

DRAFT

USER REPORT: SAN DIEGO NW, SANTA ANA SW 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 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 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:

This portion of the San Diego County study area is contained in the California Chaparral Province of the Mediterranean Division.

The Mediterranean Division is situated on the Pacific Coast from latitude 30° N to latitude 45° N. This zone is subject to alternate wet and dry seasons. It is within the transition zone between the dry west coast and the wet west coast.

The California Chaparral Province of the Mediterranean Division occupies the central part of the California Coast Ranges and the mountains of Southern California. The California Coast Ranges are gently rolling to steeply sloping low mountains underlain by sandstone, shale, and igneous rocks. The average range of elevations is from sea level to 2500 feet. Some peaks do rise to 5000 feet. The coastal plains are discontinuous and narrow. Stream valleys are generally narrow and widely spaced. The extreme southern California mountains have sharper crests and unstable slopes. Their elevations range from 2,000 to 8,000 feet.

The coastal plain is more extensive.

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Climate:

The characteristic climate of this area is hot, dry summers and mild, rainy winters. The precipitation ranges from 12 to 40 inches, fairly evenly distributed during the spring, fall and winter. Precipitation increases with elevation. The precipitation consists mainly of rain. The small snowfall amounts usually melts quickly. Short periods of freezing and some frost occasionally occur in winter. The coast is more moderate. The average temperatures in the coast ranges are from 53^o to 65^o F, but are only 32^o to 60^o F in the Southern mountains. The temperature range progressively decreases at higher altitudes.

Vegetation:

Thick, hard, evergreen leaves are characteristic of the montane vegetation of this region. One climax is dominated by trees and is called a sclerophyll forest. The other climax type is a shrub and is called chaparral. In almost any part of the region these two climax types can be observed in an alternating pattern. Of the two types, the chaparral occupies the greater area.

The coastal plains and interior valleys have grassland and sagebrush communities.

Growing along streams is a riparian community consisting of many broadleaf species.

Soils:

The parent material from which the soils in the survey developed is variable and complex.

The relief differs among the four physiographic provinces, the desert, the mountains, the foothills and the coastal plain.

A general rule is that Mollisols are usually found along the coast, Alfisols occur in the north of the region and Entisols usually occur in the south.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions (1 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Open water, lake	Unvegetated mud, sand, gravel
L2UB (F,H)	Lacustrine, littoral, unconsolidated bottom	Shallow open water, lake, lake bottom	Unvegetated mud, sand, gravel
L2US (J,A,C)	Lacustrine, littoral, unconsolidated shore	Lake bed, lake shore	Unvegetated mud, sand, gravel
L1AB1 (F,H)	Lacustrine, limnetic, aquatic bed	Algal mat	Algae
L1AB3 (F,H)	Lacustrine, limnetic, aquatic bed	Rooted vascular	American lotus (<u>Nelumbo lutea</u>)
L1AB4 (F,H)	Lacustrine, limnetic, aquatic bed	Floating pond weeds, water weeds	Duckweed (<u>Lemna</u> sp.) (<u>Azola</u> sp.)
L2AB4 (F,H)	Lacustrine, limnetic, aquatic bed	Floating pond weeds, water weeds	Duckweed (<u>Lemna</u> sp.) (<u>Azola</u> sp.)
R2UB (H)	Riverine lower perennial, unconsolidated bottom	Open water river, stream	Unvegetated mud, sand, gravel
R2RS (A,C)	Riverine lower perennial, rocky shore	Open water, areas of rapids	Unvegetated bedrock, rubble
R2RB (H)	Riverine lower perennial, rock bottom	Open water, areas of rapids	Unvegetated bedrock, rubble
R2US (J,A,C)	Riverine lower perennial, unconsolidated shore	River flat, bar	Unvegetated mud, sand, gravel
R4SB (J,A,C)	Riverine intermittent streambed	Intermittent stream	Unvegetated mud, sand, gravel
PUB (F,H)	Palustrine unconsolidated bottom	Open water, pond bottom	Unvegetated mud, sand, gravel
PUS (J,A,C)	Palustrine unconsolidated shore	Pond shore, pond bed	Unvegetated mud, sand, gravel

