DRAFT

USER NOTES

SNAKE RIVER AREA, IDAHO
including
HAILEY NE, SW, SE
IDAHO FALLS SW
JORDAN VALLEY NE

NATIONAL WETLANDS INVENTORY MAPS

RECEIVED

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ST. PETERSBURG, FL

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 is just north of the Snake River and in southwestern Idaho. It extends from the lowlands of the Snake River up into the Sawtooth Mountains and also a portion of the mountainous terrain west of CJ Strike Reservoir. There are a variety of other mountain ranges including the Boulder, Pioneer and Smoky Mountains, all within the Sawtooth National Forest. Just south of the Smoky Mountains and North of Mount Bennett Hills is the Camas Prairie. Lava flows cover a large portion of the southeastern map of Idaho Falls SW.

Bailey (1980) characterizes this area as falling within two provinces. The Intermountain Sagebrush Province dominates the study area and is described as the Great Basin physiographic section. The many individual basins accumulate alkaline and saline salts. Mountains here rise abruptly from the semi-arid plains. The Sagebrush-Wheatgrass Section is the only section found within this study area.

The Rocky Mountain Forest Province is described as rugged glaciated mountains with sections of intermontane depressions at altitudes of 6000 feet. The highest mountain is Handyman Peak at 12,009 feet. The Grand Fir-Douglas Section dominates this province here since these firs are commonly associated.

The Camas Prairie is a broad alluvial valley dissected by Camas Creek and its tributaries which drain much of the surrounding foothills and steep mountains. Camas Creek empties into Magic Reservoir. East of this bottom land is an undulating lava plain. To the south is rolling upland grading into steep hills composed of rhyolitic and silicic volcanics. To the north are steep mountains composed of granite and andesite.

Climate:

The climate in the lowlands is characterized by hot summers and moderate winters shielded by the Rocky Mountains from strong Arctic winds. The average annual temperature is in the 40's (^{o}F). Precipitation averages approximately 15 inches annually and snowfall averages 93 inches annually. January and December are the wettest months due to high rainfall and snowfall. The climate in the higher mountainous regions is described as semiarid, however, more precipitation falls here than in the lowlands ranging upward to 40 inches annually. Climate is a result partly of west winds and the north-south orientation of the mountain ranges. The west slopes receive much of more rainfall than the east slopes. The average annual temperature ranges with variation in altitude but is mainly in the 40's (^{o}F).

Vegetation:

As described by the Potential Natural Vegetation Map of Idaho, natural vegetation over most of the study area consists of lowland plant communities of Wyoming big sagebrush, bluebunch wheatgrass, sandberg and Nevada bluegrass and needlegrasses. Along the valley of the Snake River Basin big sagebrush, Wyoming big sagebrush, fourwing salt bush, basin wild rye, Indian rice grass, bluebrush wheatgrass, needle and thread grass, Thurber needlegrass and bottlebrush squirreltail are the dominant plants. Black greasewood and inland saltgrass are common within this community in lower terraces that are poorly drained and saline. The vegetation on the south and west-facing aspects along the Boise River is grassland or an open ponderosa pine forest. Arrowleaf balsamroot is a dominant forb. The North-facing slopes along the major drainages and the mountainous upland at low and mid-elevations are dominated by a mixed coniferous forest of ponderosa pine, Douglas-fir, and Grand fir. Draws and enclosed basins contain subalpine fir and Engelmann Spruce. High elevations also can have these two species along with limber pine. Over all the terrain is found much lodgepole pine. The trees of the Sawtooth National Forest include Douglas fir, lodgepole pine and quaking aspen. The lava beds support various plant species from wildflowers such as dwarf monkeyflower and scabland penstemon, shrubs such as rubber rabbit brush and antelope bitterbrush, to the scattered limber pines.

Soils:

Soils of the highlands are dominated by Mollisols with some Alfisols. Due to steep slopes and recent glaciation, Inceptisols are also present. Flood plain soils are typically Entisols. Some basins may have pockets with no soil. Soils on the Snake River Plain formed in wind-laid and water-deposited materials over lava flows and are dominated by Aridisols.

The hydric soil found on Camas Creek and its tributaries is a Marshdale-Strom-Houk association. It is described as very deep, nearly level to gently sloping, poorly drained soils dominated by dark, grey loams. This soil group formed in alluvium on fans, low terraces, and bottom lands.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table 1: - Cowardin Classification Codes and Descriptions

