NATIONAL WETLANDS INVENTORY

NOTES TO USERS

Southeastern Idaho

1:100,000 Scale Maps Covered

Rexburg	(Driggs NW)
Palisades	(Driggs SW)
Circular Butte	(Idaho Falls NE)
Blackfoot	(Idaho Falls SE)
Soda Springs	(Preston NW)
Preston	(Preston SW)
Pocatello	(Pocatello NE)
Malad City	(Pocatello SE)

NATIONAL WETLANDS INVENTORY

1:100,000 MAP NARRATIVE

DRIGGS NW, SW

IDAHO FALLS NE, SE

PRESTON NW, SW

POCATELLO NE, SE

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 a relatively similar geographic area. Notes to Users are not intended to include complete description of all wetlands found in the area nor provide complete plant species information.

AREA COVERED

The area is defined by the western halves of the Driggs and Preston 1:250,000 regions and by the eastern halves of the Idaho Falls and Pocatello 1:250,000 regions (see attached index map A). Included in this area is a portion of the western slope of the Teton Mountains, floodplains associated with the Bear and Teton Rivers, the eastern extent of the Snake River as it emerges from Palisades Reservoir and enters American Falls Reservoir, and three national wildlife refuges (Bear Lake, Camas, and Grays Lake). Another significant geographic feature are the dry lava beds which encompass a large portion of the Idaho Falls region.

BAILEY'S ECOREGIONS

The southeastern Idaho area comprises many diverse physicgraphic regions and as such has been divided between two vegetative provinces (Bailey, 1978). The eastern portion (Driggs and Preston regions), falls within Bailey's Rocky Mountain Douglas Fir Forest Province, while the western portion (Idaho Falls and Pocatello regions), is characterized by Bailey as part of the Steepe-Intermountain Sagebrush Province.

The climax vegetation of the Driggs and Preston regions consists of the conifers Douglas fir and lodgepole pine. Other forested vegetation includes alpine fir, alder, aspen, birch, cottonwood, and willow species. The main grasses are bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass and tufted hairgrass. Important forbs found in the area are sagebrush, snowberry, serviceberry, and rose (Daniels et al., 1969). The climax vegetation of the Idaho Falls and Pocatello regions consists of various sagebrush and wheatgrass types. There is relatively little forested vegetation except for aspen, cottonwood, Russian olive, and willow species. Some higher elevation areas can support fir and pine species. The main grasses represented are Idaho fescue, and several species of wheatgrass and bluegrass. Important forbs are sagebrush, rabbitbrush, and snowberry (Miles, 1981; Jorgensen, 1979; McDole, 1977; Salzmann and Harwood, 1973).

Climatic conditions for the study area can be generally classified as dry continental (McDole, 1977). The Teton Mountains to the east protect from the cold, arctic winds while semiarid conditions typical of the Great Basin prevail in the western area. Average annual rainfall ranges from 7 inches in the lava plains area northwest of Idaho Falls to more than 25 inches around Grays Lake (Salzmann and Harwood, 1973), with the majority of the precipitation falling during the winter months. The water supply peaks during spring runoff, but is usually not enough to provide enough moisture for most crops (Daniels et al., 1969).

The terrain of the study area varies from the gently undulating lava plains to the steep mountainous localities of the Caribou Mountains. Elevation ranges from 4,000 feet above sea level along the Snake River in the Fort Hall Bottoms to over 10,000 feet in the Caribou Mountains east of Pocatello. The relief is characterized by a gently rolling steepe in the western slope in the western section of the study area to the high mountains and valleys in the eastern section. The underlying material is divided between a deep mantle of loess (wind deposited material) in the gently rolling areas, alluvial deposits from mountain erosion in the river valleys, sandstone and shale in the mountainous areas (Daniels et al., 1969) and basalt for the lava plains regions (Jorgensen, 1979). The major water sources for the area come from the Bear, Snake, and Teton Rivers and associated reservoirs.

