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NATIONAL WETLAND INVENTORY

NOTES TO USERS

UPPER WILLAMETTE VALLEY, OREGON

1:100,000 SCALE MAPS COVERED

Oregon City (Vancouver SE)

NATIONAL WETLANDS INVENTORY

1:100:00 MAP NARRATIVE

UPPER WILLAMETTE VALLEY

INTRODUCTION

In 1974, the U.S. Fish and Wildlife Service directed its Office of Biological Services to complete an inventory of the nations' wetlands. As part of this overall objective, an effort began in October, 1982, to delineate and classify wetlands through photo interpretation combined with field inspection in the Upper Willamette Valley region of Oregon.

Wetland maps at 1:100 scale and wetland overlay maps at 1:24,000 scale are produced at National Wetlands Inventory headquarters in St. Petersburg, Florida. Information regarding final Washington maps is available from the U.S. Fish and Wildlife Services's Regional Office located in Portland, Oregon. An integral part of all final wetland maps in the completion of narrative reports for each U.S. Geological Survey 1:100,000 quardrangle inventoried.

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 complete plant species information.

AREA COVERED

The area is defined by the SE quadrant of the Vancouver U.S.G.S. 1:250,000 region. Included in this area are portions of the Clackamas, Tualatin, and Willamette rivers, the northern part of Willamette Valley, and the Cascade Range foothills.

BAILEY'S ECOREGIONS

The Vancouver SE Area lies within Bailey's Willamette Puget Forest Province (Bailey 1978). The dominant forested vegetation consists of bigleaf maple, Oregon ash and black cottonwood. Grasses found within the valley are Kentucky bluegrass, bentgrass, and tufted hairgrass. (Franklin and Dyrness, 1973). In the Eastern quarter of the area. Douglas fir and Western hemlock compose the conifer forest of the Cascade foothills.

The area lies in the rain shadow of the Coast Ranges which accounts for the hot, dry Summers and mild wet Winters. Temperature ranges from 34° to 78° F with average annual rainfall between 40 to 63". There is very little precipitation during the Summer months which causes moisture deficient conditions in some areas. The terrain of the study area is characterized by a fairly level, alluvial valley separated by low basalt hills. These give way to the basalt and andesite foothills of the Cascade Range. Elevation ranges from 150' in the valley to 4770 near Mt. Baldy in the foothills.

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. Wetland classification and delineations were produced by air photointerpretation of high level aerial photography. The following aerial photography was used:

Map	Scale	Film	Date
Vancouver SE	1:58,000	Color Infrared	8/81
	1:58,000	Color Infrared	7/81

The delineations were transferred to 1:24,000 scale U.S. Geological Survey topographic maps or orthophoto quads with a zoom transfer scope.

A field trip was conducted November 8-20, 1982, to relate various photographic characteristics to actual wetland classification. Collateral data included U.S.G.S. topographic maps (7.5' and 15'), ecoregion guides (Bailey, 1978), and vegetation characterizations (Walters, Teskey, and Hinckley, 1980; Franklin and Dyrness, 1973). Large scale NWI wetland maps (1:24,000 scale) are available for the USGS 7.5 topographic sheets indicated on Index Map B.

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 wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on 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.

Changes in the landscape and/or land use could have occurred since the time of photography. Therefore, some discrepancies between the wetland map and current field conditions may exist. Any questions regarding wetland omissions, inclusions, or errors should be brought to the attention of the Regional Wetlands Coordinator, Region 1. The Project Officer for this wetland map is Dennis Peters, Regional Wetlands Coordinator, U.S. Fish and Wildlife Service, Region 1, Lloyd 500 Bldg., Suite 1692, 500 N.E. Multnomah St., Portland, Oregon 97232, telephone (502) 231-6154. Aerial photointerpretation was completed by Martel Laboratories, Inc., St. Petersburg, Florida. Maps were prepared by NWI National Team in St. Petersburg, Florida.

WETLANDS AND DEEPWATER HABITATS

Wetlands and deepwater habitats within the subject area fall within the Palustrine, Lacustrine, and Riverine systems. Deepwater habitats are areas which are permanently flooded (except during periods of extreme drought) and are characterized by open water on the aerial photography. These habitats are present in all systems.

The majority of wetlands in the study area are Palustrine wetlands, most commonly represented by the classes emergents (EM), scrub/shrub (SS), and forested (FO).

Palustrine emergent wetlands are characterized by numerous and various species of wetland plants; some of the most common genera being Carex, Eleocharis, Juncus, Scirpus, Typha, Phalaris, Rumex, Deschampsia, and Alopecurus. Palustrine scrub/shrub (PSS) and Palustrine forested (PFO) wetlands are characterized by woody species. Typical scrub/shrub wetland plants include willows (Salix spp.), red alder (Alnus rubra), hardhack (Spirea douglassi), and salmon berry (Rubus spectabilis). Common forested wetland species include red alder, black cottonwood (Populus trichocarpa), Oregon ash (Fraxinus latifolia), big leaf maple (Acer macrophyllum), and western red cedar (Thuja plicata).

The classification of scrub/shrub or forested wetlands is determined by height of woody vegetation-forested greater than 6 meters and scrub/shrub less than 6 meters.

