

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

SAN JOSE SE & SANTA CRUZ NE

USER REPORT: SAN JOSE SE & SANTA CRUZ NE, CALIFORNIA
NATIONAL WETLANDS INVENTORY MAP

A. INTRODUCTION

The U.S. Fish & 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 classifications 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 San Jose SE and Santa Cruz NE partial NWI base maps is located in the California central valley. (See Appendix) Bailey (1980) classifies the study area into the Grassland Province within the Mediterranean Division. The broad, nearly level valley is edged by sloping alluvial fans and low foothills. Elevations range from sea level to 500 feet within the valley and increase up to 1600 feet in the surrounding foothills.

The mapping area, an important component of the Pacific Flyway for migratory birds, includes one major river: the San Joaquin River. The river is a natural divider of the east and west grasslands in the San Jose basin. The East Grasslands include large areas of native pastureland and native seasonal as well as permanent marshes. The 2500 acre Merced National Wildlife Refuge is located in this area. Private duck clubs comprise 7500 acres of additional seasonally and permanently flooded wetlands.

The west grasslands contains the Kesterson and San Luis National Wildlife Refuges (6,000 acres) and the Los Banos and Volta State Wildlife Management Areas (13,000 acres). Private hunting clubs comprise over 37,000 acres of seasonal and permanent marsh.

Historically, annual natural overflow of the San Joaquin River and tributaries flooded the grasslands. However, agricultural development and damming of the river have depleted the amount of natural marsh. The area now has regulated seasonal flooding from September to late January with irrigation water from the Central Valley Project of the Bureau of Reclamation and during the spring and summer months water from drainages of Agriculture, Industry and local municipal areas.

The northern Tulane Basin comprises the southern section of the mapping area. Located in the basin, the state's Mendota Water Management Authority consists of 9,444 acres, most of which is wetland. Mendota WMA is surrounded by intensely irrigated agricultural lands.

Climate:

The San Joaquin valley is characterized by hot, dry summers and mild, moist winters. Average annual rainfall is approximately seven inches. Maximum precipitation occurs from December to February. Water scarcity is prevalent in the warmest months due to potential evaporation often being much greater than precipitation as well as a small amount of stream flow. Annual temperatures average 55 degrees to 60 degrees F (13 degrees to 15 degrees C). Temperatures may range from a high of 110 degrees F during summer months to a low of 25 degrees F in winter months.

Vegetation:

Historically, the Central Valley was dominated by bunch grasses; in particular, needlegrass. Presently, introduced annual grasses (i.e. avens, brome, fescue and barley) comprise these grassland areas. Cattail and hardstem bulrush dominate the natural as well as managed seasonally flooded marshes. Along the river floodplains there are greasewood, picklewood, saltgrass and shadscale.

Soils:

Entisols (valley floor) and Alfisols (low foothills) are the dominant soils in the study area. Aridisols are found in small areas in the Southern San Joaquin Valley.

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/SUBSTRATE
R2UB (H)	Riverine, lower perennial, unconsolidated bottom	Rivers, aqueducts or drainage ditches	Unconsolidated bottom
R2US (A,C)	Riverine, lower perennial unconsolidated shore	River flat, sandbar	Unconsolidated shore Willow (<i>Salix</i> sp.)
R4SB (A,C)	Riverine, intermittent stream- bed	Rivers or drainage ditches	Streambed
L1UB (H)	Lacustrine, limnetic, uncon- solidated	Lakes	Unconsolidated bottom
L2UB (F)	Lacustrine, littoral, uncon- solidated bottom	Lakes	Unconsolidated bottom
PUB (F,H)	Palustrine, unconsolidated bottom	Natural ponds, retention ponds, or burrow pits	Unconsolidated bottom
PUS (A,C)	Palustrine, unconsolidated shore	Alkali flats	Unconsolidated shore
PEM (J,A, C, F)	Palustrine, emergent	Impoundment marshes, drainage ditches or vernal pools	Saltgrass (<i>Distichlis spicata</i>) Rush (<i>Juncus</i> spp.) Hardstem bulrush (<i>Scirpus acutus</i>) Alkali sacaton (<i>Sporobolus airoides</i>) Cattail (<i>Typha</i> spp.) Alkali heath (<i>Frankenia grandifolia</i>) Spike Rush (<i>Eleocharis</i> spp.) Greasewood (<i>Nitrophilia occidentalis</i>) Mouse Barley (<i>Hordeum hystrix</i>) Rabbits footgrass (<i>Polygonum monspeliensis</i>) Bermuda grass (<i>Cynodon dactylon</i>) Spangletop (<i>Leptochloa fascicularis</i>)

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

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION/SUBSTRATE
PSS (JA or C)	Palustrine, scrub-shrub	Riparian habitat or impound- ments	Willow (<u>Salix spp.</u>) Fremont cottonwood (<u>Populus fremontii</u>)
PFO (JA, or C)	Palustrine, forested	Riparian habitat or impound- ments	Willow Fremont cottonwood Eucalyptus tree (<u>Eucalyptus tereticornus</u>)

Water Regime Description

Non-Tidal

- (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) 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.

