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USER REPORT: ABILENE NW, NE, SW & SE
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 wetlands. Photo interpretation conventions, hydric soils lists and wetland plant lists are also available to enhance the use and application of the classifications 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

Abilene NW, NE, SW and SE are located in north central Texas. The coordinates are Latitude 32° 00' N to 33° 00' N, Longitude 98° 00' W to 100° 00' W.

The western third of the Abilene 1:250,000 falls in the Mesquite-Buffalo Grass Section of the Prairie Brushland Province. The landscape of this region is characterized by rolling plains and plateaus. The vegetation is dominated by arid grasslands with shrubs and low trees which grow singly or in bunches with mesquite growing in open stands. Also, as elevation increases towards the southern section, juniper can be found growing among the grasses.

The eastern two thirds of the study area is in the Oak-Bluestem Parkland section of the Prairie Parkland Province. Here, rolling plains and rounded hills characterize the terrain and grasslands dominate the local vegetation with an intermixing of oak-hickory deciduous forests. The lower southeastern corner of the work area is in the the Juniper-Oak-Mesquite section with irregular plains and grasslands with shrubs and low trees growing singly or in bunches. Overall, the elevation ranges from 1000 feet to 2300 feet above sea level.

The general drainage pattern of the study area is from NW to SE. The Brazos River is the largest river in the study area, flowing from NW to SE through Abilene NE. In northern Abilene NE the Brazos River is dammed, creating Possum Kingdom Lake, the largest reservoir in the Abilene 1:250,000. From Abilene NW, the Clear Fork

of the Brazos River flows towards the Brazos with Hubbard Creek and Hubbard Creek Lake draining into the clear fork of the Brazos River, fed by the northward flow of Elm and Cedar Creeks from Abilene SW. Palo Pinto Creek in Abilene NE is another major drainage into the Brazos River.

In Abilene SW, Jim Ned Creek, fed by Lake Coleman and Pecan Bayou flow to the southeast while the Sabana and Leon Rivers, in Abilene SE, drain into Proctor Lake at the southern end of the work area. Also, the North Bosque River flows through Abilene SE towards the East.

Climate

The subhumid climate is similar for both the Prairie Parkland Province and the Prairie Brushland Province. Summers are hot with frequent thunderstorms and winters are dry with brief cold spells. The average annual precipitation is approximately 25 inches, which mainly falls during the growing season. The average annual temperature ranges between 55^o and 70^o F. The average annual number of frost-free days is 220 a year.

Vegetation

The wetland vegetation in the study area is primarily associated with riparian habitats, sloughs, floodplains, the backwaters of the reservoirs and depressional areas.

Common wetland trees associated with these wetlands include elm (Ulmus sp.), cottonwood (Populus deltoides), pecan (Carya illinoensis) and willow (Salix sp.).

Willow shrubs and buttonbush (Cephalanthys occidentalis) are often found in the backwaters of reservoirs. Salt cedar (Tamarix sp.) primarily occurs in riparian situations but can be found invading the backwaters of reservoirs in seasonal conditions.

Dominant emergents include cocklebur (Xanthium strumarium), smartweed (Polygonum sp.), spike rush (Eleocharis sp.), cattail (Typha latifolia), Juncus sp. and three square (Scirpus sp.).