Numerous Palustrine open water areas are present within the study area with the majority of them being excavated or impounded for livestock or irrigation use. Small areas of Palustrine aquatic bed are associated with open water; these most commonly consisting of duckweeds (Lemna spp.). Ponds which go dry during the growing season are classified as Palustrine flat (FL).

Natural or artificial unvegetated basins greater than 20 acres are classified as Lacustrine. The Lacustrine system on the NWI maps include the classes open water (L10W,L20W), unconsolidated bottom (L2UB), aquatic bed (L1AB,L2AB) and flat (FL). Lacustrine open water and unconsolidated bottom are deep water habitats. Lacustrine substrates which are exposed at some time during the growing season are classified as Lacustrine flat. Floating Lacustrine aquatic beds commonly consist of duckweeds (Lemna spp.) and/or millfoil (Myriophyllum spp.), whereas rooted vascular aquatic beds usually are water lily (Nuphar spp.) or pond weed (Potamogeton spp.)

One of the major features of the study area is the numerous rivers and streams which wind across the valley floor, all of which are classified within the Riverine system. The Riverine system includes the classes open water (OW), flat (FL), and stream bed (SB). Open water and flat are restricted to the Riverine upper perennial (R30W), lower perennial (R20W), and tidal fresh (R10W) subsystems. While Riverine flats are not covered by perennial flow, they are associated with the reach of the river that contains permanent water and are included in that perennial subsystem.

Streams which do not flow year round are classified as Riverine intermittent streambeds (R4SB). Some Riverine systems have their banks lined with trees, shrub, or emergents. In cases where streamside Palustrine wetland vegetation cannot be separately delineated from the Riverine system, the wetlands are mapped as linear Palustrine features. Since the flow of irrigation canals is under the direct and purposeful control of man, these are classified as artificial excavated lower perennial or intermittent streambeds(R20WKZx, R4SBKYx).

MODIFIERS

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.

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

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/Seminpermanently 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.

LITERATURE CITED

Bailey, R.G., 1978. Description of the Ecoregions of the United States. U.S. Dept. of Agriculture, Forest Service, 77pp.

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Franklin, J.F. and C.T. Dyrness, 1973. Natural Vegetation of Oregon and Washington. U.S. Dept. of Agriculture, Forest Service, General Technical Report PNW-8, 417pp.

Walters, M.A., R.O. Teskey, and T.M. Hinckley, 1980. Impact of Water Level Changes on Woody Riparian and Wetland Communities. U.S. Dept. of Interior, Fish and Wildlife Service, FWS/OBS-78/84, 46pp.

TABLE 1. SUMMARY OF NWI WETLAND TYPES

NWI CODE	DESCRIPTION	VEGETATION COMMONLY FOUND	COMMENTS
L10WZ	Lacustrine, open water, permanently flooded.	Unvegetated	Distinct Signature
L10WZh	Lacustrine, open water, permanently flooded, impounded.	Unvegetated	Carefully regulated for multiple usage. Distinct signature.
L2UB	Lacustrine, unconsolidated bottom.	Unvegetated	Mud margin areas around lake or shallow mud lake.
L1AB	Lacustrine, aquatic bed.	Lemna spp. (duckweed)	Unknown surface subclass.
L2FL	Lacustrine, flat	Unvegetated	Lake margins
L2FLCh	Lacustrine, flat, seasonally flooded impounded.	Unvegetated	Lake margins where water is regulated.
R30W R20W	Riverine, perennial, open water.	Unvegetated	Perennial type, upper or lower, determined by elevation change and floodplain development.
R4SB	Riverine, intermittent, streambed.	Unvegetated	U.S.G.S. topos used to determine intermittent/perennial breaks.
R3FL R2FL	Riverine, flat	Unvegetated	River flats.
R20WKZx	Riverine, perennial open water, artificially permanently flooded, excavated.	Unvegetated	Irrigation canals which flow throughout year according to U.S.G.S. topo.

TABLE 1. SUMMARY OF NWI WETLAND TYPES (CONTINUED)

NWI CODE	DESCRIPTION	VEGETATION COMMONLY FOUND	COMMENTS
R4SBKYx	Riverine, intermittent, streambed, artificially flooded.	Unvegetated	Irrigation canals used only during season. Based on U.S.G.S. topos.
POW	Palustrine, open water	Unvegetated	Water regime type based on collateral data.
POWh POWx	Palustrine, open water. impounded or excavated	Unvegetated	Stock tanks used for livestock or irrigation.
PUSC	Palustrine, unconsolidated	Unvegetated	Ponds which dry up during Summer.
PAB	Palustrine, aquatic bed	<u>Lemna</u> (duckweed)	Subtle signature sometimes associated with open water or emergents.
PF01	Palustrine, forested broad leaved deciduous	<u>Salix</u> spp. (willow), <u>Populus trichocarpa</u> (black cottonwood).	Signature sometimes subtle, ecological situation must be considered.
PSS1	Palustrine, scrub-shrub broad leaved deciduous	<u>Salix</u> spp. (willow).	Occasionally difficult to separate from PF01.
PEM1	Palustrine, emergent, persistent.	<u>Carex</u> spp. (sedge); <u>Eleocharis</u> (spikesedge); <u>Juncus</u> (rush); <u>Phalaris</u> (canary grass); <u>Typha</u> (cattail); <u>Scirpus</u> (bulrush); <u>Deschampsia</u> (hairgrass).	Various signatures.

Index Map A



