

USER REPORT: HAVRE NE, MONTANA  
NATIONAL WETLANDS INVENTORY MAPS

DRAFT

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

Havre NE is located in northeastern Montana. The map is bounded on the west by the 109° meridian and on the east by the 108° meridian. On the north it is bounded by the 49° parallel (U.S.-Canadian border) and on the south by the 48° 30' parallel (See locator Map A).

According to Bailey, Description of the Ecoregions of the United States (1980), the study area lies in the Grama-Needlegrass-Wheatgrass section of the Great Plains-Shortgrass Prairie Province. This region is characterized by rolling plains and tablelands of moderate relief with occasional valleys, canyons and buttes.

According to the 1:250,000 scale Ecoregion and Surface Land Form Maps using Hammond Physical Subdivisions, the northern half of the study area can further described as Western North-Central Lake-Swamp-Morraine Plains. This area is mainly a glacial outwash plain (known locally as the "Big Flat") that, although having been glaciated, differs from the normal glaciated plains in that it is on a low plateau that escaped severe glacial scouring. It formed mainly from water-sorted glacial till and has a smoother relief

than is typical of glaciated plains. It is underlain by Flaxville gravel and the valleys are filled with either loose gravel and sand or beds of Flaxville gravel. Woody Island Coulee is the only well-defined, deeply entrenched major drainage system for this area and extends east-west before turning south to empty into the Milk River valley. The rest of this area is dotted with small, intermittent wetlands. Typical elevations are around 3000 feet.

The southern half of the map can be described as Upper Missouri Basin Broken Lands (Missouri Breaks). The landscape ranges from nearly level to steeply rolling with elevations between 2300 and 3000 feet. Major drainage systems are deeply entrenched and drain into the Milk River Valley which runs through the south-west corner of the map. This valley extends generally east-west and is part of the preglacial channel of the Missouri River.

#### Climate:

The climate is a semiarid continental regime in which maximum rainfall comes in summer, but the total supply of moisture is low. Evaporation usually exceeds precipitation. The average annual temperature is 45 degrees Fahrenheit throughout most of the region. Winters are cold and dry; the summers warm to hot. The frost free season is generally less than 100 days with precipitation being about 10 inches at this latitude of the Short-Grass Prairie Province.

#### Vegetation:

The short grass prairie province, or steppe, is a formation class of short grasses usually bunched and sparsely distributed. Scattered trees and shrubs occasionally appear in the steppe, and extend into semi desert and woodland areas. Since ground cover is scarce, much soil is exposed to erosion. Typical plants of this province are buffalograss, blue grama and little bluestem.

#### Soils:

Calcification is the dominate pedogenic process in Great Plains soils (Bailey, 1980). These soils contain a large amount of precipitated calcium carbonate and are rich in bases. Salinization is dominant in poorly drained sites. Humus content is low due to sparse vegetation cover. Great Plains soils are generally Mollisols with aridic moisture regimes and frigid temperature regimes (Montagne, et.al. 1982).

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS  
 TABLE 1: NWI CLASSIFICATION FOR HAVRE NE, MONTANA

NWI CODE (WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
R2UB (G)	Riverine, lower perennial, unconsolidated bottom	Open water, river	Unvegetated mud, sand or gravel
R2US (C,A)	Riverine, lower perennial, unconsolidated shore	River flat or bar	Unvegetated mud, sand or gravel
R4SB (A,C,F)	Riverine, intermittent, stream bed	Intermittent stream or creek	Unvegetated mud, sand or gravel
L2AB (F,G)	Lacustrine, littoral, aquatic bed	Floating or rooted water plants	<u>Ceratophyllum</u> <u>demersum</u> (Coontail) <u>Myriophyllum</u> <u>heterophyllum</u> (Water milfoil)
L2US (A,C)	Lacustrine, littoral, unconsolidated shore	Lake shore	Unvegetated mud, sand or gravel
PUB	Palustrine, unconsolidated bottom	Open water pond unvegetated	Unvegetated mud, sand or gravel
PAB (F,G)	Palustrine, aquatic bed	Floating or rooted water plants	<u>Lemna minor</u> (duckweed) <u>Potamogeton</u> sp. (pondweed) <u>Ranunculus purshii</u> (yellow crowfoot) <u>Ceratophyllum</u> <u>demersum</u> (Coontail) <u>Myriophyllum</u> <u>heterophyllum</u> (Water milfoil) <u>Utricularia</u> spp. (Bladderwort)

