

FLORA AND FAUNA OF TEXAS--
SAN ANTONIO AND THE MISSIONS

SANCHEZ ET AL

Description - Environment

J. Sanchez

Vol. 27 Frang species de Siles, during a lin journey from Zacatecas to Los Alamos. 1967

Notes

Dir 16. Pasa por la route: por el rancho del Capote, que esta alla alla del rio de San Antonio; por la zona Rancho de la Mucron de 5^{ta} Juan Capote a la villa del morio Nda y luego al Rancho de Jatin del Valle Calles; tambien a la villa del Rio: el camino fue por las zonas pedregas y tumbas por llanos, muy delgados por algunos montes de arena, rocas marginales, huiscas no muy espesas, y los terrenos muy fecunda buena y fertile

Dir 17. Pasa por el rancho de las cabras alla alla del mismo Rio de San Antonio. Por la chota y el arroyo del Padre Naranjo: pasa al Rio y luego al canal de San Juan Capote por entre montes y algunos valle

Dir 20 Betosa la Betosa and San Antonio were seen, water, capote, congo y tal qual hen, gatos monteses, Jardines, gurgas, patos, anasas quoyoloto, colorados colorados, perdices, gaviotas, aguilas Buho Teoisto

Description - Environment

J. Sanchez

Siles, 1967

Dir 19 Se cantos Naran de granos por mi llegada, y luego vendi los cimientos y g'rimas pedras para la yglesia, que se comienza a hacer en esta direccion: La una que es D. Nro de Ocon, y la otra y; Esta yglesia se va hacer de piedra y cel de bñales, de ~~la~~ cincuenta varas de largo y de lo ancho diez en su cunera

Massachusetts Description - Environment

J. Sanchez

1790 - Massachusetts Diary

East Texas: lakes, passed through bare terrain - sometimes shrubless especially along banks of the Rio ^{del} Sabinas. Some mesquite in the area.

- Describes Rio Grande as "muddy".

- Around San Antonio River: Small hills with large oaks. The river has many groves of trees, poplars, oaks, sabinos, mulberry and many vines. There is much fish ^{and} upon those plains many wild chickens. Much bison in the area.

- North - beyond San Antonio: Oaks, mesquite, mulberry trees, pecan trees vines and palo blanco.

Description - Environment

J. Sanchez

1790 Expediente sobre comercio recíproco entre las Provincias de la Luisiana y Texas. Historia 43

Boundary of Texas: Rio Medina to Presidio of Los Adaes approximately 240 leagues long. ^{width} ~~length~~ from east to west 80 leagues wide

Toda la tierra es llana, la atraviesan veinte y siete ríos y arroyos muy profundos que forman en sus avenidas y exedentes muchos esteros y lagunas.

Los rios son abundantes de pesca y los montes de arboles y frondosos algunos sabrosas entrañas, nueces, nisperos y moras y así mesmo de cibolos, venados, osos, conejos, perdices, y otros animales.

May 16 nota: En el camino se encuentra en la primavera varias plantas de zonas templadas (anemone y 8 varias cruciferas). Los llanos abundan en venados (Cervus virginianus) berrendos (Antelope Mexican) caballos silvestres y en ganado vacuno que habita las lomas un poco pedregosas de San Miguel los cioblos raras veces se encuentran frente camino

"A Trip to Texas in 1828 - José María Sanchez SLWA, Vol. XXIX (April, 1926)
-1828 pop. of San Antonio was 1425.

"... immense number of mosquitos, ticks, red bugs (chiggers), gnats, gadflies, breed in San Antonio

-hardest winter being snow

Oaks of all kinds, pines, sabinos, laural trees, walnuts, plum trees, sugar maples, sassafras, lilac trees, mulberries and weeping willows.

Wild bulls and cows, deer, bears, coyotes, wolves, donkeys, buffalo, wild horses, beavers, otters, wild cats, tigers, small leopards whose skins constitute the greater part of the annual trade.

Tahuacanos, Wacos, Caihuas, Yamparicas, Tanemues, Charittias, Comanches

Description - Environment

1691. Fray Francisco Casañas de Jesus Maria

- Hatcher, Mattie Austin, (trans)

"Descriptions of The Texas or Apinai Indians 1691-1722" ~~1691-1722~~

SWHQ No. 3 (January, 1927) pp. 206-218, I

SWHQ No. 4 (April, 1927) pp. 283-304, II

Excellent source for Texas Indian culture and history - emphasis the Caddo on Texas.

Soil "is generally black" in East Texas along Trinity River, San Miguel River, Espritu Santo River.

30 Arroyos in the area.

along Rio El Arcangel, San Miguel = Mission Jesus, Maria, José

Plants of Unspoiled Texas (1691)

Walnut Trees	Grape Vines	Wild Hops	herons
mulberries	"Passion Flowers"	deer	buffalo
chestnuts	Sweet Potatoes	prairie chickens	
Plum	Calebashes	wild ducks	
acorn	Watermelons	Rabbits	
Pine Trees	Sunflowers	partridges	
Blackberry bush	corn	Quails	

From Jerry Hedinbach

Additional families of birds afforded Federal protection
under Migratory Bird Convention with Mexico

<u>Scientific Name</u>	<u>English Name</u>	<u>Spanish Name</u>
Accipitridae	Eagles, hawks	Cavilanes, aguilas, aguilillas
Alcedinidae	Kingfishers	Martin Pescador
*Alcidae	Auklets, murras, puffins	Pato de noche
Anhingidae	Snake birds	Ahuizote
Aramidae	Limpkins	Totalaca
*Ardeidae	Hérons, egrets, bitterns	Garzas, garzones
Cathartidae	New world vultures	Zopilotes, auras
Ciconiidae	Stork and wood ibis	Jabiru, Galambae
*Podicipedidae	Grebes	Zambullidores, Buzos
Corvidae	Ravens, crows, jays	Cuervos, urracas
Diomedelidae	Albatrosses	Albatros
Falconidae	Falcons, hawks	Cavilan, Caracara
Fregatidae	Man-of-war birds	Fragata
Phalacrocoracidae	Cormorant	Cormoran, corvejon
Phoenicopteridae	Flamingo	Flamenco
*Gaviidae	Loons	Somorgujos
*Macmatopodidae	Oyster catcher	Ostrero
*Hydrobatidae	Storm petrels	Petreles
Jacaniidae	Jacanas	Cirujano
*Laridae	Sea gulls, Terns	Gavioetas, Gallito
Pandionidae	Ospreys	Aguililla pescadora
Pelecanidae	Pelicans	Pelicanos
Phaethontidae	Tropic birds	Raba de junco
*Procellariidae	Shearwaters	Petreles, Fulmaros
Rynchopidae	Skimmers	Rayador
*Sittidae	Nuthatches	Saltapalos
*Stercorariidae	Jaeger	Estercorario, Skus
Strigidae	Owls	Tecolots, Lechuza
*Sulidae	Boobies, Gannets	Bubias
Threskiornithidae	Spoonbill, Ibises	Teoquechol, Cucharera
Tytonidae	Barn owl	Lechuzas
Trogonidae	Trogons	Pabellon, Cuauhtotola

*Families currently covered under Treaty with Canada.

SWIFTS - UENCEJOS

MACAWS, PARROTS - GUACAMAYOS

OIV

To: Joe Sanchez, Piñon Building

Joe: here are the floral/faunal listings that I have.

Gerry H.

MAMMALS OF BEXAR COUNTY

HODDERBACH'S Summary

Order Massupialia

Opposum (Didephis marsupialis)

Order Insectivora

Eastern mole (Scalopus aquaticus)

Little short tailed shrew - (Cryptotis parva)

Crawford shrew (Notiosorex crawfordi)

Order Chiroptera

Cave bat (Myotis velifer)

Hoary bat (Lasiurus cinereus)

Mexican free-tailed bat (Tadarida mexicana)

Order Carnivora

Raccoon (Procyon lotor)

Ringtail (Bassaricus astutus)

Spotted skunk (Spilogale putorius)

Striped skunk (Mephitis mephitis)

Hog-nosed skunk (Conepatus mesoleueus)

Gray fox (Urocyon cinereoargenteus)

Cougar (Felis concolor)

Bobcat (Lynx rufus)

Order Rodentia

Mexican ground quirrel (Citellus mexicanus)

Black-tailed prairie dog (Cynomys ludovicianus)

Fox squirrel (Sciurus niger)

Merriam's pocket mouse (Perognatus merriami)

Hispid pocket mouse (Perognathus hispidus)

Ord kangaroo rat (Dipodomys ordi)

Long-tailed harvest mouse (Reithrodontomys fulvescens)

Gray harvest mouse (Reithrodontomys montanus)

Pygmy mouse (Baiomys taylori)

Deer mouse (Peromyscus maniculatus)

White-footed mouse (Peromyscus leucopus)

Encinal mouse (Peromyscus pectoralis)

Hispid cotton rat (Sigmodon hispidus)

House mouse (Mus musculus)

Roof rat (Rattus rattus)

Norway rat (Rattus norvegicus)

Nutria (Myocastor coypus)

Order Lagomorpha

California jack rabbit (Lepus californicus)

Eastern cottontail (Sylvilagus floridanus)

Swamp rabbit (Sylvilagus aquaticus)

Order Artiodactyla

White-tailed deer (Odocoileus virginianus)

Order Xenartha

Nine-banded armadillo (Dasypus novemcinctus)

REPTILES AND AMPHIBIANS OF THE
TAMAULIPAN PROVINCE (Blair, 1950) OF TEXAS*

HODDERACK'S Summary

CLASS AMPHIBIA

Family Sirenidae - Sirens

Siren intermedia - lesser siren

Family Ambystomatidae - Mole salamanders

Ambystoma tigrinum - tiger salamander

Family Salamandridae

Notophthalmus meridionalis - black spotted newt

Family Rhinophrynidae - Burrowing toads

Rhinophrynus dorsalis - Mexican burrowing toad

Family Pelobatidae - Spadefoot toads

Scaphiopus bombifrons - plains spadefoot

Scaphiopus couchi - Couch's spadefoot

Scaphiopus holbrooki - eastern spadefoot

Family Leptodactylidae - Tropical frogs

Leptodactylus labialis - Mexican white-lipped frog

Syrhophus cystignathoides - Rio Grande frog

Family Hylidae

Acris crepitans - Cricket frog

Hyla chrysoscelis - southern gray tree frog

Hyla cinerea - green tree frog

Hyla versicolor - northern gray tree frog

Pseudacris clarki - spotted chorus frog

Pseudacris streckeri - Strecker's chorus frog

Smilisca boudini - Mexican tree frog

Family Bufonidae - Toads

Bufo debilis - green toad

Bufo marinus - giant toad

Bufo punctatus - red-spotted toad

Bufo speciosus - Texas toad

Bufo valliceps - Gulf Coast toad

Bufo woodhousei - Woodhouse's toad

Family Ranidae - True frogs

Rana berlandieri - Rio Grande leopard frog

Rana catesbeiana - bullfrog

Family Microhylidae - Narrow-mouthed toads

Gastrophryne carolinensis - eastern narrow-mouthed toad

Gastrophryne olivacea - Great Plains narrowed-mouthed toad

Hypopachus variolosus - sheep frog

CLASS REPTILIA - Reptiles

Family Chelydridae - Snapping turtles

Chelydra serpentina - common snapping turtle

*Not all species occur in the San Antonio Area.

