



United States Department of the Interior

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NATIONAL WETLAND INVENTORY

NOTES TO USERS

NORTH COAST AND WILLAMETTE VALLEY, OREGON

1:100,000 SCALE MAPS COVERED

Nehalem River	-	Vancouver NW
Yamhill River	-	Vancouver SW
Corvallis	-	Salem NW
Eugene	-	Salem SW
Newport	-	West of Salem NW
Waldport	-	West of Salem SW
Cottage Grove	-	<u>Roseburg NW</u>

NATIONAL WETLAND INVENTORY

NOTES TO USERS

Northern Coast and Willamette Valley, Oregon

1. PURPOSE

The purpose of Notes to Users is to provide general information regarding the production of National Wetlands Inventory (NWI) maps and wetlands found within a relatively similar geographic area. Notes to Users are not intended to include descriptions of all wetlands found in the area nor provide complete plant species information.

2. AREA COVERED

The area covered is defined by the Nehalem River, Yamhill River, Newport, Waldport, Corvallis, Eugene, and Cottage Grove 1:100,000 intermediate scale maps (see attached index maps). The area extends from the coast inland to the 123°W longitude and is bounded on the north and south by the 46° N latitude and 43° 30' N latitude, respectively.

According to Bailey's ecoregions, the area is in the Humid Temperate Domain, Marine Division. The Willamette Valley is in Bailey's Willamette-Puget Forest Province. The climate is generally mild throughout the year. Annual temperatures average 48° to 50° F. (9° to 13° C.). The moderate rainfall reaches its maximum in winter; summer has a slight moisture deficit. Average annual rainfall ranges from 15 to 60 in. (380 to 1,525 mm.); but in much of the area, the range is from 30 to 45 in. (760 to 1,120 mm.). Coastal mountains are responsible for the drier and less muted climate. Fog partially compensates for the summer drought.

The coastal mountain range between the Willamette Valley and Pacific Ocean is in the Pacific Forest Province. These mountains are fronted in places by narrow coastal plain. Its climate is characterized by generally mild temperatures averaging 35° to 50°F. (2° to 10°C.) throughout the year. Rainfall is heavy, 30 to 150 in. (750-3,800 mm); maximum rainfall comes in winter. Humidity is always high and produces an extremely favorable precipitation/evaporation ratio.

3. MAP PREPARATION

Wetland classification for the NWI maps is in accordance with "Classification of Wetlands and Deep-Water Habitats of the United States (An Operational Draft)," Cowardin, et al, 1977.^{1/}

Wetland classification and delineations were produced by air photointerpretation of high level aerial photography.

The following aerial photography was used:

<u>Map</u>	<u>Scale</u>	<u>Film</u>	<u>Date</u>
Nehalem River	1:80,000	B&W	9/75
Yamhill River	1:80,000	B&W	9/75
Newport	1:80,000	B&W	9/75
Waldport	1:80,000	B&W	9/75
Corvallis	1:80,000	B&W	8/75,9/75,7/76
Eugene	1:80,000	B&W	8/75,9/75,7/76
Cottage Grove	1:80,000	B&W	7/75,8/75

Limited field reconnaissance was conducted during the fall of 1977 and winter and spring of 1978.

Stereoscopically reviewed aerial photographs had wetland boundaries and labels delineated on the photographs. Delineations were enlarged to a scale of 1:24,000 using a zoom-transfer scope and fitted to USGS 7 1/2 minute topographic maps. The 1:100,000 scale wetland maps were prepared from the 7 1/2 minute series. Large scale NWI wetland maps (1:24,000 scale) are available for the USGS 7 1/2 minute topographic sheets indicated on the attached index map.

The Project Officer for production of the wetland maps was Dennis Peters, Regional Wetlands Coordinator, U. S. Fish and Wildlife Service, Region 1, Lloyd 500 Building, 500 NE Multnomah Street, Portland, Oregon 97232, telephone (503) 231-6154. Aerial photo interpretation was completed by Environmental Remote Sensing Applications Laboratory (ERSAL), Oregon State University, Corvallis, Oregon. Maps were prepared by Martel Laboratories, Inc., and the NWI National Team in St. Petersburg, Florida.

^{1/}The classification system was published in 1979: Cowardin, Lewis M., Virginia Carter, Francis C. Golet, and Edward T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States, Fish and Wildlife Service, U. S. Department of the Interior, Washington, DC, December 1979.

