

NATIONAL WETLANDS INVENTORY

1:100,000 Map Narrative - Enid NW



Introduction

The U.S. Fish and Wildlife Service, Office of Habitat Resources, is conducting an inventory of the United States. The National Wetland 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 as the NW quadrant of the Enid 1:250,000. The area covered lies between 36° - 36°30' north latitude by 97° - 98° west longitude. The northern border of the study area is the Oklahoma-Kansas state line. The major riverine systems within Enid NW are the Arkansas R., the Salt Fork of the Arkansas, the Chikaskia R., and Deer Creek.

Bailey's Ecoregions

The book by Robert G. Bailey, "Descriptions of the Ecoregions of the United States," classifies the division that includes the study area as the Tall-Grass Prairie Province. The section of the Tall-Grass Prairie Province in which the study area occurs is the Bluestem-Grama Prairie.

The landscape in this area is characterized by flat and rolling plains generally with relief less than 300ft. This rolling hillland has well developed drainage systems. The climax vegetation the the Tall-Grass Prairie Province include cottonwood (Populus deltoides), mulberry (Morus rubra), hackberry (Celtis occidentalis), elm (Ulmus sp.).

Along the eastern boundary of the province, from Oklahoma to Iowa annual precipitation approaches 40 inches. Average annual temperatures range from 40°F in the north to 65°F in the south of the province.

Map Preparation

Wetland classification for the NWI maps is in accordance with "Classification of Wetlands and Deepwater Habitats of the United States," by L.M. Cowardin, et al., 1979. Wetland classification and delineation were produced by photointerpretation of high level aerial photography. The photography used was NHAP color infrared at a scale of 1:58,000. The photography was taken during September of 1981 and November of 1981. To accurately classify the wetlands, ground truthing, soil surveys and input from USFWS personnel were used to relate various photographic signatures to actual wetland identification and classification.

Collateral data included U.S.G.S. topographic quadrangles (7.5 min. series) and SCS soil surveys.

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 the 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 the photography. Therefore, some discrepancies between the wetland map and current field conditions may exist. Any questions concerning wetland omissions, inclusions, or errors should be brought to the attention of the Regional Wetland Coordinator, region 2.

Wetlands and Deepwater Habitats

Wetlands and deepwater habitats with the subject area fall within the Palustrine, Lacustrine, and Rivenne 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 Enid NW

Marine and Esturine Systems

Not represented in the study area.

Palustrine System

Numerous palustrine open water (OW) areas are present within the study area, with the majority being impounded (h) or excavated (x). Some areas of palustrine open water are vegetated with aquatic bed (AB). Aquatic bed will be classified as subclass 4 (floating vascular, PAB4). The common species of aquatic bed found in the study area are duckweed (Lemna sp.) and duckmeal watermeal (Wolffia sp.).

Forest and scrub-shrub wetlands occur often in the study area. Palustrine scrub-shrub (PSS) and forested (PFO) wetlands are characterized by woody species. The classification of scrub-shrub or forested is determined by the height of the woody vegetation, the forested being taller than 6 meters and scrub-shrub being less than 6 meters. Commonly encountered species of scrub-shrub in the temporarily flooded (A) water regime are cottonwood (Populus deltoides), mulberry (Morus rubra), and willow (Salix sp.). Commonly encountered species of scrub-shrub found in the seasonally flooded water regime are willow, cottonwood, and mulberry. The majority of streams in the study area are flanked by temporarily flooded forests. The temporarily flooded water regime supports a variety of species. In descending order of occurrence, they are; cottonwood mulberry, hackberry (Celtis occidentalis), elm (Ulmus sp.) willow, greenash (Fraxinus pennsylvanica), pecan (Carya illinoensis), honeylucus, (Gleditsia tricanthos), sycamore (Platanus occidentalis), and box elder (Acer negundo). The most dominant trees in the seasonally flooded water regime are willow and box elder. These are the only two water regimes that were found supporting forested or scrub-shrub areas in the subject area.

Wetland emergents (EM) were found in the temporarily flooded (A), seasonally flooded (C), the semi-permanently flooded (F), and permanently flooded (H) water regimes.

The most common emergent found in the temporarily flooded water regime is smartweed (Polygonum sp.). Less common emergents are sunflower (Helianthus sp.), lowland switchgrass (Panicumvirgatum), and nutgrass (Cyperus rotundus). Common emergents found in the seasonally flooded water regime are bulrush (Scirpus sp.), spike rushe (Eleocharis sp.), rushes (Juncus sp.), and cattail (Typha sp.). Less common emergents are dock (Rumex sp.), smartweed (Polygonum sp.), and arrowhead (Sagittaria sp.).

One site was found to be in the semi-permanently flooded water regime. Emergents found in this area are primrose (Ludwigia sp.), spike-rush, and smartweed. One area of permanently flooded emergents was observed. this was a mono-specific stand of bulrush. These emergent wetlands occur in natural stands, impounded areas (h), and excuvated areas (x). The ditched-drained (d) modifier is used when applicable.

Ponds in the study area are classified palustrine unconsolidated shore (PUS) using the temporarily flooded (a) and seasonally flooded (c) water regimes.

Ponds that are greater than ten acres are classified palustrine open water permanently flooded (POWH). Special modifiers for impounded (h) and excuvated (x) are very common in these classes and are used throughout the study area.

