

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

SAN ANTONIO NW, SW, SE, NE

CRYSTAL CITY NW

DRAFT

USER REPORT: SAN ANTONIO NW, SW, SE, NE;
CRYSTAL CITY NW
NATIONAL WETLANDS INVENTORY MAP

A. INTRODUCTION

The U.S. Fish & Wildlife Service's National Wetlands Inventory is producing maps showing the location and classification of wetlands and deepwater habitats of the United States. The Classification of Wetlands and Deepwater Habitats of the United States by Cowardin et al. is the classification system used to define and classify the wetlands. Photo interpretation conventions, hydric soils lists and wetland plant lists are also available to enhance the use and application of the classification system.

B. PURPOSE

The purpose of the notes to users is threefold: (1) to provide localized information regarding the production of NWI maps, including specific imagery and interpretation discussion; (2) to provide a descriptive crosswalk from wetland codes on the map to common names and representative plant species; and (3) to explain local geography, climate, and wetland communities.

C. STUDY AREA

Geography:

The study area covered by San Antonio NW, SW, SE, NE; and Crystal City NW is located in south central Texas and falls entirely in the Subhumid Prairie Division (See Appendix). Approximately 90% of the study area is located in the Prairie Brushland Province with 10% located in the Prairie-Parkland Province (Bailey, 1980).

The northern portion of the study area, roughly comprising San Antonio NW and NE, is further located in the Juniper-Oak-Mesquite section of the Prairie Brushland Province. The southern portion of the study area, comprising San Antonio SW, SE and Crystal City NW, is located in the Mesquite-Acacia section of the Prairie Brushland Province. The topography is characterized by rolling plains and plateaus. High hills are common in the northern section with valleys bordered by steep bluffs. In the southern section, lower

gently rolling hills are common. Elevations range from approximately 300 feet above sea level to 2,300 feet on the Edwards Plateau (Bailey, 1980).

The Oak-Bluestem Parkland section of the Prairie-Parkland Province is located in the northeast and southeast corner of San Antonio SE and NE respectively. The topography is characterized by smooth plains (Bailey, 1980).

The mapping area contains numerous lakes, ponds and rivers. All lakes and ponds are impounded. The largest is Canyon Lake followed by Medina Lake, Calaveras Lake, Braunig Lake and Mitchell Lake. Mitchell Lake, in San Antonio SE, has had sewage pumped into it by the City of San Antonio for approximately the past fifty years. The sewage sludge in the bottom of the lake is around 15 feet deep, with a water level of about 6 feet deep. The photo signature is predominantly bright red indicating an algal bloom and/or other vegetation which was not present at field check. Measures are being taken to clean up the lake (e.g. periods of drawdown) and the classification of L1UBHh would be representative of normal conditions.

Major drainages in the study area are the Guadalupe River, Medina River, Nueces River, Frio River, Sabinal River, Blanco River and the San Antonio River. These are all lower perennial, permanently flooded rivers. Some rivers were found to have segments of rocky bottom (RB). This RB classification will be used in situations where a rock substrate of 75% or greater exists and vegetative cover is less than 30% as seen on the photography or has been field checked. Otherwise, the R2UBH classification will be used, which means there is at least a 25% cover of particles smaller than stones and vegetative cover less than 30%. RB vs. UB segment lengths will be determined during photo interpretation to avoid congestion but include some detail.

Major intermittent drainages include the Leona River, Hondo Creek and Tortuga Creek. The majority of R4SB drainages occur in the southern portion of the work area. Largely, the perennial/intermittent break will be determined by topo information.

Climate:

Overall, the study area experiences hot summers with most rainfall occurring in the spring and fall. Winters are dry and mild with brief cold spells. The average annual temperature ranges between 54°F and 80°F and the average annual precipitation is approximately 29 inches. The average number of frost-free days a year is 239.

Vegetation:

The Prairie Brushland Province is characteristic of the dominant vegetation in the project area. The province can be divided into two sections: the Juniper-Oak-Mesquite section and the Mesquite-Acacia section to the south. The province is characterized by arid grasslands with shrubs and small trees growing singly or in bunches. Typically, bluestem, buffalograss, and grama are the common grasses found with mesquite stands growing among them. On the Edwards Plateau, oak and juniper are mixed with grasses and often mesquite (Bailey, 1980). In drainageways, common trees are sycamore, cypress, hackberry, willow, chinaberry, and cottonwood.

Soils:

Soils in this region are varied. The Juniper-Oak section consists almost entirely of Mollisols. The Mesquite-Acacia section contains Alfisols, Vertisols, and Mollisols (Bailey, 1980).

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lakes	Unconsolidated bottoms
L2AB3 (F,H)	Lacustrine, littoral, aquatic bed, rooted vascular	Lake peripheries	<u>Nuphar luteum</u> (spatterdock)
L2AB4 (F,H)	Lacustrine, littoral, aquatic bed, floating vascular	Lake peripheries	<u>Eichornia crassipes</u> (water hyacinth)
R2UB (H)	Riverine, lower perennial, unconsolidated bottom	Rivers	Unconsolidated bottoms
R2RB (H)	Riverine, lower perennial, rock bottom	Rivers	Rock bottoms
R2US (A,C)	Riverine, lower perennial, unconsolidated shore	Rivers	Exposed bottoms of perennial rivers
R4SB (J,A)	Riverine, intermittent, stream bed	Rivers, Creeks	Intermittent stream beds
PAB1 (F,H)	Palustrine, aquatic bed, Algal	Ponds	(algae)
PAB4 (F,H)	Palustrine, aquatic bed, floating aquatic	Ponds	<u>Lemna sp.</u> (duckweed) <u>Eichornia crassipes</u> (water hyacinth)
PEM1 (A,B,C,F)	Palustrine, emergent, persistent	Marshes, depressions, drainageways	<u>Xanthium strumarium</u> (cocklebur)

