

2/88

USER REPORT: LANDER NW, SW, 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 Lander NW,SW base maps is located in west-central Wyoming (See Appendices). Bailey (1980), divides the study area into the Rocky Mountain Forest Province and the Wyoming Basin Province. The Wind River Mountains make up the Rocky Mountain Forest Province. They cover approximately 25% of the mapping area located in the northeastern section. The Wyoming Basin Province comprises the remaining area.

The major rivers in the study area are the Green River, New Fork River and the Big Sandy River. Extensive hay fields can be found along the Green River, New Fork River, and the Big Sandy River. Broad expanses of sagebrush and dry lake beds comprise the remaining area in the basin. Relief in the valley ranges from 6,000 feet to 8,000 feet.

The Wind River mountain range, located in the northeastern section of the mapping area, are rugged glaciated mountains. Glacial lakes and beaver ponds are prevalent throughout this range. Elevations here range from 8,000 feet to as high as 13,000 feet.

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### Climate:

The high altitude of the Wyoming Basin Province gives it a climate characterized by long, cold winters and hot, short summers. Annual precipitation ranges from 5 to 14 inches and is fairly evenly distributed throughout the year.

Climate in the Wind River Mountains is a semiarid steppe regime in which precipitation falls in the winter. A considerable part of the annual precipitation is snow, however, permanent snow fields 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 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 montane zone, immediately below the subalpine, is marked by the presence of ponderosa pine and Douglas fir. Below the montane 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 dune 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.

Soil orders in the Wind River Mountains, occur in zones corresponding to the vegetation zones. These range from Mollisols and Alfisols in the montane 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 LANDER NW, AND SW, WYOMING**

| NWI CODE<br>(WATER<br>REGIME) | NWI DESCRIPTION   | COMMON DESCRIPTION                                 | CHARACTERISTIC<br>VEGETATION           |
|-------------------------------|---|--|--|
| R2UB<br>(G,H)                 | Riverine, lower<br>perennial,<br>unconsolidated<br>bottom | Rivers   | Unconsolidated<br>bottoms              |
| R3UB<br>(H)                   | Riverine, upper<br>perennial,<br>unconsolidated<br>bottom | Mountain rivers or<br>streams                      | Cobble-Gravel<br>substrate             |
| R3US<br>(C,A)                 | Riverine, upper<br>perennial,<br>unconsolidated<br>shore  | Flats  | Sand, mud or<br>cobble-gravel          |
| R3RB<br>(H)                   | Riverine, upper<br>perennial,<br>rock bottom              | Mountain rivers or<br>streams                      | Bedrock                                |
| R4SB<br>(F,C,A)               | Riverine,<br>intermittent,<br>stream bed                  | Streams or<br>irrigation canals                    | Sand, mud or<br>cobble-gravel          |
| L1UB<br>(H)                   | Lacustrine,<br>limnetic,<br>unconsolidated<br>bottom      | Lakes  | Unconsolidated<br>bottoms              |
| L1AB<br>(F)                   | Lacustrine,<br>limnetic,<br>aquatic bed                   | Deep Marsh   | Submerged & floating<br>aquatics       |
| L2US<br>(C,A)                 | Lacustrine,<br>littoral,<br>unconsolidated<br>shore       | Lake flats,<br>beach                               | Sand or mud                            |
| PUB<br>(H,F)                  | Palustrine,<br>unconsolidated<br>bottom                   | Glacial lakes or<br>overflow pits<br>(gas or oil)  | Unconsolidated<br>bottoms              |
| PAB<br>(F,G)                  | Palustrine,<br>aquatic bed                                | Vegetated ponds,<br>beaver ponds or<br>borrow pits | <u>Potamogeton</u> spp.<br>(pondweeds) |

| NWI CODE<br>(WATER<br>REGIME) | NWI DESCRIPTION           | COMMON DESCRIPTION                                    | CHARACTERISTIC<br>VEGETATION   |
|-------------------------------|---------------------------|---|--|
| PEM<br>(F, C, B, A)           | Palustrine,<br>emergent   | Meadows, depres-<br>sions,<br>floodplains or<br>seeps | <u>Hordeum jubatum</u><br>(foxtail barley)<br><u>Poa pratensis</u><br>(Kentucky<br>bluegrass)<br><u>Buchloe</u> sp.<br>(buffalo grass)<br><u>Agrostis</u> sp.<br>(red top)<br><u>Agropyron smithii</u><br>(Western wheat)<br><u>Eleocharis</u><br><u>englemeni</u><br>(dwarf spikerush)<br><u>Distichlis spicata</u><br>(saltgrass)<br><u>Carex</u> sp.<br>(sedges)<br><u>Typha latifolia</u><br>(cattail)<br><u>Juncus</u> sp.<br>(rush)<br><u>Scirpus acutus</u><br>(hardstem bullrush)<br><u>Triglochin maritima</u><br>(arrow grass)<br>(blue-eyed Mary)<br><u>Allenrolfea</u><br><u>occidentalis</u><br>(iodine bush) |
| PSS<br>(C, B, A)              | Palustrine<br>scrub-shrub | Shrub wetlands  | <u>Salix</u> spp.<br>(willow)  |
| PFO<br>(A)                    | Palustrine,<br>forested   | Forested wetlands                                     | <u>Populus deltoides</u><br>(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 Lander 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 and September of 1982 and 1983 and during September of 1984.

