

DRAFT

USER REPORT
HOQUIAM SW; VANCOUVER NW and SW; NEWPORT NE and SE
NATIONAL WETLANDS INVENTORY MAPS

A. INTRODUCTION

The U.S. Fish and Wildlife Service's National Wetlands Inventory is producing maps showing the location and classification of wetlands and deep water habitats of the United States. The Classification of Wetlands and Deerpwater 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 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 study area covered by Hoquiam SW, Vancouver NW and SW (strips 8), and Newport NW and SW is located along the northern half of the Oregon Coast. Bailey (1980) classified the study area as the Sitka Spruce-Cedar-Hemlock Section within the Willamette-Puget Forest Province. Elevations range from sea-level to over 1,000 feet.

The picturesque coast of the region has developed as a result of geological activity which has produced rocky headlands, broad sand dunes, sandy pocket beaches, and offshore rocks. Estuaries project inland from the coast where major rivers enter the sea.

The sand dunes are found along 42% of the total coastline of the Pacific Northwest. These sand dunes have formed since the last Pleistocene glaciation. Their landward boundary is defined by a stabilized ridge of unconsolidated sand. Although the current dunes (post Pleistocene) have advanced inland as far as 4 km, the inner margins more generally lie 1 to 2 km from the shore. These sand dunes exist as a result of the deposition of fine sand from the mouths of rivers and bays onto receptive shorelines along the coast.

Climate:

The climate of the Sitka Spruce-Cedar-Hemlock section is generally mild throughout the year. It has a mild, mid-latitude west coast marine climate and annual temperatures average 48' to 55'. The rainfall is heavy reaching its maximum in winter and averages 70 to 80 inches a year. Significant in maintaining mild conditions is the protective barrier of the Cascade Mountains which guards the coastal area against the cold winter and hot summer continental air masses to the east.

During the winter the Aleutian low, one of the major pressure patterns controlling the Pacific northwest climate, dominates the northern Pacific. Frontal storms move eastward into the Pacific northwest, resulting in high precipitation during winter months. The north Pacific high is the major pressure pattern that dominates in summer. Clockwise airflow around the high results in northwest oceanic winds which keep summer temperatures mild. Coastal upwelling keeps nearshore waters cool and fog often results where the cold water meets warmer offshore waters.

Vegetation:

Wetland forest communities in this region consist of conifers such as Sitka Spruce, Douglas fir, and Western hemlock and mixed deciduous trees such as Oregon ash, Red alder, and Coastal willow. The wet forests commonly exist in freshwater dominant areas as opposed to tidal-fresh or tidal. Although it is possible for trees and shrubs to exist near these tidal areas. Shrub wetlands consist of red alder, coast willow, and salmonberry. The habitat is typically found as a boundary condition between forest and estuarine wetland communities. It provides cover and forage for several wildlife species and add habitat diversity to the estuarine zone. The emergent wetlands are commonly found in estuaries, beside major rivers, or in deflation plains found in the sand dunes. Emergent vegetation includes juncus, slough sedge, reed canary grass in freshwater zones and Lyngby's sedge in the estuarine zones.

Soils:

Soil association include Hemlock-Astoria: Gently sloping to very steep soils of forested uplands. And Winema-Nekohn association: Gently sloping to very steep grass and shrub covered soils of uplands. Hydric soils include Nehalem-Brenner-Coquille association: Dominantly nearly level soils, chiefly on broad stream bottoms.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions (1 of 4)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
R1UB (V)	Riverine, tidal	Rivers	Unconsolidated bottoms
R2UB (H)	Riverine, lower perennial	Rivers	Unconsolidated bottoms
R3UB (H)	Riverine, upper perennial	Rivers	Unconsolidated bottoms
R4SB (F,C,A)	Riverine, intermittent, stream bed	Creek, stream, canal	Unvegetated: sand, mud, gravel
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Reservoir, lake	Unconsolidated bottoms
L2UB (K)	Lacustrine, littoral, unconsolidated bottom	Sewage treatment ponds	Unconsolidated bottoms
PUB (H,G,K,F)	Palustrine, unconsoli- dated bottom	Ponds, stock tanks, borrow pits	Unconsolidated bottoms
PUS (C,A)	Palustrine, unconsoli- dated shore	Pond bed, unvegetated depression	Unvegetated mud, sand or gravel
PEM (F,C,B,A)	Palustrine, emergent	Seeps, springs, vegetated streams and canals, wet meadows, marshes, diked marshes	<u>Juncus</u> sp. (rushes) <u>Carex</u> sp. (sedges) <u>Typha latifolia</u> (common cattail) <u>Rumex</u> sp. (dock) <u>Veratrum</u> <u>caudatum</u> sp. (false hellebore) <u>Fulchellum</u> (western shooting star)