Family Kinosternidae - Musk and mud turtles
Kinosternon flavescens - yellow mud turtle
Kinosternon subrubrum - Mississippi mud turtle

Family Emydidae - Box and water turtles
Chrysemys concinna - Texas slider
Chrysemys scripta - red-eared turtle
Graptemys caglei - Cagle's map turtle

Family Testudinidae - Gopher tortoises
Gopherus berlandieri - Texas tortoise

Family Trionychidae - Soft shell turtles
Trionyx spiniferus - spiny soft shell turtle

Family Crocodylidae - Crocodilians
Alligator mississippiensis - American alligator

Family Gekkonidae
Hemidactylus turcicus - Mediterranean gecko (exotic, in many urban areas)
Coleonyx brevis - Texas banded gecko

Family Iguanidae - Iguanid lizards
Anolis carolinensis - green anole
Crotaphytus reticulatus - reticulate collared lizard (Rio Grande Valley)
Holbrookia lacerta - spot-tailed earless lizard
Holbrookia propinqua - keeled earless lizard
Holbrookia texana - greater earless lizard
Phrynosoma cornutum - Texas horned lizard
Phrynosoma modestum - round-tailed horned lizard
Sceloporus cyanogenys - blue spiny lizard
Sceloporus grammicus - mesquite lizard
Sceloporus olivaceous - Texas spiny lizard
Sceloporus undulatus - eastern fence lizard
Sceloporus variabilis - rose-bellied lizard
Urosaurus ornatus - tree lizard

Family Scincidae - Skinks
Eumeces fasciatus - five-lined-skink
Eumeces obsoletus - Great Plains skink
Eumeces septentrionalis - southern prairie skink
Eumeces tetragrammus - four-lined skink
Scincella lateralis - ground skink

Family Teeidae - Whiptail lizards
Cnemidophorus gularis - Texas spotted whiptail
Cnemidophorus sexlineatus - six-lined racerunner

Family Anguidae - Glass and alligator lizards
Ophisaurus attenuatus - slender glass lizard

Family Leptotyphlops - Blind snakes

Leptotyphlops dulcis - Texas blind snake

Family Colubridae - Colubrid snakes

Arizona elegans - glossy snake

Cemophora coccinea - scarlet snake

Coluber constrictor - racer

Drymarchon corais - Texas indigo snake

Elaphe guttata - Great Plains rat snake

Elaphe obsoleta - rat snake

Ficimia streckeri - Strecker's hook-nosed snake

Gyalopion canum - western hooknosed snake

Heterodon nasicus - western hognosed snake

Heterodon platyrhinos - eastern hognosed snake

Hypsiglena torquata - night snake

Lampropeltis calligaster - prairie kingsnake

Lampropeltis getulus - common kingsnake

Lampropeltis triangulum - milk snake

Leptodeira septentrionalis - Texas cat-eye snake

Masticophis flagellum - coachwhip

Masticophis taeniatus - striped whipsnake

Natrix erythrogaster - blotched water snake

Natrix fasciata - broad-banded water snake

Natrix rhombifera - diamond-backed water snake

Opheodrys aestivus - rough green snake

Pituophis melanoleucus - bullsnake

Rhinocheilus lecontei - Texas long-nosed snake

Salvadora grahamiae - patch-nosed snake

Sonora episcopa - Great Plains ground snake

Storeria dekayi - brown snake

Tantilla gracilis - flat-headed snake

Tantilla nigriceps - plains black-headed snake

Thamnophis proximus - western ribbon snake

Thamnophis marcianus - checkered garter snake

Virginia striatula - rough earth snake

Family Elapidae - Coral snakes

Micrurus fulvius - Texas coral snake

Family Viperidae - Vipers

Agkistrodon contortrix - copperhead

Agkistrodon piscivorus - western cottonmouth

Crotalus atrox - western diamondback rattlesnake

Sistrurus catenatus - massasauga

FISHES OF SOUTHERN (area 6) TEXAS GAME AREA
(TEXAS PARKS AND WILDLIFE DEPARTMENT)*

(Hootenbach's Summary)

Family Lepisosteidae - Gars

- Lepisosteus spatula - alligator gar
- Lepisosteus oculatus - spotted gar
- Lepisosteus osseus - longnose gar

Family Clupeidae - Herring

- Dorsosoma petenense - threadfin shad
- Dorsosoma cepedianum - gizzard shad

Family Characidae - Tetra

- Astyanax mexicanus - mexican tetra (introduced)

Family Cyprinidae - Minnows and carps

- Cyprinus carpio - carp (introduced)
- Cyprinus auratus - goldfish - (introduced)
- Notemigonus crysoleucas - golden shiner
- Opsopoeodus emiliae - pugnose minnow
- Hybopsis aestivalis - speckled chub
- Notropis jemezanus - Rio Grande shiner
- Notropis amabilis - Texas shiner
- Notropis texanus - weed shiner
- Notropis amnis - pallid shiner
- Notropis braytoni - Tamaulipas shiner
- Notropis venustus - blacktail shiner
- Notropis lutrensis - red shiner
- Notropis proserpinus - proserpine shiner (depleted)
- Notropis volucellus - mimic shiner
- Notropis buechanani - ghost shiner
- Dionda episcopa - roundnose minnow
- Hybognathus placitas - plains minnow
- Pimephales vigilax - bullhead minnow
- Pimephales promelas - fathead minnow
- Campostoma anomalum - stoeroller

Family Catostomidae - Suckers

- Cycleptus elongatus - blue sucker (depleted)
- Ictiobus bubalus - small mouth buffalo
- Carpiodes carpio - river carpsucker
- Moxostoma congestum - gray redhorse

Family - Ameiuridae - Catfishes

- Ictalurus punctatus - channel catfish
- Ictalurus furcatus - blue catfish
- Ictalurus melas - black bullhead
- Ictalurus natalis - yellow bullhead
- Trogloglanis pattersoni - toothless blind catfish (rare)
- Pylodictis olivaris - flathead catfish
- Satan eurystomus - widemouth blind catfish (rare)
- Noturus gyrinus - tadpole madtom

*Not all species occur in the San Antonio Area.

Family Anguillidae - eels

Anguilla rostrata - American eel

Family Cyprinodontidae

Lucania parva - rainwater killifish

Zygonectes notatus - black stripe top minnow

Cyprinodon variegatus - sheepshead minnow

Family Poeciliidae - Livebearers

Gambusia affinis - mosquito fish

Poecilia latipinna - sailfin molly

Poecilia formosa - amazon molly (introduced)

Family Antherinidae - Silversides

Menidia beryllina - tidewater silverside

Family Percichthyidae - Temperate basses

Morone chrysops - white bass

Family Antrarchidae

Micropterus salmoides - largemouth bass

Lepomis gulosus - warmouth

Lepomis cyanellus - green sunfish

Lepomis punctatus - spotted sunfish

Lepomis microlophus - red ear sunfish

Lepomis macrochirus - blue gill sunfish

Lepomis auritus - redbreast sunfish

Lepomis megalotis - longear sunfish

Pomoxis annularis - white crappie

Family Percidae

Hadropterus maculatus - blackside darter (limited distribution)

Hadropterus scierus - dusky darter

Hadropterus shumardi - river darter (limited)

Percina caprodes - logperch (rare)

Etheostoma chlorosomum - blunt nose darter

Etheostoma gracile - slough darter

Etheostoma spectabile - orangethroat darter

Family Sciaenidae - drums

Aplodinotus grunniens - Rofinesque - freshwater drum

Family Mugilidae

Mugil cephalus - Striped mullet

Family Gobiidae

Gobiomorus dormitator - bigmouth sleeper

B. BIOLOGICAL ELEMENTS

1. Botanical Elements

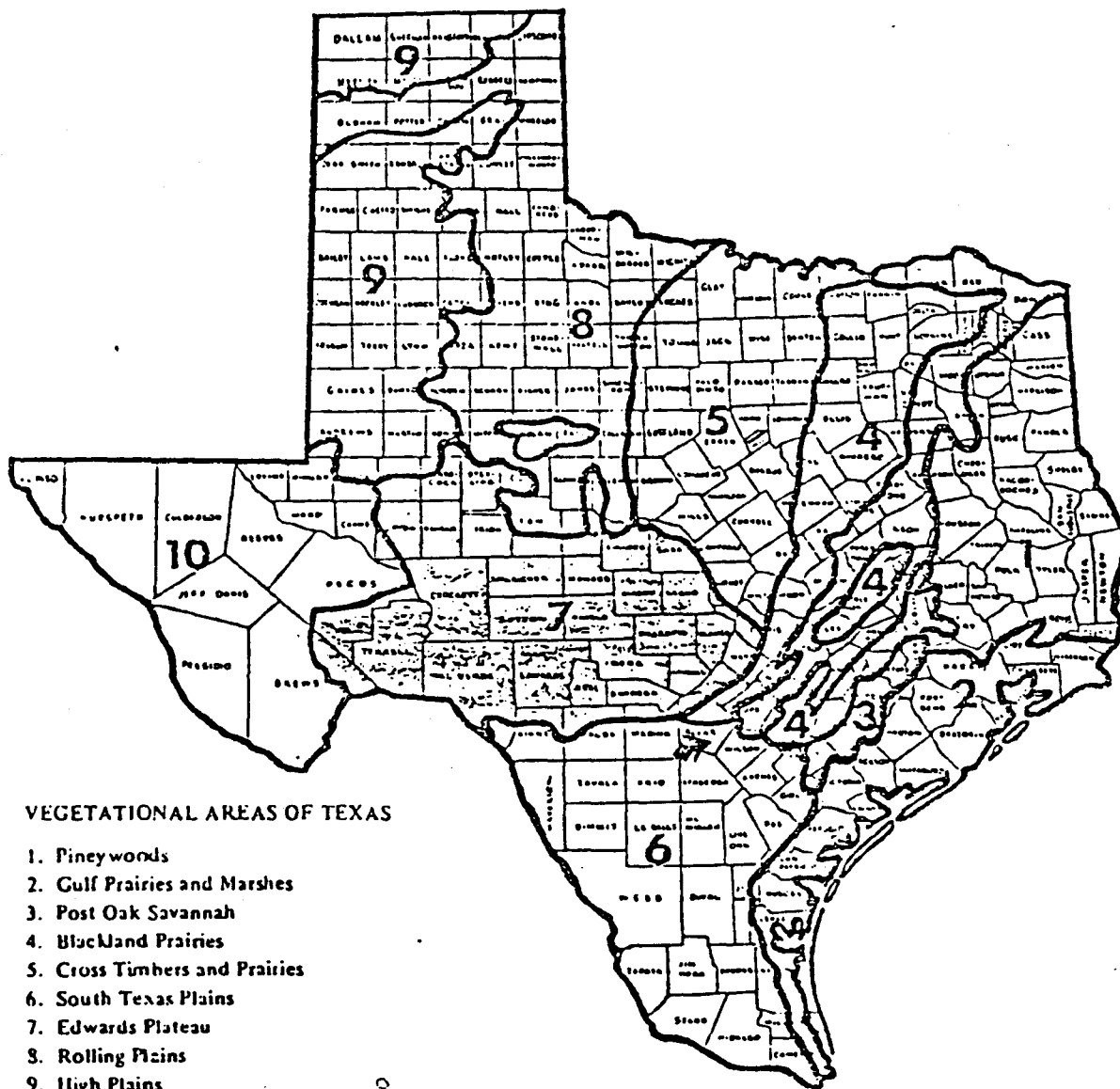
The Espada Aqueduct area is located along the northern part of what Gould (1975a) calls Region 6, or the South Texas Plains (Figure 6). Originally, this area supported a grassland or savannah type climax vegetation, but continued heavy grazing by domestic livestock introduced by the Spanish and other factors have altered the plant communities considerably, creating a severe brush problem. Many species of trees and shrubs have increased in the area, including mesquite, post and live oak, cacti and several acacias (Gould, 1975a).

