

DRAFT

USER REPORT: PRESTON NE and SE, WYOMING
National Wetlands Inventory Maps

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 Preston NE and SE base maps is located in Southwestern Wyoming (See Appendices). Bailey (1980) divides the study area into two provinces, the Wyoming Basin Province and the Rocky Mountain Forest Province.

The Wyoming Basin area includes Fontanelle Reservoir which covers approximately eleven square miles. Major rivers here include the Green, Hams Fork and Bear Rivers. Floodplains are extensive along these rivers. Broad expanses of sage brush and dry lake beds comprise the remaining area. Relief in the basin ranges from 7,000 to 8,000 feet.

The Star Valley Area, located in the northwestern section, covers approximately 10% of the study area. The Salt River flows north through the Star Valley. The Valley itself is 10 to 15 miles wide and 45 miles long. The Caribou Mountains in Idaho make up the western side and the Salt River mountains make up the Eastern border of the valley.

The Salt River Range and Wyoming Range, located in the western half of the mapping area make up the Rocky Mountain Province. These include glaciated mountains, beaver ponds and numerous draws lined with willow. Both are prevalent throughout this area. Elevations here range from 8,000 feet to just over 11,000 feet.

Climate:

The high altitude of the basin gives it a climate characterized by cold winters and hot, short summers. The average growing season is fewer than 100 days. Annual precipitation ranges from 5 to 14 inches and is fairly evenly distributed throughout the year.

The climate in the Star Valley Area, located west of the Salt River Range, differs from the basin located east of the Salt River Range. The Star Valley Area is classified as a cold climate with humid winters. The high elevation and dry air of the area permit rapid gain and loss of solar radiation. Thus, the valley is subject to abrupt changes in temperature and weather. Because radiation cooling at night is rapid, freezes are common even in summer. The average growing season is fewer than 90 days. Average annual temperatures range from 80° - 30° in the summer and 40° - 0° in the winter. Annual precipitation ranges from 18 to 21 inches and is fairly evenly distributed throughout the year except in July, August and September, when amounts drop to about an inch of moisture per month. Average snowfall ranges from 95 inches to 130 inches in the valley.

Climate in the Salt River Range and Wyoming Range is a semiarid steppe region in which precipitation falls in the winter. A considerable part of the annual precipitation is snow, however, permanent snowfields and glaciers cover only small areas. The base of these mountains receive only 10 to 20 inches of precipitation annually. Precipitation in the higher elevations increases to 40 inches and temperatures decrease.

Vegetation:

The chief vegetation of the basin is sagebrush, greasewood and a mixture of short grasses. Streams and valley bottoms are lined with willows and sedges.

The Star Valley Area can be divided into two vegetative communities: grasslands and forested areas. The grassland area supports grass-sage brush and rush-sedge-willow communities. Quaking Aspen and Ponderosa pine-Douglas fir communities comprise the forested areas of the Star Valley Area.

The mountains are marked by distinct vegetational zones that are controlled mostly by a combination of altitude, latitude, direction of prevailing winds and slope exposure. The alpine zone is characterized by alpine tundra and the absence of trees. Next, the subalpine zone is dominated by spruce and subalpine fir. The mountain zone, immediately below the subalpine, is marked by the presence of Ponderosa pine and Douglas fir. Below the mountain belt is the foothill zone. Dry, rocky slopes in the zone often have a growth of shrubs in which mountain mahogany and several kinds of scrub oak are predominant.

Soils:

The Wyoming Basin has extensive alluvial deposits in stream floodplains and in fans at the foot of mountains. Dry lake beds are numerous and there are extensive eolian deposits including both sand and loess.

Soils in the Wyoming Basin are alkaline Aridisols. Subsoils contain a layer enriched with lime and/or gypsum, which may develop into a caliche hardpan. Because the Wyoming Basin is semiarid and weathering is slight, soil texture and composition are dominated by the parent materials.

The soils in the Star Valley formed in several kinds of parent material. These include residuum, colluvium, alluvium, and wind deposited silt or loess. Mollisols and Alfisol are the two soil orders found in this valley.

