

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

HARRISON NE

MISSOURI USER REPORT: HARRISON 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 situations; (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 Harrison NE 1:100,000 is located in southcentral Missouri (Figure 1) and consists of 32, 7.5' quads. Bailey (1980) classifies this area as being in the Oak-Hickory Forest section of the Eastern Deciduous Forest province in the Hot Continental division of the Humid Temperate domain, in his "Descriptions of the Ecoregions of the United States."

Topography of the area is mostly heavily forested, very hilly areas which have a great degree of dissection and stream entrenchment. Most of the very hilly broken areas are adjacent to flood plains and some of these have precipitous, rock-scarped edges. The elevation ranges from approximately 900 to 1500 feet above sea level. Major drainages on this quad include the Bennets River, Bryant Creek, Beaver Creek, Little North Fork Creek, and North Fork Creek. Numerous other rivers and streams are also present on the Harrison NE quad.

Climate: The consistent pattern of climate is one of moderately cool winters and long hot summers. The average winter temperature is 35°F and the average summer temperature is 76°F with record extremes from 113°F to -11°F. The total average annual precipitation is 40 inches. Sixty percent of annual precipitation falls from April through September.

Vegetation: Native vegetation consists of tall prairie grasses and deciduous forest. Oaks, hickory, maple, walnut, and elms are common trees present in the forested portions of the study area. Some pines grow among these hardwoods. Agricultural areas mainly consist of cattle grazing and hay production. Raising cattle and dairying are the main livestock enterprises. Logging is also a major form of land use. Most of the Harrison NE quad is very heavily forested and thousands of acres are in the Mark Twain National Forest.

Soils: The soils associated with this study area are the Mollisols and Alfisols (Bailey 1980).

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
R3RB (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

IV. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

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PAB (F,G,H)	Palustrine, aquatic bed	Pond, reservoir marsh	<u>Lemna</u> spp. (duckweed) green algae <u>Potamogeton</u> spp. (pondweed) <u>Ceratophyllum</u> <u>demersum</u> (coontail)
PUB (F,G,H)	Palustrine, unconsolidated bottom	Pond, reservoir, borrow pit, marsh	Unconsolidated bottom
PEM (A) rushes)	Palustrine, emergent, temporary	Depression, drainage	<u>Eleocharis</u> spp. (spike <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) <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)

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NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
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,G)	Palustrine, emergent	Marsh, farm pond, backwater, oxbow	<u>Typha</u> spp. (cattail) <u>Scirpus</u> spp. (bulrushes)
PSSI (A,C,F)	Palustrine, scrub-shrub, broad-leaved deciduous	Marsh, floodplain, depression	<u>Salix</u> spp. (willow) <u>Populus</u> <u>deltoides</u> (cottonwood) <u>Cephalanthus</u> <u>occidentalis</u> (common buttonbush)
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>Plantanus</u> <u>occidentalis</u> (sycamore)

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NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PFO5 (G,H)	Palustrine, forested	Impoundment	Dead trees
PUS (A,C)	Palustrine, unconsolidated shore	Depression, shallow gravel pit	Unconsolidated shore

IV. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

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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
s	Spoil	Mine tailings, spoil deposition

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 the 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. When surface water is absent, the water table is often near the land 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 1:58,000 scale color infrared aerial photography. The photography was taken spring of 1983, 1984, and 1985.

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 input from field personnel. Collateral data included USGS 7.5' topographic and orthophoto maps, SCS soil survey of Christian County in Missouri, USGS Water Resources Data for Missouri Water year 1986, Missouri DNR Missouri Water Atlas, Missouri DNR "All Known High-Quality Fens in Missouri" 1990, and 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.

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 were distinguished by using USGS topographic maps unless found different during field work or in photographic appearance.

Wetland photosignatures (spring) were wetter than actual long term water conditions, based on field reconnaissance (fall). A conservative approach was employed when determining water regimes on the photographs, especially for areas of karst topography which contain sink holes.

Several sinkhole wetlands are present on this map. The majority are classified as seasonally flooded, although some are classified as temporarily or semipermanently flooded. Water regimes of sinkholes seen on the photography were not always consistent with what was seen in the field. Therefore, water regime classification of some sinkhole wetlands may not be consistent with current field conditions due the dynamic nature of sinkholes and karst topography.

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

Several losing streams are present on this map. Some smaller streams appear to lose completely underground leaving little evidence of surface flow, even during high run-off. Shrubs and trees are strongly established within the old, historic channels. Other streams flow above surface for a very short time during high water run-off, and then gradually sink (lose) into the ground and flow sub-terrain. It is not uncommon for a stream located in karst areas to disappear and reappear several times.

VII. MAP ACQUISITION

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

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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 Christian County. U.S. Department of Agriculture, Soil Conservation Service.