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions (2 of 4)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM (cont.)			<u>Alopercurpus</u> sp. (foxtail) <u>Collinsia verna</u> (blue-eyed mary)
PEM (S,R,T,V)	Palustrine, emergent (freshwater-tidal)	Estuarine grasses	<u>Carex obnupta</u> (slough sedge)
PSS (C,B,A)	Palustrine, scrub-shrub	Seeps, springs, streams, thickets	<u>Populus</u> sp. (cottonwood) <u>Salix</u> sp. (willow) <u>Rhus</u> sp. (sumac)
PSS (S,R,T,V)	Palustrine, scrub-shrub (freshwater-tidal)	Estuarine shrubs	<u>Alnus rubra</u> (red alder) <u>Rubus</u> <u>spectabilis</u> (salmonberry)
PFO (C,B,A)	Palustrine, forested	Forested streams, floodplains, depressions, seeps and springs	<u>Populus</u> sp. (cottonwood) <u>Fraxinus</u> <u>latifolia</u> (ash) <u>Salix</u> sp. (willow) <u>Alnus rubra</u> (red alder) <u>Picea</u> <u>englemannii</u> (Englemann's spruce) <u>Pinus contorta</u> (lodgepole pine)
PFO (S,R,T,V)	Palustrine, forested (freshwater-tidal)	Estuarine forests	<u>Alnus rubra</u> (red alder) <u>Picea sitchensis</u> (sitka spruce)

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions (3 of 4)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PAB (H,F)	Palustrine, aquatic bed	Ponds, stock tanks, canals	<u>Wolffia punctata</u> (water meal) <u>Lemna minor</u> (duckweed) <u>Potamogeton sp.</u> (pondweed) <u>Nuphar luteum</u> (spatterdock)
Pf	Palustrine, farmed	farmed wet- lands	<u>Vaccinium</u> <u>macrocarpon</u> (cultivated cranberry)
E1UB (L)	Estuarine, subtidal	Estuaries	Unconsolidated bottoms
E2UB (M,N,P)	Estuarine, intertidal	Estuaries	Unconsolidated bottoms
E2EM (M,N,P)	Estuarine, intertidal	Estuaries, low marsh, high marsh	<u>Carex lyngbyei</u> (lyngby's sedge)
E2SS (N,P)	Estuarine, intertidal	Estuaries, high marsh, low marsh	<u>Alnus rubra</u> (red alder)
E2FO (P)	Estuarine, intertidal	Estuaries, high marsh	<u>Picea sitchensis</u> (sitka spruce)
E2US (N,P)	Estuarine, intertidal	Estuarine mudflats	Unconsolidated shores
M1UB (L)	Marine, subtidal	Continental shelf, sub- tidal beach	Unconsolidated bottoms
M1AB (L)	Marine, subtidal	Kelp beds	(Bull Kelp)

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions (4 of 4)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
M2US (N,F)	Marine, intertidal	Beach, shoreline	Unconsolidated shores
M2RS (N,P)	Marine, intertidal	Rocky head- land, beach cliffs	Rocky shores
M2AB (N)	Marine, intertidal	Beach, shoreline	<u>Pelvetia</u> sp. (rockweed)

E. WATER REGIME DESCRIPTION

(J) Intermittently Flooded - Substrate is usually exposed, but surface water present for variable periods without detectable seasonal periodicity. Weeks or months or even years may intervene between periods of inundation. The dominant plant communities under this regime may change as soil moisture conditions change. Some areas exhibiting this regime do not fall within our definition of wetland because they do not have hydric soils or support hydrophytes.

(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 is absent by the end of the growing season in most years. The water table after flooding ceases and 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.

Tidal Water Regimes
Salt and Brackish Areas

(L) Subtidal - The substrate is permanently flooded with tidal water.

(M) Irregularly Exposed - Land surface is exposed by tides less often than daily.

(N) Regularly Flooded - Tidal water alternately floods and exposes the land surface at least once daily.

(P) Irregularly Flooded - Tidal water floods land surface less often than daily. Area must flood by tide at least once yearly as a result of extreme high tide.

Freshwater Tidal Areas - Palustrine, Riverine, and Lacustrine wetlands that are only irregularly flooded by tides.

(R) Seasonally Flooded - Tidal

(S) Temporarily Flooded - Tidal

(T) Semipermanently Flooded - Tidal

(V) Permanently Flooded - Tidal

F. MAP PREPARATION

The wetland classification that appears on the Hoquiam NW, Vancouver NW and SW, Newport NE and SE National Wetlands Inventory (NWI) Base Maps (Table 1) is 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 July, August, and September of 1982.

Field checks of areas found within Hoquiam NW, Vancouver NW and SW, Newport NE and 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 topographic maps, climate, vegetation, and ecoregional information.

The user of the map is cautioned that, due to the limitation of mapping primarily through aerial photo interpretation, 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 Martel Laboratories, Inc., St. Petersburg, Florida.

F. SPECIAL MAPPING PROBLEMS

None.

G. MAP ACQUISITION

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

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U.S. Fish and Wildlife Service - Region I
Lloyd 500 Building, Suite 1692
Portland, Oregon 97232

To order maps only, please contact:

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

Maps are identified by the name of the corresponding U.S.G.S. 1:24,000 scale topographic quadrangle name. Topographic map indices are available from the U.S. Geological Survey.

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