The main soils found in the floodplain of the Salt River and its tributaries are Cryaqualls, Cryaquepts, Dipman, Dipman-Narrows and Turson. These soils are poorly drained and are nearly level with slopes from 0 to 3 percent. The Cryaqualls and Cryaquepts soils range from loam to silty clay. Some have a peaty surface layer, while others are gravelly throughout. The Dipman series range from silty clay loam to gravelly loam. The profile is mildly alkaline. The Turson soil ranges from silty loam to gravelly loamy sand and is also moderately alkaline.

The remaining soils in the Star Valley Area are the Hobacker-Greyback-Leavittville, Robana-Buckskin-Cowdrey and Paulson-Lail-Stony rock association. These soils are well drained and range from gently sloping to very steep terrain. These are found mainly on terraces, foothills, uplands and mountains.

Soil orders in the Salt River Range and the Wyoming Range occur in zones corresponding to the vegetation zones. These range from Mollisols and Alfisols in the mountain zone to Aridisols in the foothill zone. In addition, because of steep slopes and recent glaciation, there are areas of Inceptisols.

WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS
 TABLE 1: NWI CLASSIFICATION FOR PRESTON NE AND SE, WYOMING

NWI CODE (WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
R2UB (G,H)	Riverine, lower perennial, unconsolidated bottom	Rivers	Unconsolidated bottoms
R3UB (H)	Riverine, upper perennial, unconsolidated bottom	Mountain rivers or streams	Cobble-Gravel substrate
R3US (C,A)	Riverine, upper perennial, unconsolidated shore	Flats	Sand, mud or cobble-gravel
R3RB (H)	Riverine, upper perennial, rock bottom	Mountain rivers or streams	Bedrock
R4SB (F,C,A)	Riverine, intermittent, stream bed	Streams or irrigation canals	Sand, mud or cobble-gravel
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lakes	Unconsolidated bottoms
L2AB (F)	Lacustrine, littoral, aquatic bed	Deep marsh	Submerged and floating aquatics
L2US (C,A)	Lacustrine, littoral, unconsolidated shore	Lake flats, beach	Sand or mud
PUB (H,F)	Palustrine, unconsolidated bottom	Glacial lakes or overflow pits (gas or oil)	Unconsolidated bottoms
PAB (F,G)	Palustrine, aquatic bed	Vegetated ponds, beaver ponds or borrow pits	<u>Potamogeton</u> spp. (pondweeds)

NWI CODE (WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM (F,C,B,A)	Palustrine, emergent	Meadows, depres- sions, floodplains, seeps, marsh	<u>Hordeum jubatum</u> (foxtail barley) <u>Poa pratensis</u> (Kentucky bluegrass) <u>Buchloe</u> sp. (buffalo grass) <u>Agrostis</u> sp. (red top) <u>Agropyron smithii</u> (western wheat) <u>Eleocharis</u> sp. (dwarf spikerush) <u>Distichlis spicata</u> (saltgrass) <u>Carex</u> sp. (sedges) <u>Typha latifolia</u> (cattail) <u>Juncus</u> sp. (rush) <u>Scirpus acutus</u> (hardstem bullrush) <u>Triglochin maritima</u> (arrow grass) (blue-eyed Mary) <u>Allenrolfea</u> <u>occidentalis</u> (iodine bush)
PSS (C,B,A)	Palustrine scrub-shrub	Shrub wetland	<u>Salix</u> spp. (willow)
PFO (A)	Palustrine, forested	Forested wetland	<u>Populus deltoides</u> (cottonwood)

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 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.
- (U) Unknown--The water regime is not known.

F. MAP PREPARATION

The wetland classification that appears on the Preston 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 August of 1982, and September of 1983 and 1984.

Field checks of areas found within Preston NE and SE 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 USGS topographic maps, SCS soil survey, climate, vegetation, 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 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.

G. SPECIAL MAPPING PROBLEMS

Wetland valleys observed in the field exhibited unique characteristics. Although species were generally the same throughout, each showed different photo signatures depending upon irrigation, farming practices and location of the valley. Delineations will be made according to situations found in each area and valley. Mapping of mowed and grazed meadows were not influenced by land use changes and wetland signatures were carried across these man-induced boundaries. All hayed meadows in question will be closely investigated at draft map review and decisions on temporary/upland break made at that time.