4. USER CAUTION

The map documents were prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography. The aerial photographs typically reflected conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of aerial photographs. Thus a detailed on-the-ground and historical analysis of a single site may result in revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included in the map document.

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define limits of proprietary jurisdiction of any federal, state, or local government or to establish the geographical scope of regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specific agency regulatory programs and proprietary jurisdictions that may affect such activities.

5. WETLAND COMMUNITIES

All five wetland systems, Marine, Estuarine, Lacustrine, Riverine, and Palustrine are represented in the subject area. Deepwater habitats are areas that are permanently flooded (except during periods of extreme drought) and are characterized by open water on the aerial photography. These habitats are present in the Marine system (M1OW), Estuarine system (E1OW, E1VB), Riverine system (R1OW, R2OW, R3OW), Lacustrine system (L1OW), and Palustrine system (POW).

Unvegetated wetlands, present in all systems include the classes beach/bar (BB), flats (FL), and rocky shore (RS). Beach/bar and rocky shore are generally restricted to the open coast within the marine system (M2BB, M2RS). Estuarine flats may support communities of aquatic bed. Estuarine aquatic bed (E2AB) may be present as algal mats (Ulva spp., Enteromorpha spp., Cladophora spp.) or as sea grass beds (Ruppia maritima, Zostera spp.).

Emergent wetlands (persistent) are present in the Estuarine and Palustrine systems. Estuarine emergent wetlands (E2EM) are dominated by such species as pickleweed (Salicornia spp.),

arrowgrass (Triglochin maritima), saltgrass (Distichlis spicata), Lyngby's sedge (Carex lyngbei), jaumea (Jaumea carnosa), gum weed (Grindelia spp.) tufted hairgrass (Deschampsia caespitosa), salt bush (Atriplex spp.), and Pacific silver weed (Potentilla pacifica).

Palustrine emergent wetlands (PEM) are characterized by numerous and varied species; some of the most common being bulrush (Scirpus spp.), sedges (Carex spp.), horsetails (Equisetum spp.), Rushes (Juncus spp.), spike rushes (Eleocharis spp.), cattail (Typha spp.), dock (Rumex spp.), smartweeds (Polygonum spp.), and reed canary grass (Phalaris arundinacea).

Palustrine scrub shrub (PSS) wetlands are characterized by woody species. Common wetland shrub species include willow (Salix spp.), red alder (Alnus rubra), hardhack (Spiraea douglassi) and salmon berry (Rubus spectabilis), redosier dogwood (Cornus stolonifera), wax myrtle (Myrica californica), and vine maple (Acer circinnaton). Common palustrine forest (PFO) species include Oregon ash (Fraxinus latifolia), big leaf maple (Acer macrophyllum), sitka spruce (Picea sitchensis), western red cedar (Thuja plicata) and black cottonwood (Populus trichocarpa). The classification of forested or scrub/shrub wetlands is determined by height of woody vegetation - forested greater than 6 m. and scrub/shrub less than 6m.

The Riverine system includes the classes open water (OW) flats (FL) and streambeds (SB). Open water and flats are restricted to the Riverine tidal (R1OW), lower (R2OW) and upper (R3OW) perennial subsystems. While the flats are not covered by a perennial flow, they are associated with the reach of the river that contains permanent water and are included in the perennial subsystems. Streams which do not flow year round are classified as Riverine Intermittent Streambeds (R4SB). Some riverine systems have their banks lined with trees or shrubs. In cases where streamside palustrine scrub/shrub or palustrine forested wetlands cannot be separately delineated from the riverine system, the wetlands are mapped as linear palustrine wetlands features (PSS or PFO).

Natural or artificial basins or catchments larger than 20 acres are in the Lacustrine system. The Lacustrine system on the NWI maps includes the classes Lacustrine open water (L1OW, L2OW) and Lacustrine flat (L2FL). The open water areas are covered by water whereas the flats are exposed at some time during the growing season. Basins or catchments smaller than 20 acres are in the palustrine system and classified as Palustrine open water (POW) or Palustrine flat (PFL) if exposed at some time during the year.

Modifiers

The small-scale (1:100,000) NWI maps' legends do not include water regime nor special modifiers. Mapping codes for these modifiers are indicated in parentheses in the discussion that follows.

Hydrologic characteristics are an important aspect of wetlands. The water regime modifiers describe in general terms the duration and timing of surface inundation, as well as groundwater fluctuations. These modifiers are grouped under two major headings: Tidal and Nontidal.

