

DRAFT

FIELD SUMMARY REPORT
SAN ANGELO NW, NE, SW, SE
SONORA NW, NE, SW, SE

I. 1:100,000 MAP NAMES

San Angelo NW, NE, SW, SE
Sonora NW, NE, SW, SE

II. FIELD TRIP PERSONNEL

Curtis J. Carley	USFWS
Jim Dick	Geonex-Martel, Inc.
Sandy Patrick	Geonex-Martel, Inc.
Billy Colbert	USFWS
Dawn Whitehead	USFWS

III. FIELD DATES

March 6 - 17, 1989

IV. COLLATERAL DATA

USGS Topographic Quadrangle Maps:
1:24,000; 1:250,000
Soil Surveys

V. PHOTOGRAPHY

Type: Color Infrared Transparencies
Scale: 1:58,000

The resolution quality is generally good throughout all of the maps. The emulsion is generally consistent throughout the maps with approximately 40% of the strips appearing dark or unusually tinted and there are some instances of spectral reflectance. There are also some strips dated October 1984 that look unusually wet and June 1985 with a bright pink emulsion. The remaining photographs have good emulsion and there should not be any interpretation problems due to resolution or emulsion.

A. Dates of Photography

San Angelo NW

10-15-84
10-17-84
02-23-85
06-07-85
02-16-85
03-01-85
10-19-84

San Angelo NE

10-15-84
02-16-85
02-15-85
02-25-85
10-16-84
10-19-84

San Angelo SW

02-16-85
03-01-85
06-07-85
10-15-84
02-23-85

San Angelo SE

02-16-85
02-15-85
10-15-84
10-16-84

Sonora NW

02-16-85
03-01-85
06-07-85
06-08-85
10-15-84

Sonora NE

02-16-85
02-15-85
10-15-84
10-16-84
03-01-85

Sonora SW

10-15-84
02-23-85
06-08-85
02-16-85
03-01-85

Sonora SE

02-16-85
10-16-84
02-15-85

VI. PHYSICAL CHARACTERISTICS

The study area is located in West Central Texas. The coordinates for the maps are as follows:

San Angelo Latitude 31°00 N to 32°00 N
1:250,000 map Longitude 100°00 W to 102°00 W

Sonora Latitude 30°00 N to 31°00 N
1:250,000 map Longitude 100°00 W to 102°00 W

The majority of the San Angelo study area falls within the Subhumid Prairie Division and the Semiarid Steppe Division. In San Angelo NW approximately 60% is within this latter division and the Great Plains Shortgrass Prairie Province. It is characterized by the Grama and Buffalo Grass Section.

This covers the western part and changes from smooth plains to tablelands in the east. The remaining 40% of the map is located in the Prairie Brushland Province and is characterized by the Mesquite-Buffalo Grass Section. This

San Angelo SW is a continuation of the Semiarid Steppe Division in the northwest corner. The southwest corner of the map is located in the Arid Desert Division of the Chihuahuan Desert Province. This is characterized by the Tarbush-Creosote Bush Section and has rolling plains of good elevation going down to intermittent streambeds or washes. The rest of the map is located in the Prairie-Brushland Province with the Mesquite-Buffalo Grass Section and smooth plains.

San Angelo NE is located entirely within the Subhumid Prairie Division, Prairie Brushland Province and Mesquite-Buffalo Grass Section. Steeper hills are indicative of the western portion of the map smoothing out toward the east.

San Angelo SE is located 90% in the Subhumid Prairie Division, Prairie Brushland Province and Mesquite-Buffalo Grass Section. The southeast corner of the map is characterized by the Juniper-Oak-Mesquite Section. The topography has steep, rocky slopes throughout most of the map smoothing out in the northeastern section.

The dominant vegetation of San Angelo NW, NE, SW, SE is mesquite and upland grasses along with some oak. The elevation ranges from 1800-3000 feet above sea level for the entire 1:250,000 map.

The Sonora study area is broken into two divisions: the Subhumid Prairie Division and the Arid Desert Division. In Sonora NW the western 30% is the Arid Desert Division, Chihuahuan Desert Province and Tarbush-Creosote Bush Section. This province is mostly desert with washes, dry most of the year, and undulating plains of higher elevation. The remaining eastern 70% is located within the Subhumid Prairie Division, Prairie Brushland Province and Mesquite-Buffalo Grass Section. The slopes are less steep in this region and a mesa and butte landscape is characteristic of certain parts. In Sonora SW 60% covering the west is a continuation of the Arid Desert Division. The remaining 40% of the map is within the Juniper-Oak-Mesquite Section. This area is characteristic of steeper, rocky slopes and longer canyons.

