

**NATIONAL WETLANDS INVENTORY**

**NOTES TO USERS**

**1:100,000 SCALE MAP**

**JEFFERSON CITY NE**

**MISSOURI**

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 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: The study area covered by the Jefferson City NE base map is located in the central part of Missouri (see map). Bailey classifies the study area as being in the Eastern Deciduous Forest Province of the Hot Continental Division. The Oak-Hickory Forest section comprises the majority of the study area. The Oak-Hickory-Bluestem Parkland section of the Prairie Parkland Province in the Prairie Division is also present (Bailey 1980) in the Northwest corner of the map.

The topography of the area ranges from hilly and rugged to the very flat Missouri River flood plain. The map is dissected by gradual to very steep drainage ways. The study area includes many small creeks and streams and major rivers including Cedar Creek, Moreau River, Perche Creek, North Moreau Creek, Lamine River, Osage River, and the Missouri River. Elevation range from about 545 feet on the Missouri River flood plain in the SE to about 1,000 feet in the hills of the SW.

Climate: Climate is characterized by hot summers and cool winters. Average summer temperature is 78°F dropping to 30°F in the winter with the yearly average being 55°F. Average annual precipitation is 38 inches. Average annual snowfall is 16.7 inches. The growing season is about 190 days.

Vegetation: The majority of the study area is under agricultural influence in the form of farmland or pasture. Native vegetation is

dominated by Deciduous Forest characterized by broadleaf deciduous trees with a dense understory in the spring, which thins as the trees leaf out and shade the ground (Bailey 1980). White oak, elm, maple, basswood, walnut, hackberry and others are abundant on the river hills. Boxelder, silver maple, willow and green ash were among the trees encountered in the flood plains.

Soils: The soils associated with this study area are the Alfisols and Mollisols (Bailey 1980). Bottom land soils within the Jefferson City NE are of the Onawa-Ray-Sharon, Onawa-Sarpy and Huntington-Lindside Associations. These associations are generally well drained, but are subject to flooding.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS for the Missouri River Valley and Adjacent Regions from Council Bluffs, Iowa to Washington, Missouri

TABLE - Cowardin Classification Codes and Descriptions

NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lake	Unconsolidated bottom
L2UB (G)	Lacustrine, littoral unconsolidated bottom	Lake, open water marsh	Unconsolidated bottom
L2AB  (G)	Lacustrine, littoral  Aquatic bed	Lake, marsh	<u>Lemna</u> sp. (duckweed) green algae
L2US (A,C)	Lacustrine, littoral unconsolidated shore	Beach, sandbar,	Unconsolidated shore
R2UB (G,H)	Riverine, lower perennial, unconsolidated bottom	River	Unconsolidated bottom
R2US (A,C)	Riverine, lower perennial unconsolidated shore	Beach, sandbar mudflat	Unconsolidated shore
R3RB (G)	Riverine, upper perennial rockbottom	River, stream	Rock bottom
R3UB (G)	Riverine, upper perennial unconsolidated bottom	River, stream	Unconsolidated bottom
R4SB (A,C,F)	Riverine, intermittent streambed	Stream	Streambed
PUB (F,G,H)	Palustrine unconsolidated bottom	Pond, reservoir barrow pit, marsh	Unconsolidated bottom
PAB (F,G)	Palustrine, aquatic bed	Pond, reservoir marsh	<u>Lemna</u> sp. (duckweed) green algae

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

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NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM (A)	Palustrine, emergent temporary	Depression, drainage	<u>Eleocharis</u> spp. (spike rushes) <u>Ambrosia</u> spp. (ragweed) <u>Carex</u> spp. (sedges), <u>Rumex</u> spp. (dock) <u>Juncus</u> spp. (rushes) <u>Equisetum</u> spp. (horsetail)
PEM (B)	Palustrine, emergent saturated	Seep, fen	<u>Phragmites</u> spp. (reeds) <u>Carex</u> spp. (sedges) <u>Typha</u> spp. (cattail) <u>Scirpus</u> spp. (bulrushes)
PEM (C)	Palustrine, emergent seasonal	Depression, drainage	<u>Polygonum</u> spp. (smartweed) <u>Carex</u> spp. (sedges) <u>Phalaris</u> <u>arundinacea</u> (reed canary grass) <u>Juncus</u> spp. (rushes) <u>Typha</u> spp. (cattail) <u>Scirpus</u> spp. (bulrushes)
PEM (F)	Palustrine, emergent, semi-permanent	Marsh, farm pond backwaters, oxbow	<u>Typha</u> spp. (cattail)

