

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

MOBERLY SW

MISSOURI

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. (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 and application of the classification system.

*Some*

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.

*Some*

C. STUDY AREA

Geography: The study area covered by the Moberly SW base map is located in the northcentral 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 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 (Bailey 1980).

The topography ranges from the flat Missouri River valley to the steep bluffs along the valley to gently rolling farmland further from the Missouri River. The map is dissected from west to east by the Missouri River and also by numerous gradual to very steep drainageways. The study area includes many small creeks and streams and major rivers including the Crooked River, Salt Fork, Salt Creek, Big Creek, Wakenda Creek, and Davis Creek. Elevations range from approximately 630 feet above sea level on the floodplain in the east to just over 1000 feet on the uplands in the west.

Climate: Climate is characterized by hot summers and cool winters. Temperature extremes range from approximately -10° to 110°F. Average annual precipitation is 36-38 inches, most of which falls in April through September.

Vegetation: The majority of this study area is under agricultural influence in the form of farmland or pasture. Grasses

and legumes consist of bluegrass, switch grass, 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 were among the trees encountered in the flood plains. 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 were found abundant on the river hills. A list of wetland plants is given in Section D of this report.

Soils: The soils associated with this study area are the Mollisols and Alfisols (Bailey 1980). Major bottomland soils within the Moberly SW which provide wetland habitat are the Ieta-Haynie-Waldron and Zook-Nodaway-Bremer associations.

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)	Lacustrine, limnetic, unconsolidated bottom	Lake	Unconsolidated bottom
L2UB (G,H)	Lacustrine, littoral unconsolidated bottom	Lake, open water marsh	Unconsolidated bottom
L2AB  (G)	Lacustrine, littoral  Aquatic bed	Lake, marsh	<u>Lemna</u> 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	<u>Lemna</u> 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	<u>Eleocharis</u> spp. (spike rushes) <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)
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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NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM (F)	Palustrine, emergent, semipermanent	Marsh, farm pond backwaters, oxbow	<u>Typha</u> spp. (cattail) <u>Scirpus</u> spp. (bulrush)
PSS1 (A,C,F)	Palustrine, scrub-shrub, broad-leaved deciduous	Marsh, floodplains, depressions	<u>Salix</u> spp. (willow) <u>Populus deltoides</u> (cottonwood)
PF01 (A,C,F)	Palustrine, forested, broad-leaved deciduous	Floodplains, depressions	<u>Salix</u> spp. (willow) <u>Ulmus americana</u> (American elm) <u>Acer saccharinum</u> (silver maple) <u>Morus</u> spp. (mulberry) <u>Acer negundo</u> (box elder) <u>Platanus</u> <u>occidentalis</u> (sycamore) <u>Carya ovata</u> (shag bark hickory) <u>Fraxinus</u> <u>pennsylvanica</u> (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.

*Same*

#### E. MAP PREPARATION

The wetland classifications that appear on the Moberly SW 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 23 May 1983, 19 October 1984, and 20 November 1983.

Field checks of areas found within the Moberly SW 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 Lafayette, Ray, Carroll, and Saline Counties, USGS Water Resources Data for Missouri Water Year 1984 and 1986, 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.

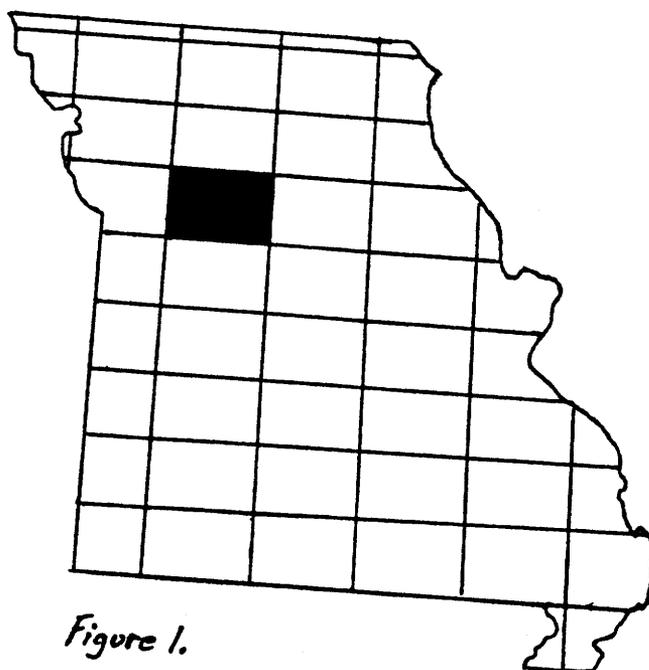
#### F. SPECIAL MAPPING PROBLEMS AND SITUATIONS

The PFA or PFC label was used in classifying those farmed, palustrine floodplain wetlands considered non-basin in nature.

Perennial versus intermittent linears were distinguished in most areas by using the topographic maps. However, the early 1950's and late 1940's topographic maps had many very weak, short, linears mapped as perennial. In these situations the decision to go R4 or R2 was left to the interpreter.

Spring photos were used to delineate additional temporary wetlands on adjacent fall photos when signatures were weak or lacking.

*Location of Moberly SW Map*



*Figure 1.*