In Sonora NE the southwest corner and eastern side are part of the Juniper-Oak-Mesquite Section. The central portion is within the Mesquite-Buffalo Grass Section. Rolling plains and a mesa and butte landscape is prevalent. Sonora SE is all contained within the Juniper-Oak-Mesquite Section. Irregular plains and high hills are characteristic of this region.

The dominant vegetation of Sonora NW, SW, NE and SE is juniper and mesquite along with some oak and cactus. Elevation ranges from 1500 - 3000 feet above sea level for the entire 1:250,000 map.

Climate

The area experiences hot, dry summers with most of the rainfall occurring in the spring and fall. The winters are dry and mild with large, abrupt drops in temperature. The average annual temperature is about 65°F and the average annual precipitation is 18 inches with a very high evaporation rate.

Hydrology

The major drainage flow is generally from northwest to southeast. The largest river in the study area is the Pecos River. This runs through Sonora NW and Sonora SW where it eventually joins the Rio Grande. The Colorado River runs through San Angelo NE where it forms E.V. Spence Reservoir. Also in San Angelo NE, the North Concho River forms O.C. Fisher Reservoir just northwest of San Angelo. The South Concho River flows through San Angelo SE where it forms Lake Nasworthy and Twin Buttes Reservoir is formed by the Middle Concho and South Concho Rivers. The Devils River flows through Sonora SE where it is usually dry then it becomes perennial as it moves into Sonora SW.

VII. BIOLOGICAL CHARACTERISTICS OF WETLAND HABITATS

Broad-leaved deciduous (PFO1) species in forested wetland areas (temporarily flooded wetlands - PFO1A) are Elm (*Ulmus* sp.), pecan (*Carya illinoensis*), hackberry (*Celtis* sp.), and sycamore (*Platanus occidentalis*). Willow (*Salix* sp.) is the only species for seasonally flooded wetlands (PFO1C). Most of these trees generally appear in riparian communities, sloughs, or floodplains. Backwaters of reservoirs are areas where both water regimes may be encountered. Seasonal trees generally stand in moist soils subjected to pool fluctuations. The temporary trees are

situated between seasonal trees and upland areas. The western soapberry (*Sapindus drummondii*) was observed in some decided to classify it as an upland tree. The scrub/shrub community consists of the above mentioned young trees below 20 feet in height as well as *Baccharis glutinosa* for temporary wetlands (PSS1A). Seasonally flooded shrub communities are primarily willow (PSS1C). Semi-permanently flooded (F) shrub wetlands consist of willow and/or buttonbush (*Cephalanthus occidentalis*, PSS1C-F). Willow dominates in the backwater areas of reservoirs and impoundments along with *Baccharis*.

Salt Cedar (*Tamarix* sp.), needle-leaved deciduous (PSS2) occurs in temporary (A) and intermittently (J) flooded situations in riparian communities. However, it may invade upon the backwaters of some reservoirs and impoundments in a seasonal condition. This can stress the plant, causing it to die.

Emergents in temporarily flooded (PEM1A) areas are cocklebur (*Xanthium strumarium*), broomsedge (*Andropogon virginicus*) and scaton (*sp. sporobolus* sp.). Seasonally flooded emergents (PEM1C) consist of sedges (*Carex* sp.), spikerush (*Eleocharis* sp.), smartweed (*Polygonum* sp.), and three-square (*scirpus* sp.). Cattail (*Typha latifolia*), bulrush (*Scirpus* sp.) are the primary emergents in semi-permanently flooded situations (PEM1F). In several locations Marsh boltonia (*Boltonia asteroides*) was seen in some saturated/seep areas (PEM1B).

Aquatic beds consist of algae mats (AB1), and spatterdock (*Nuphar luteum*) (AB3). Aquatic beds were observed in the field which were not there at the time of photography.

X. EXPECTATIONS vs. GROUND VERIFICATION

With the strips of wet photography for the San Angelos, drier conditions existed in the field than were originally expected. Care will have to be taken when delineating the playa depressions using soil surveys for identifying hydric soils.

The drainages of San Angelo NW, NE, SW, and SE are deeply cut with little or no floodplain. Contour levels will have to be observed when pulling vegetation along river banks. The reservoirs of the San Angelos have higher pool levels now than in the photography submerging seasonal and temporary vegetation.

Sonora NW, SW, NE, and SE are also drainage oriented in nature. Vegetation along streams with a bright pink signature should be studied more closely. Originally it was considered to possibly be a seasonal signature, but upon field observation was determined to be upland grasses. The topos should be followed closely and soil surveys used to check for hydric soils.

In San Angelo NE, the northwest corner contained seep areas that showed some groundwater and emergent vegetation. Using the collateral data of soil surveys a hydric soil (Potter) was observed and these areas are being mapped as saturated wetlands.