

DRAFT

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

WYOMING

1:100,000 SCALE MAPS

THERMOPOLIS SE
LANDER NE

National Wetlands Inventory
1:100,000 Map Narrative
Thermpolis SE
Lander Ne

INTRODUCTION:

The U.S. Fish and Wildlife Service, Office of Habitat Resources, is conducting an inventory of the wetlands of the United States. The National Wetlands Inventory (NWI) is establishing a wetland data base in both map and computer forms for the entire country. The NWI information will serve to identify the current status of U.S. wetlands and can be used as a reference point from which future changes in wetlands can be evaluated.

PURPOSE:

The purpose of Notes to Users is to provide general information regarding the production of NWI maps and wetlands found within the same physiographic area. Notes to Users are not intended to include a complete description of all wetlands found in the area nor provide complete plant species information.

MAP PRODUCTION:

The wetland classifications that appear on these National Wetland Inventory Base Maps are in accordance with Cowardin, et. al. (1979). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photographs taken on various dates from 7/15/81 thru 9/03/84. These delineations were enlarged using a zoom transfer scope to overlays of 1:24,000 scale.

Limited initial field checking and ground truthing was conducted in July, 1985 to determine the general biologic and hydrologic systems of the area, and the degree of accuracy that could be portrayed by the condition and date of photography relative to those observed at that time.

USER CAUTION:

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. Changes in landscape could have occurred since the time of photography; therefore, some discrepancies between map and current field conditions may exist. Any discrepancies encountered in the use of the maps should be brought to the attention of Chuck Elliott, Regional Wetlands Coordinator; U.S. Fish and Wildlife Service, Region 6, P.O. Box 24586, Denver, Colorado, 80225. Aerial photointerpretation was completed by Martel Laboratories, Inc., St. Petersburg, Florida. Maps were prepared by Martel for the NWI National Team in St. Petersburg, Florida.

GEOGRAPHY:

The study area is included within 42°30'00" to 43°30'00" N. latitude and 108°00'00" to 109°00'00" W. longitude. Elevations range from around 4,500 feet in Wind River Canyon to 11,078 feet at the peak of Mt. Anter in the SW corner of the work area.

Robert Bailey, in his Description of Ecoregions of the United States, classifies the area as being in the Wheatgrass-Needlegrass-Sagebrush and Sagebrush-Wheatgrass Sections of the Wyoming Basin Province. Geographically, this mapping unit is bounded on the north and north east by the Owl Creek and Bridger mountain ranges. The Wind River range protrudes into the southwest corner and contains the highest peaks in the study area. This is noted in Bailey's as the Douglas-fir Forest Ecoregion. The major drainages are the Wind, Little Wind, and Popo Agie Rivers plus smaller streams such as Fivemile and Muddy Creek. The major non-riverine water bodies are Boysen Reservoir, Ocean Lake, and Pilot Butte Reservoir. Also included in the area is Bridger National Forest, Wind River Indian Reservation and the Riverton Reclamation Area.

CLIMATE:

Annual precipitation is relatively low in this area due to the effect of the mountains. It ranges from approximately 14" in the mountains of the west to 8" or less in the east. Most rainfall occurs during April, May, and June in the form of showers and thunderstorms. Temperature extremes can range from -40°F to over 100°F. The overage growing season lasts an average of 150 days from May to September.

WETLANDS AND DEEPWATER HABITATS:

Wetlands and deepwater habitats within the subject area fall within the Palustrine, Lacustrine, and Riverine systems. Deepwater habitats are areas which are permanently flooded, except during periods of extreme drought, and are characterized by open water on the aerial photography. These habitats are present in all systems.