Soil is an important element of hydric conditions and is one of the criteria used to define wetlands. The majority of the inventoried soil types found in southeastern Idaho are classified as nearly level, well drained to moderately well drained. These are typified by the Blackfoot, Terreton, Matheson, Berniceton, and Rock outcrop seris found on the basalt lava plains of the Idaho Falls region; the Pocatello, Portneuf, and Neeley series south of American Falls Reservoir; and the Tetonia-Lantonia-Ririe association found east of Rexburg (Miles, 1981; Jorgensen, 1979; McDole, 1977; Salzmann and Harwood, 1973; Daniels et al., 1969).

Mountainous areas are characterized by moderately sloping to very steep soils, which are well drained to excessively well drained, of which the Wahtigup-Rivcrest-Hymas association is an example. Poorly drained (hydric) soils which can support wetland vegetation are usually limited to the river valley areas of the Bear, Snake, and Teton Rivers. These are represented by the Foxcreek-Furniss-Zohner association west of Driggs and the Snake-Philban association in the Fort Hall Bottoms. Another hydric soil association is the Levelton-Medano, which can be found in the Camas National Wildlife Refuge.

MAP PREPARATION

Wetland classification for the NWI maps is in accordance with "Classification of Wetlands and Deep-Water Habitats of the United States," Cowardin, et al, 1979.

Wetland classification and delineations were produced by air photo interpretation of high level aerial photography. The photography used was 1980, color infrared at a scale of 1:58,000.

The photography was taken during July, August and September when ground conditions are influenced by irrigation and when wet meadow areas of sedge, rush, and upland grasses are hayed for forage. This caused initial confusion distinguishing the wet meadow cover type from the upland grass cover type. The first field investigation was conducted from October 25 to November 2, 1983. This trip effort was designed to relate various photographic characteristics to actual wetland classification. A second trip in June 1984 was undertaken to check areas which had been classified based on information from the first field survey. This second review proved to be very useful in clarifying the wetland hay areas and manipulation of irrigation water.

Collateral data included U.S.G.S. topographic maps (7.5 and 15 minutes), soil, climate, and vegetation information (Bio West, 1982; Miles, 1981; Jorgensen, 1979; McDole, 1977; Salzmann and Harwood, 1973; Daniels et al., 1969). Large-scale NWI wetland maps (1:24,000 scale) are available for the U.S.G.S. 7.5 minute topographic sheets indicated on index map B.

USER CAUTION

The map documents were prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography. The aerial photographs typically reflected conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of aerial photographs. Thus a detailed on-the-ground and historical analysis of a single site may result in revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on the map document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define limits of proprietary jurisdiction of any Federal, State, or local government or to establish the geographical scope of regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specific agency regulatory programs and proprietary jurisdictions that may affect such activities.

Changes in the landscape and/or land use could have occurred since the time of photography. Therefore, some discrepancies between the wetland map and current field conditions may exist. Any questions regarding wetland omissions, inclusions, or errors should be brought to the attention of the Regional Wetlands Coordinator, Region 1. The Project Officer for this wetland map is Dennis Peters, Regional Wetlands Coordinator, U. S. Fish and Wildlife Service, Region 1, Lloyd 500 Bldg., Suite 1692, 500 N. W. Multnomah St., Portland, Oregon 97232, telephone (503) 231-6154. Aerial photo interpretation was completed by Martel Laboratories, Inc., St. Petersburg, Florida. Maps were prepared by NWI National Team in St. Petersburg, Florida.

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 the Riverine and Lacustrine systems, whereas wetland habitats are present in all systems (see Table 1).

