# NATIONAL WETLANDS INVENTORY

## NOTES TO USERS

## 1:100,000 SCALE MAP

## JEFFERSON CITY NW

## MISSOURI

USER REPORT: JEFFERSON CITY NW

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 the 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 work area covered by the Jefferson City NW base map is located in the westcentral portion of Missouri (Figure 1). This report pertains to the entire 1:100,000 quadrangle which involves 32 7.5' topographic quadrangles. Bailey (1980) classifies the work area as the Prairie Parkland Province of the Prairie Division of the Humid Temperate Domain. The Oak-Hickory-Bluestem Parkland and the Oak-Hickory-Forest Section comprises the entire work area (Bailey 1980).

The physiographic area is known as the central lowlands. The topography ranges from moderately sloping uplands to floodplains. Floodplains are relatively narrow with the adjacent uplands moderate to steep with outcrops of limestone. The work area includes the major drainages of the Black Water River, the South Fork Black Water River, the North Fork Black Water River, and the Lamine River. The major creeks are Flat Creek and Muddy Creek. Elevation ranges from approximately 730 feet to 1154 feet above sea level.

Climate: The climate is a subhumid, midcontinental with cold winters and long hot summers. The average yearly temperature is 55°F with record extremes from -15°F to 115°F. The average annual precipitation is approximately 36 inches. Sixty-nine percent of annual precipitation falls from April through September.

Vegetation: The majority of this work area is under agricultural influence in the form of cropland and pasture. Grasses and legumes consist of bluegrass, switchgrass, orchard grass, Indian grass, bluestem clover, alfalfa, trefoil, and crown vetch. Usually, grasses grow moderately tall and in bunches (Bailey 1980). Herbaceous plants consist of goldenrod, beggarweed, pokeweed, foxtail, croton, and partridge pea. Native vegetation is dominated by deciduous forest characterized by broadleaf deciduous trees with a dense understory in the spring, which thins as trees leaf out and shade the ground (Bailey 1980). Cottonwood, silver maple, green ash, sycamore, box elder, and black walnut are among the trees encountered in the floodplains. These trees often occur in frequently flooded areas, areas not protected by a levee, or areas where the drainage is inadequate for crops. Northern red oak, black oak, white oak, white ash, elms, and hickories are found abundant on the rolling hills. A list of wetland plants is given in section IV of this report.

Soils: The soils associated with this study area are the Mollisols and Alfisols (Bailey 1980). Major bottomland soils which provide wetland habitat are the Blackoar-Otter-Nodaway Association, the Macksburg-Sampsel Association and the Zook-Dockery-Blackoar Association.

## IV. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

TABLE I- 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,H) | Lacustrine, littoral, unconsolidated bottom | Lake, open water, marsh | Unconsolidated bottom |
| L2AB (G,H) | Lacustrine, littoral, aquatic bed | Lake, marsh | *Lemna* spp. (duckweed) green algae |
| L2EM2 (G,H) | Lacustrine, littoral, emergent, nonpersistent | Lake, marsh | *Scirpus* spp. (bulrushes) |
| L2US (A,C) | Lacustrine, littoral, unconsolidated shore | Beach, sandbar | Unconsolidated shore |

TABLE I- Continued

| NWI CODE (Water Regime) | NWI DESCRIPTION | COMMON DESCRIPTION | CHARACTERISTIC VEGETATION |
|---|---|---|---|
| R2UB (F,G,H) | Riverine, lower perennial, unconsolidated bottom | River | Unconsolidated bottom |
| R2US (A,C) | Riverine, lower perennial, unconsolidated shore | Beach, sandbar, mudflat | Unconsolidated shore |
| R3RB (F,G,H) | Riverine, upper perennial, rock bottom | River, stream | Rock bottom |
| R3US (A,C) | Riverine, upper perennial, unconsolidated shore | Beach, sandbar, mudflat | Unconsolidated shore |
| R3UB (F,G,H) | 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, borrow pit, marsh | Unconsolidated bottom |
| PAB (F,G,H) | Palustrine, aquatic bed | Pond, reservoir marsh | Lemna spp. (duckweed) green algae |
| PEM (A) | Palustrine, emergent, temporary | Depression, drainage | Eleocharis spp. (spike rushes) Ambrosia spp. (ragweed) Carex spp. (sedges) Rumex spp. (dock) Juncus spp. (rushes) Equisetum spp. (horsetail) Urtica dioica (stinging nettle) |