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
R2UB (H)	Riverine, lower perennial, unconsoildated bottom	Rivers or drainage	Unconsolidated bottoms
R2AB (H)	Riverine, lower perennial, aquatic bed	Rivers	Lemna sp. (duckweed) Utricularia spp. (Bladderwort) Rorripa spp. (watercress)
L1UB (H)	Lacustrine, limnetic, unconsolidate bottom	Lakes	Unconsolidated bottoms
L2AB (F,H)	Lacustrine, littoral, aquatic bed	Lake Marshes	Lemna sp. (duckweed)
PUB (F,G,H)	Palustrine unconsolidated bottom	Ponds, borrow pits, or impoundments	Unconsolidated bottoms
PAB (C,F,H)	Palustrine aquatic bed	Ponds or deep marshes	Myriophyllum sp. (milfoil) Azolla spp. (mosquito fern) Lemna spp. (duckweed)
PEM (A,B,C,F,G)	Palustrine, emergent	Meadows, marshes, springs, depressions, seeps or drainage area	Carex spp. (sedges) Juncus spp. (rushes) Camassia quamash (camas) Penstemon spp. (penstemons) Potentilla spp. (cinquefoil) Wyethia heleniodes (whitehead wyethia)
PSS	Palustrine, scrub shrub	Willow thicket, river banks or seeps	Salix spp. (willow) Alnus rubra (red alder) Artemisia cana (silver sage) Ribes spp. (currants)
PFO (A,B,C)	Palustrine, forested	Floodplains, springs, depressions or meadow rims	Betula occidentalis (riverbirch) Populus balsamifera trichocarpa spp. (black cottonwood) Picea engelmannii (Engelmann spruce) Pinus contorta (lodgepole pine)

Water Regime Modifiers

(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) 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 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.

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E. WETLAND COMMUNITITY TYPES

Riverine:

The classification is always upper perennial for permanent rivers here since even in the flatlands flow is rapid due to the many drainages from the steep mountains. Most have an unconsolidated bottom and shore. The unvegetated shores and islands are temporarily or seasonally flooded. Major rivers include South Fork Boise, Big Wood, East Fork Salmon, and Lost River.

Intermittent streams are abundant and can flood temporarily, seasonally, or on a semi-permanent basis (R4SBA, R4SBC, or R4SBF). Many irrigation ditches are present and classified either seasonal or semi-permanent (all irrigation ditches are drained during the winter months) with the excavated modifier (R4SBCx or R4SBFx). Some are lined in concrete or rip rap and will also include the artificial substrate modifier (R4SBFrx). Many of the ditches and drainages are vegetated and will therefore be considered to be palustrine.

Rivers are sometimes vegetated with aquatics (R2ABH) including watercress (Rorripa spp.), duckweed (Lemna spp.), and bladderwort (Utricularia spp.).

Lacustrine:

Lacustrine areas, which are greater than 20 acres, include both limnetic and littoral subsystems. Numerous lakes exist within the study area.

This classification includes some major reservoirs such as Anderson Ranch, Little Camas, Twin Lakes, Magic Creek and Fish Creek. Natural lakes within the study area are located mainly in the Sawtooth National Forest and include Alturus and Petit Lake. Reservoirs had extremely low water levels due to drought conditions in 1987 and 1988. Zones of seasonal and temporarily exposed shores (L2USCh, L2USAh) will be mapped when possible. These lakes are usually considered permanent.

Unvegetated lakes are labeled L1UBH, man-made lakes are given the excavated modifier (L1UBHx) and reservoirs are given the impounded modifier (L1UBHh).

Palustrine:

Palustrine areas include forested, scrub-shrub, emergent, aquatic bed, unconsolidated shore, and unconsolidated bottom. Excavated ponds and borrow pits are considered unconsolidated bottom and labeled PUBHx. Naturally occuring ponds are identified as PUBH. Ponds which are impounded are labeled PUBHh.

Unconsoildated shore is restricted to areas which indicate water is still remaining in deep pockets or shorelines. These are identified as PUSCx or PUSCh. Intermittent ponds may be identified as PUSC and wetter ponds as PUBF.

This system is the majority of the vegetated wetlands including floodplains, marshy areas, playas, drainages, springs, sloughs, excavations, impoundments, beaver ponds, and natural ponds. Some playas are not 30% vegetated and may be due to a higher alkaline soil than plants can tolerate.

Temporary emergent wetland communities (PEMA) are typically vegetated by saltgrass (Distichlis spp.), tanzy suncup (Oenothera tanacafolia), iris (Iris spp.), dock (Rumex), pussytoes (Antennaria spp.) and grasses. These are often found on wetland edges where drawdown occurs. More often the meadows are seasonally flooded (PEMC) and support a wide variety of emergent vegetation including abundant colorful wildflowers. These plant communities include sedges (Carex spp.), rushes (Juncus spp.), spikerushes (Eleocharis spp.), cinquefoil (Potentilla spp.), buttercup (Ranunculus spp.), foxtail (Alopecurus spp.), camas (Camassia spp.), groundsel (Senecio spp.), monkey flower (Mimulus guttatus), American brookline (Veronica americana), starwort (Stellaria sp.), Jeffrey's shooting star (Dodecatheon Jeffreyi) and swordleaf rush (Juncus ensifolius). This type of wetland is found extensively on Camas Prairie, lake shores, mountain seeps, lowland mountains, spring-fed pockets, and floodplains. Cattail (Typha spp.) and hardstem bulrush (Scirpus acutus) are found in both seasonally and semipermanently flooded (PEMF) wetlands. Seeps dot the foothills, prairies and mountains and often the head of the seep can best be identified as a saturated wetland (PEMB).