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NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM1 (cont'd)			<u>Iva</u> sp. (sumpweed) <u>Eleocharis</u> sp. (spike rush) <u>Rumex</u> sp. (dock) <u>Andropogon</u> <u>glumeratus</u> (brushy broomsedge) <u>Distichlis</u> <u>spicator</u> (salt grass) <u>Arundo donax</u> (River cane) <u>Carex</u> sp. (sedges) <u>Cyperus</u> sp. (umbrella sedge) <u>Polygonum</u> sp. (smartweed) <u>Typha latifolia</u> (cattail)
PSS1 (A,C)	Palustrine, scrub shrub, broadleaf deciduous	Marshes, depressions, drainageways	<u>Baccharis</u> <u>glutinosa</u> (seepwillow baccharis) <u>Parkinsonia</u> <u>aculeata</u> (retama) <u>Chilopsis</u> <u>linearis</u> (desert willow) <u>Platanus</u> <u>occidentalis</u> (sycamore) <u>Salix</u> sp. (willow) <u>Cephalanthus</u> <u>occidentalis</u> (button bush)

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PF01 (A,C)	Palustrine, forested, broadleaf deciduous	Floodplains and reservoir backwaters	<u>Platanus</u> <u>occidentalis</u> (sycamore) <u>Carya</u> sp. (pecan) <u>Celtis</u> sp. (hackberry) <u>Melia azedarich</u> (chinaberry) <u>Salix</u> sp. (willow) <u>Ulmus</u> sp. (elm) <u>Populus</u> <u>deltoides</u> (cottonwood)
PF02 (A,C,F)	Palustrine, forested, needle leaf deciduous	Floodplains	<u>Taxodium</u> <u>distichum</u> (bald cypress)

E. WATER REGIME DESCRIPTION

- (A) Temporarily Flooded - Surface water present for brief periods during growing season, but water table usually lies well below soil surface. Plants that grow both in uplands and wetlands are characteristic of this water regime.
- (B) Saturated - The substrate is saturated to the surface for extended periods during the growing season, but surface water is seldom present.
- (C) Seasonally Flooded - Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is extremely variable, extending from saturated to a water table well below ground surface.
- (F) Semipermanently Flooded - Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land's surface.
- (G) Intermittently Exposed - Surface water is present throughout the year except in years of extreme drought.
- (H) Permanently Flooded - Water covers the land surface throughout the year in all years.

F. MAP PREPARATION:

The wetland classifications that appear on the San Antonio NW, SW, SE, NE and Crystal City NW National Wetlands Inventory (NWI) Base Map (Figure 1) are in accordance with Cowardin et al (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photographs. The photography was taken during January, February, March, and November 1983.

Field checks of areas found within the San Antonio NW, SW, SE, NE and Crystal City NW photography were made prior to the actual delineation of wetlands. Field check sites were selected to clarify varying signatures found on the photography. These photographic signatures were then identified in the field using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic maps, SCS soil surveys, vegetation, and ecoregional information.

The user of the map is cautioned that, due to the limitations of mapping primarily through aerial photointerpretation, a small percentage of wetlands may have gone unidentified. Since the photography was taken during a particular time and season, there may be discrepancies between the map and current field conditions. Changes in landscape which occurred after the photography was taken would result in such discrepancies.

Aerial photo interpretation and drafting were completed by Martel Laboratories, Inc., St. Petersburg, Florida.

G. SPECIAL MAPPING PROBLEMS

None

H. MAP ACQUISITION

To discuss any questions concerning these maps or to place a map order, please contact:

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To order maps only, contact:
National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, VA 22092
1-800-USA-MAPS

Maps are identified by the name of the corresponding USGS 1:24,000 scale topographic quadrangle name. Topographic map indices are available from the U.S. Geological Survey.

I. LITERATURE CITED:

Bailey, Robert G. 1980. Description of the Ecoregions of the United States. U.S. Department of Agriculture Forest Service. Miscellaneous Publication No. 1391.

Cowardin, L.M.; V. Carter; F.C. Golet and E.T. LaRue, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, U.S. Fish and Wildlife Service. Biological Services program, Washington, D.C., 103 p.

Hydric Soils of the State of Texas; 1985. U.S. Department of Agriculture, Soil Conservation Service.

Wetland Plants of the State of Texas; 1986. U.S. Department of the Interior, U.S. Fish and Wildlife Service.

Soil Surveys for the counties of Bandera, Blanco, Comal, Dimmit, Guadalupe, Hays, Kendall, Kerr, Uvalde,, and Zavala counties. U.S. Department of Agriculture, Soil Conservation Service.

APPENDIX

LOCATOR MAP A

ECOREGIONS OF SAN ANTONIO, TEXAS PROJECT AREA

- 25121 - Prairie-Parkland Province
Oak-Bluestem Parkland Section
- 2522L - Prairie Brushland Province
Juniper-Oak-Mesquite Section
- 2523L - Prairie Brushland Province
Mesquite-Acacia Section



