

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

DES MOINES SW

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USER REPORT: DES MOINES SW

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 Des Moines SW base map is located in the south central portion of Iowa (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 nearly level floodplains to the very steep upland divides between the drainages. The study area includes the major drainages of the Des Moines River. Major drainage systems include the North River, Middle River, South River, Clanten River, White Breast River, English Creek, Squaw Creek, and Otter Creek. Elevations range from 700' located at the Lake Red Rock Reservoir in the northeastern portion of the map to just over 1200' in the southwestern portion of the map.

Climate: Climate is characterized by hot summers and cool winters. Average winter temperature is 25°F with a summer average of 74°F. The average annual precipitation is approximately 31.5 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 part-ridge 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 Mol-
lisols and Alfisols (Bailey 1980). Major bottomland soils associated
with wetlands are the Nodaway-Zook-Ackmore Association.

IV. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS for central Iowa, southern Iowa, and northern Missouri

TABLE - Cowardin Classification Codes and Descriptions

NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
LIUB (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	<u>Lemna</u> spp. (duckweed) green algae
L2EM2 (G,H)	Lacustrine, littoral, emergent, nonpersistent	Lake, marsh	<u>Scirpus</u> spp. (bulrushes)
L2US (A,C)	Lacustrine, littoral, unconsolidated shore	Beach, sandbar	Unconsolidated shore
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	<u>Lemna</u> spp. (duckweed) green algae

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PEM (A)	Palustrine, emergent, temporary	Depression, drainage	<u>Eleocharis</u> spp. (spike rushes) <u>Ambrosia</u> spp. (ragwood) <u>Carex</u> spp. (sedges) <u>Rumex</u> spp. (dock) <u>Juncus</u> spp. (rushes) <u>Equisetum</u> spp. (horsetail) <u>Urtica dioica</u> (stinging nettle)
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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PEM (F,G)	Palustrine, emergent	Marsh, farm pond, backwater, oxbow	<u>Typha</u> spp. (cattail) <u>Scirpus</u> spp. (bulrushes)
PSSI (A,C)	Palustrine, scrub-shrub, broad-leaved deciduous	Marsh, floodplain, depression	<u>Salix</u> spp. (willow) <u>Populus deltoides</u> (cottonwood)
PFOI (A,C,F)	Palustrine, forested, broad-leaved deciduous	Marsh, floodplains, depression	<u>Salix</u> spp. (willow) <u>Ulmus americana</u> (american elm) <u>Acer</u> <u>saccharinum</u> (silver maple) <u>Acer negundo</u> (box elder) <u>Fraxinus</u> <u>pennsylvanica</u> (green ash) <u>Populus</u> <u>deltoides</u> (cottonwood) <u>Morus</u> spp. (mulberry) <u>Plantanus</u> <u>occidentalis</u> (sycamore)
PFO5 (G,H)	Palustrine, forested	Impoundment	Dead trees
PUS (A,C)	Palustrine, unconsolidated shore	Depression, shallow gravel pit	Unconsolidated shore

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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.

V. MAP PREPARATION

The wetland classifications that appear on the Des Moines 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 May 15, 1983 and November 29, 1984.

Field checks of areas found within the Des Moines 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 Warren, Marion, and Monroe counties; USGS Water Resources Data for Iowa Water Year 1983, 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 between the map and current field conditions, changes in landscape, and amount of precipitation, since the photography was taken would result in some of these discrepancies.

Aerial photointerpretation was completed by the South Dakota Cooperative Fish and Wildlife Research Unit, SDSU, Brookings, S.D.

VI. SPECIAL MAPPING PROBLEMS AND SITUATIONS

Wetlands visited but not checksited will have the water regime in the alphanumeric label underlined.

Perennial vs. intermittent linears were distinguished in most areas by a combination of topographic information and photosignature. Most linears pulled were classified as R2UBH, R2UBG or R4SBF. R4SBC linears are present but less frequent. Starting points for linears, in most cases, will be where major junctions occur, resulting in a wider linear. These resulting linears will often be R4SBF's, and may or may not be less-than-pen-width (LPW). If a meandering stream, less-than-pen-width, appears to have areas that will pool at low water, only the pools will be pulled as PEM or PUB. The remainder of the linear will be left undelineated. Likewise, with sections of a LPW linear that contain wet trees or shrubs. The SS or FO sections in the channel will be classified, but the remaining LPW linear, will be left out. Any depressional wetlands adjacent to linears were classified even though the linear may have been left out.

Forested temporary signatures associated with riverine systems were a bright red photosiganture with no visible understory on the spring photography. On the fall photography, temporary forested areas gave a

purple-pink photosignature. The dark photography of fall presented some problems. Seasonal forested within temporary forested areas were difficult to distinguish due to dark photography and shadows.

Saturated areas were prevalent on this quadrangle. Many areas on upland resembled saturated signatures. The true saturated, non-farmed wetlands gave a mottled gray and white or red and white signature. Any saturated area which showed evidence of plowing was left undelineated. Areas which had distinct boundaries and gave a dark brown-black signature at the head of drainages were also pulled as saturated.

Aquatic bed photosignatures were not visible on the spring photography but they were more prevalent on the fall photos and were delineated as PAB.

The Lake Red Rock Reservoir is an impounded lake created by the U.S. Corps of Engineer. The lake is fed by the Des Moines River and is located in the northeast corner of the 1:100,000 map. 1:24,000 maps have been produced from two dates of photography:

- 1) The current date pool elevation of 772' above sea level on the May 15, 1983 photography, was in an extreme flood stage, thus creating mapping problems. Through careful study of field notes and Corps of Engineer data, the reservoir boundry was decided to be somewhere between 750' to 760' above sea level. Therefore, some natural wetlands between the boundry proximaty and the current date pool elevation of 772' may have been missed due to the inundation present on the photography.

- 2) The current date pool elevation of 730' above sea level on the October 29, 1984 photography, was in a man-induced draw down state. Because the previous spring in 1984 also reached an extreme pool elevation (779' above sea level), areas above the proximate reservoir boundry exhibit wetland photosignatures on the photography. These areas were left as upland, although natural wetlands were still delineated. Caution is advised to the user of these particular maps that natural wetlands between the area of the proximate reservoir boundry and 779', may have been confused with photosignatures of the extreme reservoir pool inundation which occurred earlier that spring.

Edge matching of maps, because of these two different dates of photography, may not match. Also, because additional information gathered during field work, edge matching of this 1:100,000 map does not match with the previously completed Des Moines NW 1:100,000 map.

VII. MAP AQUISITION

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 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 Warren, Marion and Monroe Counties. U.S. Department of Agriculture, Soil Conservation Service.