

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

SPRINGFIELD NE

MISSOURI

USER REPORT: SPRINGFIELD NE

NATIONAL WETLANDS INVENTORY MAP

I. 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. (1979) is the classification system used to define and classify wetlands. Photointerpretation conventions, hydric soils lists and wetland plant lists are also available to enhance the use application of this classification system.

II. PURPOSE

The purpose of the notes to the 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.

III. STUDY AREA

Geography: The study area is located in the southcentral part of Missouri (Figure 1). The Springfield NE 1:100,000 consists of 32 7.5' quadrangles. Bailey (1980) classifies the study area as being in the Prairie Parkland Province of the Prairie Division of the Humid Temperate Domain. The Oak-Hickory Forest section comprises the entire study area (Bailey 1980).

Topography consists of high relief with a rolling and undulating landscape. Major drainages on this map include the Gasconade River, Big Piney River, Osage Fork, Niangua River, Roubidoux Creek, Dry Auglaize Creek, Bennett Spring Creek. Elevations range from approximately 1000 to 1700 feet above sea level.

Climate: The climate is continental with weather changes being frequent and rapid. Average winter and summer temperatures are about 36°F and 76°F, respectively. The total annual precipitation is approximately 40 inches.

Vegetation: The majority of this study area is under agricultural influence in the form of cropland and pasture. Native vegetation consist of tall prairie grasses and deciduous forest.

Soils: The soils associated with this study area are the Mol-lisols and Alfisols (Bailey 1980). Bottomland soils consist of the Nolin-Huntington-Kickapoo association.

IV. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

TABLE - Cowardin Classification Codes and Descriptions

| NWI CODE (Water Regime) | NWI DESCRIPTION | COMMON DESCRIPTION | CHARACTERISTIC VEGETATION |
|-------------------------------|---|---------------------------------------|--|
| LIUB (H) | Lacustrine, limnetic, unconsolidated bottom | Lake | Unconsolidated bottom |
| L2UB (G,H) | Lacustrine, littoral, unconsolidated bottom | Lake, open water, marsh | Unconsolidated bottom |
| L2AB (G,H) | Lacustrine, littoral, aquatic bed | Lake, marsh | <u>Lemna</u> spp. (duckweed) green algae |
| L2EM2 (G,H) | Lacustrine, littoral, emergent, nonpersistent | Lake, marsh | <u>Scirpus</u> spp. (bulrushes) |
| 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 |
| R3RE (G,H) | Riverine, upper perennial, rock bottom | River, stream | Rock bottom |
| R3UB (G,H) | Riverine, upper perennial, unconsolidated bottom | River, stream | Unconsolidated bottom |
| R3AB (G,H) | Riverine, upper perennial, aquatic bed | River, stream | Aquatic bed |
| R4SB (A,C,F) | Riverine, intermittent, streambed | Stream | Streambed |
| PUB (F,G,H) | Palustrine, unconsolidated bottom | Pond, reservoir, borrow pit, marsh | Unconsolidated bottom |
| PAB (F,G,H) | Palustrine, aquatic bed | Pond, reservoir marsh | <u>Lemna</u> spp. (duckweed) green algae <u>Potamogeton</u> spp. (pondweed) <u>Ceratophyllum demersum</u> (coontail) |

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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. (ragwood) <u>Carex</u> spp. (sedges) <u>Rumex</u> spp. (dock) <u>Juncus</u> spp. (rushes) <u>Equisetum</u> spp. (horsetail) <u>Urtica dioica</u> (stinging nettle) |
| 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) |

