

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

ST. LOUIS NE & SE

(MISSOURI PORTION ONLY)

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## USER REPORT: ST. LOUIS NE & SE 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. Photo interpretation conventions, hydric soils lists and wetland plant lists are also available to enhance the use and application of the classifications 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 area being discussed in this report lies in Eastern Missouri, adjacent to the Mississippi River. It extends from 38° 00' to 39° 00' North Latitude and from 91° 00' to 92° 00' West Longitude. The northern half of St. Louis NE is in the Prairie Parkland Province (Bailey, 1980. See Appendix I). St. Louis SE and the southern half of St. Louis NE are in the Eastern Deciduous Forest Province. (Bailey, 1980, See Appendix I). The Interior Middle Upland Western Plains Land Surface Form covers the northern and eastern portions of the work area. This land surface form is characterized by flat to rolling plains (Hammond 1965). The western and southern portions of the work area are covered by the Ozark-Ouachita Highlands land surface form. This land surface is characterized by open hills that are dissected by moderately sloping to steep drainage ways. In addition, there are areas of karst topography.

The Missouri, Meramec and Big Rivers are the prominent drainages in the study area. These drainages flow in an eastern direction, emptying into the Mississippi River. The land adjacent to the Missouri and Meramec Rivers is for the most part under cultivation.

### Climate:

The climate of St. Louis NE and SE is in the Continental Division (Bailey 1980). The climate is quite variable, being influenced by cold fronts from the north as well as warm humid air from the Gulf of Mexico. Heaviest rains occur in Spring and early Summer, when humid air from the Gulf of Mexico interacts with the drier continental air. (Soil Survey, St. Louis County, April 1982). The average annual precipitation is 34 inches. The average yearly snowfall is 18 inches.

### Vegetation:

The northern portion of St. Louis NE is characterized by forest-steppe vegetation. The Forest-steppe consists of strips of deciduous trees intermingling with prairie. The southern portion of St. Louis NE and St. Louis SE are covered by Eastern Deciduous Forest. The Eastern Deciduous Forest is dominated by tall, broadleaf trees that provide a dense canopy in the summer and shed their leaves completely in the Winter. Common species of this region include oak, ash, hickory, walnut, maple and elm. In poorly drained areas alder, willow, elm, ash and hygrophytic shrubs dominate (Bailey, 1980). Much of this area is under cultivation and forested stands are generally restricted to floodplains.

### Soils:

Only three soil surveys were available for the work area. These were St. Louis County, St. Charles County and St. Francois County. In St. Louis County, much of the bottomland is under cultivation. Soils that would support wetland vegetation are drained and prevented from flooding by the use of levees. The Blake-Eudora-Waldron Soil association covers the broad bottomlands of the Missouri and Mississippi Rivers, in St. Louis County. This association contains some soils that are poorly drained. These poorly drained soils are found in sloughs and they would support seasonal and even semipermanent wetlands. Other soils in this association are well drained and would support temporary wetland vegetation. The Wilbur-Haymond Elsay soil association is found along the floodplains of the Meramec River in St. Louis County. This association consists mostly of well drained soils. The Freeburg-Ashton-Weller association is found along the stream terraces of the Meramec River. This association has level to nearly level soils that are poorly drained to well drained. In Upland areas of St. Louis County, wetlands can be found on the poorly drained soils of the Nevin-Urban land association. In St. Charles County, bottomland wetlands can be found on soils of the Portage-Carlow-Kampville association, Haynie-Blake-Waldron association and the Dockery-Haymond-Sensabaugh association. Soils of the Lomax-Blase association are found on river terraces. In upland areas of St. Charles County, wetlands are found in depressions and areas with poorly drained soils. The portion of St. Francois County that extends into the St. Louis NE-SE work area has a gently sloping to steep topography. The level soils along stream terraces are well drained and would support temporarily flooded wetlands.