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

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PAB (F,H)	Palustrine aquatic bed	Algal mat	Algae American lotus (<u>Nelumbo lutea</u>) Bulrush (<u>Scirpus</u> sp.) Cattail (<u>Typha latifolia</u>) Cockleburr (<u>Xanthium</u> sp.) Rush (<u>Juncus</u> sp.) Saltgrass (<u>Distichlis</u> sp.) Sedge (<u>Carex</u> sp.) Smartweed (<u>Polygonum</u> sp.) Rivercane (<u>Arundo donax</u>)
PSS (J,A,C,F)	Palustrine, scrub shrub, broad leaved deciduous	Shrub wetland	Buttonbush (<u>Cephalanthus occidentalis</u>) Cottonwood (<u>Populus deltoides</u>) Willow (<u>Salix nigra</u>) Sceepwillow Baccharis (<u>Baccharis glutinosa</u>)
(J,A,C)	Palustrine, scrub shrub, needle leaved deciduous	Shrub wetland	Salt Cedar (<u>Tamarix</u> sp.)
PF0 (J,A,C,F)	Palustrine, forested, broad leaved deciduous	Forested wetland	Cottonwood (<u>Populus deltoides</u>) Elm (<u>Ulmus</u> sp.) Green ash (<u>Fraxinus pennsylvanica</u>) Hackberry (<u>Celtis occidentalis</u>) Willow (<u>Salix nigra</u>) Pecan (<u>Carya illinoensis</u>) Sycamore (<u>Platanus occidentalis</u>) Retama (<u>Parkinsonia aculeata</u>) Huisache (<u>Acacia smallii</u>)

F. MAP PREPARATION

The wetland classifications used on San Diego NW and Santa Ana SW basemap is in accordance with Cowardin et al (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography.

Field checks in all 1:100,000's were made prior to the actual delineation of wetlands. Field check sites were selected to clarify varying signatures found on the imagery. The photographic signatures were then identified using vegetation types and soil types as well as input from local field personnel.

Collateral data included USGS Topographic Quadrangles, SCS county soil surveys, climate, vegetation, field personnel input, 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 at 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 photointerpretation and drafting were completed by Martel Laboratories, Inc., St. Petersburg, Florida.

G. SPECIAL MAPPING PROBLEMS

A unique habitat known as vernal pools that occur within the study area caused a mapping problem. The delineation of these wetlands as individual polygons using existing photography was impossible because of the very small size and because the time of year the photography was flown was during the dry phase of these variable wetlands. Using a study prepared by Ellen T. Bauder, Department of Biology, San Diego State University we were able to map the vernal pools as general complexes. They were classified as PEMA/ .

A few of the reservoirs in the study area were drawn down. The topographic quadrangles indicated the extent of possible water. These were used to delineate the resulting wetland boundaries.

H. MAP ACQUISITION

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

Dennis Peters
Regional Wetland Coordinator
U.S. Fish and Wildlife Service - Region 1
Lloyd 500 Building, Suite 1692
Portland, Oregon 97232

To order maps only, contact:

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

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.

Water Regime Modifiers

Tidal

Salt and Brackish Areas - Marine and Estuarine Systems

- (L) Subtidal - The substrate is permanently flooded with tidal water.
- (M) Irregularly Exposed - Land Surface is exposed by tides less often than daily. This corresponds to the area on NOS charts from seaward edge of light green tone (mean low water) to depth contour approximately extreme low water.
- (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. The area must flood by tide at least once yearly as a result of extreme high spring tide.

Freshwater Tidal Areas - Lacustrine, Palustrine and Riverine Systems

- (N) Regularly Flooded - Fresh tidal water alternately floods and exposes the land surface at least once daily.
- (R) Seasonally Flooded - Tidal
- (S) Temporarily Flooded - Tidal
- (T) Semipermanently Flooded - Tidal
- (V) Permanently Flooded - Tidal

Non-Tidal

- (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) Seasonably 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 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.
- (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.

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Literature Cited

Bailey, Robert G., 1980. Description of the Ecoregions of the United States. U.S. Department of Agriculture, Forest Service, Miscellaneous Publications No. 1391.

Cowardin, L.M.; V. Carter; F.C. Golet and E.T. LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, U.S. Fish and Wildlife Service. Biological Services Program, Washington D.C., 103p.

Soil Survey of San Diego Area, California; 1969. United States Department of Agriculture, Soil Conservation Service.