Tidal

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

Irregularly Exposed (M). The land surface is exposed by tides less often than daily.

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

Irregularly Flooded (P). Tidal water floods the land surface less often than daily.

In Tidal Riverine, Lacustrine, and Palustrine areas, a nontidal modifier is used with a tidal suffix to describe the water regime more appropriately: Temporarily Flooded-Tidal (S), Seasonally Flooded-Tidal (R), Semipermanently Flooded-Tidal (T), or Permanently Flooded-Tidal (V).

Nontidal

Intermittently Flooded (J)--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.

Temporarily Flooded (A)--Surface water present for brief periods during growing season, but water table usually lies well below surface. Circular 39, Type 1 (Seasonally Flooded Basins or Flats) equivalent.

Saturated (B)--Surface water is seldom present, but substrate is saturated to surface for extended periods during growing season. Circular 39, Type 2 (Inland Fresh Meadow) and Type 8 (Bogs) equivalent.

Seasonally Flooded (C)--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 very variable, extending from saturated to a water table well below the ground surface.

Seasonally Flooded-Saturated--Surface water is present for extended periods during the growing season but is absent by the end of the growing season in most years. When the surface water is absent, the water table remains at the soil surface. The water regime modifier was created specifically for NWI mapping purposes.

Semipermanently Flooded--Surface water persists throughout the growing season in most years. Land surface is normally saturated when water level drops below soil surface.

Permanently Flooded--water covers land surface throughout the year in all years.

In some cases, for the purpose of mapping, nontidal water regime modifiers have been lumped into three broad categories. These are:

Intermittently flooded-temporarily flooded (W). The substrate is usually exposed, but surface water is present for variable periods without detectable seasonal periodicity, or surface water is present for brief periods during the growing season.

Saturated/Seasonally-flooded/Semipermanently flooded (Y). The substrate is saturated to the surface for extended periods during the growing season, or surface water is present for extended periods especially early in the growing season but is absent by the end of the season in most years, or surface water persists throughout the growing season in most years.

Intermittently exposed/Permanently flooded (Z). Surface water is present throughout the year except in years of extreme drought, or water covers the land surface throughout the year in all years.

An artificially flooded (K) water regime modifier can be applied with all water regime modifiers. In this case, flooding is under the direct and purposeful control of man.

Special modifiers included on these 1:100,000 scale NWI maps, where applicable, are:

Diked/impounded (h). Created or modified by a barrier, dike, or dam which obstructs the inflow or outflow of water.

Excavated (x). Lies within a basin or channel excavated by man.

6. SOURCES OF ADDITIONAL INFORMATION

Since the purpose of the Notes to Users is to provide a general overview of a relatively large geographic area, in this case about 6,500 square miles, it is important to be aware of sources of additional information. The following is a list of reports providing information about the area of concern.

Akins, Glenn Jr. and Carol A. Jefferson. 1973. coastal wetlands of Oregon. Oregon Coastal Conservation and Development Commission, Florence, Oregon. 190 pp.

Bailey, Robert G. 1978. Description of the ecoregions of the United States. U. S. Forest Service, USDA, Ogden, Utah.

Biological Service Program. 1978. An ecological characterization of the Pacific Northwest coastal region. U. S. Fish and Wildlife Service Contract no. 14-16-0001-77-019, Portland, Oregon. 417 pp.

Cowardin, Lewis M., Virginia Carter, Francis C. Golet, and Edward T. LaRoe. 1977. Classification of wetlands and deep-water habitats of the United States (An Operational Draft), U. S. Fish and Wildlife Service, October 1977.

Franklin, Jerry F. and C. T. Dyrness. 1973. Natural vegetation of Oregon and Washington. Ge. Tech. Rpt. PNW-8. U. S. Forest Service, Portland, Oregon. 417 pp.

Kozloff, Eugene N. Plants and Animals of the Pacific Northwest. University of Washington Press, Seattle, Washington. 1976.

Necanicum Estuary Inventory, June 1979, Neil Maine-E3 Awareness.

Preliminary Guide to Wetlands of the West Coast States, April 1978, U.S. Army Corps of Engineers Waterways Experiment Station Report Y-78-4.

Steward, Albert N., LaRea J. Dennis and Helen M. Gilkey. Aquatic Plants of the Pacific Northwest. Oregon State University Press, Corvallis, Oregon. 1963.

