

Quincy NW  
Missouri

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

QUINCY NW

(MISSOURI PORTION ONLY)

**USER REPORT: QUINCY 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. 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 northeastern Missouri, adjacent to the Mississippi River. It extends from 39° 30' to 40° 00' North Latitude and from 91° 00' to 92° 00' West Longitude. Bailey (1980) classifies this area as being in the Prairie Parkland Province (See Appendix I). The Interior Middle Upland Western Plains Land Surface Form covers Quincy NW. This land surface form is characterized by flat to rolling plains (Hammond, 1965 and 1969). The work area was glaciated during the Wisconsin Ice age and is dissected by moderately sloping to steep drainage ways.

The Salt, Fabius and North Rivers are the most prominent drainages in the study area. These drainages flow in an eastern direction emptying into the Mississippi River. It is along these rivers that the forested floodplains are found.

There are numerous small ponds and reservoirs within the work area. Mark Twain Lake is the largest reservoir within Quincy NW. This reservoir covers approximately 18,600 acres at normal pool. The reservoir is used for water storage, flood control, generation of hydroelectric power and recreation.

A portion of the Mississippi flyway is located in the work area. This flyway is one of the nation's most important bird migration routes. Millions of migratory waterfowl and shorebirds used the river bottom habitat for feeding and resting. The Ted Shanks Wildlife Area is located at the confluence of the Mississippi and Salt Rivers and is managed to provide optimum habitat for the migratory birds. This management is achieved by the use of a levee and pump system to control water elevation.

### Climate:

The climate of Quincy NW is in the Subhumid Prairie Division (Bailey, 1980). The annual precipitation is approximately 36 inches. 75% of this precipitation falls in the growing season (April-September). The average snowfall is 20 to 30 inches. Summers are hot but the temperature rarely rises above 100° F for four or five consecutive days (Soil Survey Monroe County, August 1979).

### Vegetation:

The vegetation of the Quincy NW 1:100,000 scale map is primarily forest-steppe. The forest-steppe is characterized by the intermingling of prairie and strips of deciduous trees. Much of this area is under cultivation and forested stands are generally restricted to floodplains. Emergent vegetation can also be found along the floodplains and in depressions on upland areas.

### Soils:

Bottomland soils within Quincy NW are of the Fatima-Belknap-Landes association, Carlow-Belknap-Chequest association and the Piopolis-Blackoak-Arbela association. These associations contain soils that are poorly drained to somewhat poorly drained and that are level to nearly level. Bottomland wetlands were found on non-hydric as well as hydric soils. Bottomland hydric soils within the work area include Belknap, Carlow, Chariton, Chequest and Gifford.

In upland areas, wetlands can be found on the soils of the Mexico-Putnam association and Armstrong-Leonard association. These wetlands can be found as seeps and in depressions that contain poorly drained soils. Three soils included in the above associations, Edna, Leonard and Kilwinning are found on the Hydric Soils List of Missouri.

## D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

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

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

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

| NWI CODE<br>WATER<br>REGIME | NWI DESCRIPTION                                 | COMMON DESCRIPTION                 | CHARACTERISTIC<br>VEGETATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------|-------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PEM<br>(cont)               |                                                 |                                    | <u>Phalaris arundinacea</u><br>(reed canary grass)<br><u>Smilax</u> sp. (green briar)<br><u>Geum laciniatum</u> (rough avens)<br><u>Bidens</u> sp. (beggarticks)<br><u>Phragmites</u> sp. (common reed)                                                                                                                                                                                                                                                                                                                                  |
| PSS1<br>(A,C,F)             | Palustrine, scrub-shrub, broad-leaved deciduous | Shrub,swamp                        | <u>Salix nigra</u> (willow)<br><u>Sambucus canadensis</u> (elderberry)<br><u>Cephalanthus occidentalis</u><br>(button bush)                                                                                                                                                                                                                                                                                                                                                                                                              |
| PFO1<br>(A,C,F)             | Palustrine, scrub-shrub, broad-leaved deciduous | Forested swamp floodplains         | <u>Betula nigra</u> (river birch)<br><u>Salix nigra</u> (black willow)<br><u>Fraxinus pennsylvanica</u> (green ash)<br><u>Carya laciniosa</u> (shellbark hickory)<br><u>Acer saccharinum</u> (silver maple)<br><u>Acer negundo</u> (box elder)<br><u>Ulmus americana</u> (american elm)<br><u>Platanus occidentalis</u> (sycamore)<br><u>Populus deltoides</u> (cottonwood)<br><u>Quercus palustris</u> (pin oak)<br><u>Tilia americana</u> (basswood)<br><u>Cornus amomum</u> (silky dogwood)<br><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 Quincy NW 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 April 1983, April 1984 and March 1985.

Field checks of areas found within the Quincy NW 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.

/nwi.2

**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**



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 Monroe, Shelby, Marion and Ralls 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.