Currently, the vegetation in the area of the proposed flood protection project may be divided into two range sites dictated by the type of soil found in each (Figure 4). The two range sites are Loamy Bottomland (Frio clay loam) and Shallow Ridge (Hilly gravelly land). The decreasers in the climax vegetation on the Loamy Bottomland range site include switchgrass, big bluestem, little bluestem, indiagrass, plains lovegrass, southwestern bristlegass, vine-mesquite, and big tenchus. Increasesers include silver bluestem, sideoats grama, Texas wintergrass, plains bristlegass, and Arizona cottontop. Invaders include buffalograss, curly mesquite, white tridens, filly panicum, fall witchgrass, hooded windmillgrass, perennial threeawn, red grama, and bermudagrass. Mesquite, huisache, retama, spiny hackberry, and condalia are woody invaders (USDA, 1966).

Field investigations in the Espada aqueduct area produced the list of plant species presented in Table 7 in the appendix. Identification of the plant species was accomplished using Gould (1975b), Hoffman et al. (1976), Leithead et al. (1971), Vines (1960) and Rickett (1970). Most of the grasses found on the Loamy Bottomland range site were increasesers and invaders. Nearly all of the woody invaders mentioned above were encountered. The dominant woody species observed on the Loamy Bottomland range site during the field investigations were pecan, sugar hackberry, mesquite, cottonwood, and chinaberry. Common forbs encountered were ragweed, morning glory, sunflower, verbena, and waxmallow. Water hyacinths were abundant in the acequia.

The climax vegetation on the Shallow Ridge range site is usually characterized by mid grass and scattered live oak trees. The dominant decreasers are little bluestem, sideoats grama, wildrye, and plains lovegrass. Increasesers include bristlegass, Texas wintergrass, buffalograss, curly mesquite, slim tridens, and fall witchgrass. Invaders include threeawn, red grama, agrito, condalia, tasajillo, prickly pear, and annual grasses and forbs. Huisache, mesquite, and Texas persimmon are the principal woody invaders (USDA, 1966).

Nearly all the vegetation observed on the Shallow Ridge range site in the study area were invaders and increasesers. Dominant species included huisache, mesquite, guajillo, prickly pear, silverleaf nightshade, wildrye, bermudagrass, and a number of species of thorny legumes.



VEGETATIONAL AREAS OF TEXAS

1. Pineywoods
2. Gulf Prairies and Marshes
3. Post Oak Savannah
4. Blackland Prairies
5. Cross Timbers and Prairies
6. South Texas Plains
7. Edwards Plateau
8. Rolling Plains
9. High Plains
10. Trans-Pecos, Mountains and Basins

FIGURE 6. VEGETATIONAL AREAS OF TEXAS
(Gould, 1975)

The vegetation in the area as a whole indicates a fairly high degree of prior disturbance, especially on the areas away from Six Mile Creek. Grazing of domestic animals is still being practiced by the local residents and probably contributes to this condition. There are a large number of pecan trees in the area, most of which are located along the Espada Acequia, Six Mile Creek and the San Antonio River; otherwise, the majority of nonriparian vegetation in the area is comprised mainly of "weedy" species.

The current status of rare and endangered plants in Texas is confused. There are three separate lists published by different agencies (Dept. of Interior, 1976; Texas Rare Plant Study Center, 1972; Texas Organization for Endangered Species, 1975) dealing with rare and endangered plant species. Each of these publications contains different listings of plant species which are considered rare, threatened or endangered by the respective agency. The Texas Parks and Wildlife Department and U.S. Department of the Interior do not officially recognize any species of plants as rare or endangered. According to the Texas Rare Plant Study Center, there are 40 species of rare and endangered plants found in the South Texas Plains. Of these, only two species—Parks jointweed, *Polygonella parksii*, and Small-flower peach-brush, *Prunus minutiflora*, are known to occur in the area of Bexar and surrounding counties (neither is known to occur in Bexar County). Neither the Department of Interior (1976) proposed list nor the Texas Organization for Endangered Species (1975) list contain distribution information that is specific enough to determine the probability of the presence of any rare or endangered plant species in Bexar County. On the basis of this information, it is not possible to determine if any rare or endangered plants are located in the Espada Aqueduct area; there are, however, no known virgin stands, endemic species or threatened or endangered species in the proposed flood protection area.

2. Zoological Elements

Bexar County lies at the junction of three major biotic provinces. The proposed flood protection project lies in the northern part of the Tamaulipan province which is bounded on the north by the Calconian province, and on the east by the Texas province. Sixty-one species of mammals occur, or occurred in the recent past, in the Tamaulipan of Texas. In addition, there are 36 species of snakes, 19 lizards, 2 land turtles, 3 urodeles, and 19 anurans (Blair, 1950).

Field investigations conducted in the area of the proposed flood protection project revealed some of the more common vertebrate species found in the area. Vertebrate species observed in the area are presented in Table 8 in the appendix. Avian species listed were identified using Robbins et al. (1966), herptiles were identified using Conant (1975), and mammals were identified using Davis (1974). Many of these species are closely associated with the riparian habitat located along Six Mile Creek, the Espada Acequia and the San Antonio River. All of the species observed are widely distributed in the appropriate habitats throughout central Texas. None of the organisms observed were endemics; in fact, there are only three species known to be endemic to Bexar County. Of these three fish species, the Widemouth Blindcat (*Satan eurystomus*) and the Toothless Blindcat (*Trogloglarus pattersoni*)

are known only from deep artesian wells in San Antonio. Their preferred habitats are underground streams. Neither are protected by the Department of Interior or Texas Parks and Wildlife Department. The Leon Springs Pupfish (*Cyprinodon bovinus*) is known only from the Diamond Y Spring and Leon Creek in northwest Bexar County. This species prefers clear, flowing mineralized water. It is considered endangered by the Texas Parks and Wildlife Department (TPW, 1977).

Texas does have a number of rare and endangered animal species found within its borders as indicated in Table 9 in the appendix. Most of these animals have a restricted range within the state, which makes their populations especially susceptible to losses or destruction. The principal animal species which could possibly occur at the proposed site are indicated and will be treated individually in the following sections. However, none of these species were observed in the study area.

Terrestrial Animals

OCELOT (*Felis pardalis*)

Description: A medium-sized, blotched and spotted cat with a moderately long tail. Upper parts are grayish or buffy and heavily marked with blackish spots, rings, and blotches, with parallel black stripes on nape and oblique stripes near shoulder. The tail is spotted and ringed with black (Davis, 1974).

Distribution: The last report of an ocelot in the vicinity of Bexar County was a report in 1902 in Kerr County (Figure 7). In southern Texas, ocelots inhabit dense chaparral thickets where thorny vegetation offers seclusion. They have also been reported to use the roughest, rockiest part of the dense cedar breaks in their range (Davis, 1974).

Status: This species is accorded full endangered status by state and federal agencies (Dept. of Interior, 1977, TPW, 1977). Populations of this animal in Texas have been declining, mainly due to predator control activities and the clearing of brush. There are no known records of ocelots in Bexar County. This fact, coupled with the severe decline of ocelot populations in Texas as a whole, indicates an extremely small likelihood that any wild ocelots would be found in the study area.

Ornithological

AMERICAN PEREGRINE FALCON (*Falcon peregrinus anatum*)

ARCTIC PEREGRINE FALCON (*Falcon peregrinus tundrius*)

No attempt is made in this report to treat separately these two subspecies, due to the difficulty in distinguishing between them. Additionally, most historical treatments have considered them to be the same species.

Description: This bird is commonly called the duck hawk. It is a medium-sized blue-gray hawk with long pointed wings and very fast flight. It is characterized by its dark cap and heavy black cheek patches or "mustaches."

Distribution: Peregrines are considered rare to uncommon migrants throughout the state (Wolfe et al., 1974). The American Peregrine is a rare summer resident in the Trans-Pecos mountains. The Arctic Peregrine is a rare summer resident in the Trans-Pecos mountains. The Arctic Peregrine is an uncommon migrant through central Texas and along the coast (Figure 8). Smith (1975) reported that 380 falcon sightings were made during a 40-day period in the fall of 1973 along the Texas coast, indicating that a moderate number of birds utilize the Texas portion of the Central Flyway. Olberholser (1974) reported 11 records of falcon sightings in Bexar and surrounding counties.

Status: Both of these subspecies are accorded full endangered status by state and federal agencies (Dept. of Interior, 1977, TPW, 1977). The populations of these birds have been reduced principally

