USER REPORT: WACO NW & SW

NATIONAL WETLANDS INVENTORY MAPS

A. The U.S. Fish and 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 soil 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 wetlands codes on the map to common names and representative plant species.
3) To explain local geography, climate and wetland communities.

C. STUDY AREA

Geography:

The maps of Waco NW and SW are located in North Central Texas. Situated within the Prairie Parkland Province, Oak-Bluestem Section, the eastern third of Waco NW and SW have irregular plains of 100-300 feet in local relief (Bailey, 1980). The central third is part of the same province and section, but have tableland relief of 300-500 feet elevation. The western third of the study area is situated within the Prairie Brushland Province, Juniper-Oak-Mesquite section. This section consists of irregular plains with relief of 300-500 feet.

Major rivers within the study area are the Brazos, Leon, North Middle and South Bosque Rivers, Cowhouse and Table Rock Creek. The area contains several large reservoirs. These are subject to irregular drawdowns during the year.

Climate :

The subtropical climate of the Waco NW and SW maps allow for dry, mild winters and hot, humid summers. Yearly average temperature may range from 64-66 degrees Farenheit. The average annual precipitation is 32 inches with a high percentage falling during the spring.

Vegetation:

Grasses dominate the prairie vegetation. Deciduous trees are usually limited to flood plains and along streams. Cottonwoods and willows may also be found in the backwater areas of the area's reservoirs. Other common species are elm, hackberry, green ash and sycamore. The vegetation within the Prairie Brushland Province consists xerophytic grasses and shrubs. T h e grasses may include bluestem, buffalo and grama. The shrubs consist mainly of oak, juniper and mesquite which are normally found in open stands.

Soil:

All of the following soils occur primarily on the nearly level land of the floodplains: Bosque, Bunyan, Gaddy, Gowen, Frio, Ovan, Roetex, Ships, Tinn and Trinity. The Frio, Tinn and Roetex soils are clay-like, deep and poorly drained. The Bosque, Bunyan, Gaddy, Gowen, Ovan and Ships soils vary in their internal drainage and capabilities.

D. MAP PREPARATION

The wetland classification that appears on the Waco NW and SW National Wetlands Inventory (NWI) Base Map (figure 1) is in accordance with Cowardin et.al. (1977). The delineations were produced through steroscopic interpretation of 1:58,000 scale color infared photography. The photography was taken during September, October, November and December, 1981.

Field checks of areas found within Waco NW and SW photography were made prior to the actual delineation of wetlands. Field checksites were selected to clarifiy varying signatures found on the photography. These signatures were then identified in the field using vegetation and soil types as well as additional input from local field personnel.

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

The user of the map is cautioned that due to limitations of mapping primarily through aerial photo interpretation, 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.

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

E. SPECIAL MAPPING PROBLEMS

None

F. MAP ACQUISITION

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

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

NWI CODE	NWI DESCRIPTION	COMMON DESCRIPTION	VEGETATION/SUBSTRATE
L1UB (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 (Nelumbo lutea)
L1AB4 (F,H)	Lacustrine limnetic aquatic bed	Floating Pond weeds, water weeds	Duckweed (Lemna sp.) (Azola sp.)
L2AB4 (F,H)	Lacustrine littoral aquatic bed	Floating Pond weeds, water weeds	Duckweed (Lemna sp.) (Azola sp.)
R2UB (H)	Riverine lower perennial unconsolidated bottom	Open water river, stream	Unvegetated mud, sand, gravel
R2US (A,C)	Riverine lower perennial unconsolidated shore	River flat, bar	Unvegetated mud, sand, gravel
R4SB (J,A,C)	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

NWI CODE	NWI DESCRIPTION	COMMON DESCRIPTION	VEGETATION/SUBSTRATE
PAB1 (F,H)	Palustrine aquatic bed	Algal mat	Algae
PAB3 (F,H)	Palustrine aquatic bed	Rooted vascular	American lotus (*Nelumbo lutea*)
PAB4 (F,H)	Palustrine aquatic bed	Floating Pond weeds, water weeds	Duckweed (*Lemna sp.*) (*Azola sp.*)
PEM1 (J,A,C,F)	Palustrine persistent emergents	Marsh, wet meadow	Bulrush (*Scirpus sp.*) Cattail (*Typha latifolia*) Cockleburr (*Xanthium sp.*) Rush (*Juncus sp.*) Saltgrass (*Distichlis sp.*) Sedge (*Carex sp.*) Smartweed (*Polygonum sp.*)
PSS1 (A,C,F)	Palustrine scrub shrub, broad leaved deciduous	Shrub wetland	Buttonbush (*Cephalanthus occidentalis*) Cottonwood (Populus deltoides) Willow (*Salix nigra*)
PSS2 (J,A,C)	Palustrine scrub-shrub, needle leaved deciduous	Shrub wetland	Salt Cedar (*Tamarix sp.*)
PFO1 (A,C,F)	Palustrine forested broad leaved deciduous	Forested wetland	Cottonwood (*Populus deltoides*) Elm (*Ulmus sp.*) Green Ash (*Fraxinus pennsylvanica* Hackberry (*Celtis occidentalis*) Willow (*Salix nigra*) Pecan (*Carya illinoensis*) Sycamore (*Platanus occidentalis*)

WATER REGIME MODIFIERS
(non-tidal)

(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 very 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.

