



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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NATIONAL WETLAND INVENTORY

NOTES TO USERS

NORTH BEND, OREGON, TO OREGON/CALIFORNIA BORDER

1:100,000 SCALE MAPS COVERED

Coos Bay	(Coos Bay II)
Port Orford	(Coos Bay III)
Gold Beach	(Coos Bay IV)

USER NOTES - SOUTHERN OREGON COAST

Map Preparation

Wetland classification for the National Wetlands Inventory (NWI) map overlays is in accordance with Cowardin, et. al., October 1977.¹ Delineations were produced through interpretation of USGS black and white aerial photography at a scale of 1:80,000 taken during July 1976 and June 1977. The photographs were viewed stereoscopically at 4X and 6X magnification. Delineations were enlarged using a zoom-transferscope to 1:24,000 or 1:62,500 overlays to fit USGS 7 1/2' or 15' topographic map series.

Collateral aerial photography used included July 1969 NASA 1:120,000 true color and January and May 1973 NASA 1:127,000 and 1:124,000 color infrared.

Limited field checks were conducted during the winter of 1977.

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 the Environmental Remote Sensing Applications Laboratory (ERSAL), Oregon State University, Corvallis, Oregon. Maps were prepared by the NWI National Team in St. Petersburg, Florida.

User Caution

The map document was 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 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 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

¹ 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.

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.

Any noted discrepancies, land use changes, or additional information regarding this map or other NWI activities should be provided to the Regional Wetland Coordinator, U.S. Fish and Wildlife Service.

Wetland Communities

Deep-water 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 classified as open water, or where collateral data or field checks are available, as unconsolidated bottom. Deep-water habitats are found in all systems except the Palustrine system.

Unvegetated wetlands may include beach/bars, flats, and streambeds. Estuarine flats are seasonally covered with algal mats and/or lined with various emergent vegetation. Ulva spp. and Enteromorpha spp. are common algae found on the flats. Scattered patches of eelgrass (Zostera spp.) may be present on these flats. Estuarine streambeds are tidal sloughs that are dewatered during low tide. These are often lined with sedge (Carex spp.), tufted hair grass (Deschampsia caespitosa), creeping bent grass (Agrostis alba), gum plant (Grindelia integrifolia), and salt bush (Atriplex patula).

Estuarine intertidal aquatic beds are composed of eelgrass (Zostera spp.). Eelgrass is tolerant to long-term submergence and is generally associated with an irregularly exposed water regime modifier; i.e., substrate exposed less often than daily. This habitat was classified as Type 19, Sounds and Bays, according to Fish and Wildlife Service's Circular 39, "Wetlands of the United States" issued initially in 1956 and reissued in 1971.

Estuarine intertidal emergent wetlands are extremely important wetland types identified on the overlays. The habitats are often referred to as salt marshes. Intertidal emergent wetlands are characterized by a regularly flooded water regime modifier; i.e., flooded daily or an irregularly flooded water regime modifier; i.e., flooded less often than daily. The dominant plant species include pickleweed (Salicornia virginica), seaside arrow grass (Triglochin maritima), salt grass (Distichlis spicata), Lyngby's sedge (Carex lyngbyei), bullrush (Scripus validus), three-square rush (S. americanus), tufted hair grass, and salt rush (Juncus lesueurii). Estuarine intertidal emergent wetlands are classified as Type 18 - regularly flooded salt marshes and Type 16 - coastal salt meadows in Circular 39.

Lacustrine limnetic open-water is the classification for numerous lakes present within the area. These deep-water habitats are usually unvegetated although there may be beds of common elodea (Elodea canadensis) which was not detectable from the aerial photography. The lakes often have a band of bullrush (Scripus validus) along the shoreline. If this band of emergent vegetation was large enough to be a mappable unit, it was classified in the Palustrine since the emergent vegetation is persistent. Permanent waters of streams, reservoirs, and deep lakes were not included in Circular 39. However, several of the smaller Lacustrine system classification can be considered Type 5 - inland open fresh water.