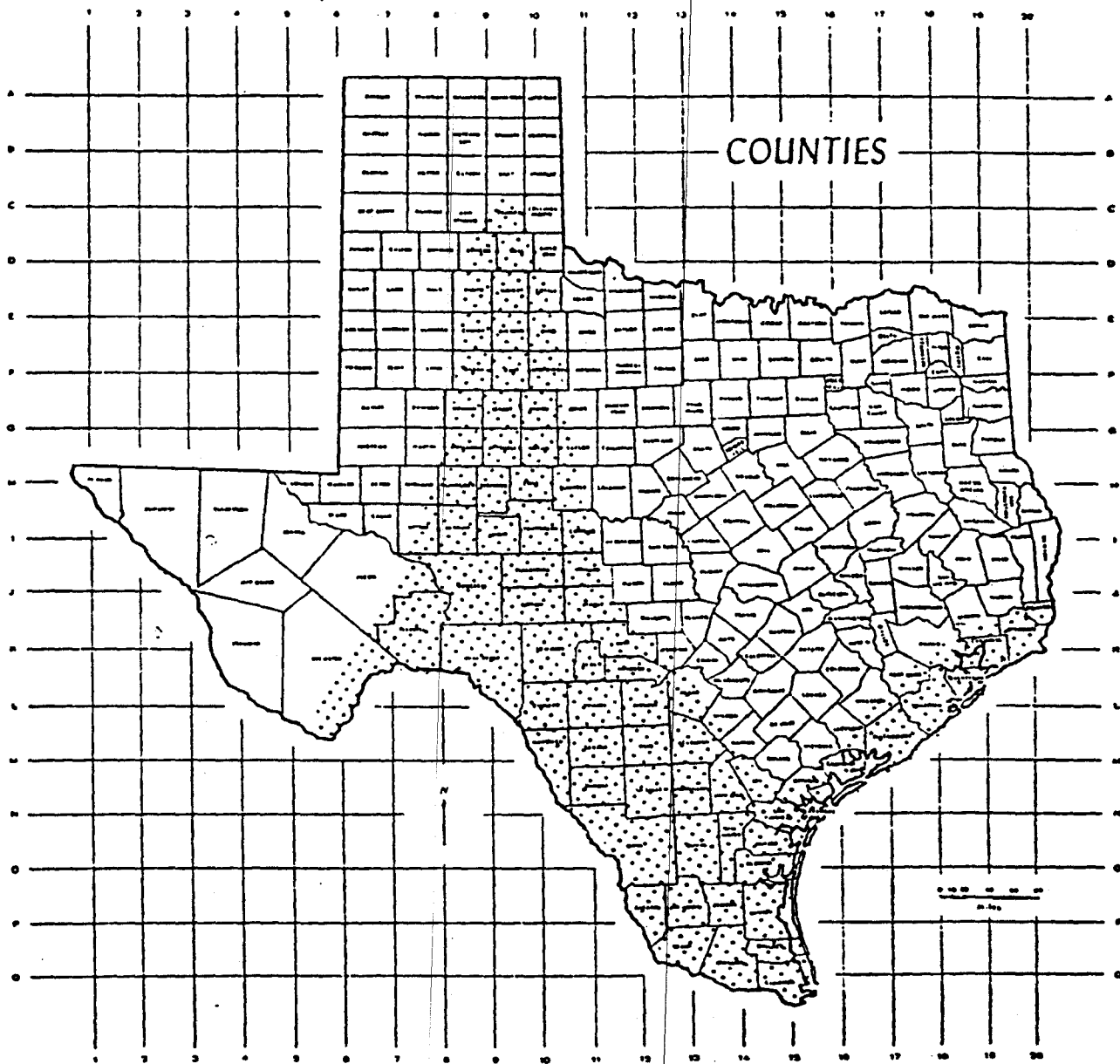


FIGURE 7. MAP OF TEXAS SHOWING THE RANGE OF THE
OCELOT (Davis, 1974)

through the loss of nesting habitat due to the encroachment of man. The taking of birds for falconry has also reduced populations. The introduction of pesticides into the environment is suspected of being a major factor in causing eggshell thinning and a subsequent decrease in successful broods (Snow, 1972).

SOUTHERN BALD EAGLE (*Haliaeetus leucocephalus leucocephalus*)

There is some difficulty associated with field observers being able to distinguish between this subspecies and the Northern bald eagle (*Haliaeetus leucocephalus alascanus*).

Description: The adult plumage consists of a white head and tail on a brown body. The immatures, which are a mottled brown, are sometimes mistaken for immature golden eagles. The bill is heavier than the golden eagle's and the legs are feathered halfway down the tarsus (Snow, 1973).

Distribution: This bird is an uncommon to rare migrant and winter resident throughout the state, especially around open bodies of water (Wolfe et al., 1974). Olberholser (1974) indicated a breeding record for this bird in Atascosa County and fall and winter observations have been made in Bexar County (Figure 9). In studies conducted by the Texas Parks and Wildlife Department, Smith (1974) reported 9 bald eagle observations in Bexar County from September 1, 1972, to August 31, 1973. The only other surrounding county reporting eagle sightings was Bandera County with 36 sightings for the period May 1, 1972—April 31, 1973 (Smith, 1975).

Status: The southern bald eagle is provided full state and federal protection under endangered status (Dept. of Interior, 1977; TPW, 1977), while the northern bald eagle is not currently considered to be either rare or endangered. The severe reductions in bald eagle populations have occurred for a number of reasons. Shooting is considered the major contributing factor, with powerline electrocution, predator poisons such as strychnine and 1080, and mercury poisoning also contributing to population declines.

WHOOPING CRANE (*Grus americana*)

Description: Whooping cranes are long-legged, long-necked birds with long feathers on the back which curl down over the ends of the wings giving a tufted appearance. Coloration is white with a bare, red-skinned face and black primary wing feathers. The neck is outstretched in flight. The call has been described as blaring and trumpet-like (Peterson, 1947).

Distribution: The breeding grounds for this species are confined to suitable portions of the Wood Buffalo National Park in southern Mackenzie and northern Alberta, Canada. The wintering grounds are the oak savannahs, marshes, salt flats, and bays of Aransas National Wildlife Refuge on Texas' central Gulf coast. During the migration trip between wintering and breeding grounds from late March to late April and mid-October to late November, these birds are rare but regular migrants over central portions of the state (Figure 10). One fall sighting record for this species has been reported for Bexar County (Olberholser, 1974), but Bexar County is not a known regular stopover point for these birds during their migrations.

Status: Whooping cranes are afforded full protection as endangered species by the state and federal governments (TPW, 1977; Dept. of Interior, 1977). The population of whooping cranes has been slowly but steadily increasing after suffering a severe decline due to ranchers, farmers, and gunners eliminating most U.S. crane habitat and the birds themselves.

BROWN PELICAN (*Pelecanus occidentalis*)

Description: The brown pelican is a large, bulky water bird with a long flat bill and tremendous throat pouch. This species has white about the head and neck with an otherwise dusky appearance. Brown pelicans fly with their heads hunched back on their shoulders. Pelicans fly in orderly lines, alternating several flaps with a short sail. They also have the habit of plunging headlong into the water after fish (Peterson, 1947).

Distribution: The brown pelican is a rare resident of Texas, preferring large, open bodies of water. The distribution of this species has been reduced mainly to the central coast area (Figure 11). These birds are only casuals in all the other major regions of the state. Two records for Bexar County, one summer and one fall, have been reported (Olberholser, 1974).

Status: The brown pelican is afforded full protection as an endangered species under both federal and state law (Dept. of Interior, 1977; TPW, 1977). The decline of the brown pelican has been attributed to pesticides and human disturbance of their breeding grounds.

