

APPENDIX E
ENVIRONMENTAL SURVEY FOR ENDANGERED,
THREATENED, AND CANDIDATE SPECIES SURVEY FOR
BROWNSVILLE PUBLIC UTILITIES BOARD

Environmental Survey for Endangered,
Threatened and Candidate Species

for

Brownsville Public Utilities Board Proposed
Electric Transmission Line from
Silas Ray Power Plant (U.S.A.) to Mexico

by

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November 1, 2000

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Albert Gomez Jr.
PUB Environmental Manager
P.O. Box 3270
Brownsville, Texas 78523-3270

Re: Consultation No. 2-11-00-ALI-120
Proposed New Transmission Line in Cameron County,
Texas (Brownsville PUB) to Mexico.

Dear Mr. Gomez:

I conducted an environmental survey for "Endangered, Threatened and Candidate Species" in the proposed area for a new electric transmission line from the Silas Ray Power Plant Substation to the bank of the Rio Grande River. The area in question is part of the Brownsville Public Utilities compound which is enclosed by a high chainlink fence. The survey started at the proposed site for structure No. 2 on the east bank of the Rio Grande River and ended at the proposed site for structure No. 10 at the Silas Ray Power Plant Substation (structure No. 1 is located on the Mexican side of the Rio Grande River). The area surveyed was approximately three thousand feet long by some fifty feet wide (see map A). The entire area was surveyed on foot on August 28, September 2, and September 30, 2000. The area between proposed structure No. 2 and proposed structure No. 5 was resurveyed on October 30, 2000.

On Monday, August 28, the weather was partly cloudy with scattered showers. The ground was moist and some areas were slightly muddy. Brownsville and surrounding areas had received scattered showers the previous week. The weather conditions on September 2 were basically the same as on August 28 except for the absence of scattered showers. On September 30 and on October 30, the ground was slightly moist and the sky was clear. The temperature during the surveys was in the nineties. The surveys were conducted between 1:00 p.m. and 5:00 p.m. on all four days.

On September 2, 2000, I went to Olmito, Texas, located about 10 miles from Brownsville, Texas, and visited the sites of known populations of Texas ayenia (Ayenia limitaris), Vasey's adelia (Adelia vaseyi) and Bailey's ballmoss (Tillandsia baileyi). The Texas ayenia looked very healthy. It had a full array of leaves and had both flower buds and opened flowers. The Vasey's adelia also had a full array of leaves, but some specimens appeared to be drought stressed. Some of the adelias had both immature and ripe seed capsules. The Bailey's ballmoss (Tillandsia baileyi) was not blooming but was otherwise healthy. After making these observations in Olmito, I proceeded to the proposed site and conducted the second survey.

The area from proposed structure No. 6 to proposed structure No. 10 consists primarily of Bermuda grass which is kept short by mowing. The area from the high fence, just east of proposed structure No. 2 and to approximately 150 feet east of proposed structure No. 5 consists of a wooded area with a canopy dominated primarily by sugar hackberry (*Celtis laevigata*) and sabal palm (*Sabal mexicana*). The lower story consists of a mixture of woody plants and grasses, with the most prevalent plants being Turk's cap (*Malvaviscus arboreus*), guinea grass (*Panicum maximum*), and *Chloris* sp. Throughout this report, I will refer to this area as "the palm grove." The area west of proposed structure No. 2 to within approximately 40 feet from the Rio Grande River is predominantly Bermuda grass which is kept short by mowing.

The palm grove consists of approximately forty-eight palms, ranging from approximately 3 feet to 28 feet in height. Several seedlings were also found randomly scattered, from the high fence just east of proposed structure No. 2 to approximately 100 feet east of proposed structure No. 5. Two of the proposed structure sites have sabal palms nearby. There is a palm tree (about 12 feet tall) near proposed structure No.3, approximately twenty-four feet to the north of the proposed site. There is also a palm tree (about 10 feet tall) near proposed structure No. 4, approximately twenty-five feet to the northeast of the proposed site. It is my understanding that an area of twenty feet by twenty feet will be cleared to install the proposed structures. If these two areas are cleared with care, both palm trees should be safe. None of the other proposed structure sites have palm trees in the vicinity.