Palustrine emergents (PEM) are the most common Palustrine wetland type and are characterized by various species of wetland plants, such as (Hordeum spp.) and (Typha spp.). Palustrine scrub/shrub (PSS) and Palustrine forested (PFO) wetlands are characterized by woody species which typically include willows (Salix spp.) and cottonwood (Populus spp.). The classification of scrub/shrub or forested wetlands is determined by the height of woody vegetation; scrub/shrub being less than 6 meters and forested being greater than 6 meters (20 feet). The most common palustrine wetlands found are seasonally flooded (C) cattail and sedge communities and temporarily flooded (A) areas mainly dominated by foxtail barley. Many of the wetlands found are directly related to irrigation

WETLANDS AND DEEPWATER HABITATS: (cont)

and/or irrigation runoff. Not uncommon are large marsh areas with cattail and sedges as prevalent species. Wetlands on slopes are given a saturated water regime. Most of these are in the mountains.

Isolated depressions are found in the sage country that support wetland species such as dwarf spike rush. These are flooded very infrequently and often appear as intermittent lake beds on the USGS topographic maps.

Linear ditch related wetlands are common due to the extensive irrigation network. Most are flooded seasonally. Common species are sedges, cattails, and reed canary.

Palustrine wetlands associated with rivers sometimes cover large areas. These are dominated by willow shrubs and sedges. Wet forested areas are also found along streams but are not as common as the scrub-shrub/ emergent communities. The most common forested wetland species is cottonwood.

Palustrine unconsolidated shore areas (PUS) include ponded areas which are dry for extended periods throughout the year.

Palustrine aquatic bed (PAB) include ponded areas which support varying types of aquatic vegetation such as duckweed (Lemna spp.). Generally, these (PAB) areas, in order to support the type of vegetation commonly associated with them, are flooded for a longer duration than areas classified (PUS). Palustrine unconsolidated bottom (PUB) are ponded areas which are flooded for extended periods throughout the year but support few, if any aquatics.

Most ponded areas are either created and or maintained by artificial means, in which case a special modifier (x) or (h) will accompany the label. Beaver activity also plays a role in the creation of ponded areas. This will be denoted with the (b) modifier. For further explanation of these special modifiers see the section labeled modifiers.

Natural or artificial basins greater than 20 acres are classified as Lacustrine and on these maps include the classes unconsolidated bottom (L1UB, L2UB), aquatic bed (L1AB, L2AB), and unconsolidated shore (L2US). Limnetic Lacustrine wetlands (L1) are deepwater habitats over 2 meters in depth and littoral Lacustrine wetlands (L2) are 2 meters or less in depth. The predominant flooding condition for the Lacustrine system in the study area is permanent (H) and irregularly exposed (G). Special modifiers will also appear on some labels in the Lacustrine system, but most of the lakes in the study area remain undisturbed. The following is a brief description of the major Lacustrine systems.

WETLANDS AND DEEPWATER HABITATS: (cont)

Boysen Reservoir - This is the largest open water body in the study area and was formed by damming of the Wind River in 1951. The water is used for irrigation, flood control, electricity, and recreation.

Pilot Butte Reservoir - Pilot Butte acts as a storage reservoir for irrigation water drawn from the Wind River at the diversion dam via the Wyoming Canal. It supplies the needs of the Riverton Reclamation Project.

Ocean Lake - This lake was formed as a result of seep water from irrigation. The lake level is controlled by a drainage ditch to Five Mile Creek.

The Riverine system includes the classes unconsolidated bottom (UB), unconsolidated shore (US), and streambed (SB). The classes UB and US are restricted to the Riverine upper perennial (R3UB, R3US) and lower perennial (R2UB, R2US) subsystems. While Riverine unconsolidated shore is not covered by perennial flow, it is associated with the reach of the river that contains permanent water and is included in that perennial subsystem. Streams which do not flow year round are classified as Riverine intermittent streambeds (R4SB).

