

DRAFT

USER REPORT FLAGSTAFF NW, ARIZONA 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 deep water 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:

The mapping area is described by Bailey (1980) as having two distinct provinces within the Semi Arid Steppe Division. The eastern half of the study is a series of irregular plains and tablelands of considerable relief forming the Juniper-Pine/Sagebush-Saltbush Mosaic Section of the Colorado Plateau Province. Local relief ranges from 100 feet to 1000 feet and becomes more pronounced toward the eastern border and the Moenkopi Plateau. In the western half of the study area are tablelands of high relief, described as the Upper Gila Mountains Pine-Douglas Fir Forest Province of the Semi Arid Steppe Division. The Little Colorado River Gorge is a physical subdivision within the province, an example of very high relief. The tablelands are drained by numerous intermittent streams and washes connecting to the Little Colorado River, the mapping area's major perennial drainage.

Climate:

Climate in the Semi Arid Steppe Division is characterized by warm to hot summers and cold winters. Average annual temperatures are 40°F to 55°F, and decrease with altitude. Annual precipitation averages 10 inches to 35 inches, however many areas receive much less than the 35 inch total given. Maximum precipitation is received during the summer months in the form of thunderstorms. Fall and winter precipitation is more even and steady, with the highest slopes receiving most of the precipitation in the form of snow.

Vegetation:

At lower elevations the stony land is sparsely covered by arid grasslands and xerophobic shrubs. Sagebrush and saltbush are dominant over extensive areas of the tablelands to the east. At higher elevations there is a transition to mixed communities of pinyon pine and several species of juniper. About 7000 feet, the pinyon-juniper mosaic thins, giving way to ponderosa pine and Douglas Fir, the dominant forest cover.

Soils:

Much of the mapping area is rough, stony land and information concerning the order of soils is lacking. The major drainages and floodplains are composed of Entisols. Aridisols and Mollisols dominate upland areas, older terraces, and alluvial fans.

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
PEM1 (A,B,C,F)	Palustrine, emergent, persistent	Seep, spring, wet meadow	<u>Typha latifolia</u> (cattail) <u>Juncus</u> sp. (rush) <u>Carex</u> sp. (sedge)
PSS1 (J,A,C)	Palustrine, scrub shrub, broad leaved deciduous	Thickets, vegetated streambanks	<u>Alnus</u> <u>oblongifolia</u> (Arizona Alder) <u>Salix</u> sp. (willow) <u>Populus</u> sp. (cottonwood)
PSS2 (J,A)	Palustrine, scrub shrub, needle leaved deciduous	Vegetated wash, streams	<u>Tamerisk</u> <u>chenensis</u> (salt cedar)
PFO1 (J,A,C)	Palustrine, forested, broad leaved deciduous	Streams, forested floodplains	<u>Populus</u> sp. (cottonwood) <u>Salix</u> sp. (willow) <u>Juglans major</u> (Arizona walnut) <u>Fraxinus</u> sp. (velvet ash) <u>Plantanus</u> <u>wrightii</u> (Arizona Sycamore)
PAB3 (F,H)	Palustrine, aquatic bed, rooted vascular	Pond weeds	<u>Polygonum</u> <u>pennsylvanicum</u> (smartweed)
PAB4 (C,F,H)	Palustrine, aquatic bed, floating vascular	Pond scum	<u>Lemna</u> sp. (duckweed)

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PUB (F,H)	Palustrine, unconsolidated bottom	Ponds, impoundments	unvegetated mud
PUS (J,A,C)	Palustrine, unconsolidated shore	Depressions, ponds	unvegetated mud and sand
L2US (J,A,C)	Lacustrine, littoral, unconsolidated shore	Lakes, playa lakes, depressions	unvegetated mud and sand
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lakes	unvegetated mud
L2AB3 (F,H)	Lacustrine, littoral, aquatic bed, rooted vascular	Lakes	<u>Polygonum pennsylvanicum</u> (smartweed)
R4SB (J,A,C)	Riverine, intermittent, stream bed	Rivers, streams, washes	unvegetated mud, sand and stones
R2US (A,C)	Riverine, lower perennial, unconsolidated shore	Flats, sand bars	unvegetated mud and sand
R2UB (H)	Riverine, lower perennial, unconsolidated bottom	Rivers	unvegetated mud and sand
R3US (A,C)	Riverine, upper perennial, unconsolidated shore	Sand bars	unvegetated sand and stones
R3UB (H)	Riverine, upper perennial, unconsolidated bottom	Rivers	unvegetated sand, rocks and stones

E. WATER REGIME DESCRIPTION

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.

F. MAP PREPARATION

The wetland classification that appears on the Flagstaff NW 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.

Field checks of areas found within Flagstaff NW photography were made 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 in the field using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included U.S.G.S. topographic maps, climate, vegetation, and ecoregional information. The user of the map is cautioned that, due to the limitation of mapping primarily through aerial photo interpretation, 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 photo interpretation and drafting were completed by Martel Laboratories, Inc., St. Petersburg, Florida.

G. SPECIAL MAPPING PROBLEMS

None.

H. MAP ACQUISITION

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

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Post Office Box 1306
Albuquerque, NM 87103

To order maps only, please contact:

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

Maps are identified by the name of the corresponding U.S.G.S. 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; United States 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. United States Department of the Interior, U.S. Fish and Wildlife Service. Biological Services Program, Washington D.C., 103p.

APPENDIX A