Aquatic vegetation observed in the field was dominated by watercress (Rorripa sp.). A nonpersistent emergent smartweed found in various ponds and lakes throughout the study area was Polygonum amphibium. Both of these species are found in permanent or semipermanent water regimes (PABF or PABH and PEMF or PEMH).

Commonly associated with the emergents is shrubby cinquefoil (Potentilla fruiticosa). This ericaceous health was usually found in seasonally flooded basins and floodplains (PSSC). Silver sage (Artemisia cana) is a typical plant in temporary water regimes (PSSA) of the Camas Prairie. This was observed to be growing with rushes between and alongside wetter sloughs. The scrub shrub species that populates floodplains, springs and drainages is predominantly willow (Salix sp.). Young river birch (Betula occidentalis), rose (Rosa sp.), red osier dogwood (Cornus stolonifera), and red alder (Alnus rubra) are often associated with the willows. These shrub communities are commonly flooded on a seasonal basis (PSSC) but can be found in temporary wetlands also (PSSA).

Forested wetlands which are flooded temporarily support black cottonwoods (Populus balsamifera trichocarpa) and quaking aspens (Populus tremula tremuloides) (PFOA). These are usually found in riparian zones and old river scars. Engelmann spruce (Picea engelmannii) and lodgepole pine (Pinus contorta) were the dominant tree species found in mountain area forested wetlands. These trees can grow in seasonal, saturated or temporary wetlands (PFOC, PFOB or PFOA).

F. MAP PREPARATION

The wetland classifications that appears on the National Wetlands Inventory (NWI) basemap is in accordance with Cowardin et al (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography. Most of the photography was taken during the late summer or fall of 1983, 1984, and 1985.

Field checks of areas found within Hailey NE, NW, SW and Idaho Falls SW photography 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

None

I. LITERATURE CITED

U.S. Geological Survey Quadrangles Soil Survey of Cassia County, Idaho, Western Part, 1981, U.S. Dept. of Agriculture, Soil Conservation Service.

Potential Natural Vegetation Map, Idaho, 1986, U.S. Dept. of Interior, Fish and Wildlife Service.

Wetland Plants of the State of Idaho, 1986, U.S. Dept. of Interior, Fish and Wildlife Service.

Description of the Ecoregions of the U.S., Bailey, Robert G., U.S. Dept. of Agriculture, 1980.

Important Fish and Wildlife Habitats of Idaho, 1980. Boccard, Bruce. U.S. Department of the Interior, Fish and Wildlife Service.

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Snake River Valley

MOORES HOLLOW 1951

BANKS 1953

GARDEN VALLEY 1959

MAWLEY MTN 1957

DIAMOND PEAK 1957

MONTOUR 1953

COPPER BASIN 1960

MACKAY 1960

MULDOON CANYON 1960

GROUSE 1960

BOISE 1954

SANDS BASIN 1957

MAYFIELD 1960

DANSKIN PEAK 1960

FAIRFIELD 1957

BLAINE 1957

BELLEVUE 1957

CRATERS OF THE MOON 1957

ROOSTER COMB PEAK 1965 DMA 1970

SILVER CITY 1965 DMA 1970

OREANA 1949

BIG FOOT BUTTE 1948

MOUNTAIN HOME 1956

BENNETT MTN 1958

KING HILL 1958

DAVIS MTN 1957

THORN CREEK 1957

FLINT CREEK 1965 DMA 1977

TRIANGLE 1965 DMA 1977

ROUGH MTN DMA 1977

GRAND VIEW 1947

BRUNEAU 1947

INDIAN COVE 1948

GLENNS FERRY 1948

PASADENA VALLEY 1949

KIMAMA DMA 1976

PLEASANT VALLEY DMA 1977

SLACK MTN DMA 1977

DRY CREEK DMA 1977

BIG HILL 1956

WINTER CAMP 1956

BLUE BUTTE 1956

CROWS NEST 1956

BUHL 1959

JEROME 1959

LAKE WALCOTT 1959

YALE 1959

SUBLETT 1959

STREVELL 1959

HAT PEAK 1964

DWYHEE 1959

MOUNTAIN CITY 1956

ROWLAND 1956

JARBIDGE 1963

ELK MTN 1957

CONTACT 1957

DEELAPLAIN 1957

GOLLAHER MTN 1964

GOOSE CREEK 1964

COTTON THOMAS BASIN

YOST 1959

PARK VALLEY 1959

KELTON PASS 1959

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