Field checks of areas found within Lander NW and 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 USGS topographic maps, 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 fields were not influenced by land use changes and wetland signatures were carried across these man-induced boundaries. All hay fields 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:

Chuck Elliott  
Regional Wetland Coordinator  
U.S. Fish and Wildlife Service - Region VI  
Denver Federal Center  
P.O. Box 25486  
Denver, CO 80225

To order maps only, contact:

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

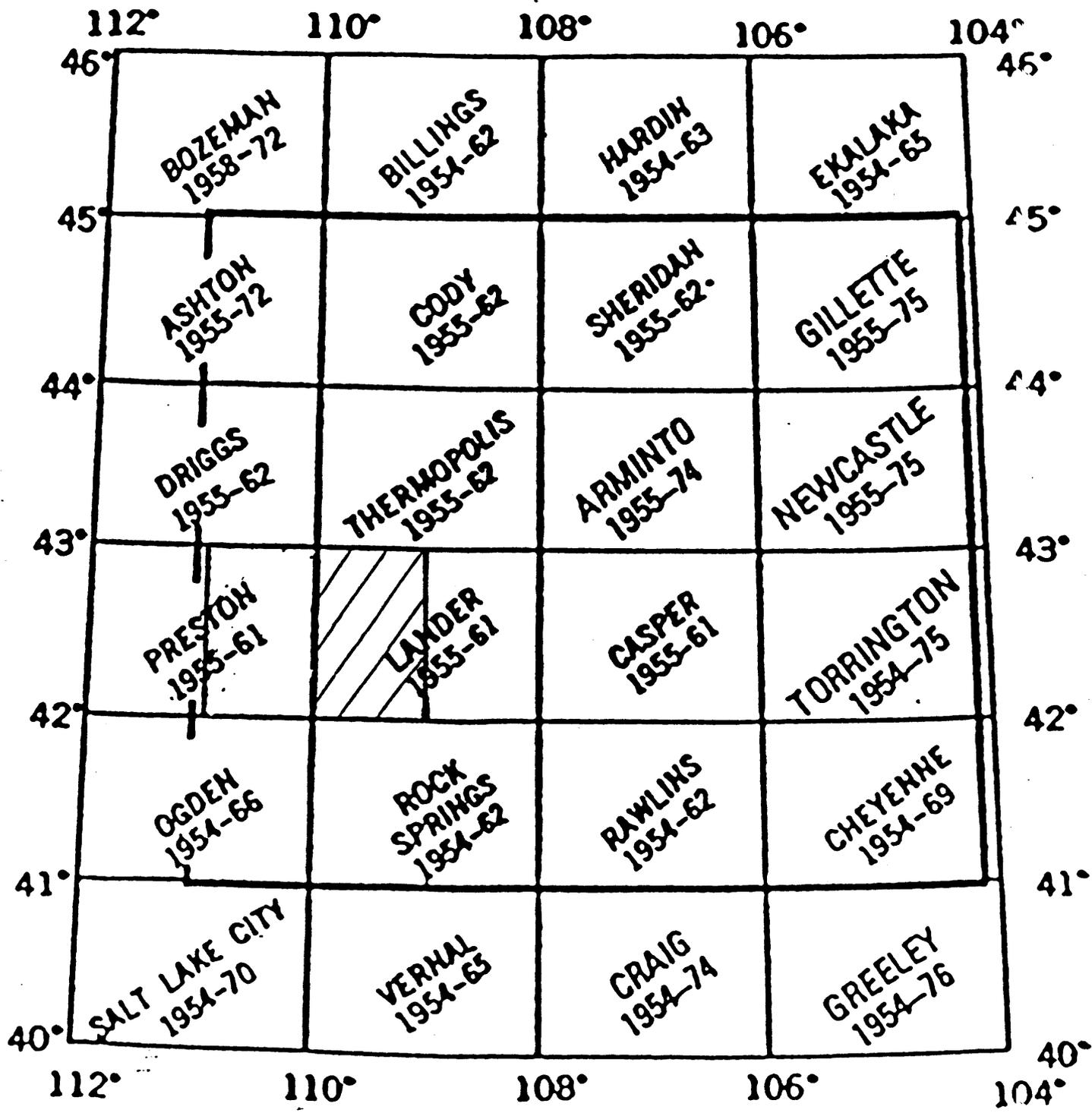
Maps are identified by the name of the corresponding USGS 1:24,000 scale topographic quadrangle name. Topographic map indices are available from the U.S. Geological Survey.