Soils

Mollisols dominate throughout the study area. A few common soils found in stream beds are the Bosque, Spur, Frio and Santo series, while the Bostrop and Apalo series are found in terrace areas. Areas of Randall and Roscoe clays are found in western Abilene NW. Some of these depressional areas are being farmed while others are too wet to be useful for agriculture.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions (1 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
L1UB (F,H)	Lacustrine, limnetic, unconsolidated bottom	Open water, lake	Unvegetated mud, sand, gravel
L2UB (F,H)	Lacustrine, littoral, unconsolidated bottom	Shallow open water, lake, lake bottom	Unvegetated mud, sand, gravel
L2US (A,C)	Lacustrine, littoral, unconsolidated shore	Lake bed, lake shore	Unvegetated mud, sand, gravel
L1AB1 (F,H)	Lacustrine, limnetic, aquatic bed	Algal mat	Algae
L1AB3 (F,H)	Lacustrine, limnetic, aquatic bed	Rooted vascular	American lotus (<u>Nelumbo lutea</u>)
L2AB3 (F, H)	Lacustrine limnetic	Pond weeds, water weeds	American lotus (<u>Nelumbo lutea</u>)
L1AB4 (F,H)	Lacustrine, limnetic, aquatic bed	Floating pond weeds, water weeds	Duckweed (<u>Lemna</u> sp.)
L2AB4 (F,H)	Lacustrine, limnetic, aquatic bed	Floating pond weeds, water weeds	Duckweed (<u>Lemna</u> sp.)
R2UB (H)	Riverine lower perennial, unconsolidated bottom	Open water river, stream	Unvegetated mud, sand, gravel
R2US (A,J,C)	Riverine lower perennial unconsolidated bottom	River flat, bar	Unvegetated mud, sand, gravel
R4SB (J,A,C,F)	Riverine intermittent streambed	Intermittent stream	Unvegetated mud, sand, gravel
PUB (F,H)	Palustrine unconsolidated bottom	Open water, pond bottom	Unvegetated mud, sand gravel
PUS (J,A,C)	Palustrine unconsolidated shore	Pond shore, pond bed	Unvegetated mud, sand, gravel

Table - Cowardin Classification Codes and Descriptions (2 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PAB (F,H)	Palustrine aquatic bed	Algal mat	Algae American lotus (<u>Nelumbo lutea</u>)
PEM1	Palustrine persistent emergent	Marsh, wet meadow	Bulrush (<u>Scirpus</u> sp.) Cattail (<u>Typha latifolia</u>) Cocklebur (<u>Xanthium</u> sp.) Rush (<u>Juncus</u> sp.) Sedge (<u>Carex</u> sp.) Smartweed (<u>Polygonum</u> sp.) Spikerush (<u>Eleocharis</u> sp.)
PSS1 (J,A,B,C,F)	Palustrine, scrub shrub, broad leaved deciduous	Shrub wetland	Buttonbush (<u>Cephalanthus occidentalis</u>) Willow (<u>Salix</u> sp.) Sweepwillow (<u>Baccharis glutinosa</u>)
PSS2 (J,A,C)	Palustrine scrub-shrub, leaved deciduous	Shrub wetland	Salt Cedar (<u>Tamarix</u> sp.)
PFO1 (J,A,B, C,F)	Palustrine forested, broad- leaved deciduous	Forested wetland	Cottonwood (<u>Populus deltoides</u>) Elm (<u>Ulmus</u> sp.) Green ash (<u>Fraxinus pennsylvanica</u>) Hackberry (<u>Celtis occidentalis</u>) Willow (<u>Salix</u> sp.) Pecan (<u>Carya illinoensis</u>) Oak (<u>Quercus</u> sp.) <u>smallii</u>

Water Regime Modifiers

- (J) Intermittently Flooded -- Substrate is usually exposed, but surface water present for variable periods without detectable seasonal periodicity. Weeks or months or even years may intervene between periods of inundation. The dominant plant communities under this regime may change as soil moisture conditions change. Some areas exhibiting this regime do not fall within our definition of wetland because they do not have hydric soils or support hydrophytes.
- (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 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 the 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 land surface throughout the year in all years.
- (K) Artificially Flooded -- The amount and duration of flooding is controlled by means of pumps or siphons in combination with dikes or dams.
- (U) Unknown -- The water regime is not known.

F. MAP PREPARATION

The wetland classifications used on Abilene NW, NE, SW & SE National Wetlands Inventory (NWI) basemap is in accordance with Cowardin et al (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography.

Field checks in all 1:100,000's were made prior to the actual delineation of wetlands. Field check sites were selected to clarify varying signatures found on the imagery. The photographic signatures were then identified using vegetation types and soil types as well as input from local field personnel.

Collateral data included USGS Topographic Quadrangles, SCS county soil surveys, climate, vegetation, field personnel input, 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 at 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 photointerpretation 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:

Regional Wetland Coordinator (ARD-E)
U.S. Fish & Wildlife Service- Region II
P.O. Box 1306
Albuquerque, NM 87103

To order maps only, contact:

National Cartographic Information Center
U.S. Geological Survey
National Center
Reston, VA 22092

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.

TEXAS