## D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions (1 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lakes	Sand, mud
L2US (A,C)	Lacustrine, littoral, unconsolidated shore	Shallow Lake	Sand, mud
R2UB (G,H)	Riverine, lower perennial, unconsolidated bottom	River	Sand, mud
R3UB (G,H)	Riverine, upper perennial, unconsolidated bottom	River/Stream	Sand, cobble, gravel bottom
R3AB (G,H)	Riverine, upper perennial, aquatic bed	River/Stream	Algae
R2US (A)	Riverine, lower perennial, unconsolidated shore	Sand Bar	Sand, cobble, gravel
R4SB (C,F)	Riverine, intermittent streambed	River/stream	Sand, mud, cobble, gravel
PUB (F,G,K)	Palustrine, unconsolidated bottom	Pond	Sand, mud
PAB (F,G)	Palustrine, aquatic bed	Farm Pond, deep Marsh, Reservoir	<u>Lemna minor</u> (duckweed) Green algae <u>Potamogeton</u> sp. (pondweed)
PEM (A,C,F)	Palustrine, emergent	Marsh, meadow, depressions, drainages, backwaters	<u>Typha</u> sp. (cattail) <u>Scirpus fluviatilis</u> (river bullrush) <u>Eleocharis</u> sp. (rush) <u>Carex</u> sp. (sedge) <u>Rumex crispus</u> (curly dock) <u>Solidago</u> sp. (goldenrod) <u>Rhus radicans</u> (poison ivy) <u>Urtica dioica</u> (stinging nettle) <u>Equisetum</u> sp. (horsetail) <u>Polygonum</u> sp. (smartweed) <u>Ambrosia trifida</u> (giant ragweed) <u>Xanthium</u> sp. (cocklebur) <u>Setaria</u> sp. (foxtail)

Table - Cowardin Classification Codes and Descriptions (2 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM (cont)			<u>Phalaris arundinacea</u> (reed canary grass) <u>Smilax</u> sp. (green briar) <u>Geum laciniatum</u> (rough avens) <u>Bidens</u> sp. (beggarticks) <u>Phragmites</u> sp. (common reed)
PSS1 (A,C,F)	Palustrine, scrub-shrub, broad- leaved deciduous	Shrub,swamp	<u>Salix nigra</u> (willow) <u>Sambucus canadensis</u> (elderberry) <u>Cephalanthus occidentalis</u> (button bush)
PFO1 (A,C,F)	Palustrine, scrub-shrub, broad- leaved deciduous	Forested swamp floodplains	<u>Betula nigra</u> (river birch) <u>Salix nigra</u> (black willow) <u>Fraxinus pennsylvanica</u> (green ash) <u>Carya laciniosa</u> (shellbark hickory) <u>Acer saccharinum</u> (silver maple) <u>Acer negundo</u> (box elder) <u>Ulmus americana</u> (american elm) <u>Platanus occidentalis</u> (sycamore) <u>Populus deltoides</u> (cottonwood) <u>Quercus palustris</u> (pin oak) <u>Tilia americana</u> (basswood) <u>Cornus amomum</u> (silky dogwood) <u>Celtis occidentalis</u> (hackberry)
h	Diked, Impounded	Dam or levee, reservoir	NA
x	Excavated	Channelized or ditched, strip mine	NA

## 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) Seasonably 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 extremely 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.
- (U) Unknown -- The water regime is not known.

## F. MAP PREPARATION

The wetland classifications that appear on the St. Louis NE and SE National Wetlands Inventory (NWI) Base Maps are in accordance with Cowardin et al (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography. The photography was taken during March 1983, April 1984, March 1985 and March, 1986.

Field checks of areas found within the St. Louis NE and SE 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 topographic maps, SCS soil surveys, climate, 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 and drafting were completed by Martel Laboratories, Inc., St. Petersburg, Florida.

#### G. SPECIAL MAPPING PROBLEMS

The most significant problems encountered were determining upland-wetland breaks in flooded photography and tying photography with different emulsions. For this reason, photo signature, topo information and soil surveys were closely compared for interpretation.

#### H. 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  
National Center  
Reston, VA 22092

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.

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**APPENDIX I**

**ECOREGIONS OF THE MISSISSIPPI RIVER ROUNDOUT PROJECT AREA**

**Prairie Parkland Province  
2511-Oak-Hickory-Bluestem  
Parkland Section**

**Eastern Deciduous Forest Province  
2215-Oak-Hickory Section**

### Collateral Data

Bailey, Robert G., 1980. Description of the Ecoregions of the United States.

U.S. Department of Agriculture Forest Service. (1980)

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.

U.S.D.A. Soil Surveys of St. Charles, St. Louis, St. Francois Counties.

Hydric Soils of the state of Missouri; 1985. U.S. Department of Agriculture, Soil Conservation Service.

Wetland Plants of the State of Missouri; 1986. U.S. Department of the Interior, Fish and Wildlife Service.

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