Most of the ground cover in the palm grove consists of buffelgrass (*Cenchrus ciliaris*), guinea grass (*Panicum maximum*), *Chloris* sp., and Turk's cap (*Malvaviscus arboreus*). It is highly probable that soon after the installation of the power transmission structures, these species will reestablish themselves in the disturbed areas.

Even though the power transmission poles will be about eighty-eight feet tall, the sag of the line will be as low as 30 feet from the ground. A five foot margin of safety will be needed between the top of trees and the power line; therefore, trees taller than 25 feet will have to be pruned. There are four palm trees that will be under the power lines which are, or soon will be, taller than 25 feet (see Map B). These four palms should be relocated to another area rather than topped. Three of the four palms which need to be relocated are located approximately seventy feet east of proposed structure No. 4 (they are marked with red and green ribbons). The fourth palm tree is located approximately one hundred feet northeast of proposed structure No. 5 (it too is marked with red and green ribbons). There are also several small to medium palms growing within 25 feet of either side of the center of the proposed power line. While mature sabal palms can grow to be 50 feet tall, only time will tell how tall these palms will grow. In my opinion, it would be better to leave them where they are at this time. They can be removed or relocated in the future on an individual basis if they become a problem. I believe it would be better to cause as little disturbance as possible, thereby preserving this palm community.

No Texas ebony was found within the 50 foot by 3000 foot right-of-way, however, two ebonies were found outside the right-of-way. The two ebonies are growing close to each other. They are located northwest of proposed structure No. 3 (see Map B). There were no other ebonies found in the area. While there were several anacua in the proposed area, the lack of more than two

ebonies does not satisfy the definition of a viable occurrence of a Texas ebony-anacua series community.

Both the jaguarundi (*Felis yagouaroundi*) and the ocelot (*Felis pardalis*) are listed as endangered species for Cameron County. During my survey, I noticed that the entire area (BPUB compound) is enclosed by a high chainlink fence. To the east of the palm grove is the water plant, power plant and the city of Brownsville (see Map C). To the south is a large resaca, and beyond that, farmland. To the north is a large pond, and beyond that, farmland. The Rio Grande River is to the west, and the land across the river, in Mexico, also appears to be farmland. Based on the lack of suitable habitat for the endangered felines in the surrounding areas, the amount of human activity, and the fact that the compound is enclosed by a high chainlink fence, the probability of the felines existing in the proposed area is very low.

The survey was conducted in accordance with the latest lists of Endangered, Threatened and Candidate species for Cameron County, Texas. I consulted with Carol A. Evans, Wildlife Biologist, Ecological Services, USFWS, and with Dana Price, Botanist, TPWD. They provided the latest lists, last revision: 11/30/1999 (see Appendix 1).

None of the endangered, threatened or candidate species listed on appendix 1 were found in the area in question. The following is a list of species encountered:

Plants

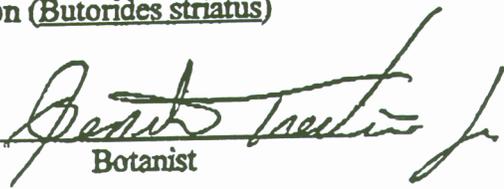
granjeno(*Celtis pallida*)
anacua(*Ehretia anacua*)
brasil(*Condalia hookeri*)
elbow bush(*Forestiera angustifolia*)
lotebush(*Ziziphus obtusifolia*)
colima(*Zanthoxylum fagara*)
pink sensitive Briar(*Sahrankia uncinata*)
turk's cap(*Malvaviscus arboreus*)
silverleaf night-shade(*Solanum elaeagnifolium*)
West Indian lantana(*Lantana camara*)
false willow(*Baccharis neglecta*)
blue eupatorium(*Eupatorium azureum*)
huisache(*Acacia farnesiana*)
Texas ebony(*Pithecellobium ebano*)
tepeguaje(*Leucaena pulverulenta*)
retama(*Parkinsonia aculeata*)
mesquite(*Prosopis glandulosa*)
mora(*Morus sp.*)
canelon(*Melia azedarach*)
sugar hackberry(*Celtis laevigata*)
sabal palm(*Sabal mexicana*)
common sunflower (*Helianthus annuus*)