LITERATURE CITED

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

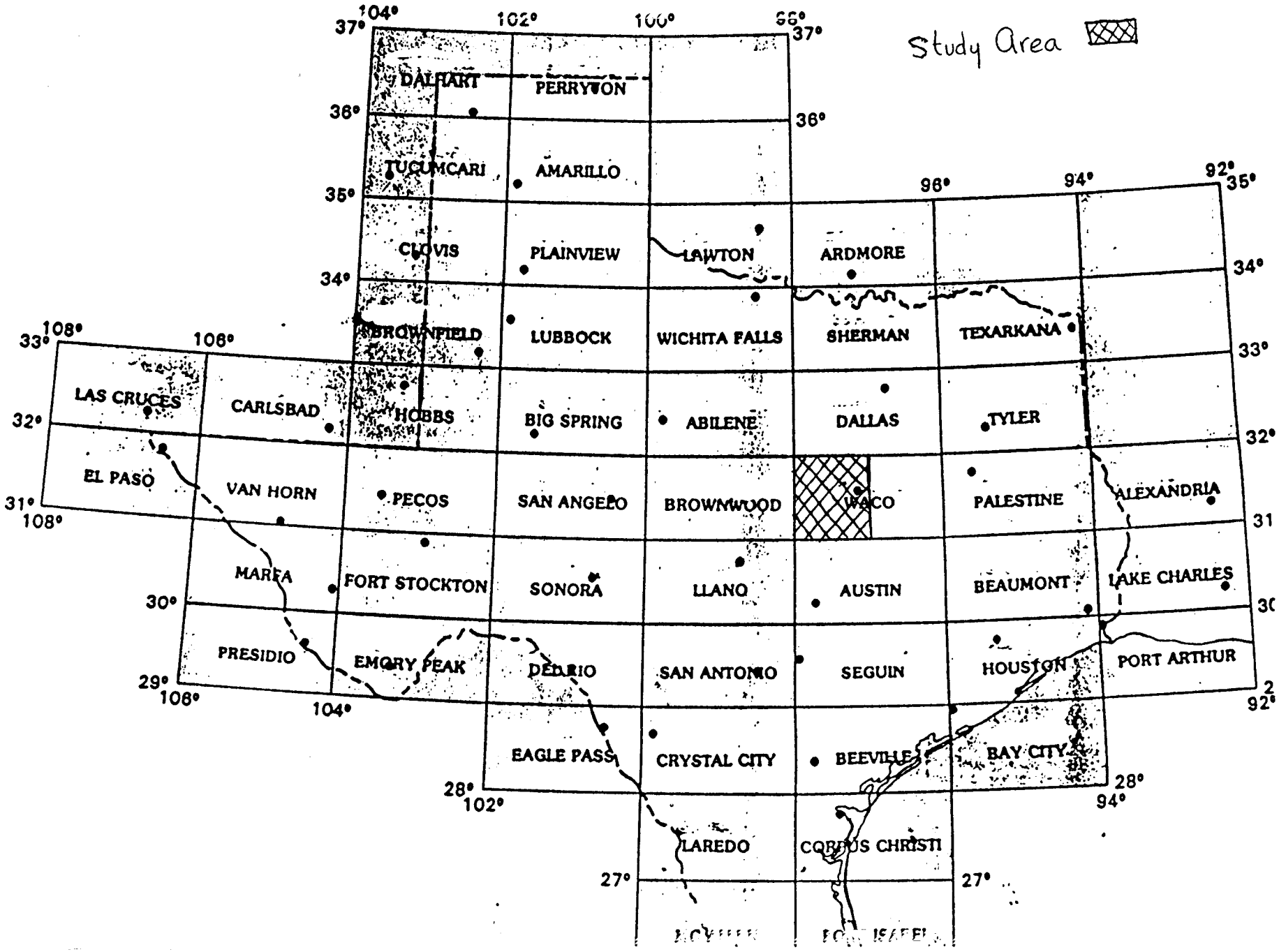
Cowardin, L.M.; V. Carter; F.C. Golet and E.T. Laroe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, U.S. Fish and Wildlife Service, Biological Services Program, Washington, D.C., 103p.

Soil Survey of Bell County, Texas; 1971. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Coryell County, Texas; 1983. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Falls County, Texas; 1974. United States Department of Agriculture, Soil Conservation Service.

TEXAS


Study Area
DALHART
PERRYTON
TUCUMCARI
AMARILLO
CLOVIS
PLAINVIEW
LAWTON
ARDMORE
BROWNFIELD
LUBBOCK
WICHITA FALLS
SHERMAN
TEXARKANA
LAS CRUCES
CARLSBAD
HOBBS
BIG SPRING
ABILENE
DALLAS
TYLER
EL PASO
VAN HORN
PECOS
SAN ANGELO
BROWNWOOD
WACO
PALESTINE
ALEXANDRIA
MARFA
FORT STOCKTON
SONORA
LLANO
AUSTIN
BEAUMONT
LAKE CHARLES
PRESIDIO
EMORY PEAK
DEL RIO
SAN ANTONIO
SEGUIN
HOUSTON
PORT ARTHUR
EAGLE PASS
CRYSTAL CITY
BEEVILLE
BAY CITY
LAREDO
CORPUS CHRISTI
104°
102°
100°
98°
96°
94°
92°
108°
106°
37°
36°
35°
34°
33°
32°
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