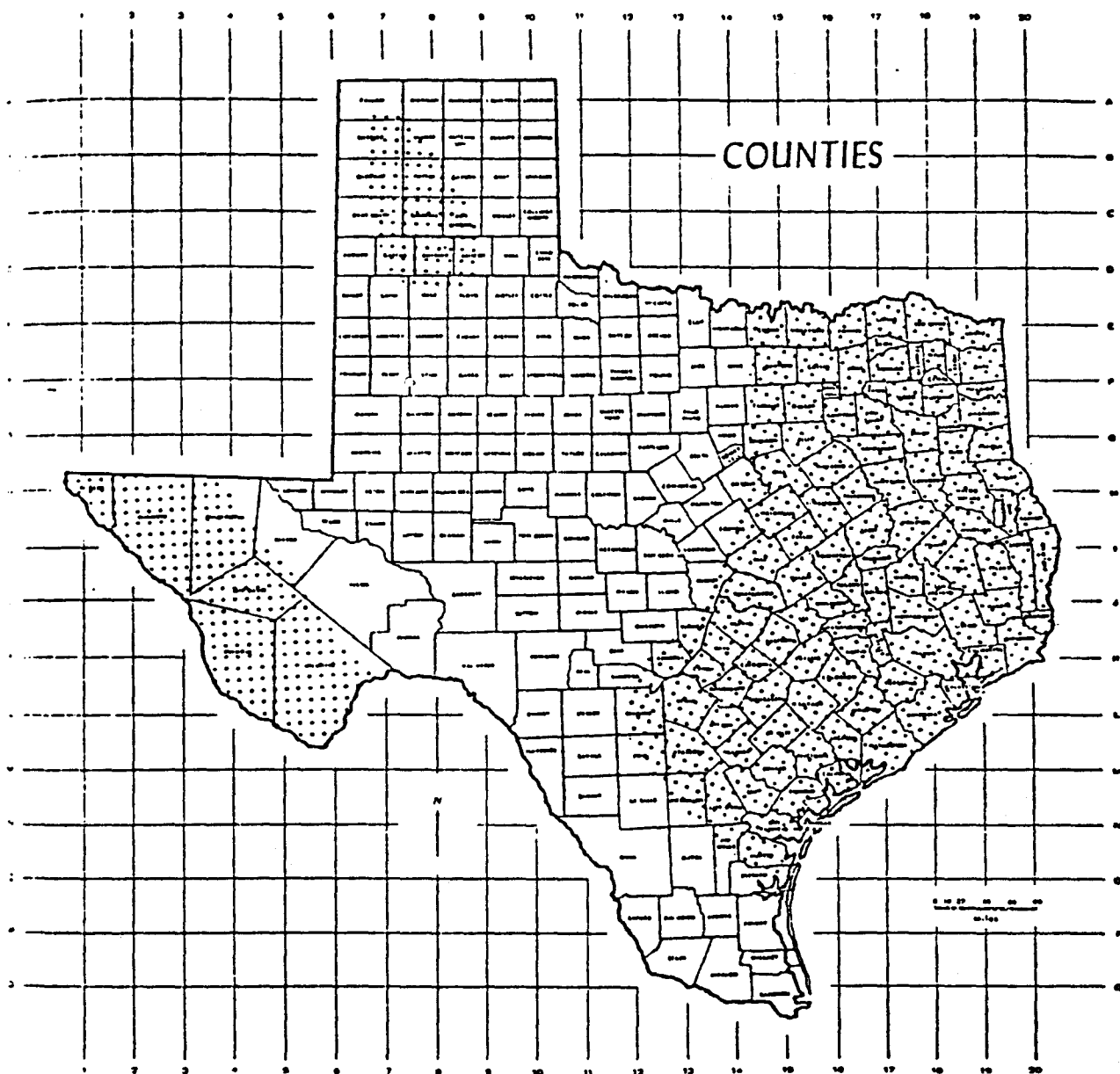


FIGURE 9. MAP OF TEXAS SHOWING THE COMBINED RANGES OF THE NORTHERN AND SOUTHERN BALD EAGLES

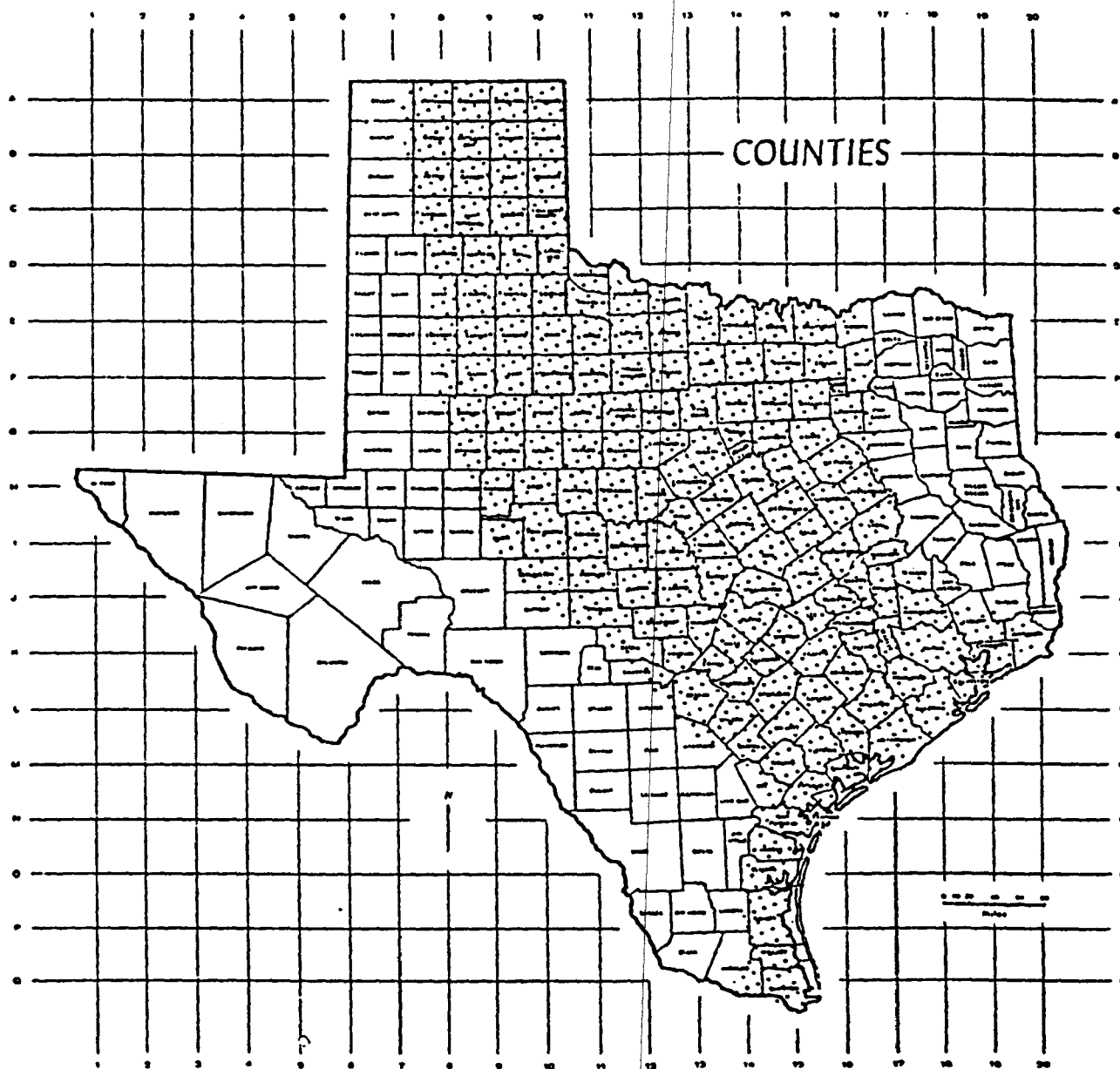


FIGURE 10. MAP OF TEXAS SHOWING THE RANGE OF THE WHOOPING CRANE (from data in Olberholser, 1974)

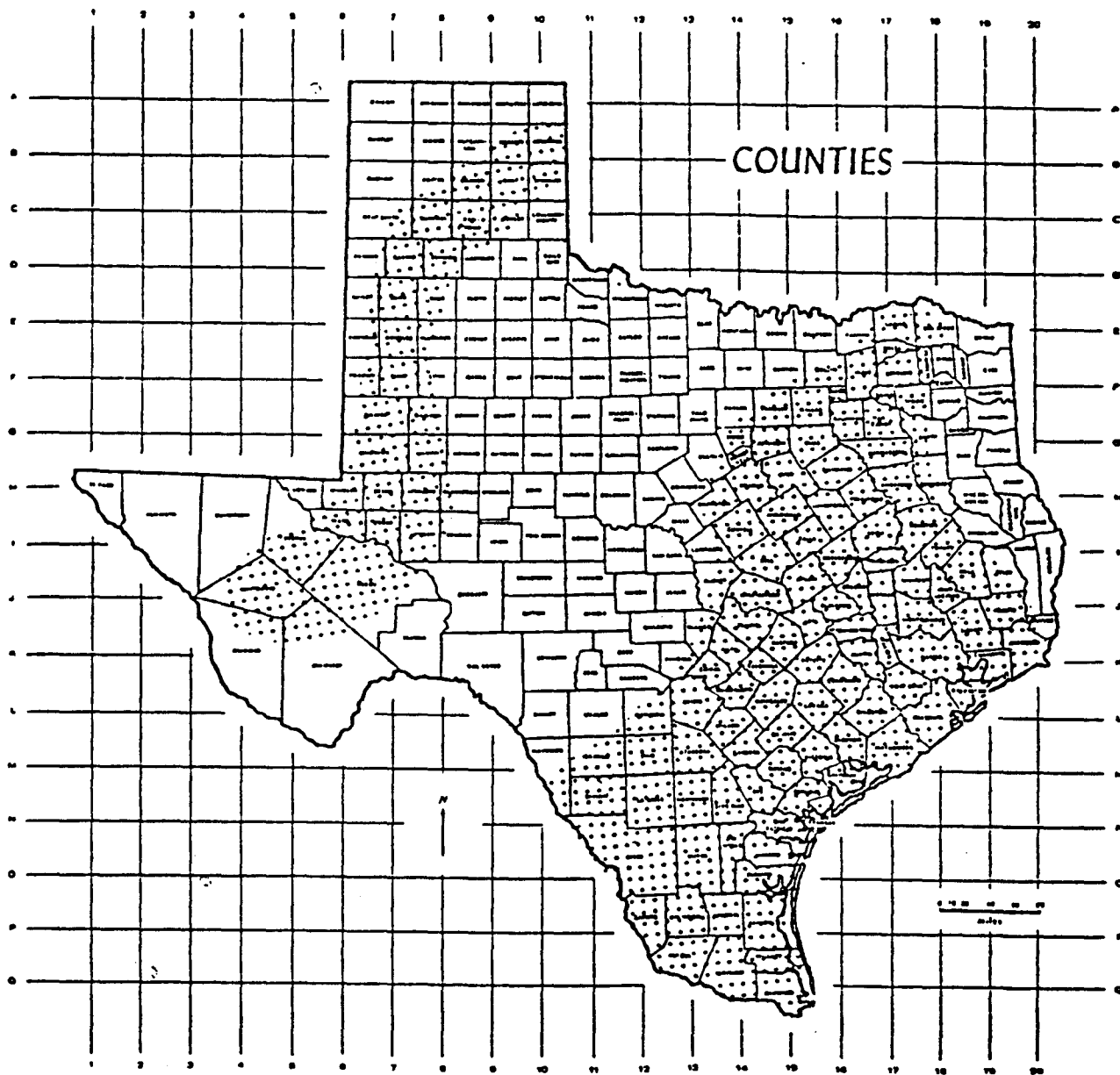


FIGURE 11. MAP OF TEXAS SHOWING THE RANGE OF THE BROWN PELICAN (from data in Olberholser, 1974)

Aquatic

AMERICAN ALLIGATOR (*Alligator mississippiensis*)

Description: Large (1.8-5.0 m.) crocodilian with a broadly rounded snout. General coloration black, but light yellow or cream colored markings of young may persist into adulthood (Conant, 1975)

Distribution: Alligators are characteristic residents of the great river swamps, lakes, bayous, marshes and other bodies of water within their range, which include Florida and the Gulf and Lower Atlantic Coastal Plains (Conant, 1975). Smith (1975) reported the alligator from a large portion of the eastern and southern part of Texas (Figure 12). In a survey conducted in 1973, Smith (1975) reported an estimated 350 alligators inhabiting approximately 12 square miles of alligator habitat in Bexar County. The population is reported to be stable. Williams (pers. comm.) indicated that there are probably fewer than 50 alligators in Bexar County. Koenig (pers. comm.) also indicated a population of less than 60 alligators in Bexar County. He reports no alligators have been observed in Six Mile Creek. No alligators were observed in Six Mile Creek, the Espada Acequia or the San Antonio River during the field investigations.

Status: Currently in Bexar County the alligator is afforded full protection as an endangered species by both the federal and state agencies (Dept. of Interior, 1977; TPW, 1977). Alligator populations in certain parts of their range have been responding to the protection of federal and state agencies resulting in a change of status from endangered to threatened.

Summary of Endangered Species Findings

No endangered species were observed at the proposed project site and no records of sightings in the immediate vicinity were found. Additionally, the site does not appear to offer unique or unusually favorable habitat conditions for endangered species which are resident or transient in Bexar and adjacent counties.

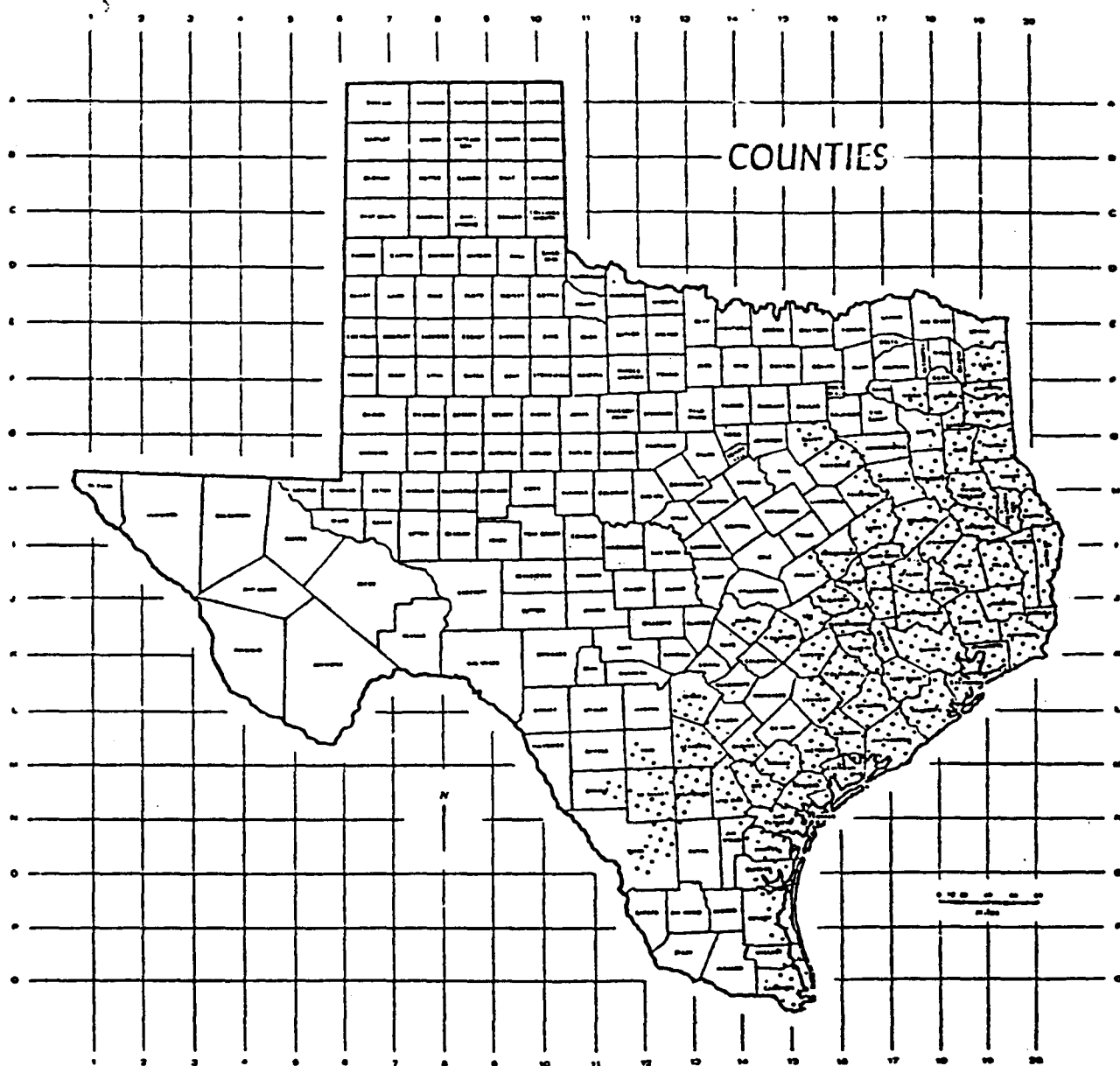


FIGURE 12. MAP OF TEXAS SHOWING THE RANGE OF THE AMERICAN ALLIGATOR (Smith, 1975)

