub-adult fish into the Upper Colorado River Basin and lakes Mohave and Havasu in the Lower Colorado River. These stockings are intended to create populations of young adults that may be expected to persist for 40 to 50 years. While it is expected that these young adults will reproduce, the successful recruitment of wild born young fish to the population may not occur without additional management of habitat and biological factors. Management and research on these populations will be critical to provide for the survival and recovery of the species.

5.0 Conclusion

5.1 Waters of the United States

Based on the survey results, it is concluded that Waters of U.S. are present in the APE. Dredge and fill activities that have the potential to alter drainages can be coordinated with the appropriate USACE, RWQCB, and CDFG offices before action is taken to determine any necessary permitting and mitigation ratios.

5.2 Wetlands

Based on the survey results, it is concluded that wetlands are present in the APE. Activities that have the potential to impact or alter wetland resources can be coordinated with the appropriate USACE, RWQCB, and CDFG offices before action is taken to determine any necessary permitting and mitigation ratios.

5.3 Southwestern Willow Flycatcher

Based on the survey results, it is concluded that the southwestern willow flycatcher may be present in the APE. The Topock Marsh supports breeding populations and is an important breeding and recovery habitat area for this species. Additionally, the Colorado River has been identified as a local riparian corridor for this species. Migrants may roost and forage within the APE, but are not expected to nest based on past surveys that indicate flycatchers are selecting the higher quality habitat at the Topock Marsh to the northeast of the APE. Activities that have the potential to impact this listed species can be coordinated with the appropriate USFWS office before action is taken to determine any necessary permitting requirements under FESA.

5.4 Yuma Clapper Rail

Based on the survey results, it is concluded that the Yuma clapper rail is present in the APE. Suitable habitat and species presence is known to occur on the Arizona side of the APE. The California side of the APE does not contain any suitable habitat or records of species presence. The Topock Marsh supports breeding populations and is an important breeding and recovery habitat area for this species. This species may be roosting, foraging, and nesting within the APE. Activities that have the potential to impact this listed species can be coordinated with the appropriate USFWS office before action is taken to determine any necessary permitting requirements under FESA.

5.5 Desert Tortoise

Based on the survey results, it is concluded that the desert tortoise is absent in the APE. Despite the absence of live tortoise observations, there is a possibility that desert tortoises could pass through the survey area. While it is possible that the desert tortoise could migrate into the area through the drainages or from the less rocky, steep terrain west of the survey area, the typical lack of annual vegetation and burrows, combined with the presence of steep rocky slopes of the Chemehuevi Mountains and associated deep drainages, make permanent occupation of the APE unlikely. Additionally, the overall habitat within the area

was relatively poor due to past disturbance and fragmentation by pipeline corridors, roads, Interstate 40, the BNSF railroad, Topock Compressor station, evaporation ponds, and other manmade facilities. Activities that have the potential to impact this listed species can be coordinated with the appropriate USFWS and CDFG offices before action is taken to determine any necessary permitting requirements under FESA and CESA, respectively.

5.6 Colorado Pikeminnow, Bonytail Chub, and Razorback Sucker

Based on the background research results, it is concluded that the pikeminnow is absent from the lower Colorado River. The chub and sucker are on the verge of extinction and stocked fish may be present within the APE. Activities that have the potential to impact these listed species can be coordinated with the appropriate USFWS office before action is taken to determine any necessary permitting requirements under FESA.

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Figures

Appendix A

APE Work Plan

Appendix B

Photographs: Waters of the United States

Appendix C

Photographs: Wetlands

Appendix D

Wetlands Delineations Forms

Appendix E

Southwestern Willow Flycatcher Report

Appendix F

USFWS Clapper Rail Data

Appendix G

Desert Tortoise Report