Draft

NATIONAL WETLANDS INVENTORY

MAP REPORT

For

Salton Sea NW

American Desert Province

The 1:100,000 Map Unit of:
Salton Sea NW

Field Work Conducted Week of November 13, 2000

U.S. Fish and Wildlife Services
Portland, Oregon

February 7, 2001

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I. Introduction

The United States Fish and Wildlife Service's National Wetlands Inventory (NWI) is producing maps showing the location and classification of wetlands and deepwater habitats of the United States. Classification of Wetlands and Deepwater Habitats of the United States, by Cowardin, et al. (1979) is the document used by the NWI to define and classify wetlands. Photo interpretation conventions, hydric soils lists, and wetland plant lists are used in concert with the Cowardin classification system.

The purpose of this map report is to: (1) provide information on the production of NWI maps, including a discussion of photography and interpretation; (2) provide a descriptive crosswalk from NWI wetland codes used on the map to common terminology, and then to representative plant species found at specific wetland sites; and (3) describe local geography, climate, and wetland communities.

II. Field Reconnaissance

Field reconnaissance is a necessary procedure, in order to accurately interpret aerial photography. Photographic signatures are correlated to the wetland habitat in the field. Collateral information including vegetative communities, soil types and topographic setting are further evaluated to aid in the photointerpretation process. This information is evaluated for seasonality and conditions existing at the time of photography and at ground truthing.

A. Project Area

Field reconnaissance, for the Salton Sea NW project, covered the following 12 Quads:

Fried Liver Wash
Washington Wash
Cottonwood Basin
Pinto Mountain
Porcupine Wash
Cottonwood Spring
San Bernardino Wash
Conejo Well
Hayfield
Placer Canyon
Pinto Wells
Coxcomb Mountains

Desert dominated much of the project area.

B. Field Personnel

Elaine Blok – U.S. Fish and Wildlife Service – Region 1 Assistant Regional Wetlands Coordinator

Richard Eastlake – Greenhorne & O'Mara, Inc. – Imagery Analyst

Hassan Basajic – National Park Service

C. Field Dates

November 13 through November 17, 2000

D. Aerial Photography

Primary Source Data (100%)
Type: HAP (High Altitude Program), Color Infra-red, High Altitude
Scale: 1:58,000

Location	Dates of Photography
Salton Sea NW	8/23/84, 8/24/84

Percentage Coverage: All 12 USGS quadrangles of the project area are covered by the HAP photography.

E. Collateral Data

- United States Geological Survey (U.S.G.S.) Quadrangles
- Cowardin's Classification of Wetlands and Deepwater Habitats of the United States
- Bailey's Description of the Ecoregions of the United States
- Soil Conservation Service preliminary Soil Surveys
- Hydric Soils of the United States
- National List of Plant Species That Occur in Wetlands: Northwest (Region 9)
- WETS Table Data

III. Physical Description of Project Area

A. Geography

The Salton Sea NW study area lies predominately in the American Desert Province as defined by Bailey's Description of the Ecoregions of the United States (1980). Most of this region is included in Joshua Tree National Park in the extreme western part of the Mojave Desert. The major basin within the work area includes the Pinto Basin and associated washes and drainages. The landscape in the work area predominately consists of the Eagle Mountains (5000 feet) to the South stretching to the Coxcomb Mountains (3000 feet) in the Northeast. The gently undulating plains and mountains are oriented in a northwest – southeast direction.

B. Climate

The climate is typified by arid-hot summers and mild winters. The annual temperature range is moderate with an average annual temperature of 65 degrees. Rainfall is very sporadic with most of it falling in the summer months. Both temperature and precipitation values change with elevations. The desert has an average of 2.8 inches per year while the mountains have an average of 12 inches per year.

C. Soils

The Riverside County Coachella Valley area soil survey covers Salton Sea NW. There are two principal groups of soils in this area; 1) Excessively drained to well drained, nearly level to very steep soils on alluvial fans, terraces and mountains. 2) Those soils which are associated with basins (Imperial soils).

