DRAFT

USER NOTES

SNAKE RIVER, IDAHO
including
TWIN FALLS NW, NE, SW, SE
POCATELLO NW, SW

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 is located in Southern Central Idaho, with the Nevada border as its southern boundary. The Snake River extends itself from the northwestern corner of Twin falls NW through Twin Falls NE to the eastern edge of Pocatello NE. This broad valley was depressed and filled with lava flows until the Snake River wound itself westward into the canyon. It descends from an elevation of approximately 4300 feet to 2400 feet. Major reservoirs included along this section of the canyon are C.J. Strike (7500 acres) and Lake Walcott. This important water supply is the source for irrigation of the agriculture zone surrounding the river. Reservoir levels depend on annual rainfall and snowmelt. During dry years more of the reservoirs will be exposed due to the drawdown for irrigation use.

An important and beautiful area, Thousand Springs, is located in Snake River Canyon. These spring cascade abruptly from the vertical canyon walls along a span of 2 miles. The origin of these springs is located nearly 100 miles to the northeast where the Lost River disappears into the porous lava beds. Its reemergence is spectacular and harnessed now for its value as a power supply.

Also within the lowlands can be found various geological features such as the Bruneau Dunes. These sand dunes are devoid of vegetation and are 470 feet high. At their base are ponds and lakes that were only recently created by the uplifting water table caused by the damming of the Snake River for the C.J. Stike Reservoir. Lava beds cover a major portion of the northeast study area, containing collapsed lava tubes that have left behind a multitude of cave systems.

Portions of Sawtooth National Forest are in South Central Idaho with widely separated pine covered mountain. Cache Peak is its highest mountain within this study area with an elevation of 10,340 feet. The city of Rocks is an area of various granite formations that were aged and shaped by wind and water.

Bailey (1980) describes this entire mapping area as the Sagebrush-Wheatgrass Section within the intermountain Sagebrush Province. The province occupies the physiographic section called the Great Basin where saline and alkaline salts accumulate in the lower portions since little of it drains to the sea. Mountains rise abruptly from the plains.

Climate:

The Soil Survey of Minidoka area, Idaho (1975) describes the climate as midlatitude, semiarid, and on the boundary between steppe or semiarid and desert or arid. The short growing season of 4 to 5 months depends on precipitation and temperature. The warm dry summers will average less than 1 inch precipitation per month and approximately 70o F. Spring is generally wetter than autumn with most rainfall falling in May. Annual amounts of precipitation average 9 inches and snowfalls averages 19 inches in the Minidoka area. In Cassia County annual precipitation is higher. Approximately 12 inches and snowfall is greater reaching an average of 31 inches.

Vegetation:

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 Southern border of Idaho is dominated by a mixed sagebrush-tall mountain shrub community including big sagebrushes, serviceberry, mahogany, snowberry, Idaho fescue, and bluebunch wheatgrass. Western juniper is found along canyon rims and rock outcroppings. The trees of the Sawtooth National Forest include Douglas-fir, lodgepole pine, and quaking aspen.

The major industry is agriculture utilizing the Snake River and subsurface water resources. Crops range from corn, potatoes, wheat, barley, alfalfa hay, sugar beets, beans, peas and onions.

Soils:

Soils include Aridisoles in basins and lowlands, Mollisols in higher elevations, and Entisols along floodplains. Playas and salt flats can have no soils in the flatlands with interior drainage.

The somewhat poorly drained soils of this area formed in sandy and loamy alluvial deposits and are found on the low terraces of the Snake River between the towns of Paul, Rupert, and Heyburn. The soils are very deep, level or nearly level, and have a high water table in the summer. Two soil associations of this group are the Schodson-Arlo-val-Maxey Association and Wodskow-Decker-Abo association.

The moderately well drained and somewhat poorly drained soils of Goose Creek, other drainageways, and valley bottoms are found in the Drax - Goose Creek - Beetville association. They are deep and nearly level with a silty loam nearly throughout the soil. The somewhat poorly drained and moderately well drained soils of the low terraces of valleys and floodplains such as Goose Creek Valley and the Snake River, drainageways, and lake terraces are found in the Woodskow-Abo association. These are deep, nearly level and are dominately sandy loam with a lime concentration below the surface. Silt loam and saline-alkaline soils are also present.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table 1: - Cowardin Classification Codes and Descriptions (Page 1 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
L1UB (F,H)	Lacustrine, limnetic, unconsolidated bottom	Open water, lake	Unvegetated mud, sand, gravel
L2UB (F,H)	Lacustrine, littoral, unconsolidated bottom	Shallow open water, lake bottom	Unvegetated mud, sand, gravel
L1AB (F,H)	Lacustrine, limnetic, aquatic bed	Algal mat	Algae
L2AB (F,H)	Lacustrine, limnetic	Pond weeds, water weeds	Duckweed (Lemna sp.) Watercress (Rorripa sp.)
L2EM (F,H)	Lacustrine, littoral emergents	Lake weeds	Water smartweed (Polygonum amphibium)
R2UB (H)	Riverine, lower perennial Unconsoildated bottom	Open water, river, stream	Unvegetated mud, sand, gravel
R2US (A,J,C)	Riverine, lower perennial unconsolidated bottom	River flat, bar	Unvegetated mud, sand, gravel
R2AB (H)	Riverine, lower perennial aquatic bed	River	Watercress (Rorripa sp.)
R4SB (J,A,C,F)	Riverine, intermittent streambed	Intermittent stream	Unvegetated mud, sand, gravel
PUB (F,H)	Palustrine, unconsolidated bottom	Open water, pond bottom	Unvegetated mud, sand, gravel
PUS (J,A,C)	Palustrine, unconsolidated shore	Pond shore, pond bed	Unvegetated mud, sand, gravel
PAB (C,F,H)	Palustrine, aquatic bed	Algal mat	Watercress (Rorripa sp.) Duckweed (Lemna sp.)