Lacustrine System

Natural or artificial open water bodies greater than 20 acres are classified as lacustrine. The Lacustrine system on the NWI maps include the classes of open water (L1OW), unconsolidated bottom (L2UB), unconsolidated shore (L2US), and aquatic bed (L1AB). Lacustrine open water and unconsolidated bottom are deepwater habitats. Non-vegetated lacustrine substrates which are exposed at some time during the growing season are classified as lacustrine unconsolidated shore. The modifiers "h" and "x" are used in the study area. Lacustrine aquatic bed will be classified L1Ab4. The species noted in the study area are Duckweed and Duckmeal.

Riverine System

The Riverine system includes the classes open water (OW), unconsolidated shore (US), and stream bed (SB). Open water and unconsolidated shore are restricted to the riverine lower perennial (R2) subsystem. Streams that do not flow all year round are classified as riverine intermittent streambeds (R4SB). Some streams are excuvated (x) to improve drainage. In cases of vegetated streams, the vegetation is classified in the palustrine system and takes precedence in classifying the wetland type.

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Ponds that are greater than ten acres are classified palustrine open water permanently flooded (POWH). Special modifiers for impounded (h) and excavated (x) are very common in these classes and are used throughout the study area.

Lacustrine System

Natural or artificial open water bodies greater than 20 acres are classified as lacustrine. The Lacustrine system on the NWI maps include the classes of open water (L10W), unconsolidated bottom (L2UB), unconsolidated shore (L2US), and aquatic bed (L1AB). Lacustrine open water and unconsolidated bottom are deepwater habitats. Non-vegetated lacustrine substrates which are exposed at some time during the growing season are classified as lacustrine unconsolidated shore. The modifiers "h" and "x" are used in the study area. Lacustrine aquatic bed will be classified L1Ab4. The species noted in the study area are Duckweed and Duckmeal.

Riverine System

The Riverine system includes the classes open water (OW), unconsolidated shore (US), and stream bed (SB). Open water and unconsolidated shore are restricted to the riverine lower perennial (R2) subsystem. Streams that do not flow all year round are classified as riverine intermittent streambeds (R4SB). Some streams are excavated (x) to improve drainage. In cases of vegetated streams, the vegetation is classified in the palustrine system and takes precedence in classifying the wetland type.

Water Regime

Hydrologic characteristics are an important aspect of wetlands. Water regime in general terms describes the duration and timing of surface inundation, as well as ground-water fluctuations.

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

Saturated (B) - Surface water is seldom present, but substrate is saturated to the surface for extended periods during the growing season.

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, ranging from a saturated condition to one in which the water table is well below surface of the ground.

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 land surface.

Intermittently Exposed (G) - Surface water is present throughout the year except in years of extreme drought.

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

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

Partly Drained (d) - The water level has been artificially lowered, but the area is still classified as a wetland because soil moisture is sufficient to support hydrophytes. Drained areas are no longer considered wetlands when they are unable to support hydrophytes.

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.

LITERATURE CITED

Bailey, R.G., 1980. Description of the Ecoregions of the United States. U.S. Dept. of Agriculture, Forest Service.

Cowardin, L.M., et. al., 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.

TABLE 1. SUMMARY OF WETLANDS AND DEEFWATER HABITATS

NWI CODE	NWI DESCRIPTION	COMMON DESCRIPTION	VEGETATION SUBSTRATE
L10W	Lacustrine open water	Lake	Open water
L2US	Lacustrine littoral unconsolidated shore	Lake bed	Unvegetated mud, sand, gravel
L2UB	Lacustrine littoral unconsolidated bottom	Lake bottom	Unvegetated mud, sand, gravel
L2AB4	Lacustrine floating vascular aquatic bed	Rond weeds, water weeds	<u>Wolffia sp.</u> (duckmeal) <u>Lemna sp.</u> (duck weed)
R20W	Riverine lower perennial open water	River, stream	Open water, year round flow
R4SB	Riverine intermittent streambed	Intermittent stream	Unvegetated river bottom
R2US	Riverine unconsolidated shore	River bar, river flat	Unvegetated mud, sand, gravel
POW	Palustrine open water	Rond	Open water
PAB4	Palustrine aquatic bed	Rond Weed, Water Weed	<u>Lemna sp.</u> (duck weed) <u>Wolffia sp.</u> (duck meal)
PUS	Palustrine unconsolidated shore	Rond shore	Unvegetated mud, sand, gravel
PEM1	Palustrine emergent, persistent.	Marsh, wet meadow	<u>Scirpus sp.</u> (bulrush) <u>Typha sp.</u> (cattail) <u>Juncus sp.</u> (rush) <u>Polygonum sp.</u> (smartweed)
PSS1	Palustrine scrub/shrub broad-leaved deciduous	Shrub swamp	<u>Salix spp.</u> (willow) <u>Populus deltoides</u> (cottonwood) <u>Morus rubra</u> (mulberry)
PFO1	Palustrine forested broad-leaved deciduous	Forested wetland	<u>Populus deltoides</u> (cottonwood) <u>Morus rubra</u> (mulberry) <u>Celtis occidentalis</u> (hackberry) <u>Ulmus sp.</u> (elm)

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