Species

Arberidaceae

Berberis trifoliata - Agarita
Nandina domestica - Sacred bamboo

Platanaceae

Platanus occidentalis - Sycamore

Rosaceae

Pyrus sp. - Prairie crabapple
Crataegus sp. - Hawthorne
Rubus trivialis - Southern dewberry
Rosa sp. (planted)
Rosa sp. (planted)
Prunus sp. (peach-planted)
Rose 1
Eriobotrya sp. - Loquat

Leguminosae

Albizia julibrissin - Mimosa tree
Acacia farnesiana - Huisache
Leucaena leucocephala - Popinac lead tree
Prosopis glandulosa var. glandulosa -
 Honey mesquite
Cercis canadensis var. texensis - Redbud
Gleditsia triacanthos - Honey locust
Parkinsonia aculeata - Retama
Sophora secundiflora - Texas mountain laurel
Eysenhardtia texana - Texas kidneywood
Wisteria sinensis - Chinese wisteria

Rutaceae

Citrus sp.
Ptelea trifoliata - Hoptree

Simaroubaceae

Ailanthus altissima - Tree of heaven

Meliaceae

Melia azedarach - Chinaberry

Euphorbiaceae

Sapium sebiferum - Chinese tallow tree

Anacardiaceae

Rhus toxicodendron var. vulgaris - Poison ivy

[illegible]

Species

Aceraceae

Acer negundo - Boxelder

Sapindaceae

Sapindus saponaria var. drummondii - Soapberry

Rhamnaceae

Colubrina texensis - Hogplum

Ziziphus obtusifolia - Lotebush

Ziziphus jujuba - Common jujube

Condalia hookeri var. hookeri - Brasil

Vitaceae

Vitis mustangensis - Mustang grape

Vitis cinerea - Graybark grape

Parthenocissus quinquefolia - Virginia creeper

Ampelopsis arborea - Peppervine

Cissus incisa - Marine ivy

Tamaricaceae

Tamarix sp. - Salt cedar

Cactaceae

Opuntia leptocaulis - Tasajillo

Opuntia sp. - Cholla

Opuntia sp. - Blind prickly pear

Opuntia lindheimeri - Prickly pear

Lythraceae

Lagerstroemia indica - Crape myrtle

Punicaceae

Punica granatum - Pomegranate

Cornaceae

Garrya lindheimeri - Silktassel

Cornus drummondii - Rough-leaf dogwood

Sapotaceae

Bumelia lanuginosa var. albicans - Gum bumelia

Ebenaceae

Diospyros texana - Texas persimmon

Oleaceae

Fraxinus sp. - Ash

Ligustrum quihoui - Wax-leaf ligustrum

Forestiera angustifolia - Narrow-leaf
forestiera

	Mission Conception	Mission San Jose	Mission San Juan	Mission Espada	Espada and Acequia Park
X	X	X	X	X	X
	X X X X	X	X X	X	
	X	X X	X	X X X X	
	X	X		X	
X	X X	X X	X	X	
	X		X		
X	X		X		
		X			X X
	X		X		X
	X X	X X	X X		X X X

Species

apocynaceae
Nerium oleander - Oleander

poraginaceae
Ehretia anacua - Anacua

Verbenaceae
Aloysia gratissima - White brush
Vitex agnus-castus - Monk's pepper tree

Scrophulariaceae
Leucophyllum frutescens - Cenizo

Ignoniaceae
Campsis radicans - Trumpet creeper

Saprifoliaceae
Sambucus canadensis - Common elderberry
Lonicera japonica - Japanese honeysuckle

Compositae
Baccharis neglecta - Roosevelt weed

Unknown
W1
W2
W3 - Boxwood
W4 - Yellow jasmine

Total Identified Woody Species
Total Unidentified Woody Species
Total Woody Species

Total Woody Species Found at all Sites - 93

	Mission Conception	Mission San Jose	Mission San Juan	Mission Espada	Espada and Acequia Park
X	X	X	X		
X	X	X	X		X
X	X				X
X	X				
X	X				
		X			X
		X	X		X
			X	X	X
X	X				
X	X				
X	X				
29	61	46	49	46	
3	4	0	0	0	
32	65	46	49	46	

Species

Equisetaceae

Equisetum laevigatum - Horsetail

Polypodiaceae

Thelypteris kunthii - Southern shield fern

Adiantum capillus-veneris - Maidenhair fern

Alismataceae

Sagittaria graminea - Arrowhead

Graminae

Zizaniopsis miliacea - Southern wildrice

Arundo donax - Giant reed

Chasmanthium latifolium - Inland sea oats

Stipa leucotricha - Texas speargrass

Bromus unioloides - Rescue grass

Lolium perenne - Ryegrass

Elymus canadensis - Canada wild rye

Hordeum pusillum - Little barley

Polypogon monspeliensis - Rabbitfoot grass

Stenotaphrum secundatum - St. Augustine grass

Paspalum dilatatum - Dallis grass

Panicum oligosanthes

Panicum diffusum

Setaria viridis - Green bristlegrass

Setaria geniculata - Knot-root bristlegrass

Cenchrus incertus - Grassbur

Bothriochloa saccharoides var. torrevana -

Silver bluestem

Bothriochloa ischaemum - King Ranch bluestem

Sorghum halapense - Johnson grass

Tridens texanus - Texas tridens

Cynodon dactylon - Bermuda grass

Chloris subdolichostachya - Windmill grass

Aristida wrightii - Three awn grass

Aristida longiseta - Red three awn

Aristida purpurea - Purple three awn

Cyperaceae

Scirpus validus - Bulrush

Eleocharis sp. - Spikerush

Cyperus papyrus - Papyrus

Cyperus ochraceus - Flatsedge

Cyperus odoratus - Flatsedge

Carex muhlenbergii - Sedge

Mission Conception	Mission San Jose	Mission San Juan	Mission Espada	Espada and Acequia Park
				X
	X			X
			X	X
X	X	X	X	X
X	X	X	X	X
			X	
X	X	X	X	X
			X	X
			X	X
X	X	X	X	X
	X	X	X	X
			X	X
X	X	X	X	X
	X		X	X
		X		
X	X	X	X	X
X	X	X	X	X
			X	X
			X	X
X	X	X	X	X

Species

Araceae

Colocasia esculenta - Elephant's ear

Bromeliaceae

Tillandsia recurvata - Ball moss

Commelinaceae

Commelina erecta var. deamiana - Dayflower

Commelinantia anomala - False dayflower

Tradescantia occidentalis - Spiderwort

Tradescantia sp. (planted)

Pontederiaceae

Eichhornia crassipes - Water hyacinth

Eichhornia azurea - Water hyacinth

Pontederia cordata var. cordata - Pickerel weed

Juncaceae

Juncus torreyi - Rush

iliaceae

Asparagus officinalis - Asparagus

Amaryllidaceae

Hymenocallis carolinianum - Spider lily

Cooperia pedunculata - Rain lily

Iridaceae

Iris sp.

Cannaceae

Canna indica - Canna lily

Viscaceae

Phoradendron tomentosum var. mentosum -
Mistletoe

Polygonaceae

Rumex crispus - Curly dock

Rumex pulcher - Fiddle dock

Persicaria densiflora - Smartweed

Chenopodiaceae

Chenopodium album - Lamb's quarters

Mission Conception	Mission San Jose	Mission San Juan	Mission Espada	Espada and Acaquin Park
		X	X	X
X	X	X	X	X
X	X	X	X	X
	X		X	X
			X	X
				X
	X			
	X		X	
			X	
			X	
X	X	X	X	X
	X	X	X	X
		X	X	X
			X	

Mission Conception	Mission San Jose	Mission San Juan	Mission Espada	Espada and Academia Park
X	X	X	X	X
X	X	X	X	X
	X	X	X	X
X	X		X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
	X			
X	X		X	X
X	X	X	X	X
	X		X	X
X	X	X	X	X
X				X
X		X		X
X		X		X
X		X		X
		X		X
		X		X

Amaranthus palmeri - Careless weed
Amaranthus crassives - Pigweed
Alternanthera philoxeroides - Alligator weed
Alternanthera caracasana - Mat chaff flower

Nyctaginia capitata - Devil's bouquet
Mirabilis jalapa - Common four o'clock
Boerhaavia coccinea - Scarlet spiderling

Rivinia humilis - Small pokeweed
- Phytolacca americana - Pokeweed

Silene antirrhina - Sleepy catchfly

Clematis drummondii - Texas virgin's bower
Clematis pitcheri - Leather flower

Argemone aurantiaca - Prickly poppy
Argemone albiflora - White prickly poppy

Corydalis curvisilioua var. curvisilioua -
Scrambled eggs

Sisymbrium irio - London rocket
Rorippa nasturtium-aquaticum - Watercress
Lepidium densiflorum - Peppergrass

Schrankia latidens - Sensitive brier
Desmanthus illinoensis
Desmanthus virgatus var. depressus
Medicago polymorpha var. vulgaris - Burclover
Melilotus alba - White sweet clover
Trifolium dubium - Small hop clover
Vicia leavenworthii - Vetch
Rhynchosia minima var. minima - Snoutbean
 Legume #1

Species

Geraniaceae

- Geranium carolinianum - Crane's bill
Erodium texanum - Stork's bill

Oxalidaceae

- Oxalis dillenii - Woodsorrel

Zygophyllaceae

- Tribulus terrestris - Goat head

Euphorbiaceae

- Croton monanthogynus
Acalypha lindheimeri - Three-seeded mercury
Euphorbia dentata - Spurge
Euphorbia cyathophora - Spurge
Euphorbia albomarginata - Spurge
Euphorbia sp. #1
Euphorb sp. #2

Malvaceae

- Malvaviscus arboreus var. drummondii -
Turk's cap
Calliandroë leiocarpa - Poppy mallow
Malva parviflora - Cheeseweed
Abutilon incanum - Indian mallow
Malvastrum coromandelianum - False mallow
Sida phycocalyx
Sida filicaulis

Violaceae

- Viola missouriensis - Violet

Passifloraceae

- Passiflora incarnata - Passion flower

Onagraceae

- Gaura parviflora - Lizard tail
Gaura odorata - Wild honeysuckle
Oenothera speciosa - Showy primrose