IV. Description of Wetland Habitats

Riverine System

- The majority of the wetlands in the project area are Intermittent streams and will be classified R4SBJ
- Permanent rivers in the study area will be classified R3UBKx. An example of the R3UBKx classification is the Colorado River Aquaduct

Palustrine System

- Emergents will be classified PEMJ (Fried Liver Wash) and PEMA (Hayfield Lake).
- Areas of scrub-shrub will be classified PSSJ (Hayfield Lake), PSSB (Wood Spring) and PSSA(Sunrise Well).
- Forested Wetlands will be classified as PFOB (Cottonwood Spring) and PFOJ (Cotton Spring).
- Unconsolidated wetlands will be classified as PUSJ (Fried Liver Wash) and PUSKrx (Cottonwood Basin).
- Open Water areas will be classified as PUBKx (Eagle Mountain Mine) and PUBKrx (Cottonwood Basin).

V. Commonly Observed Wetland Vegetation

(grouped according to class)

A. Emergent

Typha sp.	cattail

B.

C. *Scrub-Shrub*

Betula spp.	birch
Salix spp.	willow
Vaccinium spp.	blueberry
Rosa spp.	rose
Cornus Stolonifera	red osier dogwood

D. *Forested*

Populus tremuloides	aspen
Populus balsamifera	black cottonwood

VI. Water Regime Description

(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 the surface for extended periods during the growing season, but surface water is seldom present.

(C) Seasonally 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 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 the land surface throughout the year in all years.

(J) Intermittently Flooded – Substrate is usually exposed, but surface water is 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. In areas mapped as intermittently flooded, refer to regional guidelines for specific applications.

(K) Artificially Flooded – The amount and duration of flooding is controlled by means of pumps or siphons in combination with dikes or dams.

I. Imagery

Overall the emulsion of the HAP 1:58,000 color infrared photography is of good quality. Most of the photos have a light brown hue. This results in fairly easy recognition of the limited wetland vegetation throughout the project area. Soil surveys and USGS topographic maps will be used whenever possible to assist with delineation.

II. Photographic Conventions

RIVERINE SYSTEM

The U.S.G.S. topographic maps, along with local information collected while ground truthing, will be used to determine the water regime on streams and rivers. If information is unavailable then photo signature or convention will dictate water regime.

R3UBKx - Upper perennial, unconsolidated bottom, artificially flooded, excavated. This river has some velocity and the signature will be open water. The Colorado River aquaduct in the pinto wells quadrangle will be classified as R3UBKx.

R4SBJ - Intermittent, streambed, intermittently flooded. Most intermittent streams delineated will be classified as R4SBJ, particularly in the flat valley and basin areas the streambed will have scoured white to white/grey signature. The Shavers Valley and Pinto Wash areas are examples of this classification. Many intermittent streams will not be pulled because their signatures are too weak. The length of the stream and size of the watershed will also be used as criteria to determine what is delineated. Short streams (less than one mile) draining small watersheds will not be delineated.

PALUSTRINE SYSTEM

FORESTED

PFOB - Palustrine, forested, saturated. Signature shows full, textured tree crowns with a bright red tone. An example of this area is Cottonwood Spring. These areas are generally associated with springs on the topographic maps.

Associated flora: Cottonwood
California Fan Palm
Willow

PFOJ - Palustrine, forested, intermittently flooded. Signature shows full, textured tree crowns with a bright red tone. An example of this area is Cotton Spring. These areas are generally associated with springs that have no water on the topographic maps.

California Fan Palm
Willow

SCRUB-SHRUB

PSSJ - Palustrine, scrub-shrub, intermittently flooded. The signature for this classification typically shows up a mottled gray and white or a bright white due to the alkaline nature of the soil. This wetland occurs usually on level ground and depressional areas. An example is the Hayfield Lake area.

Associated flora: Willow
Cheesebush
Cat's Claw

PSSA - Palustrine, scrub-shrub, temporarily flooded. Signature consists of a textured bright to grayish-white or it can be a textured light to dark red tone. The texture is a result of the scrub-shrub within the temporary wetland. The PSSA classification can be found at Sunrise Well (San Bernardino Wash). These wetlands are usually associated with drainages.