buffelgrass (Cenchrus ciliaris)
(Chloris sp.)
Guinea grass (Panicum maximum)
amantillo (Abutilon trisulcatum)
correhuela (Cocculus diversifolius)
aphid-vine (Cynanchum barbigerrum)
anacahuita (Cordia boissieri)

Birds

house sparrow (Passer domesticus)
buff-bellied hummingbird (Amazilia yucatanensis)
golden-fronted woodpecker (Melanerpes aurifrons)
ladder-backed woodpecker (Picoides scalaris)
eastern kingbird (Tyrannus tyrannus)
western kingbird (Tyrannus verticalis)
couch's kingbird (Tyrannus couchii)
great kiskadee (Pitangus sulphratus)
great-tailed grackle (Quiscalus mexicanus)
mourning dove (Zenaida macroura)
white-winged dove (Zenaida asiatica)
great blue heron (Ardea herodias)
green-backed heron (Butorides striatus)

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List of Endangered, Threatened and Candidate species for Cameron County, Texas (Last Revision 11/30/99)

brown pelican (*Pelecanus occidentalis*)
hawksbill sea turtle (*Eretmochelys imbricata*)
jaguarundi (*Felis yagouaroundi*)
Kemp's ridley sea turtle (*Lepidochelys kempii*)
leatherback sea turtle (*Dermochelys coriacea*)
northern aplomado falcon (*Falco femoralis septentrionalis*)
ocelot (*Felis pardalis*)
south Texas ambrosia (*Ambrosia cheiranthifolia*)
star cactus (*Astrophytum asterias*)
Texas ayenia (*Ayenia limitaris*)
West Indian manatee (*Trichechus manatus*)
bald eagle (*Haliaeetus leucocephalus*)
green sea turtle (*Chelonia mydas*)
loggerhead sea turtle (*Caretta caretta*)
piping plover (*Charadrius melodus*)
cactus ferruginous pygmy owl (*Glaucidium brasilianum cactorum*)
mountain plover (*Charadrius montanus*)
American alligator (*Alligator mississippiensis*)
Audubon's oriole (*Icterus granduacauda audubonii*)
black tern (*Chlidonias niger*)
Brownsville common yellowthroat (*Geothlypis trichas insperata*)
cerulean warbler (*Dendroica cerulea*)
ferruginous hawk (*Buteo regalis*)
loggerhead shrike (*Lanius ludovicianus*)
northern gray hawk (*Buteo nitidus maximus*)
reddish egret (*Egretta rufescens*)
Sennett's hooded oriole (*Icterus cucullatus sennetti*)
Texas Botteri's sparrow (*Aimorphila botterii texana*)
Texas olive sparrow (*Arremonops rufivirgatus rufivirgatus*)
tropical parula (*Parula pitayumi nigrilora*)
white-faced ibis (*Plegadis chihi*)
Coues' rice rat (*Oryzomys couesi aquaticus*)
Texas horned lizard (*Phrynosoma cornutum*)
black-spotted newt (*Notophthalmus meridionalis*)
Rio Grande lesser siren (*Siren intermedia texana*)

Bailey's ballmoss (*Tillandsia baileyi*)
lilia de los llanos (*Echeandia chandeleri*)
marshelder (slender) dodder (*Cuscuta attenuataplains gumweed(Grindelia oolepis)*)
Runyon's cory cactus (*Coryphantha macromeris var. Runyonii*)
Runyon's water willow (*Justicia runyonii*)
Runyon huaco (*Manfreda longiflora*)
short-fruited spikerush (*Eleocharis brachycarpa*)
Mexican mud-plantain (*Heteranthera mexicana*)
plains gumweed (*Grindelia oolepis*)
Vasey's adelia (*Adelia vaseyi*)