Umbelliferae

- Coriandrum sativum - Coriander
Ammi majus - Bishop's weed
Torilis arvensis - Hedge parsley
Daucus pusillus - Rattlesnake weed
Hydrocotyle umbellata - Water pennywort
Umbel #1

Mission Conception	Mission San Jose	Mission San Juan	Mission Espada	Espada and Acoquia Park
X	X		X	
X				
X	X	X	X	X
		X	X	
X		X	X	X
			X	X
	X	X		
				X
X			X	X
			X	
X	X	X	X	
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
			X	X
				X
	X	X		X
X	X	X		X
	X	X	X	X
			X	
			X	
				X
X	X	X	X	X
			X	
X				

Species

Primulaceae

Anagallis arvensis - Pimpernel

Oleaceae

Menodora heterophylla

Asclepiadaceae

Matelea reticulata - Milkweed vine

Convolvulaceae

Dichondra carolinensis - Pony foot

Convolvulus equitans - Bindweed

Ipomea trichocarpa var. trichocarpa - Wild morning glory

Ipomea sinuata - Alamo vine

Hydrophyllaceae

Nemophila phaceloides - Baby blue eyes

Phacelia congesta - Blue curls

Boraginaceae

Lappula texana - Stickseed

Buglossoides arvensis - Gromwell

Verbenaceae

Verbena litoralis - Seashore vervain

Verbena neomexicana var. hirtella - Hillside vervain

Verbena bipinnatifida - Prairie verbena

Lantana horrida - Texas lantana

Phyla incisa - Texas frog fruit

Labiatae

Teucrium canadense var. canadense - American germander

Marrubium vulgare - Common horehound

Salvia farinacea - Blue sage

Salvia coccinea - Tropical sage

Monarda pectinata - Horsemint

Solanaceae

Physalis viscosa var. cinerascens - Ground cherry

Solanum elaeagnifolium - Trompillo

Solanum tricueterum - Texas nightshade

Capsicum annuum var. minus - Chile piquin

Nicotiana repanda - Fiddle-leaf tobacco

Mission Conception	Mission San Jose	Mission San Juan	Mission Espada	Espada don't know
				X
	X			
	X	X	X	X
X	X	X	X	
X	X	X	X	X
		X		
	X			X
X				
X				
X	X	X	X	X
X	X		X	X
X	X		X	X
	X			
			X	X
	X		X	
		X	X	X
X			X	
X	X		X	X
X	X	X	X	X
X	X	X		X

Species

Scrophulariaceae						
	<u>Veronica polita</u> - Wayside speedwell	X				
Acanthaceae						
	<u>Ruellia yucatanæ</u> - Wild petunia	X	X	X	X	X
	<u>Siphonoglossa pilosella</u> - Tube tongue	X	X	X	X	X
Plantaginaceae						
	<u>Plantago major</u> - Common plantain					X
	<u>Plantago rhodosperma</u> - Red seeded plantain	X	X		X	X
Rubiaceae						
	<u>Galium virgatum</u> - Bedstraw			X		
	<u>Galium aparine</u> - Catchweed bedstraw	X		X		X
	<u>Hedyotis nigricans</u> var. <u>filifolia</u> - Bluet		X			
Cucurbitaceae						
	<u>Cucurbita foetidissima</u> - Buffalo gourd	X	X	X	X	X
	<u>Melothria pendula</u> - Meloncito			X		X
Compositae						
	<u>Gnaphalium falcatum</u> - Cudweed		X			
	<u>Engelmannia pinxatifida</u> - Cut-leaf daisy	X	X			X
	<u>Parthenium confertum</u>	X	X	X	X	X
	<u>Ambrosia trifida</u> var. <u>texana</u> - Giant ragweed		X	X	X	X
	<u>Xanthium strumarium</u> - Cocklebur		X			
	<u>Spilanthes americana</u> var. <u>repens</u> - Creeping spot flower			X	X	X
	<u>Ratibida columnaris</u> - Mexican hat		X	X	X	X
	<u>Helianthus annuus</u> subsp. <u>texanus</u> - Common sunflower		X	X	X	X
	<u>Calypocarpus vialis</u> - Hierba del caballo	X	X	X	X	X
	<u>Coreopsis basalis</u> var. <u>wrightii</u> - Coreopsis		X		X	
	<u>Gaillardia pulchella</u> - Indian blanket	X	X		X	
	<u>Dyssodia tenuiloba</u> var. <u>tenuiloba</u> - Dogweed		X			
	<u>Pyrhopappus multicaulis</u> - Texas dandelion	X	X	X	X	X
	<u>Sonchus asper</u> - Sow thistle	X	X	X	X	X
	<u>Lactuca ludoviciana</u> - Wild lettuce			X	X	X
	<u>Taraxacum officinale</u> - Common dandelion	X	X			
	Composite #1		X			
	Composite #2		X			
	Composite #3					X
	Composite #4	X	X		X	

Unknown #1
Unknown #2
Unknown #3
Unknown #4
Unknown #5
Unknown #6
Unknown #7
Unknown #8
Unknown #9
Unknown #10
Unknown #11
Unknown #12
Unknown #13
Unknown #14
Unknown #15
Unknown #16
Unknown #17
Unknown #18
Unknown #19
Unknown #20
Unknown #21
Unknown #22
Unknown #23
Unknown #24
Unknown #25
Unknown #26
Unknown #27
Unknown #28
Unknown #29
Unknown #30

Total Herbaceous Species Found
at all Sites - 197

TOTAL SPECIES FOUND AT ALL SITES - 290

Mission Conception	Mission San Jose	Mission San Juan	Mission Espada	Espada and Acequia Park
X	X X Y X	X	X X X	X
X	X	X X X	X X	X
X	X	X		X X X X X X X
X	X X X X X X X X X		X	
61	78	71	105	105
6	18	7	7	18
67	96	78	112	117
90	139	117	154	151
9	22	7	7	12
99	161	124	161	163

NATIVE AND NATURALIZED WOODY PLANTS
OF BEXAR COUNTY AND VICINITY

THURMAN J. KENNEDY
COUNTY EXTENSION AGENT
203 WEST NUEVA, ROOM 310
SAN ANTONIO, TEXAS 78207

Robert S. Dewers*

(13) Pinaceae - Pine family

Pinus cembroides Zucc. MEXICAN PINYON PINE has a natural range in Real County. (A commonly-seen introduced pine is Pinus halepensis Mill.)

(14) Taxodiaceae - Taxodium family

Taxodium distichum (L.) Rich. BALD CYPRESS
var. nutans (Ait.) Sweet POND CYPRESS

(15) Cupressaceae - Cypress family

Juniperus ashei Bucholz ASHE JUNIPER
Juniperus pinchotii Sudw. REDBERRY JUNIPER

(16) Ephedraceae - Ephedra family

Ephedra antisyphilitica Berl. VINE EPHEDRA

(28) Palmae - Palm family

Sabal texana (Cook) Becc. TEXAS PALMETTO
Sabal minor (Jacq.) pers. DWARF PALMETTO

(30) Liliaceae - Lily family

Dasyllirion texanum Scheele TEXAS SOTOL
Smilax bona-nox L. SAW GREENBRIER
Smilax rotundifolia L. COMMON GREENBRIER
Yucca treculeana Carr. TRECUL YUCCA, SPANISH DAGGAR
Yucca rupicola Scheele TWIST-LEAF YUCCA
Yucca constricta Buckl. BUCKLEY YUCCA
Yucca arkansana Trel. (Y. glauca Nutt. var. mollis) ARKANSAS YUCCA
Yucca glauca Nutt. SMALL SOAPWEED YUCCA (Y. angustifolia)

(39) Amaryllidaceae - Amaryllis family

Agave americana L. CENTURYPLANT AGAVE

(47) Salicaceae - Willow family

Populus deltoides Marsh. COTTONWOOD
Salix nigra Marsh. BLACK WILLOW
Salix interior Rowlee SANDBAR WILLOW

(50) Juglandaceae - Walnut family

Juglans major (Torr.) Heller ARIZONA WALNUT
Juglans microcarpa Berl. LITTLE WALNUT
Carya illinoensis (Wangh.) K. Koch PECAN

(51) Betulaceae - Birch family

Betula nigra L. RIVER BIRCH

(52) Fagaceae - Beech family

Quercus macrocarpa Michx. BUR OAK
Quercus muhlenbergii Engelm. CHINKAPIN OAK, CHESTNUT OAK
Quercus prinus L. SWAMP CHESTNUT OAK
Quercus stellata Wangh. POST OAK
Quercus sinuata breviloba (Torr.) C. H. Mull BASTARD OAK
Quercus glaucoides Small LACEY OAK
Quercus pungens var. vaseyana (Buckl.) C. H. Mull VASEY OAK
Quercus virginiana Mill. LIVE OAK (Coastal and East Texas origin)
Quercus fusiformis Small SCRUB LIVE OAK (Inland species)
Quercus marilandica Muench. BLACK JACK OAK
Quercus schumardii Buckl. SCHUMARD OAK (east of Edwards Plateau)
Quercus texana Buckl. TEXAS OAK (Edwards Plateau and northward)

(53) Ulmaceae - Elm family

Celtis lindheimeri K. Koch LINDHEIMER HACKBERRY (south of San Antonio)
Celtis laevigata Willd. SUGAR HACKBERRY
Celtis pallida Torr. SPINY HACKBERRY
Celtis reticulata Torr. NETLEAF HACKBERRY (Edwards)
Ulmus rubra Muhl. SLIPPERY ELM, RED ELM
Ulmus americana L. AMERICAN ELM
Ulmus crassifolia Nutt. CEDAR ELM, TEXAS ELM
Ulmus alata Michx. WINGED ELM, CORK ELM

(54) Moraceae - Mulberry family

Morus rubra L. RED MULBERRY
Morus alba L. WHITE MULBERRY
var. tatarica (L.) Ser. RUSSIAN MULBERRY
Morus microphylla Buckl. TEXAS MULBERRY
Maclura pomifera (Raf.) Schneid. OSAGE ORANGE

(56) Loranthaceae - Mistletoe family

Phoradendron tomentosum (DC.) Gray MISTLETOE

(65) Phytolaccaceae - Pokeweed family

Phytolacca americana L. POKEWEEED

(72) Ranunculaceae - Crowfoot family

Clematis texensis Buckl. SCARLET CLEMATIS

Clematis drummondii Torr. & Gray DRUMMOND CLEMATIS

(73) Berberidaceae - Barberry family

Berberis swaseyi Buckl. TEXAS BARBERRY

Berberis trifoliolata Moric AGARITA

(74) Menispermaceae - Moonseed family

Cocculus carolinus (L.) DC. CAROLINA SNAILSEED-VINE, MARGIL VINE

(77) Lauraceae - Laurel family

Lindera benzoin SPICE BUSH

(87) Saxifragaceae - Saxifrage family

Fendlera rupicola Gray CLIFF FENDLERBUSH (Guadalupe above New Braunfels)

