NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

MOBERLY NE

MISSOURI

USER REPORT: MOBERLY 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 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 study area covered by the Moberly NE base map is located in the northwest portion of Missouri (Figure 1). This report pertains to the entire 1:100,000 quadrangle which involves 32 7.5' topographic quadgrangles. 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-Bluestem Parkland section comprises the entire study area.

The topography ranges from broad level floodplains to steep wooded slopes. Elevations range from approximately 648 feet above sea level in the southwest corner to approximately 1008 feet in the northwest corner of the quad.

Climate: Climate is characterized by hot summers and cool winters. Average winter temperature is 30°F with a summer average of 75°F. The average annual precipitation is approximately 38 inches.

Vegetation: The majority of this study area is under agricultural influence in the form of cropland and pasture. Grasses and legumes consist of bluegrass, switchgrass, orchard grass, indian grass, clover, alfalfa, trefoil, and crown vetch. Usually, grasses grow moderately tall and in bunches (Bailey 1980). Herbaceous plants consist of

bluestem, 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, pin oak, 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 Piopolis-Chequest and the Piopolis-Blackoar associations.

V. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS for northern 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,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, nonpersistant	Lake, marsh	Scirpus spp. (bulrushes)
L2US (A,C)	Lacustrine, littoral, unconsolidated shore	Beach, sandbar	Unconsolidated shore

IV. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS for northern Missouri

TABLE - Cowardin Classification Codes and Descriptions

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
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, barrow 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. (ragwood) Carex spp. (sedges) Rumex spp. (dock) Juncus spp. (rushes) Equisetum spp. (horsetail) Urtica dioica (stinging nettle)

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

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TABLE - Cowardin Classification Codes and Descriptions

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) Ulmus americana (american elm) Acer saccharinum (silver maple) Acer negundo (box elder) Fraxinus pennsylvanica (green ash) Populus deltoides (cottonwood) Morus spp. (mulberry) 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 Moberly NE 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 photography. The photography was taken on April 6, 1983, April 15, 1984 and March 29, 1986.
Field checks of areas found within the Moberly NE 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' topogrophic maps, SCS soil surveys of Monroe,Shelby and Randolph counties, USGS Water Resources Data for Missouri Year 1986, U.S. Army Corps of Engineers topographic maps, 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, such as strip mine reclamation, between the map and current field conditions, changes in landscape which occured 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.

Areas which gave a wet, non-depressional, farmed signature were not delineated on the photography.

Conditions in the field were extremely dry. The photos for 1983 depicted normal water conditions. The photos for 1986 were dry. The signatures on the 1986 photography were not as evident as on the 1983 spring photos due to dry conditions. Wetlands were pulled more aggressively on the 1986 photos to compensate for this situation.

The Thomas Hill Reservoir is a large lacustrine impoundment. The photography shows the reservoir slightly below normal pool elevation of 710. A littoral zone will be entered by ZTS at the 700' contour. Any wetlands delineated above 710' were considered to be natural and do not have the h modifier.

The Long Branch Lake is a large lacustrine impoundment on this quad. Various dates of photography for this lake made consistency difficult. On the 1984 photography the pool elevation was slightly above the target elevation of 791 feet. The open water signature present on the photo was used as the upland/wetland boundary because of the close proximity of the contour lines on the topo. Towards the tail waters the 790 foot contour was estimated and drawn in as the Palustrine/ Lacustrine break. The wetlands above this break were considered seasonally impounded where the signature and hydrologic connection indicates.

Forested temporary signatures associated with riverine systems were usually a dark green with a darker understory, or a dark gray with no understory visible. Forested seasonal signatures usually showed a well defined basin with water in the understory on all seasons of photography.

VI. MAP AQUISITION

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

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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 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.

VII. 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 p.

Soil Surveys of Monroe, Shelby and Randolph counties. U.S. Department of Agriculture, Soil Conservation Service.