

USER REPORT: FREEMONT, NEBRASKA
NATIONAL WETLANDS INVENTORY MAP

A. INTRODUCTION

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 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:

Freemont is located in eastern Nebraska. The map is bounded on the west by the 98th meridian west and on the east by the 96th meridian west. It is bounded on the south by the 41st parallel north and on the north by the 42nd parallel north. (see fig. 1)

According to Baily's Description of the Ecoregions of the United States (1980), the map lies in the Bluestem Prairie Section of the Tall- Grass Prairie Province. The land forms of the region are characterized by flat and rolling plains with relief of less than 300 feet. Elevations range from approximately 2,500 feet.

Climate:

The region is under the influence of a continental climate with hot summers and cold winters. Changes in weather conditions are frequent and extreme. Precipitation varies from 20 inches in the west to 30 inches in the east. Normally, more than three-fourths of the average annual precipitation falls during the growing season, April through September. Slow steady rains characterize the early spring precipitation while most of the summer precipitation occurs as showers or thunderstorms. Because the humidity is generally low much of the water is lost to evaporation.

Extremes in temperature range from 100° F or more in the summer to -20° F in winter.

Vegetation:

Typical dominant climax vegetation includes porcupine grass, prairie dropseed, little bluestem, side oats grama, Junegrass, western wheat grass, needlegrass, panic grasses and sedges. Woody vegetation is rare except on the cottonwood floodplains. Because of the generally favorable conditions of climate and soil, most of the area is cultivated and little of the original vegetation remains.

SOILS:

Soils of the tall- grass prairie are primarily Mollisols and within the counties of this region have formed under grass vegetation. Their parent materials are loess, alluvium, a mixture of loess and alluvium and eolian. The soils vary in texture, color, consistency and organic matter content. However, practically all the soils have surface horizons of medium or coarser texture and are well drained to moderately well drained. The soils with clayey surface horizons are on the bottom lands or in local areas where erosion has removed the original surface soils.

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 (H)	Lacustrine, limnetic, unconsolidated bottom	Open water, Lake	Unvegetated mud, sand, gravel, or cobble
L2UB (G)	Lacustrine, littoral, unconsolidated bottom	Open water Lake	Unvegetated mud, sand, gravel or cobble
L2AB (G)	Lacustrine, littoral aquatic bed	Floating or rooted water plants	Water Lily. (Nuphar spp.)
L2US (C, A)	Lacustrine, littoral unconsolidated shore	Lake shore	Unvegetated mud, sand, gravel, or cobble
R2UB (G, H)	Riverine, lower perennial, unconsoli- dated bottom	Open water River River	Unvegetated mud, sand, gravel, or cobble
R2US (C, A)	Riverine, lower perennial, unconsoli- dated shore	River bank & flat	Unvegetated mud, sand, gravel, or cobble
R4SB (A, C, F)	Riverine, intermittent, streambed	Intermittent stream or creek	Unvegetated mud, sand or gravel
PEMA	Palustrine, emergent	Marsh, wet meadow Subirrigated Meadow, grass Streambed River bank & flat	Rumex spp. Smartweed (Polygonum spp.) Prairie cordgrass (Spartina pectinata) Barnyard grass (Echinochloa crusgalli) Sedges (Carex spp.)

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

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

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEMC	Palustrine, emergent	Marsh, wet meadow	Spikerush (Eleocharis spp.) Sedges (Carex spp.)
PEMF	Palustrine, emergent	Marsh	Hardstem bullrush (Scirpus spp.) Cattail (Typha latifolia) (Typha angusti- folia)
PSS (A,C)	Palustrine, scrub-shrub	Shrub wet- land. flood- plains or seeps	Willow (Salix spp.) Marijuana (Cannabis sativa)
PFO	Palustrine, forested	Forest wetland, floodplains	Willow > 6m (Salix spp.) Cottonwood (Populus deltoides) Silver maple (Acer saccherinum)
PUB (F,G)	Palustrine, Unconsoli- dated bottom	Open water pond unvegetated	Unvegetated mud sand, or gravel
PAB (F,G)	Palustrine, aquatic bed	Floating or rooted water plants	Duckweed (Lemna spp.) (Nuphar spp.)
PUS (A,C)	Palustrine, unconsoli- dated shore	Pond shore	Unvegetated mud, sand, or gravel

E. WATER REGIME DESCRIPTION

- (A) Temporarily Flooded - Surface water present for brief periods during growing seasons, but water table usually lies well below soil surface. Plants that grow both in uplands and wetlands are characteristic of this water regime.
- (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 lands surface.
- (G) Intermittently Exposed - Surface water persists throughout the year except in years of extreme drought.
- (H) Permanently Flooded - Water covers the land surface throughout the year in all years. Vegetation is composed of obligate hydrophytes.

F. MAP PREPARATION:

The wetland classifications that appear on the Freemont National Wetlands Inventory (NWI) Base Maps are in accordance with Cowardin et al (1979). The delineations were produced through stereoscopic interpretations of 1:58,000 scale color infrared photographs that were taken on 5/14/81, 9/19/81, 9/20/81, 10/23/81 and 10/26/81. Initial ground truthing of the photography occurred during the period of August 23-28, 1989. Photointerpreters used collateral information from soil surveys and USGS 1:24,000 scale topographic maps to assist in wetland recognition.

The user of the map is cautioned that, due to the limitations of mapping primarily through aerial photointerpretation, a small percentage of wetlands may be unidentified. Changes in landscape, or habitat, could have occurred since the time of photography, therefore some discrepancies between the maps and current field conditions may exist. Any questions regarding omissions, inclusions or error should be brought to the attention of Regional Wetlands Coordinator, Lake Plaza North Building, 134 Union Boulevard, Lakewood, Colorado, 80228.

G. SPECIAL MAPPING PROBLEMS
None.

H. MAP ACQUISITION

To discuss any question concerning these maps or to place a map order, please contact.

Regional Wetland Coordinator
U.S. Fish and Wildlife Service
Region 6 - Habitat Resources
Lake Plaza North Boulevard
134 Union Boulevard
Lakewood, Colorado 80228

or

Rocky Mountain Mapping Center
National Cartographic Information Center
U.S. Geological Survey
Box 25046, Stop 504, Federal Center
Denver, Colorado 80225

Maps are identified by the name of the corresponding USGS 1:24,000 scale 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, 77pp.

Soil Surveys for Saunders, Dodge, Douglas, Sarpy, Lancaster, Seward, Butler and Washington counties of the state of Nebraska. United States Department of Agriculture, Soil Conservation Service.

Hydric Soils of the State of Nebraska, 1975. United States Department of Agriculture, Soil Conservation Service.

National List of Plant Species That Occur in Wetlands, Central Plains (Region 5). National Ecology Research Center, U.S. Fish and Wildlife Service.

