NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

Nebraska City NW

Iowa and Missouri

USER REPORT: Nebraska City NW

NATIONAL WETLANDS INVENTORY MAP

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. Photointerpretation 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 Nebraska City NW base map is located in the NW corner of Missouri and the SW corner of Iowa. (Figure 1). This report is for the Missouri and Iowa portion of this quadrangle. Bailey (1980) classifies the study area as being in the Prairie Parkland and Tall-grass Prairie Provinces of the Prairie Division. Oak-Hickory-Bluestem and Bluestem Prairie are the represented sections.

The topography of the area ranges from the relatively flat Missouri River valley to the steep rolling river bluffs. The map is dissected by gradual to very steep drainageways. The study area includes many small creeks and major rivers including High Creek, West Tarkio Creek, Walnut Creek, Tarkio River, West and East Nishnabotna Rivers, and the Missouri River. Elevations range from approximately 900 feet in the Missouri floodplain to over 1200 feet near Stanton, Iowa.

Climate: Climate is characterized by hot summers and cool winters. Average summer temperature is 74 degrees F., dropping to 25 degrees F. in the winter with the average yearly temperature being 50 degrees F. The average annual precipitation is about 32 inches. Of this 75% (24") usually falls from April through September.

Vegetation: The majority of this study area is under agricultural influence in the form of farmland of pasture. Native vegetation is dominated by deciduous forest, characterized by broad

leaf deciduous trees with a dense understory in the spring, which thins as trees leaf out and shade the ground (Bailey 1980). Cottonwoods, silver maples, green ash, boxelder, pin oak, and black walnut were among the trees encountered in the flood plains. These trees often occur on frequently flooded areas, areas not protected by a levee, or areas where the drainage is inadequate for crops. Oak species, white ash, elms, hickories and others were abundant on the hills bordering the river valleys. Grasses are the dominate prairie vegetation, most of which grow moderately tall and in bunches (Bailey 1980).

Soils: Soil surveys for Fremont, Page, and Mills Counties in Iowa and Atchison County Missouri were used as collateral data. Haynie-Albaton-Onawa, Keg-Salix-Luton, McPaul-Napier-Moville, and Colo-Kennebec-Nodaway associations are listed as bottomland soils.

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)	Limnetic Lake unconsolidated bottom	Lake	Unconsolidated bottom
L2UB (G,H)	Littoral Lake, unconsolidated bottom	open water marsh	Unconsolidated bottom
L2AB (G)	Littoral Lake Aquatic bed	marsh	Lemna 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	Lemna spp. (duckweed) green algae

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NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
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)
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) Phalarys arundinacea (reed canary grass) Juncus spp. (rushes) Typha spp. (cattail) Scirpus spp. (bulrushes)

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NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM (F)	Palustrine, emergent, semipermanent	Marsh, farm pond, backwaters, oxbow	*Typha* spp. (cattail) *Scirpus* spp. (bulrush)
PSS1 (A,C,F)	Palustrine, scrub-shrub, broad-leaved deciduous	Marsh, floodplains, depressions	*Salix* spp. (willow) *Populus deltoides* (cottonwood)
PF01 (A,C,F)	Palustrine, forested, broad-leaved deciduous	Floodplains, depressions	*Salix* spp. (willow) *Ulmus americana* (American elm) *Acer saccharinum* (silver maple) *Morus* spp. (mulberry) *Acer negundo* (box elder) *Platanus occidentalis* (sycamore) *Carya ovata* (shag bark hickory) *Fraxinus pennsylvanica* (green ash)
PF05 (G,H)	Palustrine, forested, dead	Impoundments	Dead trees
PUS (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		

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.

E. MAP PREPARATION

The wetland classifications that appear on the Nebraska 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 photography. The photography was taken on 17 & 23, April 1982.

Field checks of areas found within the Nebraska City 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 7.5' topographic maps, SCS soil surveys, USGS Water Resources Data for Missouri, Water Year 1984,and Iowa, Water Year 1983, 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 photointerpretation was completed by the South Dakota Cooperative Fish and Wildlife Research Unit, SDSU, Brookings, SD.

F. SPECIAL MAPPING PROBLEMS AND SITUATIONS

Photography for this map was taken at a dry period. Many of the basins were farmed at the time of this photography, and no wetland/upland boundary was visible for delineation. Drought conditions during two field seasons hindered efforts to discern whether some of the weaker appearring signatures were wetland. As a result more wetlands, particularly temporary basins in plowed fields, may have been missed.

Farmed, palustrine, floodplain wetlands considered non-basin in nature were labeled as PfA. The cultivated fields located between the Missouri River and the first major levee are all concidered PfA.

Perennial versus intermittent linears were distinguished in most areas by using the topographic maps. However, some linears marked perennial on the topographic map appeared very weak and short in length. In these situations the decision to classify the stream as R4 or R2 was left to the interpreter.

G. 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.

H. 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 Freemont, Mills, and Page Co., Iowa and Atchison Co.,Missouri. U.S. Department of Agriculture, Soil Conservation Service.