NWI CODE (WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PUS (A,C)	Palustrine, unconsolidated shore	Pond shore	Unvegetated mud, sand or gravel
PEM (A,C,F)	Palustrine, emergent	Marsh or wet marsh, depression, drainage area or seep	<u>Typha latifolia</u> (cattail) <u>Scirpus</u> sp. (bullrush) <u>Eleocharis</u> sp. (spikerush) <u>Carex trichocarpa</u> (slough sedge) <u>Agropyron Smithii</u> (Western wheatgrass) <u>Polygonomum</u> sp. (smartweed) <u>Juncus</u> spp. (rush) <u>Scolochloa</u> <u>festucacea</u> (White top) <u>Spartina pectinata</u> (Prairie cordgrass) <u>Hordeum jubatum</u> (Foxtail Barley) <u>Phalaris arundinacea</u> (Reed canary grass)
PSS (A,C)	Palustrine scrub-shrub,	Shrub wetland	<u>Salix nigra</u> (Black Willow)
PFO (A,C)	Palustrine Forest	Forest wetland	<u>Salix nigra</u> (Black Willow) <u>Populus deltoides</u> (Cottonwood) <u>Ulmus americanus</u> (American elm)

F. 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.
- (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 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.

G. Map Preparation

The wetland classifications that appear on these National Wetland Inventory (NWI) maps are in accordance with Cowardin et.al. Classification of Wetlands and Deepwater Habitats of the United States (1980). The delineations were produced by stereoscopic interpretation of 1:65,000 scale, color infrared photographs were taken 05-28-82 and 05-26-83. Initial ground truthing of the photography occurred during the period of July 7 to July 18, 1987. Photointerpreters used collateral information from soil surveys, and USGS 1:24,000 scale topographic maps to assist in wetland recognition.

The user of the map is cautioned that, due to the limitations of mapping primarily through aerial photointerpretation, a small percentage of wetlands may be unidentified. Changes in landscape, or habitat, could have occurred since the time of photography, therefore, some discrepancies between the maps and current field conditions may exist. Any questions regarding omissions, inclusions or errors should be brought to the attention of Regional Wetlands Coordinator, U.S. Fish & Wildlife Service, Region 6, Habitat Resources, Lake Plaza North Building, 134 Union Boulevard, Lakewood, Colorado, 80228.

H. Special Mapping Problems:

None

I. Map Aquisition:

To place an order for a National Wetland Inventory map product, please contact:

Charles Elliott  
Regional Wetland Coordinator  
U.S. Fish & Wildlife Service  
Region 6 - Habitat Resources  
Lake Plaza North Blvd  
134 Union Blvd  
Lakewood, Colorado 80228

-or-

Rocky Mountain Mapping Center  
National Cartographic Information Center  
U.S. Geological Survey  
Box 25046, Stop 504, Federal Center  
Denver, Colorado 80225

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.

MB/jrg:wp:nwi

#### LITERATURE CITED

Bailey, R.G., 1980. Description of the Ecoregions of the United States. U.S. Department of Agriculture, Miscellaneous Publication No. 1391, 77 pp.

Montagne, C.; Munn L.C.; Nielson, G.A.; Rogers, J.W. and Hunter, H.E., 1982 Soils of Montana. Montana Agricultural Experiment Station, Montana State University and USDA Soil Conservation Service, Bozeman, Montana, Bulletin 744, 95 pp.

# MONTANA