Associated flora: Creosote

PSSB - Palustrine, scrub-shrub, saturated. The signature for PSSB is a bright red tone. An area that shows an example of this classification is Wood Spring (Cottonwood Spring). This classification is usually associated with mountain meadows and springs on the topographic maps.

Associated flora: Cottonwood
Willow
California Fan Palm
Cattail

EMERGENTS

PEMJ/A - Palustrine, emergent, intermittently/temporarily flooded. Emergent wetlands in this classification are typically found along rivers, streams, lakes, playas, and springs. The signature is usually smooth with little or no mottling, and vries from a textured white,

to light brown or pale red. Examples of this classification include areas of the Sunrise Well (PEMA) and Hayfield Lake (PEMJ).

PUSJ - Palustrine, unconsolidated shore, intermittently flooded. Unconsolidated shore wetlands have a white or off-white signature for intermittent wetlands. Examples of PUSJ are found in the Fried Liver Wash area north of Pinto Basin.

PUBKx - Palustrine, unconsolidated bottom, artificially flooded, excavated. These open water areas have a dark blue signature. An example can be found at Eagle Mountain Mine (Placer Canyon).

PUBKrx/ PUSKrx - Palustrine, unconsolidated bottom/shore, artificially flooded, artificial bottom, excavated. Used for sewage treatment ponds. An example can be found on the Cottonwood Basin topographic map at the Cactus City rest area.

MISCELLANEOUS

1) Soil surveys and other collateral data will be followed closely, whenever available, for upland/wetland breaks.

2) Excavated (x) modifiers will be used when appropriate.

3) All intermittent linears will be classified as R4SBJ or PSSJ

4) The Colorado River aquaduct will be classified as R3UBKx.

5) Excavated ponds in the Eagle Mountain mining areas will be classified as PUBKx.

6) Hayfield Lake will be classified as PEMJ and PSSJ.

7) Seeps and springs are found throughout the study area and closely follow the topographic maps. Most springs and seeps will be classified as saturated (PFOB and PSSB). If a spring has been found to be dry during a site visit it will be classified as PSSJ / PFOJ.

III. Map Preparation

Wetland delineation and classification is in accordance with Cowardin et al (1979). Further wetland mapping guidance is provided by NWI photographic and cartographic conventions in concert with Regional and National Quality Assurance guidelines and consistency. Delineations are produced through stereoscopic interpretation of 1:58,000 scale color infrared photography.

Field reconnaissance and Field Data Sheets within Salton Sea NW were completed prior to the aerial photographic delineation of wetlands. Field sites were selected to clarify varying signatures found on the photography. These photographic signatures were then identified in the field using vegetation and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic maps, SCS preliminary soil surveys, USGS water resources data, vegetation, climate, and ecoregional 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 be unidentified. Since the photography was taken during a particular time and season, there may be discrepancies between the maps and current field conditions. Changes in landscape, which occurred after the photography was taken, would result in such discrepancies. One example is scrub-shrub photosignatures, which have since grown into forested areas.

Aerial photointerpretation and drafting were completed by Greenhorne & O'Mara, Inc., in Pinellas Park, Florida, with quality control conducted by the United States Fish and Wildlife Service.

1. Literature Cited

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Cowardin, L.M., V. Carter, F.C. Golet, and E.T. Laroe, 1979. Classification of Wetlands and Deepwater Habitats of The United States. United States Department of Interior, Fish and Wildlife Service, FWS/PBS 79/81.

