

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

EASTERN CASCADES

1:100,000 SCALE MAPS COVERED

THE DALLES SW

BEND NW

BEND SW

CRESCENT NW

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 the wetlands. Photo interpretation conventions, hydric soils lists and wetland plant lists are also available to enhance the use and application of the classification 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 Eastern Cascades project area is located in central western Oregon. Geographically, the area is divided in a north-south situation by the Cascade Mountains. Elevations reach 8,000 feet to 9,000 feet and many of the high peaks are volcanic in origin. The highest point in the map area is Mt. Hood (11,235 feet). According to Bailey (1980), the ecoregions within the Eastern Cascades map area extend as follows: The Pacific Forest Province lies throughout the western half of The Dalles SW, Bend NW and SW, and Crescent NW; Silver Fir-Douglas-fir Forest is the represented section. The Intermountain Sagebrush Province lies throughout the eastern half of The Dalles SW, Bend NW and SW, and Crescent NW; Sagebrush-Wheatgrass and Ponderosa Shrub Forest are the two represented sections.

Vegetation:

Forest communities are coniferous and predominantly Douglas Fir, Western Red Cedar, Western Hemlock, Grand Fir, Silver Fir, Ponderosa Pine, and Lodgepole Pine. Douglas fir and Ponderosa pine generally occupy the eastern slopes of the Cascades. In the Cascade mountains, timberline varies from 7,700 to 10,000 feet. Vegetation cover is determined by a combination of altitude, direction of prevailing winds and slope exposure.

East of the Cascades vegetation consists primarily of sagebrush. Other important alkali tolerant plants in this area are shadescale, fourwing saltbush, rubber rabbitbush, spiny hopsage, and horsebrush. Greasewood or saltgrass appear in areas where salt concentration is very high. Although sagebrush is the characteristic plant in some areas grasses of palouse or mixed prairie grasses become dominant.

Climate:

Along the eastern slopes of the Cascades rainfall is heavy, 30 to 150 inches annually, with temperatures averaging 35 to 50 F throughout the year. East of the Cascades rainfall decreases dramatically, averaging only 5 to 20 inches annually and an average annual temperature of 40 to 55 F.

Soils:

Soils in the Pacific Forest Province of the Cascade mountains are strongly leached Inceptisols and Ultisols and are acid. Vegetative matter is not consumed in the cool temperatures; due to slow bacterial activity; forming a heavy surface deposit. Bases; such as calcium, sodium and potassium; are removed when organic acids from the decomposing vegetation react with the soil compounds.

East of the Cascades Aridisols dominate all basin and lowland areas where vegetation is marked by sagebrush. In contrast to lower elevations, the landscape of higher elevations is dominated by Ponderosa Pine, and Douglas Fir which occur in soils dominated by Mollisols. Narrow bands of Entisols lie in stream flood plains.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table 1: NWI Classification for Eastern Cascades

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
R3UB (H)	Riverine, upper perennial, unconsolidated bottom	Rivers	Unconsolidated bottoms
R2UB (H)	Riverine, lower perennial, unconsolidated bottom	Rivers	Unconsolidated bottoms
R3US (C,A)	Riverine, upper perennial, unconsolidated shore	Riverbanks	Unconsolidated shore
R4SB (F,C,A)	Riverine, intermittent, stream bed	Creeks, streams, canals	Unvegetated, sand, mud, gravel
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lakes	Unconsolidated bottoms
L2US (C,A)	Lacustrine, littoral, unconsolidated shore	Lake shores, reservoir draw-down	Unconsolidated shore
PUB (H,F)	Palustrine, unconsolidated bottom	Ponds, stock ponds, borrow pits, sewage tanks	Unconsolidated bottom
PUS (C,A)	Palustrine, unconsolidated shore	Pond beds, unvegetated depressions	Unvegetated mud, sand, or gravel

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PAB (H,F)	Palustrine, aquatic bed	Ponds, stock ponds	<u>Nuphar</u> <u>polysepalum</u> (yellow water lily) <u>Menyanthes</u> <u>trifoliata</u> (buck bean) <u>Potamogeton</u> sp. (pond weed)
PEM (H,F,C, B,A)	Palustrine, persistent emergents	Seeps, springs, vegetated streams and canals, wet meadows, marshes	<u>Juncus</u> spp. (rushes) <u>Carex</u> spp. (sedges) <u>Scirpus</u> spp. (bull rush) <u>Eleocharis</u> spp. (spike rush) <u>Rumex</u> spp. (dock) <u>Mimulus</u> spp. (monkey flower) <u>Hordeum</u> spp. (barley) <u>Castilleja</u> spp. (Indian paintbrush) <u>Distichlis</u> sp. (salt grass) <u>Aster</u> spp.
PSS (F,C,B,A)	Palustrine, scrub- shrub,	Seeps, springs, vegetated streams, thickets	<u>Salix</u> spp. (willow) <u>Spirea douglasii</u> (Douglas spiraea) <u>Vaccinium</u> spp. (blueberry) <u>Alnus</u> sp. (alder)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PFO (C,B,A)	Palustrine, forested	Forested streams, floodplains, depressions, seeps, and springs	<u>Pinus contorta</u> (lodgepole pine) <u>Thuja plicata</u> (western red cedar) <u>Tsuga sp.</u> (hemlock) <u>Acer circinatum</u> (vine maple) <u>Populus sp.</u> (cottonwood) <u>Alnus rubra</u> (red alder) <u>Abies grandis</u> (grand fir)

F. WATER REGIME DESCRIPTION:

- (A) Temporarily Flooded - Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface. Plants that grow both in uplands and wetlands are characteristic of this water regime.
- (B) Saturated - The substrate is saturated to the 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 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 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.
- (H) Permanently Flooded - Water covers the 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.

F. MAP PREPARATION:

The wetland classifications that appear on The Dalles SW, Bend NW, Bend SW, and Crescent 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 photographs. The photography dates are as follows:

<u>Dates</u>	<u>Eastern Cascades/% Coverage</u>
08/81	25%
07/82	30%
08/82	40%
09/82	5%

Field checksites 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 quadrangles, SCS soil surveys, vegetation, climate, and ecoregional information.

The user of the map is cautioned that, due to the limitations 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 photo interpretation and drafting were completed by Geonex Martel, Inc., St. Petersburg, Florida.

G. SPECIAL MAPPING PROBLEMS

None

H. MAP ACQUISITION

To discuss any questions concerning these maps or to place a map order, please contact:

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To order maps only, contact:

National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, VA 22092

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.

- Bailey, Robert G., 1980. Description of the Ecoregions of the United States. U.S. Department of Agriculture, Washington, D.C.
- Hotchkiss, Neil, 1972. Common Marsh, Underwater and Floating Leaved Plants of the U.S. and Canada. Dover Publishing Company.
- Kozloff, Eugene N., 1988. Plants and Animals of the Pacific Northwest. University of Washington Press.
- Little, Elbert L., 1980. Audubon Field Guide to North American Trees: Western Region. Alfred A. Knopf, Inc., N.Y.
- Reed, Porter P. Jr., 1988. National List of Plant Species That Occur In Wetlands: Northwest (Region 9). U.S. Fish and Wildlife Service, Department of Interior, Washington, D.C.
- Spellenberg, Richard, 1979. The Audubon Field Guide To North American Wildflowers - Western Region. Alfred A. Knopf, Inc., N.Y.
- Weinmann, Fred et al., 1984. Wetland Plants of the Pacific Northwest. U.S. Army Corps of Engineers, Seattle, WA
- U.S.G.S. Quadrangles
- Soil Surveys for Hood River, Wasco, and Deschutes Counties.