

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

CENTRAL TEXAS

1:100,000 SCALE MAPS COVERED

TAYLOR (Austin NW)

BRYAN (Austin NE)

BRENNHAM (Austin SE)

AUSTIN (Austin SW)

NATIONAL WETLANDS INVENTORY

1:100,000 MAP NARRATIVE

AUSTIN NW

AUSTIN NE

AUSTIN SE

AUSTIN SW

INTRODUCTION

The U.S. Fish and Wildlife Service, Office of Habitat Resources, is conducting an inventory of the wetlands of the United States. The National Wetlands Inventory (NWI) is establishing a wetland data base in both map and computer forms for the entire country. The NWI information will serve to identify the current status of U.S. wetlands and can be used as a reference point from which future changes in wetlands can be evaluated.

PURPOSE

The purpose of Notes to Users is to provide general information regarding the production of NWI maps and wetlands found within a relatively similar geographic area. Notes to Users are not intended to include complete descriptions of all wetlands found in the area nor provide complete plant species information.

AREA COVERED

The study area is defined by the entire Austin 1:250,000 scale map. Included in this area are the floodplains of the Colorado, San Gabriel, North Salado, Little, Navasoto, Brazos, and Old Rivers as well as Brushy and Vegua Creek. Major Lacustrine impoundments include: Lake Travis, Lake Bastrop, Decker Creek Reservoir, Alcoa Lake, Somerville Lake and Lake Austin.

BAILEY'S ECOREGIONS:

The Central Texas - Austin area falls primarily within the Oak-Hickory-Bluestem-Parkland Section of the Prairie Parkland Province with a smaller area included within the Juniper-Oak-Mesquite Section of the Prairie Brushland Province (Bailey 1978).

Vegetation in the Prairie Parkland Province is forest-steppe, characterized by an intermingling of prairie groves and strips of deciduous trees. Grasses are the dominant type of prairie vegetation. The most prominent type is bluestem prairie. Upland forest types are dominated by oak and hickory species. A smaller section of the mapped area which is contained within the Prairie Brushland Province is represented by a juniper, oak, mesquite association. Within the flood plains are found the majority of representative deciduous species which include: willow, green ash, eastern cottonwood, elm and hackberry.

The terrain of the study area is flat to moderately rolling. Elevations, for the most part range from 100 to 300 feet in the eastern areas. The elevation gradually increases westward to a maximum of approximately 1,000 feet in the area which is included within the Prairie Brushland Province.

The climate of the study area can be described as being humid subtropical influenced by tropical maritime air masses from the Gulf of Mexico modified by the polar air masses. As a result long hot summers prevail and winters are cool and fairly short. In winter, the average temperature is approximately 49°F. In summer the average temperature is approximately 83°F. Precipitation is usually 38 - 40 inches per year. Snowfall is rare. Rainfall usually falls heaviest April through September which includes the growing season for most crops. Cotton and grain sorghum are major cash crops. Major land utilization in the area is the production of beef cattle.

Soil is an important element of hydric conditions and is one of the criteria used to define wetlands. Texas is dominated by north-south-bands of Alfisols and Vertisols. The majority of inventoried soil types found in the area of study are indicative of upland situations and classified as moderately well-drained, loamy soils and silty clay loamy soils (Bailey, 1978).

Poorly drained (hydric) soils which support wetland vegetation are usually limited to the river valley areas of the Colorado, San Gabriel, North Salado, Little, Navasoto, Brazos, and Old Rivers, as well as the Brushy and Vegua Creeks.

MAP PREPARATION

Wetland classification for the NWI maps is in accordance with "Classification of Wetlands and Deep-Water Habitats of the United States," Cowardin, et al, 1979.

Wetland classification and delineations were produced by air photo interpretation of high level aerial photography. The photography used was color infrared at a scale of 1:58,000, and 1:65,000.

The aerial photography was taken during September and November of 1981 and February, March and November of 1982 representing varying states of foliation. The photography used was of excellent quality which enabled a close correlation of field conditions to the photo interpretation process. A field trip was conducted in April 1984 in an effort to relate various photographic characteristics to actual wetland classification.

Collateral data included U.S.G.S. topographic maps (7.5 minutes), soil, climate, and vegetation information from U.S.D.A. Soil Surveys (Baker 1979; Werchan and Colcor, 1983). Large-scale NWI wetland maps (1:24,000 scale) are available for the U.S.G.S. 7.5 minute topographic sheets which are included within the study area indicated on Index Map A.

