

NATIONAL WETLANDS INVENTORY

NOTES TO USERS .

1:100,000 SCALE MAP

DES MOINES SE

IOWA

USER REPORT: DES MOINES SE
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 SE base map is located in the southcentral 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. Greatest relief lies in the hills and bluffs next to the Des Moines River. The study area includes the major drainages of the Des Moines River, the South Skunk River, The North Skunk River, the South English River, and a Cedar Creek in the west portion of the map and a Cedar Creek in the SE portion of the map. The major creeks are the Competine, Middle, German, South Avery, White, Rock, and Buckley Creeks. Elevation ranges from approximately 630 feet above sea level, in the Des Moines River valley at Ottumwa to about 975 feet in the SW portion of the map.

Climate: The climate is continental with weather changes being frequent and rapid. Average temperatures range from -31°F to 112°F. The average annual precipitation is approximately 32 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, bluestem clover, alfalfa, trefoil, and crown vetch. Usually, grasses grow moderately tall and in bunches (Bailey 1980). Herbaceous plants consist of 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 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 which provide wetland habitat are the Nodaway--Colo Association, the Colo-Nodaway-Zook Association, and the Amana-Alluvial Land-Nodaway Association.

IV. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

TABLE I- 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

TABLE I- Continued

NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
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, borrow pit, marsh	Unconsolidated bottom
PAB (F,G,H)	Palustrine, aquatic bed	Pond, reservoir marsh	<u>Lemna</u> spp. (duckweed) green algae
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) <u>Urtica dioica</u> (stinging nettle)

TABLE I- Continued

NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
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)
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)

TABLE I- Continued

NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
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
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.

IV. MAP PREPARATION

The wetland classifications that appear on the Des Moines SE 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 aerial photography. The photography was taken on the 8th and 15th of May 1983 and the 29th of October 1984.

Field checks of areas found within the Des Moines SE 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 Wapello, Mahaska, Keokuk, Monroe, and Marion counties in Iowa. 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 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, S.D.

V. SPECIAL MAPPING PROBLEMS AND SITUATIONS

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

Lake Red Rock Reservoir is an artificial lake created by a dam on the Des Moines River. Delineation of Lake Red Rock will be done during the zoom transfer stage (ZTS) of map preparation. The L1UBGh/L2UBGh break was determined to be at the 722' contour interval, however, for simplicity the 725' contour will be delineated by ZTS as the L1/L2 break. The L2UBGh zone will end at the 750' contour interval. Due to an extremely high water level in the reservoir at the time aerial photographs were taken, naturally occurring wetlands between the 750' and 760' contour intervals were inundated and could not be delineated. Additional labels will need to be added (i.e. L1UBGh/L2UBGh) after ZTS has completed their delineations.

Perennial versus intermittent linears were distinguished in most areas by using the topographic maps. The decision to go perennial (R2) or intermittent (R4) was left to the interpreter. Effort was made to insure consistency between the provisional topographic maps and the regular topographic maps. The decision to classify as R2G or R2H was determined by use of the water resource data. Seasonal riverine linears (R4SBC) were short and steep and infrequent on this quadrangle. Only linears which were pen width were pulled.

Temporary emergent wetland photosignatures usually displayed a bluish-gray signature with fanned out edges. In plowed fields the basins showed a muddy signature or a weak open water signature with fairly distinct boundaries.

Saturated areas (PEMB) were prevalent on this quadrangle. The saturated signature varied considerably but typically had a mottled gray and white or red-gray signature. Any saturated area which showed evidence of plowing was left as upland. Areas which had distinct boundaries and gave a dark brown-black signature at the head of drainages were also found to be saturated and were delineated as such.

Non-depressional wetlands which were farmed at the time of photography were not delineated on the Inventory map.

Some semipermanent and aquatic bed impoundments were present. The aquatic bed photosignature shows a pink signature and was classified as PAB even though few of these were seen in the field.

The seasonal wetlands on this quad usually gave a dark gray-green photosignature and were often drained.

A. 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.

VI. 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 pp.

Soil Surveys of Wapello, Mahaska, Keokuk, Monroe, and Mario Counties of Iowa. U.S. Department of Agriculture, Soil Conservation Service.

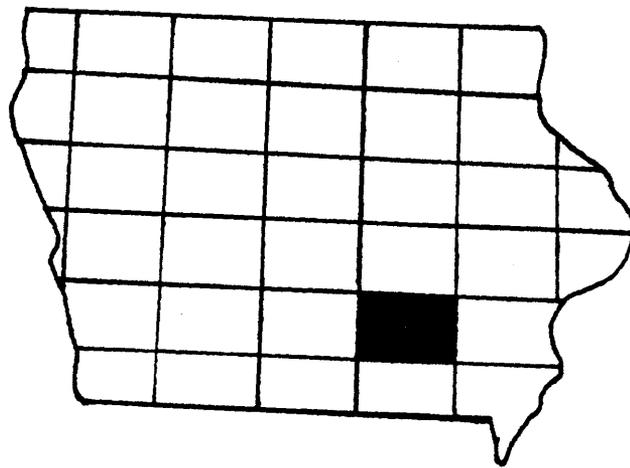


Figure 1: Location of Des Moines SE 1:100,000