E. MAP PREPARATION

The wetland classification that appears on the California Grasslands National Wetlands Inventory (NWI) Base Map (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 March 1980, February, March and April of 1983.

The groundtruthing of San Jose SE and Santa Cruz NE photography was done 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 using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic maps, climate, vegetation, and ecoregion information.

The user of the map is cautioned that, due to the limitation of mapping primarily through aerial photointerpretation, 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 photointerpretation and drafting were completed by Martel Laboratories, Inc., St. Petersburg, Florida.

F. SPECIAL MAPPING PROBLEMS

Soil information, in the form of soil surveys, were not available at the time the photography was delineated.

Wetland/upland signatures were difficult to distinguish in some areas due to extensive manipulation by man to the natural wetlands.

Overall, the good quality of photography along with the close use of collateral data made photointerpretation of the study areas as accurate as possible.

G. MAP ACQUISITION

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

Mr. Dennis Peters
Regional Wetland Coordinator
U.S. Fish and Wildlife Service - Region I
Lloyd 500 Building, Suite 1692
500 NE Multnomah Street
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.

Literature Cited

Bailey, Robert G., 1980. Description of the Ecoregions of the United States. Miscellaneous Publication No. 1391.

Clark, Shari., 1986. Partial Plant Checklist. San Luis National Wildlife Refuge.

Correll, Donovan S. and Correll, Helen B, 1972. Aquatic and Wetland Plants of Southwestern United States. Environmental Protection Agency.

Cowardin, L.M.; V. Carter; F.C. Golet and E.T. LaRue, 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., 103 p.

Faber, Phyllis M., 1982. Common Wetland Plants of Coastal California, Pickleweed Press.