USER CAUTION

The map documents were prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology and geography. The aerial photographs typically reflected conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of aerial photographs. Thus a detailed on-the-ground and historical analysis of a single site may result in revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on the map document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning specific agency regulatory programs and proprietary jurisdictions that may affect such activities.

Changes in the landscape and/or land use could have occurred since the time of photography. Therefore, some discrepancies between the wetland map and current field conditions may exist. Any questions regarding wetland omissions, inclusions or errors should be brought to the attention of the Regional Wetlands Coordinator, Region 2. The Project Officer for those wetland maps is Warren Hagenbuck, Regional Wetlands Coordinator, U.S. Fish and Wildlife Service, Region 2, P.O. Box 1306. Albuquerque, NM 87103. Aerial photo interpretation was completed by Martel Laboratories, Inc., St. Petersburg, Florida. Maps were prepared by NWI National Team in St. Petersburg, Florida.

WETLANDS AND DEEPWATER HABITATS

Wetlands and deepwater habitats within the subject area fall within the Palustrine, Lacustrine and Riverine systems. Deepwater habitats are areas which are permanently flooded (except during periods of extreme drought) and are characterized by open water on the aerial photography. These habitats are present in all systems (see Table 1).

CHARACTERISTICS OF NWI WETLAND SYSTEMS IN AUSTIN NW, AUSTIN NE, AUSTIN SE AND AUSTIN SW

PALUSTRINE SYSTEM

In the Austin 1:250,000 scale map, one of the more common Palustrine wetlands is open water. These are usually small impounded or excavated farm ponds (POWHh, POWHx) used for watering livestock. These are generally permanently flooded. Farm ponds which dry up sometime during the year are generally classified as PUSCh or PUBFh depending on periodicity of water present.

Palustrine aquatic beds (PAB) commonly consist of duckweed (Lemna spp.), waterlily (Nymphaea spp.), pennywort (Hydrocotyle spp.), and milfoil (Myriophyllum spp.).

Palustrine emergent wetlands characteristically are temporarily or seasonally flooded depressions with persistent hydrophytes often located in floodplain areas (PEM1A, PEM1C). Many are too small to map. Common emergents include rush (Juncus), smartweed (Polygonum), bulrush (Scirpus), spikerush (Eleocharis), and sedge (Carex spp. and Cyperus spp.). Emergents such as cattails (Typha spp.) and rattle bush (Sesbania spp.) are found in semipermanently flooded areas (PEM1F).

The classification of scrub/shrub of forested wetlands is determined by the height of woody vegetation; forested being greater than 6 meters and scrub/shrub being less than 6 meters. Common woody wetland species typically include willow (Salix spp.), green ash (Fraxinus pennsylvanica), hackberry (Celtis spp.), elm (Ulmus spp.), cottonwood (Populus spp.), sycamore (Platanus spp.), hawthorn (Crataegus spp.) and occasionally possum haw (Ilex decidua).

A general rule was decided upon for most maps ground-truthed to designate linear wetlands as being seasonal in nature. The exception to this rule will be in the Austin maps, where many streambeds were more temporary, with vegetation indicative of a drier situation. The ecoregion maps (Bailey 1978) were used to determine the break between these areas which will be designated as temporary. These areas include the western sections of Austin NW and Austin SW, which is designated as the Juniper-Oak-Mesquite-Savanna section for the Prairie Brushland Province. This area receives less rainfall and the hills have more of a slope than others mapped. The only other area which may contain some temporary linears will be that part of the Oak Bluestem Parkland section of the Prairie Parkland Province where 50-75% of gentle slope is on upland. This ecoregion is represented in all four Austin maps. These two areas are designated by Bailey's system specifically as 2522L and 2512L. These determinations have been made to create a logical break between temporary and seasonal areas.

LACUSTRINE SYSTEM

Natural or artificial unvegetated basins greater than 20 acres are classified as Lacustrine. All Lacustrine wetlands are impounded within the study area. Significant fluctuation in water level occurs in many of these lakes. The water is drawn down in anticipation of high water and is allowed to flood back temporarily, to prevent flooding downstream. The water level at the instant of photography is assumed to approximate normal water level. The most common Lacustrine classification is open water (L10WHh, L20WHh). The lake margins, exposed due to the extreme fluctuations in water level, are classified as seasonally flooded unconsolidated shore (L2USCh) or occasionally as semi-permanently flooded unconsolidated bottom (L2UBFh). More recent impoundments may have standing dead trees (PF05Hh). Lake Austin, Lake Travis, Lake Bastrop, Decker Creek Reservoir, Alcoa Lake and Sommerville Lake are the most significant Lacustrine systems within this study area.