The most common palustrine wetlands are persistent emergents (PEM1). Palustrine emergent wetlands are characterized by numerous and various species of wetland plants; some of the most common genera being Carex, Eleocharis, Juncus, Scirpus, Typha, Deschampsia, Agrostis, and Phalaris. Palustrine scrub/shrub (PSS) and Palustrine forested (PFO) wetlands are characterized by woody species. Common woody wetland species typically include willows (Salix spp.), narrowleaf cottonwood (Populus angustifolia), wild rose (Rosa spp.), and occasionally quaking aspen (Populus tremuloides). The classification of scrub/shrub or forested wetlands is determined by the height of woody vegetation; forested being greater than 6 meters and scrub/shrub being less than 6 meters. Palustrine unconsolidated shore areas (PUS) include ponds which dry up during summer and alkali flats which appear as being unvegetated on the photograhpy.

Numerous Palustrine open water areas are present within the study area with the majority of them being excavated or impounded for livestock or irrigation. Other open water habitats are natural ponds, beaver (Castor canadensis) impoundments and springs. Small areas of Palustrine aquatic bed are associated with open water; these most comonly consist of duckweeds (Lemna spp.) and pondweeds (Potamogeton spp.). Ponds which go dry during the growing season are classified as Palustrine unconsolidated shore.

Natural or artificial unvegetated basins greater than 20 acres are classified as Lacustrine. The Lacustrine system on the NWI maps include the classes open water (L10W, L20W), unconsolidated bottom (L2UB), aquatic bed (L1AB, L2AB), and unconsolidated shore (L2US). Lacustrine open water and unconsolidated bottom are deep water habitats. Lacustrine substrates which are exposed at some time during the growing season are classified as lacustrine unconsolidated shore. Lacustrine aquatic beds commonly consist of duckweed (Lemna spp.), millfoil (Myriophyllum spp.), and/or pondweed (Potamogeton spp.).

Many of the natural lakes in the study area have been enhanced by water control structures to extend their influence. The Snake River below American Falls Dam is classified as Lacustrine due to the numerous dams further downstream.

The Riverine system includes the classes open water (OW), unconsolidated shore (US), and streambed (SB). Open water and unconsolidated shore are restricted to the Riverine upper perennial (R30W) and lower perennial (R20W) 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). Some Riverine systems have their banks lined with persistent wetland vegetation.

In cases where streamside Palustrine wetland vegetation cannot be separately delineated from the Riverine system, the wetlands are mapped as linear Palustrine features. Common components of the Riverine system in the study area are the irrigation canals and ditches. Since these are under the direct control of man, they are classified as artificial excavated lower perennial or intermittent streams (R2OWKHx, R4SBKCx).

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.

Intermittently Flooded (J) -- Substrate 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.

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. This has been used to describe vegetation associated with springs.

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 very variable, extending from saturated to a water table well below the ground surface.

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

Permanently Flooded - Water cover land surface throughout the year in all years.

An artificially flooded (K) water regime modifier can be applied with all water regime modifiers. In this case, flooding is under the direct and purposeful control of man.

Special modifiers included on these NWI maps, where applicable, are:

Beaver Impounded (b): Created or modified by beaver activity. Usually along a mountain stream.

Partly Drained (d): The water level has been artificially lowered, but the area is still classified as wetland because soil moisture is sufficient to support hydrophytes. Drained areas are not considered wetland if they can no longer support hydrophytes.

Diked Impounded (h): Created or modified by a barrier, dike, or dam which obstructs the inflow or outflow of water.

Excavated (x): Lies within a basin or channel excavated by man.

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TABLE 1. SUMMARY OF NWI WETLAND TYPES