NWI CODE	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION AND PHYSIOGRAPHIC FEATURES
R2US	Riverine, lower perennial, unconsolidated shore	River bank River bar Sand bar River island	Unvegetated: sand, mud, gravel
R2UB	Riverine, lower perennial, unconsolidated bottom	River Stream Canal	Unvegetated: sand, mud, gravel
R3US	Riverine, upper perennial, unconsolidated shore	River bank River bar Sand bar River island	Unvegetated: sand, mud, gravel
R3UB	Riverine, upper perennial unconsolidated bottom	River Stream	Unvegetated: sand, mud, gravel
R3RB	Riverine, upper perennial, rock bottom	River Stream	Unvegetated: stones, boulders, bedrock
R4SB	Riverine, intermittent stream bed	Creek Stream Canal	Unvegetated: sand, mud, gravel Vegetated: Pioneering species (non-emergent)
L1UB	Lacustrine, limnetic, unconsolidated bottom	Lake Reservoir	Unvegetated sand, mud, gravel
L2UB	Lacustrine, littoral unconsolidated bottom	Lake shore Lake shallows	Unvegetated sand, mud, gravel
L1AB	Lacustrine, limnetic, aquatic bed	Pond weeds	Pondweed (<u>Potamogeton</u> spp.) Duckweed (<u>Lemna</u> spp.)

e

NWI CODE	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION AND PHYSIOGRAPHIC FEATURES
L2AB	Lacustrine, littoral aquatic bed	Lake Shallows Pond Weed	Pondweed (<u>Potamogeton</u> spp.) Duckweed (<u>Lemna</u> spp.)
L2US	Lacustrine, littoral, unconsolidated shore	Shoreline Lake flat Beach Drawdown	Unvegetated: sand, mud, gravel Vegetated: Pioneering species
PUS	Palustrine, unconsolidated shore	Sand flat Mud flat Dry pond	Unvegetated: sand, mud, gravel Vegetated: Pioneering species
PUB	Palustrine, unconsolidated bottom	Reuse pit Gravel pit Impoundment	Unvegetated: sand, mud, gravel Vegetated: Pioneering species
PAB	Palustrine, aquatic bed	Pond Impoundment	Vegetated: Pondweed (<u>Potamogeton</u> spp.) Duckweed (<u>Lemna</u> spp.)
PEM	Palustrine, emergent	Marsh, wet Meadow Alkali bed	Foxtail barley (<u>Hordeum jubatum</u>) Dwarf spikerush (<u>Eleocharis</u> spp.) Sedges (<u>Carex</u> spp.) Cattail (<u>Typha latifolia</u>) Spikerush (<u>Eleocharis</u> spp.) Hardstem bulrush (<u>Scirpus</u> spp.) Rush (<u>Juncus</u> spp.)
PSS	Palustrine, scrub shrub	River island Scrub Shrub thicket	Willow (<u>Salix</u> spp.)
PFO	Palustrine, forested	Forest Riparian	Cottonwood (<u>Populus</u> spp.) Willow (<u>Salix</u> spp.)

MODIFIERS

Hydrologic characteristics are an important aspect of wetlands. The following water regime modifiers describe in general terms the duration and timing of surface inundation, as well as groundwater fluctuations.

Temporarily Flooded (A) -- Surface water present for brief periods during growing season, but water table usually lies well below surface.

Saturated (B) -- Surface water is seldom present, but substrate is saturated to surface for extended periods during growing season.

Seasonally Flooded (C) -- 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 highly variable, extending from saturated to a water table well below the ground surface.

Semi-permanently Flooded (F) -- Surface water persists throughout the growing season in most years. Land surface is normally saturated when water level drops below soil surface.

Intermittently Exposed (G) -- Surface water is present throughout the year except in years of extreme drought.

Permanently Flooded (H) -- Water covers land surface throughout the year in all years.

In addition, special modifiers may be added to further describe wetlands which have been created by impoundments (h), by excavations (x) or by beaver activity (b).

REFERENCES

Bailey, Robert G. 1980. "Description of the Ecoregions of the United States," Department of Agriculture, USFWS.

Cowardin et al. 1979 "Classification of Wetlands and Deepwater Habitats of the United States," Department of Interior, USFWS.

Denison, E.S., Schuetz, J.R., Rucker, S.J.
Water Resources Data, Wyoming. Water year 1982.
United States Department of the Interior, Geologic Survey.

Soil Conservation Service. Department of Agriculture.
Riverton Area, (Fremont County) Wyoming, Soil Survey.