H. MAP ACQUISITION

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

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To order maps only, contact:

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

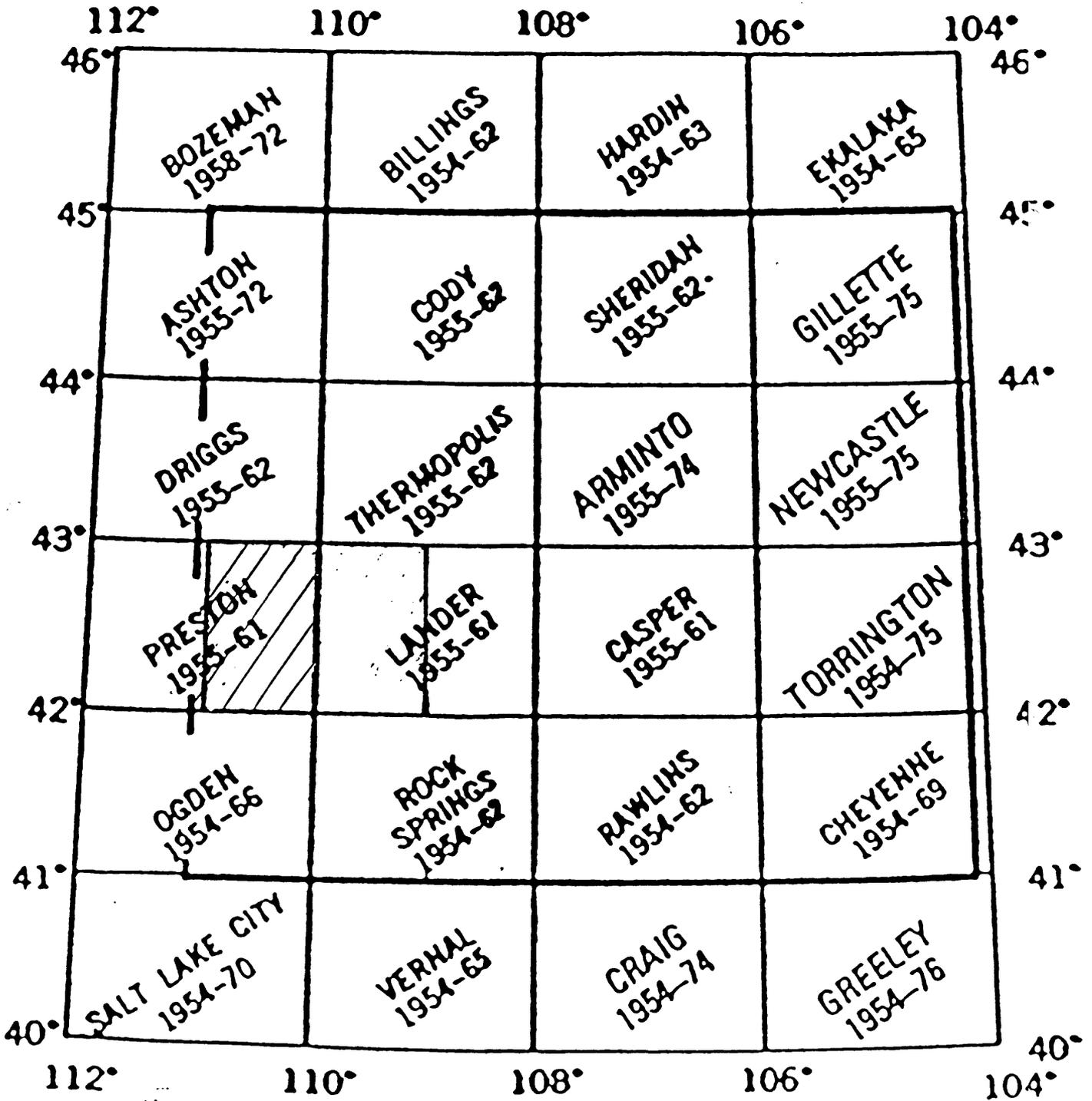
Maps are identified by the name of the corresponding USGS 1:24,000 scale topographic quadrangle name. Topographic map indices are available from the U.S. Geological Survey.