NWI CODE	DESCRIPTION	VEGETATION COMMONLY FOUND	COMMENTS
L1OWH	Lacustrine, open water, permanently flooded.	Unvegetated	Distinct Signature
L1OWHh	Lacustrine, open water, permanently flooded, impounded.	Unvegetated	Carefully regulated for multiple usage. Distinct signature.
L2UB	Lacustrine, unconsolidated bottom.	Unvegetated	Mud margin areas around lake or shallow mud lake.
L1AB	Lacustrine, aquatic bed.	Lemna (duckweed)	Unknown surface subclass
L2USC	Lacustrine, Unconsolidated.	Unvegetated	Lake margins
L2USCh	Lacustrine, unconsolidated shore, seasonally flooded impounded.	Unvegetated	Lake margins where water is regulated
R3OW R2OW	Riverine, perennial, open water.	Unvegetated	Perennial type, upper or lower, determined by elevation change and floodplain development
R4SB	Riverine, intermittent, streambed.	Unvegetated	U.S.G.S. topos used to determine intermittent/ perennial breaks
R3US R2US	Riverine, Perennial unconsolidated shore.	Unvegetated	River flats
R2OWKHx	Riverine, perennial open water, artificially permanently flooded, excavated.	Unvegetated	Irrigation canals which flow throughout year according to U.S.G.S. topo.