Philadelphus texensis Hu TEXAS MOCKORANGE

(88) Hamamelidaceae - Witch-hazel family

Hamamelis virginiana L. WITCH-HAZEL

(89) Platanaceae - Sycamore family

Platanus occidentalis L. SYCAMORE

var. glabrata (Fern.) Sarg. TEXAS SYCAMORE

(90) Rosaceae - Rose family

Crataegus traceyi Ashe MOUNTAIN HAWTHORN

Crataegus linaria Sarg. SHINY HAWTHORN

Crataegus greggiana Eggl. GREGG HAWTHORN

Crataegus texana Buckl. TEXAS HAWTHORN

Prunus serotina var. eximia (Small) McVaugh ESCARPMENT BLACK CHERRY

Prunus virginiana L. CHOKE CHERRY

Prunus texana Dietr. PEACH BUSH

Prunus minutiflora Engelm. TEXAS ALMOND

Prunus rivularis Scheele CREEK PLUM

Prunus mexicana Wats. MEXICAN PLUM

Rubus trivialis Michx. L. H. Bailey RIO GRANDE DEWBERRY

Pyrus ioensis PRAIRIE CRABAPPLE

(91) Leguminosae - Legume family

Subfamily Mimosoideae

Pithecellobium flexicaule (Benth.) Coult. TEXAS EBONY

Acacia angustissima (Mill.) Kuntze FERN ACACIA

Acacia rigidula Benth. BLACKBRUSH ACACIA
Acacia farnesiana (L.) Willd. SWEET ACACIA, HUISACHE
Acacia greggii Gray CATCLAW ACACIA
Acacia wrightii Benth. WRIGHT ACACIA
Acacia roemeriana Scheele ROEMER ACACIA
~~Leucaena greggii Wats. GREGG LEADTREE~~
Leucaena retusa Benth. GOLDEN-BALL LEADTREE
Leucaena pulverulenta (Schlecht.) Benth. GREAT LEADTREE
Mimosa biuncifera Benth. CATCLAW MIMOSA
Mimosa borealis Gray FRAGRANT MIMOSA
Prosopis glandulosa Torr. HONEY MESQUITE

Subfamily Caesalpinoideae

Cercis canadensis texensis (Wats.) Rose TEXAS REDEUD
Bauhinia congesta (Britt. & Rose) LUNDELL
Cassia lindheimeriana Scheele
Gleditsia triacanthos L. HONEYLOCUST
Parkinsonia aculeata L. JERUSALEM-THORN, RETAMA
Caesalpinia gilliesii (Hook) Benth. BIRD-OF-PARADISE (Escape)

Subfamily Papilionoideae

Sophora secundiflora (Ortega) Lag. MESCALBEAN SOPHORA
Sophora affinis Torr. & Gray TEXAS SOPHORA
~~Amorpha canescens Pursh LEADPLANT AMORPHA~~
Amorpha texana Buckl. TEXAS INDIGO-BUSH AMORPHA
Eysenhardtia texana Scheele VARA DULCE
Dalea frutescens (Gray) Vail BLACK DALEA
Erythrina herbacea L. EASTERN CORAL BEAN

(96) Zygophyllaceae - Caltrop family

Porlieria angustifolia (Engelm.) Gray GUAYACAN

(97) Rutaceae - Rue family

Amyris texana (Buckl.) P. Wils LANTRISCO
Ptelea trifoliata L. WAFER-ASH
Zanthoxylum hirsutum Buckl. TOOTHACHE TREE

(98) Simaroubaceae - Quassia family

Ailanthus altissima (Mill.) Swingle TREE OF HEAVEN (Escape)
Castela texana (Torr. & Gray) Rose. ALLTHORN

(99) Meliaceae - Mahogany family

Melia azedarach L. CHINABERRY (Escape)

(102) Euphorbiaceae - Euphorbia family

Andrachne phyllanthoides (Nutt.) Coult. MAIDENBUSH

Bernardia myricaefolia (Scheele) Wats. SOUTHWEST BERNARDIA
Sapium sebiferum (L.) Roxb. CHINESE TALLOWTREE (Escaped cultivation)
Croton fruticosus Engelm ENCINILLA

(104) Anacardiaceae - Sumac family

Cotinus obovatus Raf. AMERICAN SMOKETREE
Rhus microphylla Engelm. SMALL LEAF SUMAC
Rhus lanceolata (Gray) Britt. FLAMELEAF SUMAC
Rhus aromatica (Gray Ait.) SKUNKBUSH
Rhus toxicodendron L. POISON IVY
Pistacia texana Swingle TEXAS PISTACHIO

(106) Aquifoliaceae - Holly family

Ilex decidua Walt. POSSUMHAW
Ilex vomitoria Ait. Yaupon

(107) Celastraceae - Staff-tree family

Schaefferia cuneifolia Gray CAPUL, DESERT YAUPON

(108) Aceraceae - Maple family

Acer negundo L. BOXELDER
Acer grandidentatum var. sinuosum (Rehd.) Little SABINAL MAPLE

(109) Hippocastanaceae - Buckeye family

Aesculus arguta Buckl. TEXAS BUCKEYE
Aesculus pavia L. RED BUCKEYE
Aesculus pavia flavescens Sarg WOOLY BUCKEYE

(110) Sapindaceae - Soapberry family

Sapindus drummondii Hook & Arn. WESTERN SOAPBERRY
Ungnadia speciosa Endl. MEXICAN BUCKEYE

(112) Rhamnaceae - Buckthorn family

Ceanothus herbaceus Raf. REDROOT
Colubrina texensis (Torr. & Gray) Gray SNAKEWOOD
Condalia hookeri M. C. Johnst. (C. obovata) BRASIL
Condalia viridis I. M. Johnston GREEN CONDALIA
Rhamnus caroliniana Wah. CAROLINA BUCKTHORN
Ziziphus jujuba Miller JUJUBE (Escaped)
Ziziphus obtusifolia (T & G) Gray LOTE BUSH

(113) Vitaceae - Grape family

Ampelopsis cordata Michx. HEARTLEAF AMPELOPSIS
Ampelopsis arborea (L.) Koehne PEPPERVINE

Cissus incisa Desmoul. IVY TREEBINE
Parthenocissus quinquefolia (L.) Planch. VIRGINIA CREEPER
Parthenocissus heptaphylla (Buckl.) Britt. SEVEN-LEAF CREEPER
Vitis candicans Engelm. MUSTANG GRAPE
Vitis berlandieri Planch. WINTER GRAPE
Vitis helleri Small HELLER GRAPE
Vitis rupestris Scheele SAND GRAPE

(114) Tiliaceae - Linden family

Tilia caroliniana Mill. CAROLINA BASSWOOD

(115) Malvaceae - Mallow family

Abutilon hypoleucum Gray RIO GRANDE ABUTILON
Abutilon incanum (Link.) Sweet. INDIANMALLOW
Malvastrum wrightii Gray WRIGHT MALVASTRUM
Pavonia lasiopetala Scheele WRIGHT PAVONIA
Malvaviscus drummondii Torr. & Gray TURKS CAP
Wissandula holosericea (Scheele) Garcke. WISSANDULA

(116) Sterculiaceae - Chocolate family

Firmiana simplex W. Wright (Introduced)
Hermannia texana Gray. HERMANNIA

(121) Tamaricaceae - Tamarisk family

Tamarix gallica L. TAMARISK SALT CEDAR

(138) Cornaceae - Dogwood family

Cornus drummondii C. A. Meyer. ROUGHLEAF DOGWOOD
Garrya lindheimeri Torr. MEXICAN SILKTASSEL

(140) Ericaceae - Heath family

Arbutus xalapensis Buckl. TEXAS MADRONE

(143) Sapotaceae - Sapodilla family

Bumelia texana Buckl. IRONWOOD

(144) Ebenaceae - Persimmon family

Diospyros texana Scheele TEXAS PERSIMMON
Diospyros virginiana L. COMMON PERSIMMON

(145) Styracaceae - Storax family

Styrax platanifolia Engelm. HAIRYLEAF SNOWBELL
Styrax texana Cory. TEXAS SNOWBELL

(147) Oleaceae - Ash family

Forestiera pubescens (Nutt. ELBOW BUSH
Forestiera reticulata Torr. NETLEAF FORESTIERA
Forestiera angustifolia Torr. NARROWLEAF FORESTIERA
Fraxinus berlandieriana A. DC. MEXICAN ASH, BERLANDIER ASH
Fraxinus pennsylvanica Marsh. GREEN ASH
Fraxinus texensis (Gray) Sarg. TEXAS ASH
Fraxinus velutina Torr. VELVET ASH, ARIZONA ASH (Escaped cultivation)

(148) Loganiaceae - Logania family

Buddleja racemosa Torr. TEXAS BUTTERFLYBUSH

(155) Boraginaceae - Borage family

Ehretia anagua (Mier & Berland.) Johnst. ANAQUA

(157) Verbenaceae - Verbena family

Aloysia lycioides Cham WHITEBUSH
Callicarpa americana L. AMERICAN BEAUTYBERRY, FRENCH MULBERRY
Lantana horrida H.B.K. TEXAS LANTANA
Lantana macropoda Torr. VEINYLEAF LANTANA
Vitex agnus-castus L. CHASTETREE (Escaped cultivation)

(158) Labiatae - Mint family

Salvia ballotaeflora Benth. SHRUBBY BLUE SALVIA

(159) Solanaceae - Nightshade family

Solanum triquetrum Cav. TEXAS NIGHTSHADE
Capsicum annuum var. minus (Fingerhuth) Shinnery CHILE PEPPER
Lycium berlandieri Dunal WOLFBERRY

(160) Scrophulariaceae - Figwort family

Leucophyllum frutescens (Berl.) Johnston. TEXAS SILVERLEAF, SILVER CHENILLE

(161) Bignoniaceae - Trumpet creeper family

Campsis radicans L. TRUMPETCREEPER
Chilopsis linearis (Cav.) Sweet. DESERTWILLOW
Catalpa speciosa Warder NORTHERN CATALPA (Introduced)
Tecoma stans (L.) Juss. ESPERANZA

(165) Acanthaceae - Acanthus family

Anisacanthus wrightii (Torr.) Gray WRIGHT ANISACANTH

(168) Rubiaceae - Madder family

Cephalanthus occidentalis L. BUTTONBUSH

(169) Caprifoliaceae - Honeysuckle family

Sambucus canadensis L. AMERICAN ELDER

Symphoricarpos orbiculatus Moench. CORAL-BERRY

Lonicera albiflora Torr. & Gray WHITE HONEYSUCKLE

Lonicera japonica Thumb. JAPANESE HONEYSUCKLE (Introduced)

Viburnum rufidulum Raf. BLACKHAW

(174) Compositae - Composite family

Baccharis angustifolia Michx. NARROWLEAF BACCHARIS

Baccharis texana (Torr. & Gray) GRAY TEXAS BACCHARIS

Eupatorium havanense H.B.K. (E. ageratifolium) AGERATUM EUPATORIUM

NOTE: The sequence of families and the assigned numbers follow Correll & Johnston's Manual of the Vascular Plants of Texas. Although an alphabetized system might have been easier to use, the Engler sequence is more appropriate, perhaps, to the student of botany. It is hoped that this check list will be helpful to botanists and the general public. I look forward to making it more accurate and complete as time permits.