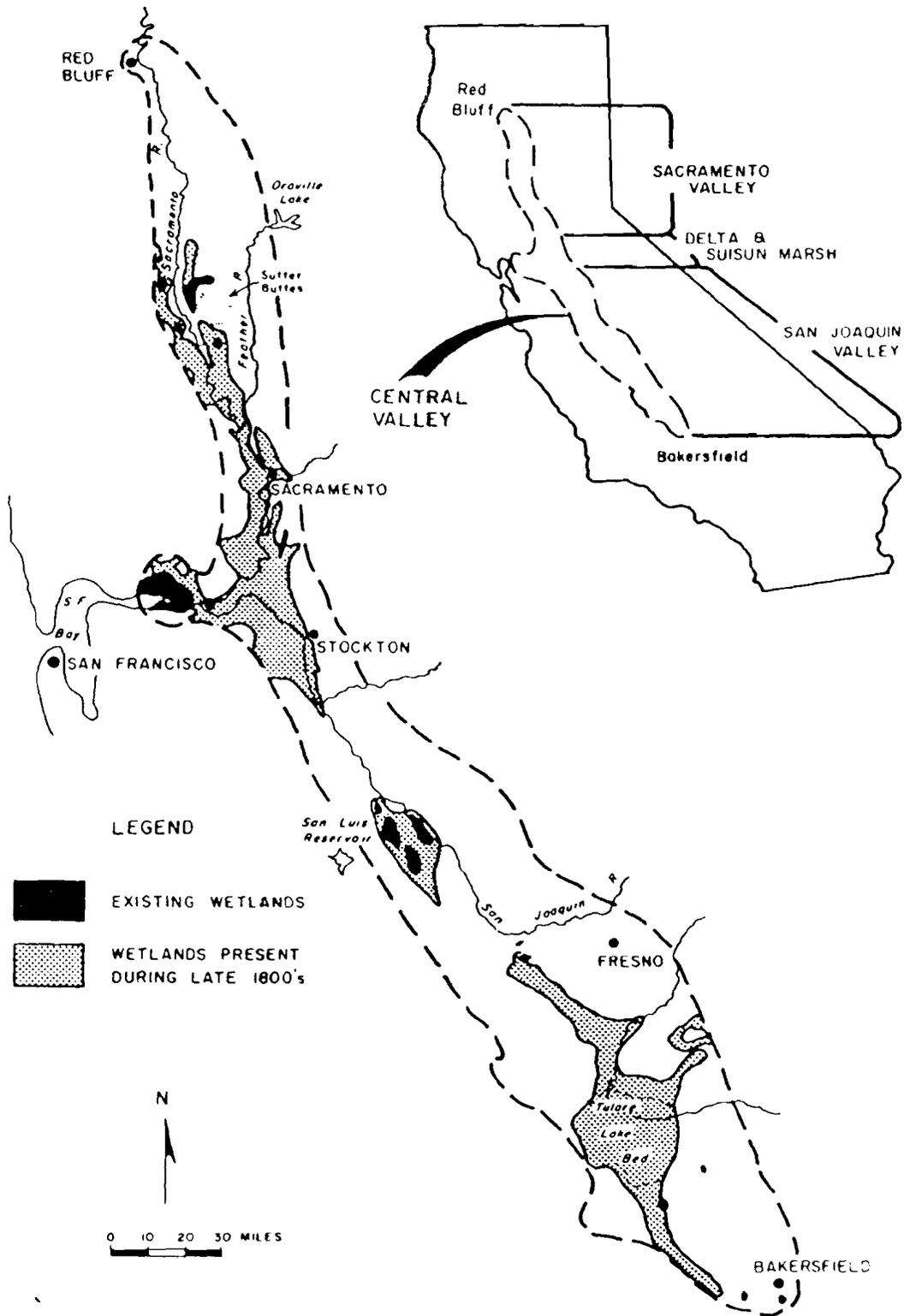


Figure 2 Existing and Historic Wetlands in the Central Valley of California

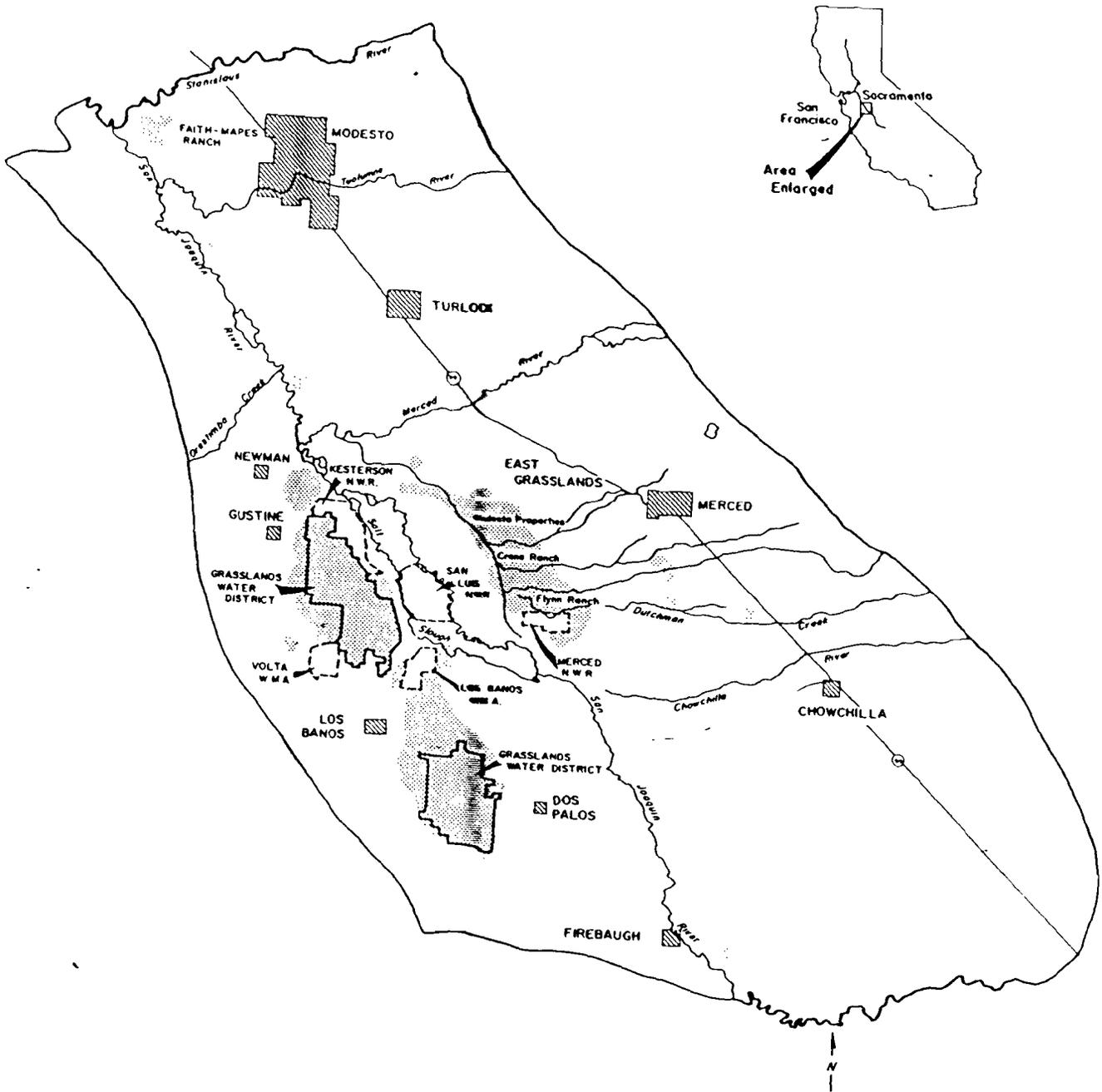


Figure 13. San Joaquin Basin

Private Natural Wetlands