

# DRAFT

## USER REPORT ST. JOHNS SW, 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 study area covered by St. Johns SW is in central Arizona (Appendix A). Bailey (1980) divides this section into two distinct provinces. While the entire study area encompasses the Semi Arid Division of the Steppe Domain, approximately 90% of the area is classified the Grama-Galleta Steppe Juniper-Pinyon Woodland Section of the Colorado Plateau Province. The remaining area occupies the Upper Gila Mountains Pine-Douglas Fir Forest Province. The study area consists mainly of Colorado Plateau tablelands having moderate to considerable relief, with the overall drainage pattern north into and including the Little Colorado River. The Little Colorado River begins in the highlands of the study area as an upper perennial only to quickly exhibit the physical characteristics of a lower perennial as it drains the plateau. At lower elevations, the river reduces further to an intermittent drainage temporarily flowing during the year. Other intermittent stream valleys are narrow and widely spaced, mainly exhibiting early channels only to end in dry wash situations with no clear connection to another drainage. The remaining area is characterized by open low mountains in the extreme south with the eastern edge of the

Mogollon Rim physically dividing the two provinces. The North Fork of the White River, the study area's other major perennial river, drains south west away from the rim face to the Salt River.

Climate:

Climate on the Colorado Plateau varies in accordance with altitude. Generally, temperature ranges are great with cold winters and hot summers. Average rainfall amounts may reach 20 inches, but some sections receive considerably less. Thunderstorms and downpours are the rule in summer, with more even rains in the winter. The highest elevations receive most of their precipitation in the form of snow.

Vegetation:

The study area is dominated by open stands of pinyon pine and several species of juniper. Areas of trees are divided by a cover of grama and other grasses and shrubs. The lowest elevations find arid grasslands mixed with several kinds of cacti and yucca. The remaining Gila mountain province varies, again, with elevation. Around 7000' the mixed grass, pinyon-juniper mosaic gives way to open forests of ponderosa pine, particularly on south facing slopes. Above 8000' the Douglas Fir begins to dominate mixed with stands of aspen.

Soils:

Soils in the study area range from Entisols along the major streams and rivers to rocky outcroppings and rough broken badlands on the mountains and plateaus. Mollisols and Aridisols dominate the upland areas.

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)
PF01 (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</u> <u>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 St. Johns SW 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 St. Johns SW 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

1. Inconsistencies were noticed during field checks of various highland meadow areas. The photography exhibits a pink "blush" making the emergent vs. upland decisions somewhat difficult. For this reason, a conservative approach was taken in the delineation of these particular areas in order to maximize overall consistency.
2. Photography in the years 1980 and 1981 were taken during and shortly after an extremely wet period. The use of field notes and field checksites will help compensate for the wetter photography, along with the overlapping of adjacent photos to help express more normal water conditions for interpretation.

H. MAP ACQUISITION

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

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U.S. Fish and Wildlife Service  
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Post Office Box 1306  
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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