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TABLE - Cowardin Classification Codes and Descriptions

| NWI CODE (Water Regime) | NWI DESCRIPTION | COMMON DESCRIPTION | CHARACTERISTIC VEGETATION |
|-------------------------------|--|---------------------------------------|---|
| PEM (F,G) | Palustrine, emergent | Marsh, farm pond, backwater, oxbow | <u>Typha</u> spp. (cattail) <u>Scirpus</u> spp. (bulrushes) |
| PSSI (A,C) | Palustrine, scrub-shrub, broad-leaved deciduous | Marsh, floodplain, depression | <u>Salix</u> spp. (willow) <u>Populus deltoides</u> (cottonwood) |
| PFOI (A,C,F) | Palustrine, forested, broad-leaved deciduous | Marsh, floodplains, depression | <u>Salix</u> spp. (willow) <u>Ulmus americana</u> (american elm) <u>Acer</u> <u>saccharinum</u> (silver maple) <u>Acer negundo</u> (box elder) <u>Fraxinus</u> <u>pennsylvanica</u> (green ash) <u>Populus</u> <u>deltoides</u> (cottonwood) <u>Morus</u> spp. (mulberry) <u>Plantanus</u> <u>occidentalis</u> (sycamore) |
| PFO5 (G,H) | Palustrine, forested | Impoundment | Dead trees |
| PUS (A,C) | Palustrine, unconsolidated shore | Depression, shallow gravel pit | Unconsolidated shore |

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TABLE - Cowardin Classification Codes and Descriptions

| NWI CODE (Special Modifier) | NWI DESCRIPTION | COMMON DESCRIPTION |
|-----------------------------------|-------------------|---|
| h | Diked, impounded | Dam or levee, reservoir |
| x | Excavated | Dugout, farm pond, borrow pit, ditched or channelized |
| d | Partially drained | Tiled, ditched |

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 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.

V. MAP PREPARATION

The wetland classifications that appear on this National Wetlands Inventory (NWI) Base Map are in accordance with Cowardin et al. (1979). The delineations were produced through stereoscopic interpretation of

1:53,000 scale color infrared aerial photography. The photography was taken late winter and spring of 1983, 1984, 1985 and 1986.

Field checks of areas found within this quad 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 and soil types as well as additional input from field personnel.

Collateral data included USGS 7.5' topographic maps, SCS soil survey of Pulaski county in Missouri, USGS Water Resources Data for Missouri Water Year 1986, and vegetation and ecoregional information.

The user of this map is cautioned that, due to the limitation of the 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 photointerpretation was completed by the South Dakota Cooperative Fish and Wildlife Research Unit, SDSU, Brookings, S.D.

VI. SPECIAL MAPPING PROBLEMS AND SITUATIONS

Wetlands visited but not checksited will have the water regime in the alphanumeric label underlined.

Perennial versus intermittent streams not visited in the field were distinguished by using USGS topographic maps with the exception of streams seen dry on the photography. These streams were classified as seasonal or temporary depending on the area. In some instances the transition from a temporary (A) or seasonal (C) stream to a perennial (G) stream had to be made abruptly because of water conditions and topographic map definition. The watershed size and the presence of springs was used to determine the classification of these streams.

Floodplain oxbows and basins were delineated and classified where visible. However, the user is cautioned that some of these wetlands may not have been photointerpreted because of leaf-out conditions present in some forested situations. Extensive leaf-out present on the photography limits photointerpretation of the understory.

The trees along rivers were consistently found to be upland unless they were located in an oxbow situation.

Many white areas of sand or rock were also encountered along streams and these areas were consistently found to be upland.

Several sinkholes are presented as wetland on this map. The majority of these are classified as seasonally flooded and semipermanently flooded. Water regimes of sinkholes seen on the photography were not always consistent with what was seen in the field. Therefore, classification of some sinkhole wetlands on these maps may not be completely correct because of the changing nature of sinkholes and karst topography.

Wetlands that are nonbasin and farmed at the time of photography were not delineated on the Inventory map.

The rock bottom class was used with the upper perennial riverine system only when seen during the field verification trip (which was done prior to photointerpretation). Rock bottom streams are very difficult to identify when using high-altitude photography.

Saturated wetlands are uncommon on this map and were not mapped unless sited in the field. Several areas appeared saturated on the photography, but were consistently found upland during field work.

VII. MAP ACQUISITION

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

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4101 East 30th St.
Bloomington, MN 55425-1600

To order maps only, contact:

National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, VA 22902
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.

VIII. LITERATURE CITED

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

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. Department of the Interior, U.S. Fish and Wildlife Service. Biological Services Program, Washington, D.C. 103 pp.

Soil Survey of Pukaski County. U.S. Department of Agriculture, Soil Conservation Service.