The riverine system includes tidal, lower perennial, and upper perennial open water wetlands. The rivers are generally unvegetated although they are often lined with willow (Salix spp.), red alder (Alnus rubra), and western hemlock (Tsuga heterophylla).

Palustrine emergent and Palustrine scrub/shrub wetlands dominate the fresh (interior) wetlands.

Palustrine emergent wetlands are evident throughout the dunes area, adjacent to the permanent lakes, and as diked former tidelands in the Estuarine and Riverine (tidal) systems.

Palustrine emergent wetlands are found in the deflation plains and are characterized by several rushes (Juncus spp.), sedge (primarily slough sedge, Carex obnupta, and large-headed sedge, C. macrocephala), Pacific silverweed (Potentilla pacifica), and spring-bank clover (Trifolium wormskjolkii). Other species associated with these wetlands are California aster (Aster chilensis), golden-eyed grass (Sisyrinchium californicum), creeping buttercup (Ranunculus flammula), and several species of bent grass (Agrostis spp.). These Palustrine emergent wetlands generally have a seasonally flooded water regime with surface water present for 3-6 months during the year. The water table during the summer months ranges from 6-18 inches below the surface. According to Circular 39, these wetlands are described as Type 1 - seasonally flooded basins or flats, Type 2 - inland fresh meadows, Type 3 - inland shallow fresh marshes, or Type 4 - inland deep fresh marshes.

Palustrine scrub/shrub wetlands include coast willow (Salix hookeriana) and wax myrtle (Myrica californica). Coast pine (Pinus contorta), Sitka spruce (Picea sitchensis), and red alder are often mixed with the coast willow and wax myrtle. The proper water regime modifier is seasonally flooded. The Palustrine scrub/shrub wetlands were classified as Type 6 - shrub swamps in Circular 39.

Of special note on several overlays are Palustrine emergent wetlands that have been or are being used as pasture areas for dairy cattle or as hay fields. These are diked and drained former tidelands or drained river terraces. These wetlands generally have waterlogged soils, are without standing water in the summer months but with shallow water in the winter, and are characterized by soft rush (Juncus effusus), reed canary grass (Phalaris arundinacea), and various other grasses. Sedges, skunk cabbage (Lysichitum americanum), and Pacific silverweed may be present. Many adjacent areas are under active agricultural practices, but wetland plants would become reestablished if farming were discontinued. These areas are often described as wet meadows and would be considered Types 1 or 2 in Circular 39.

Cranberry bogs are included as Palustrine scrub/shrub wetlands with a farmed special modifier.

Sources of additional information

The purpose of these notes is to provide general information regarding the production of the maps and the wetlands found within the area. It does not include descriptions of all wetlands found in the area nor complete species information. For additional information, the following publications are recommended:

- Akins, Glenn Jr., and Carol A. Jefferson. 1973. Coastal wetlands of Oregon. Oregon Coastal Conservation & Development Commission, Florence, Oregon. 190 pp.
- Biological Services 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. var. pp.
- 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.
- Hoffnagle, John and Robert Olsen. 1974. The salt marshes of the Coos Bay estuary. Port Commission of Coos Bay and Oregon Institute of Marine Biology. 87 pp.
- Hoffnagle, John, et. al. 1976. A comparative study of salt marshes in the Coos Bay estuary. National Science Foundation Study, Oregon Institute of Marine Biology, Charleston, Oregon 334 pp.
- Jefferson, Carol A. 1975. Plant communities and succession in Oregon coastal salt marshes. Ph.D. dissertation, Oregon State University, Corvallis, Oregon. 192 pp.
- Shaw, Samuel P. and C. Gordon Fredine. 1956. Wetlands of the United States. U. S. Fish and Wildlife Service, Circular 39, Washington, DC. 67 pp.
- U. S. Army Corps of Engineers. 1978. Preliminary guide to wetlands of the west coast. Technical Report 4-78-4 U. S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. 66 pp.
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- . 1972. Resource Inventory Report for the Oregon Dunes National Recreation Area. U. S. Forest Service, Pacific Northwest Region, Portland, Oregon. 294 pp.
- Wiedemann, Alfred M, LaRea J. Dennis, and Frank H. Smith. 1974. Plants of the Oregon coastal dunes. Oregon State University Book Stores, Inc., Corvallis, Oregon. 117 pp.