TABLE I- Continued

| NWI CODE (Water Regime) | NWI DESCRIPTION | COMMON DESCRIPTION | CHARACTERISTIC VEGETATION |
|---|---|---|---|
| PEM (B) | Palustrine, emergent, saturated | Seep, fen | Phragmites spp. (reeds)<br>Carex spp. (sedges)<br>Typha spp. (cattail)<br>Scirpus spp. (bulrushes) |
| PEM (C) | Palustrine, emergent, seasonal | Depression, drainage | Polygonum spp. (smartweed)<br>Carex spp. (sedges)<br>Phalaris arundinacea (reed canary grass)<br>Juncus spp. (rushes)<br>Typha spp. (cattail)<br>Scirpus spp. (bulrushes) |
| PEM (F,G) | Palustrine, emergent | Marsh, farm pond, backwater, oxbow | Typha spp. (cattail)<br>Scirpus spp. (bulrushes) |
| PSSI (A,C) | Palustrine, scrub-shrub, broad-leaved deciduous | Marsh, floodplain, depression | Salix spp. (willow)<br>Populus deltoides (cottonwood) |

TABLE I- Continued

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

## IV. MAP PREPARATION

The wetland classifications that appear on the Jefferson City NW National Wetlands Inventory (NWI) Base Map are in accordance with Cowardin et. al. (1979). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared high altitude aerial photography. The aerial photography was taken during March 1983, April and October 1984, and March 1986.

Field checks of areas found within the Jefferson City NW 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 types and soil types, as well as additional input from field personnel.

Collateral data included USGS 7.5' topographic maps, SCS soil surveys of Johnson and Lafayette counties in Missouri, USGS Water Resources Data for Missouri Water Year 1986, U.S. Army Corps of Engineers topographic maps, vegetation and ecoregion 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..

## V. SPECIAL MAPPING PROBLEMS AND SITUATIONS

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

Perennial versus intermittent rivers (R2 and R3 vs R4) were determined in accordance with the USGS topographic maps. Deviation from the USGS classification only occurred when water permanency was reduced (perennial to intermittent) due to collateral information (ex. field verification or absence of water photosignatures). An effort was made to insure consistency between the USGS provisional topographic maps and the USGS standard topographic maps. The decision to classify water regimes for rivers (G or H) was determined by use of the water resource data. Rivers which were less than pen width (LPW) were not delineated on this quadrangle.

Temporary emergent wetland (PEMA) photosignatures are usually a dark grey signature in a defined basin, however, non-farmed, vegetated floodplains exhibit a light pink and gray signature and will be classified as temporary emergent wetlands. Seasonal wetland (PEMC) areas are more prevalent and show varying signatures of bright red, gray and red mottled, or open water signatures. Most seasonal wetlands are associated with river drainages.

The aerial photography has many photosignatures which appear to be saturated areas (PEMB). Extensive field verification showed a vast majority of these areas are not wetlands. Saturated wetland photosignatures, which usually occur on the sides of hills and in drainageways, will be considered upland on this quad unless collateral data is available.

Non-depressional wetlands which were farmed at the time of photography were not delineated on the Inventory map.

Aquatic bed (AB) photosignatures were visible on the photography. The aquatic bed photosignature shows a pink signature and was classified as PAB even though few of these wetlands were verified in the field.

## A. MAP ACQUISITION

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

Ron Erickson
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U.S. Fish and Wildlife Service - Region 3
4101 East 80th Street
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.

# VI. 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 Surveys of Johnson and Lafayette Counties of Missouri, U.S. Department of Agriculture, Soil Conservation Service.

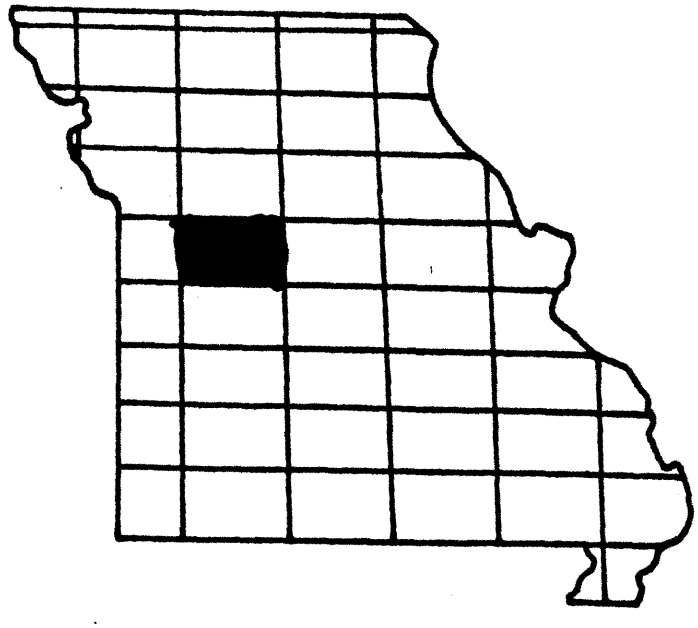

Figure 1. Location of Jefferson City NW work area, in Missouri.