Lacustrine aquatic beds (L1AB, L2AB) commonly consist of duckweed (Lemna spp.), water lily (Nymphaea spp.), lotus (Nelumbo spp.), and milfoil (Myriophyllum spp.).

RIVERINE SYSTEM

The Riverine system includes the classes open water (OW), unconsolidated shore (US), and streambed (SB). In this study area open water and unconsolidated shore are restricted to the Riverine lower perennial (R20W) subsystem. While Riverine unconsolidated shore is not covered by perennial flow, it is associated with the reach of the river that contains permanent water and is included in that perennial subsystem. Streams which do not flow year round are classified as Riverine intermittent streambeds (R4SB). Some Riverine systems have their banks lined with trees or shrubs. In cases where streamside Palustrine wetland vegetation cannot be separately delineated from the Riverine system, the wetlands are mapped as linear Palustrine features.

MODIFIERS

Hydrologic characteristics are an important aspect of wetlands. The following water regime modifiers describe in general terms the duration and timing of surface inundation, as well as groundwater fluctuations.

Temporarily Flooded (A) -- Surface water present for brief periods during growing season, but water table usually lies well below surface.

Seasonally Flooded (C) -- 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 variable, being near the land surface to well below the land surface.

Semi-permanently Flooded (F) -- Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or near the land surface.

Permanently Flooded (H) -- Water covers land surface throughout the year in all years.

Special modifiers included on these NWI maps, where applicable, are:

Diked Impounded (h): Created or modified by a barrier, dike, or dam which obstructs the inflow or outflow of water.

Excavated (x): Lies within a basin or channel excavated by man.

TABLE 1. SUMMARY OF WETLANDS AND DEEPWATER HABITATS

| NWI CODE | NWI DESCRIPTION | COMMON DESCRIPTION | VEGETATION SUBSTRATE |
|----------|---|--------------------|--|
| PCW | Palustrine open water | Pond | Open water |
| PAB3 | Palustrine aquatic bed | Pond weeds | <u>Nymphaea</u> (water lily) <u>Hydrocotyle</u> (pennywort) <u>Myriophyllum</u> (milfoil) |
| PAB4 | Palustrine aquatic bed | Pond weed | <u>Lemna</u> (duckweed) |
| PUS | Palustrine unconsolidated shore | Pond shore | Exposed pond shore |
| PUB | Palustrine unconsolidated bottom | Pond bottom | Exposed pond bottom |
| PEM1 | Palustrine emergent, persistent. | Marsh, wet meadow | <u>Scirpus</u> (bulrush) <u>Typha</u> (cattail) <u>Juncus</u> (rush) <u>Eleocharis</u> (spikesedge) <u>Carex</u> spp. (sedge) <u>Polygonum</u> (smartweed) |
| PSS1 | Palustrine scrub/shrub broad-leaved deciduous | Shrub swamp | <u>Salix</u> spp. (willow) <u>Cephalanthus occidentalis</u> (buttonbush) |
| FFO1 | Palustrine forested broad-leaved deciduous | Forested wetland | <u>Salix nigra</u> (black willow) <u>Fraxinus pennsylvanica</u> (green ash) <u>Celtis</u> spp. (hackberry) <u>Quercus</u> spp. (oaks) <u>Populus</u> spp. (cottonwood) <u>Crataegus</u> spp. (hawthorn) |

TABLE 1. SUMMARY OF WETLANDS AND DEEPWATER HABITATS

| NWI CODE | NWI DESCRIPTION | COMMON DESCRIPTION | VEGETATION SUBSTRATE |
|----------|--|----------------------------|--|
| L1OW | Lacustrine open water | Lake | Open water |
| L2US | Lacustrine littoral unconsolidated shore | Lake flat | Unvegetated mud, sand, gravel |
| L2UB | Lacustrine littoral unconsolidated bottom | Lake bottom | Unvegetated mud, sand, gravel |
| L2AB | Lacustrine aquatic bed | Pond weeds, water weeds | <u>Nymphaea</u> (water lily) <u>Lemna</u> (duckweed) <u>Hydrocotyle</u> (pennywort) <u>Myriophyllum</u> (milfoil) |
| R2OW | Riverine lower perennial open water | River, stream | Open water, year round |
| R4SB | Riverine intermittent streambed | Intermittent stream | Unvegetated river bottom |
| R2US | Riverine unconsolidated shore | River bar, river flat | Unvegetated mud, sand, gravel |
| R2UB | Riverine unconsolidated bottom | River bottom | Unvegetated mud, sand, gravel |