SELECTED CLASSIFICATION/COMMUNITY TYPE CORRELATIONS

Map Designation	(Cowardin, et al Oct 1977)	Type Circular 39	Common Name	Representative Plant Species
EIUB	Estuarine, subtidal unconsolidated bottom	19	Estuary, bay	Unvegetated
E2FL	Estuarine, intertidal, flat (irregularly exposed) ^{1/}	15	Mud flats	Algae (<u>Ulva</u> , sp. and <u>Enteromorpha</u> sp.)
	(regularly flooded)	15	Mud flats	Algae
E2AB	Estuarine, intertidal, aquatic bed (irregularly exposed)	19	Eelgrass beds	Eelgrass (<u>Zostera</u> sp.)
E2SB	Estuarine, intertidal streambed (irregularly exposed)	--	Tidal slough	Unvegetated (lined with sedges (<u>Carex</u> sp.))
E2EM	Estuarine, intertidal, emergent (regularly flooded)	16 or 18	Tidal marsh (low salt marsh)	Pickleweed (<u>Salicornia virginica</u>) Three-square bullrush (<u>Scirpus americanus</u>) Salt grass (<u>Distichlis spicata</u>) Seaside arrowgrass (<u>Triglochin maritima</u>)
		16 or 18	Tidal marsh (sedge marsh)	Lynby's sedge (<u>Carex lynbyei</u>)
E2EM	Estuarine, intertidal, emergent (irregularly flooded)	17	Tidal marsh (high salt marsh)	Tufted hair grass (<u>Deschampsia caespitosa</u>) Salt grass Salt rush (<u>Juncus leseurii</u>) Creeping bent grass (<u>Agrostis alba</u>)

^{1/} Water regime modifier in parenthesis.

Map Designation	(Cowardin, et al Oct 1977)	Type Circular 39	Common Name	Representative Plant Species
RIUB	Riverine, tidal, unconsolidated bottom (permanently flooded)	--	Tidal river	Lined w/willow (<u>Salix</u> sp.) and Red Alder (<u>Alnus rubra</u>)
LIOW	Lacustrine, limnetic, open water (permanently flooded)	5	Lake	Unvegetated (may be lined w/ bullrush, <u>Scirpus</u> sp. and in patches of elodea, <u>Elodea</u> sp)
L2FL	Lacustrine, littoral, flat (seasonally or semi-permanently flooded)	--	Lake bed	Unvegetated; may be vegetated invading species: sedge (<u>Carex</u> sp.), willow, miscellaneous forbes and grasses.
POW	Palustrine, open water	5	Pond	Unvegetated
PAB	Palustrine, aquatic bed (permanently flooded)	4	Lily Pond	Waterlily (<u>Nymphaea</u> sp.)
PEM	Palustrine, emergent (seasonally flooded)	1,2,3,4	Marsh, swamp	Rushes (<u>Juncus</u> sp.) Slough sedge (<u>Carex obnupta</u>) Pacific silverweed (<u>Potentilla pacifica</u>)
	Palustrine, emergent (seasonally flooded)-diked	1,2	Diked marsh	Soft rush (<u>Juncus effusus</u>) various grass & forbes
PSS	Palustrine, scrub/shrub (seasonally flooded)	6	Wet hummock swamp	Coast willow (<u>Salix hookeriana</u>) Wax myrtle (<u>Myrica californica</u>)
		--	Riparian strip	Coast willow Red alder (<u>Alnus rubra</u>)
PFO	Palustrine, forested (seasonally or temporarily flooded)	--	Riparian strip	Coast willow Red alder Black cottonwood (<u>Populus trichocarpa</u>)