1:100,000 areas in Idaho

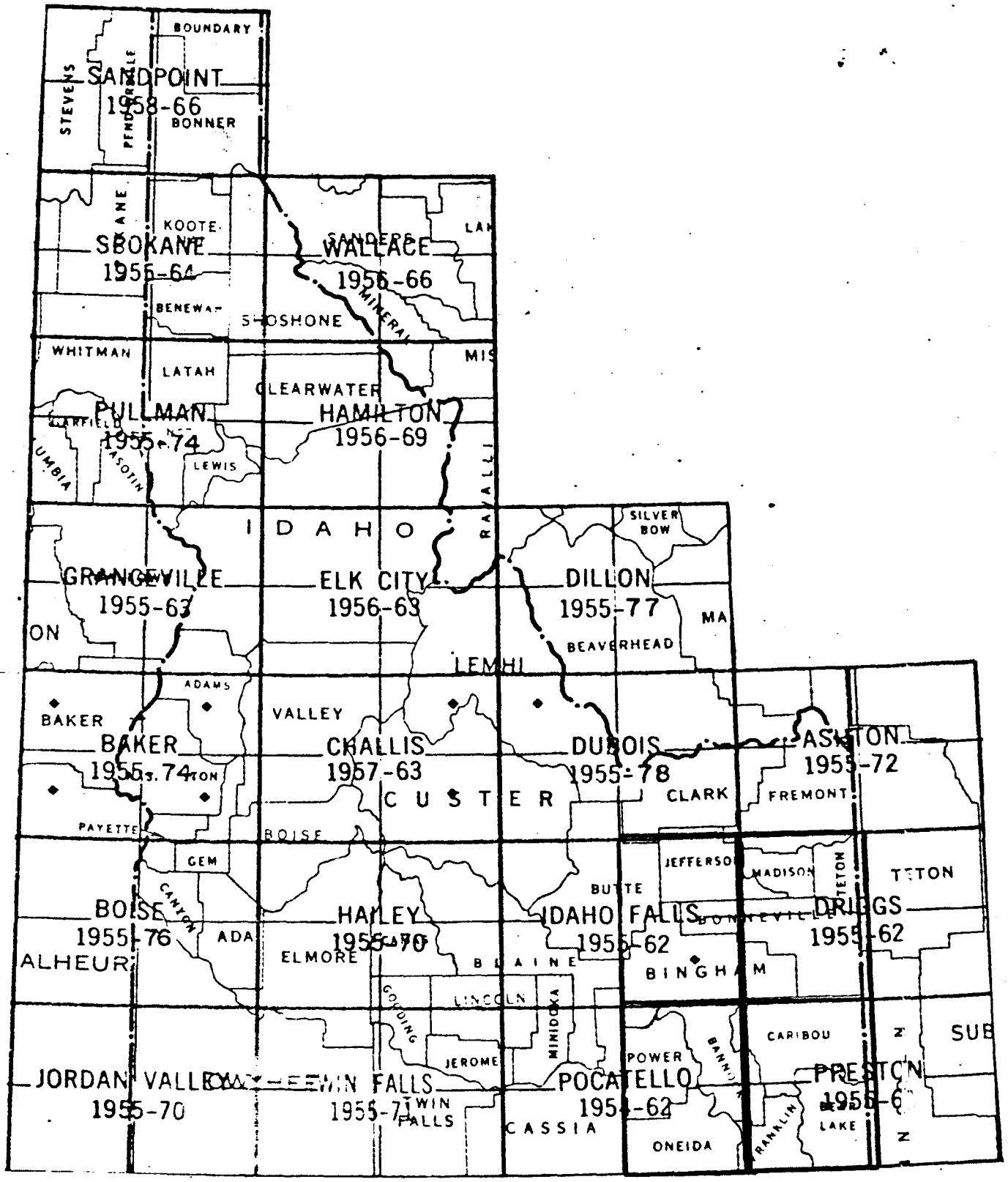

TABLE 1. SUMMARY OF NWI WETLAND TYPES

NWI CODE	DESCRIPTION	VEGETATION COMMONLY FOUND	COMMENTS
R4SBKCx	Riverine, intermittent, streambed, artificially flooded.	Unvegetated	Irrigation canals used only during season. Based on U.S.G.S. topos.
POW	Palustrine, open water.	Unvegetated	Water regime type based on collatoral data.
POWh POWx	Palustrine, open water. impounded or excavated	Unvegetated	Stock tanks used for livestock or irrigation.
PUSC	Palustrine, unconsolidated	Unvegetated	Ponds which dry up during summer or alkali flats.
PAB	Palustrine, aquatic bed	*Lemna* (duckweed) *Potamogeton* (pondweed)	Subtle signature sometimes associated with open water or emergents.
PFO1	Palustrine, forested broad leaved deciduous	*Salix* spp. (willow), *Populus angustifolia* (narrowleaf cottonwood)	Signature sometimes subtle, ecological situation must be considered.
PSS1	Palustrine, scrub-shrub broad leaved deciduous	*Salix* spp. (willow) *Rosa* spp (rose)	Occasionally difficult to separate from PFO1.
PEM1	Palustrine, emergent, persistent.	*Carex* spp. (sedge); *Eleocharis* (spikesedge); *Juncus* (rush); *Deschampsia* (hairgrass); *Phalaris* (canary grass); *Typha* (cattail); *Scirpus* (bulrush)	Various signatures.

Index Map B

REXBURG
CIRCULAR BUTTE
IDAHO FALLS
BLACKFOOT
PALISADES
POCATELLO
SODA SPRINGS
MALAD CITY
PRESTON
POCATELLO
SUBLETT 1958
STRIKEFELL 1959
KELTON PASS 1959
MTN DIAMOND PEAK 1957
WARM RIVER BUTTE 1957
GARNS MTN 1943
RIGBY 1950
ROBERTS 1949
AMMON 1924
HELL CREEK 1924
CRANES FLAT 1915
PARADISE VALLEY 1916
YANDELL SPRINGS
PORTNEUF 1914
HENRY 1914
LANES CREEK 1912
FREEDOM 1913
CROW CREEK 1912
SODA SPRINGS 1948
BANCROFT 1948
DAIRY CREEK
BRADLEY MTN
DANIEL
ARBON
BUST
CEDAR HILL
JUNIPER
BLACK PINE
THE COVE
BADGER HOLE
HOLBROOK
SHEEP CREEK SPRING
CD-OP SPRING
JIMLAND SPRINGS
GLOVER CANYON
MALAD CITY
MALAD CITY WEST
MALAD CITY EAST
SUMMIT
WESTON CANYON
CLIFTON
OXFORD
DOWNEY WEST
DOWNEY EAST
HENDERSON CREEK
SAMARIA
ELKHORN PEAK
WAHLEA PEAK
SOUTH PLUNKAM
MOUNTAIN
MOUNTAIN
ARIMO
DOWNEY
MCCAMMON
POCATELLO
POCATELLO NORTH
POCATELLO SOUTH
CLIFTON CREEK
BRADLEY MTN
DAIRY CREEK