LITERATURE CITED

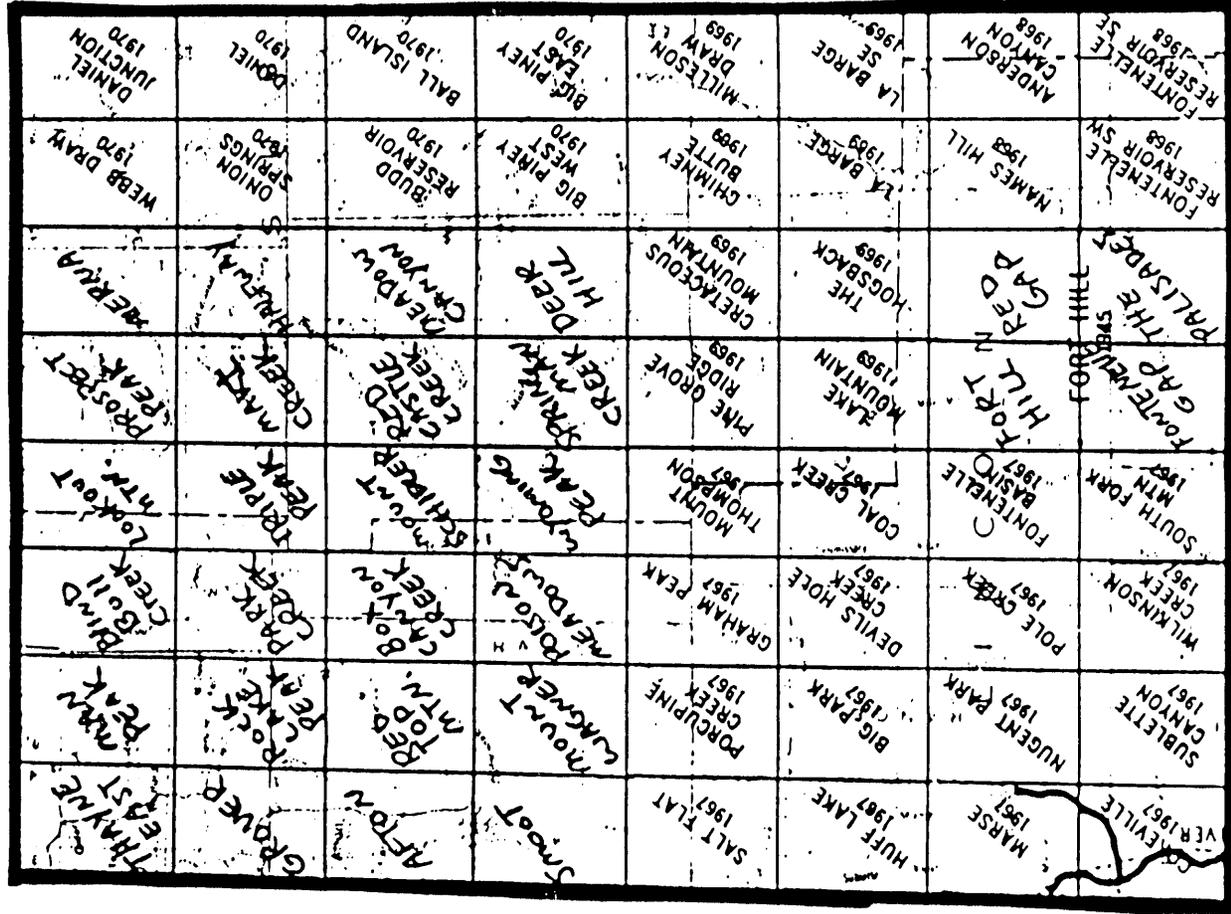
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/JRG:wp

LOCATOR MAP (A)



LOCATOR MAP (B)



LOCATOR MAP (C)