Index Map A

| | | | | | | | | | | | | | | | | | |
|-----------------------------|----------------------------|------------------------------------|--------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------------|----------------------------|------------------------------|---------------------------|---------------------------|---------------------------|
| BRIGGS 1958 | DING DOUG 1958 | YOUNGSTOWN 1958 | MALDEN 1958 | WILLARD 1958 | LITTLE RIVER 1958 | ROGERS 1958 (17-21) | YARINGTON 1958 (17-11) | BEN ARNOLD 1958 | MAXWELL 1958 | CALVERT 1958 | HEARNE NORTH 1958 | WHEELUCK 1958 | EDDY 1958 | COLEMAN 1958 | ROYALTY 1958 | | |
| MAHOMET 1958 (17-11) | FLORENCE 1958 (17-11) | COBBS CAYEN 1958 (17-11) | JARRIS 1958 (17-11) | FRANKLIN 1958 | DAVILLA 1958 | SWAMP 1958 | TY LEBONE 1958 | CAMERON 1958 | HANOVER 1958 | GAUSE 1958 | HEARNE SOUTH 1958 | DUNN 1958 | MURKIN 1958 | CLARE LAKE 1958 | OLA 1958 | | |
| LIBERTY HILLS 1958 | LEANDER NE 1958 (17-11) | ROUND ROCK 1975-49 | | GRANTER 1958 | FRITZSHIP 1958 | SAN GABRIEL 1958 | ROCKDALE WEST 1958 | ROCKDALE EAST 1958 | MILANO 1958 | GOODWILL 1958 | WYRFORD 1958 | BRYAN WEST 1958 (17-11) | BRYAN EAST 1958 (17-11) | RELMET 1958 | ALLEN 1958 | | |
| FRANKLESS 1958 | TANIER 1958 | | | PAWLOW 1958 | FRANK 1958 | INDIANA 1958 | ALCOA LAKE 1958 | HYNS 1958 | CHRISTMAN 1958 | ALDWELL 1958 | LINDS 1958 | HANCOCK STONE 1958 (17-11) | WILLIAM 1958 (17-11) | LEIGHTON BRASSING 1958 | BARLEY 1958 | | |
| MANFIELD DAM 1958 | HULLVILLE 1958 (17-11) | MELANVILLE WEST 1958 (17-11) | PELICERVILLE EAST 1958 (17-11) | ELGIN 1948 | | LEXINGTON 1948 | | ANGLEWOOD 1948 | DEANVILLE 1948 | CANASTA 1948 | YONS 1948 | INDOOR 1948 | CLAY 1948 | MILLSPA 1948 | PARASOIA 1948 | | |
| LAKE TRAVIS(S) 1958 | WE CARE 1958 | WYNN WEST 1958 (17-11) | WYNN EAST 1958 (17-11) | MANOR 1948 (17-11) | | | | | LINCOLN 1948 | DIME 1948 | FLAG POND 1948 (17-11) | COMPTONVILLE 1948 | WYNN HILL 1948 | INDEPENDENT 1948 | WASHINGTON 1948 | STURMAY 1948 | |
| SIGNAL HILL 1958 (17-11) | OAK HILL 1958 (17-11) | MONTOPOILS 1958 (17-11) | WYBBE AVILLE 1948 | | | | | | | GIDDINGS 1948 | LEIGHTON 1948 | LAWWY 1948 | BURTON 1948 | WYNN HILL 1948 | WYNN HILL 1948 | JANNEY 1948 | WYNN 1948 |
| BUDA 1958 | MONTOPOILS 1958 | BASTROP 1948 | | SMITHVILLE 1948 | | | | | | WADON 1948 | MELANVILLE 1948 | BURNING TOP 1948 | WYNN HILL 1948 | WYNN HILL 1948 | WYNN HILL 1948 | WYNN HILL 1948 | WYNN HILL 1948 |
| WYNN CITY 1948 (17-11) | INDOOR 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) | WYNN HILL 1948 (17-11) |

LITERATURE CITED

- Bailey, R.G., 1978. Description of the Ecoregions of the United States. U.S. Dept. of Agriculture, Forest Service, 77 pp.
- Baker, Frank E., 1979. Soil Survey of Bastrop County, Texas, U.S. Dept. of Agriculture, Soil Conservation Service, 73 pp.
- 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. Dept. of Interior, Fish and Wildlife Service, FWS/PBS-79/81, 103 pp.
- Werchon, Leroy E. and Coker, John L. 1983. Soil Survey of Williamson County, Texas, U.S. Dept. of Agriculture, Soil Conservation Service, 152 pp.