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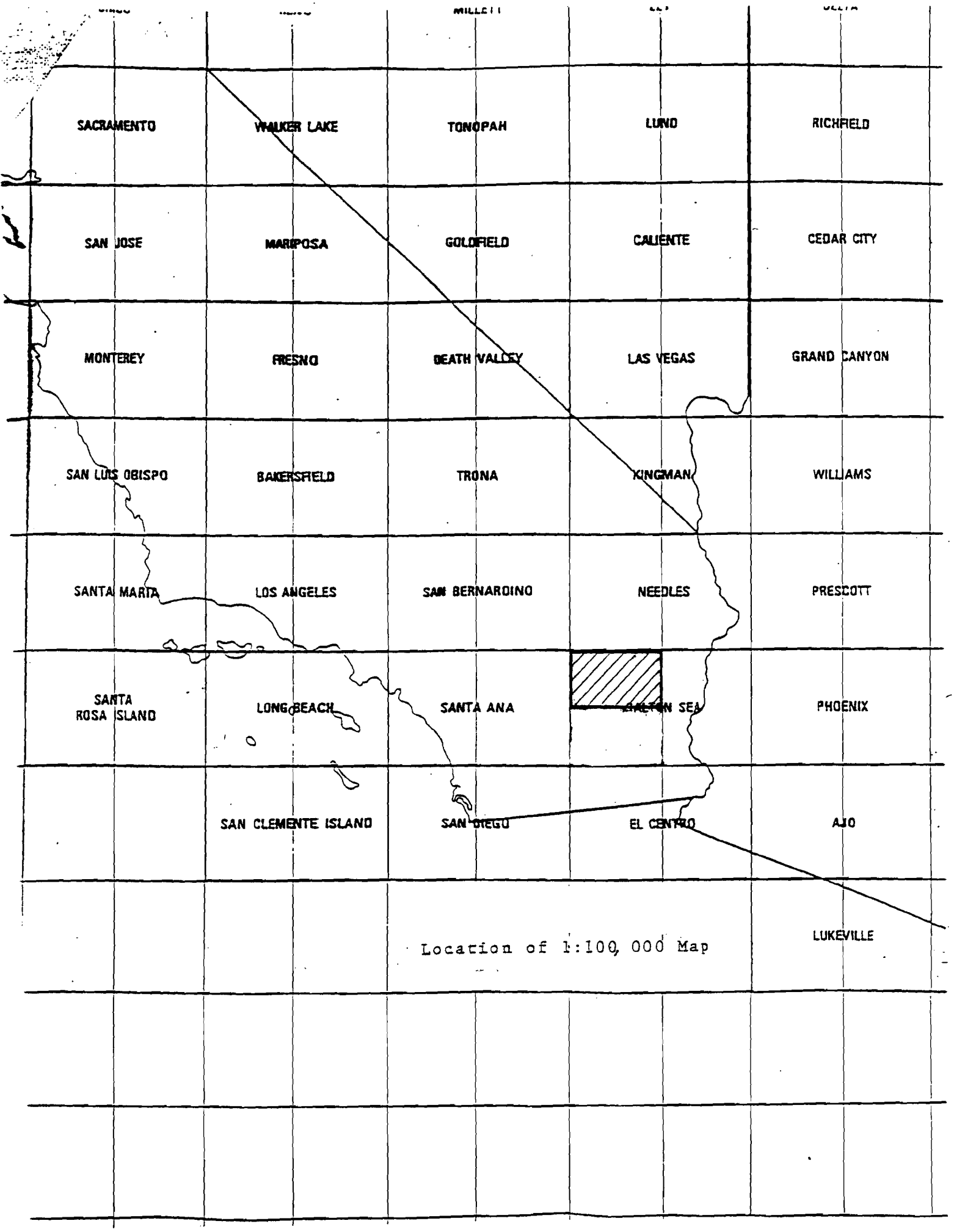
Soil Survey of Butte County, Idaho, 1997. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Custer County, Idaho, 1999. United States Department of Agriculture, Soil Conservation Service.

APPENDIX A
LOCATOR MAP


SACRAMENTO
WALKER LAKE
TONOPAH
LUND
RICHFIELD
SAN JOSE
MARIPOSA
GOLDFIELD
CALIENTE
CEDAR CITY
MONTEREY
FRESNO
DEATH VALLEY
LAS VEGAS
GRAND CANYON
SAN LUIS OBISPO
BAKERSFIELD
TRONA
KINGMAN
WILLIAMS
SANTA MARIA
LOS ANGELES
SAN BERNARDINO
NEEDLES
PRESCOTT
SANTA ROSA ISLAND
LONG BEACH
SANTA ANA
SALTON SEA
PHOENIX
SAN CLEMENTE ISLAND
SAN DIEGO
EL CENTRO
AJO
LUKEVILLE
Location of 1:100,000 Map