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NWI Code (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
			<u>Scirpus</u> spp. (bulrush)
PSS1 (A,C,F)	Palustrine, scrub-shrub, broad-leaved deciduous	Marsh, floodplains depressions	<u>Salix</u> spp. (willow) <u>Populus deltoides</u> (cottonwood)
PFO1 (A,C,F)	Palustrine, forested, broad-leaved deciduous	Floodplains depressions	<u>Salix</u> spp. (willow) <u>Populus deltoides</u> (cottonwood) <u>Ulmus americana</u> (American elm) <u>Acer saccharinum</u> (silver maple) <u>Morus</u> spp. (mulberry) <u>Acer negundo</u> (boxelder) <u>Platanus</u> <u>accidentalis</u> (sycamore) <u>Carya ovata</u> (shag bark hickory) <u>Fraxinus</u> <u>pennsylvanica</u> (green ash)
FUS (A,C)	Palustrine, unconsolidated shore	Depression, shallow gravel pit	Unconsolidated shore
h	Diked, impounded	Dam or levee, reservoir	
x	Excavated	Strip mine, barrow pit, ditched or channelized	
d	Drained	Tiled, ditched	

National Wetlands Inventory

SDCWRU

1:100K St. Louis NW  
Frame 157-86 & 113-194

Name Howard Browers  
Date 6-27-89

Problem: 2 different dates of photographs -  
one (113-194) more flooded than the  
other (157-86).

Resolution: The flooding on photo (113-194) which  
has been classified as PFA will not  
be extended across the work area  
bordered into (157-86).

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## Water Regime Description

- (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.

#### F. MAP PREPARATION

The wetland classifications that appear on the Jefferson City NE Wetlands Inventory (NWI) Base Map (Figure 1) are in accordance with Cowardin et. al. (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography. The photography was taken during March 1986, April 1984, and April 1983.

Field checks of areas found within the Jefferson City NE photography were made prior to the actual delineation of wetlands. Field check sites were selected to clarify varying signatures found on the photography. These photographic signatures were then identified in the field using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic maps, SCS soil surveys, VEVE, 1:80,000, black and white photos for Jefferson City NE, vegetation, and ecoregional information.

The user of the map is cautioned that, due to the limitation of mapping primarily through aerial photointerpretation, 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. Changes in landscape which occurred after the photography was taken would result in such discrepancies.

Aerial photo interpretation was completed by the South Dakota Cooperative Fish and Wildlife Research Unit, SDSU, Brookings, SD.

#### G. SPECIAL MAPPING PROBLEMS AND SITUATIONS

Perennial versus intermittant linears were distinguished in most areas by using the topographic maps. However, the early 1950's vintage topos had many very weak, short, linears mapped as perennial. In these situations the decision to go R4 or R2 was left to the interpreter.

Upper and lower perennial riverine subsystems are very difficult to discern in this region. While R3 linears do exist on this map, only those visited or check sited were labeled as such. All other linears will have the R2 and R4 labels.

We underlined the P in the alpha numeric label for those farmed, palustrine wetlands considered non-basin in nature.

#### H. MAP ACQUISITION

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

Ron Erickson  
Regional Wetland Coordinator  
U.S. Fish and Wildlife Service - Region 3  
Federal Building, Ft. Snelling  
Twin Cities, MN 55111

To order maps only, contact:

National Cartographic Information Center  
U.S. Geological Survey  
507 National Center  
Reston, VA 22092  
1-800-USA-MAPS

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.

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.

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. 103 p.

Soil Surveys of Boone and Moniteau Counties in Missouri. U.S. Department of Agriculture, Soil Conservation Service.

Map location, Jefferson City NE