## LITERATURE CITED

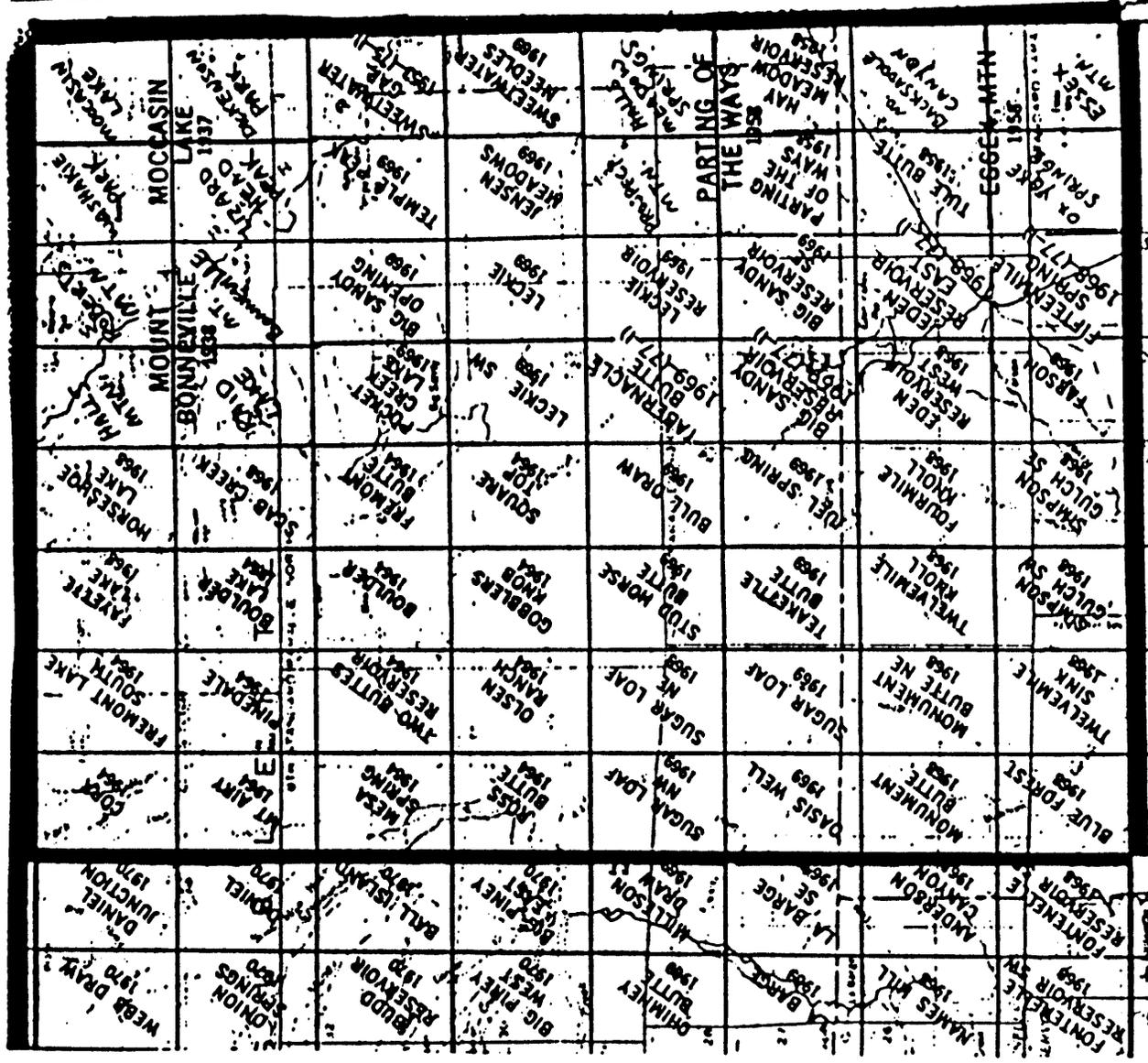
- Bailey, Robert G. 1980. Description of the Ecoregions of the United States; United States Department of Agriculture Forest Service. Miscellaneous Publications No. 1391.
- Cowardin, L.M.; V. Carter; F.C. Golet and E.T. LaRoe; 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, U.S. Fish and Wildlife Service.
- Denison, E.S.; J.R. Schuetz, and S.J. Rucker; 1982. Wyoming Water Resource Data, Water, year 1982; United States Department of Agriculture, Soil Conservation Service.
- National Committee for Hydric Soils, 1985. Hydric Soils of the State of Wyoming; United States Department of Agriculture, Soil Conservation Service.
- Reed, Porter B. Jr., 1986. 1986 Wetland Plant List, Wyoming; United States Department of Interior, Fish and Wildlife Service.
- Wyoming General Soil Map; 1977. United States Department of Agriculture, Soil Conservation Service, Research Journal 117.

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LOCATOR MAP (A)



LOCATOR MAP (B)



LOCATOR MAP (C)