Table - Cowardin Classification Codes and Descriptions (2 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM (A,B,C,F)	Palustrine, emergent	Marsh, wet meadow, springs, seeps, drainages	Saltgrass (Distichlis sp.) Cattail (Typha sp.) Cockleburr (Xanthium sp.) Rush (Juncus sp.) Sedge (Carex sp.) Rabitts Foot Grass (Polypogon sp.) Spikerush (Eleocharis sp.) Barley (Hordeum sp.) Dock (Rumex sp.) Reed (Phragmites) Bentgrass (Agrostis sp.) Yarrow (Achillea lanulosa) Olney threesquare (Scripus olneyi) Common threesquare (Scripus americanus) Hardstem bulrush (Scripus acutus)
PSS (A,B,C)	Palustrine, scrub shrub	Shrub wetland	Silver sage (Artemisia cana) Black greasewood (Sarcobatus Vermiculatus) Willow (Salix sp.) Rose (Rosa sp.) Red Osier Dogwood (Cornus stolonifera) Box elder (Acer negundo)
PFO (A,B,C)	Palustrine, forested	Forested wetland	River birch (Betula occidentalis) COttonwood (Populus balsamifera)

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 COMMUNITY 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, however the Snake River was observed to have an exposed rocky shore along with its unconsolidated gravel bars.

Where the Snake River is not controlled by artificial means (a dam), permanent upper perennial river with an unconsolidated bottom is the wetland classification. This river is fast flowing. Other notable rivers of the study area include the Raft River, Salmon Creek, Goose Creek, Bruneau River East Fork, Cedar Creek, and Sailor Creek.

Rivers are sometimes vegetated with floating aquatics (R2ABH). The aquatics include watercress (Rorripa spp.)

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 labeled either seasonal or semi-permanent 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 with emergents and therefore considered to be palustrine.

Lacustrine:

Lacustrine areas, which are greater than 20 acres, include both limnetic and littoral subsystems. Unvegetated lakes ae labeled L1UBH, man-made lakes are given the excavated modifier (L1UBHX), and reservoirs are given the impounded modifier (L1UBHh).

This classification includes some major water bodies such as C.J. Strike Reservoir, Lake Walcott, Salmon Creek Reservoir, Cedar Creek Reservoir, Lower Goose Creek Reservoir, Wilson Lake Reservoir, and Bliss Reservoir. Topo elevation is followed for mapping, due to fluctuations in water level at the time of photography. Smaller natural lakes are infrequent. Natural lakes are commonly surrounded by a cattail-hardstem bulrush marsh (PEMF) and can contain some watercress. These lakes can be permanent or semi-permanent (L2ABF or L2ABH) with dryer zones on the periphery. One such lake was mapped as semipermanent unconsolidated bottom (L2UBF) with a large area of seasonal unconsolidated shore (L2USC) at one end and all this surrounded by seasonal emergents (PEMC).

Since portions of the Snake River are impounded by the various dams, these lacustrine systems are mapped as permanent and extend to the elevation levels indicated on the topographic map. A common plant that grows as an emergent on the partially submerged shores of the impounded section of the Snake River is Polygonum amphibium. This water smartweed is nonpersistant and classified L2EMFh.

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.

Unconsolidated 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.

Aquatic vegetation includes watercress (Raripa sp.) and can survive in a semi-permanent or permanent pond. This is identified as PABF or PABH.

Temporary emergent wetland plant communities are dominated by grasses such as saltgrass (Distichlis spp.) and identified as PEMA. Seasonal emergent wetland species are sedges (Carex spp), rushes (Juncus spp.), and various grasses and identified as PEMC. Cattail (Typha spp.) and hardstem bulrush (Scirpus acutus) are found in both seasonally and semipermanently flooded wetlands. These are identified as either PEMC or PEMF.

The scrub shrub species that populates floodplains, springs, and drainages is predominantly willow (Salix spp.). Young river birch (Betula occidentalis), rose (Rosa sp.) and red osier dogwood (Cornus stolonifera) are often associated with the willow shrub community. These are identified as PSSA or PSSC.

Shrub communities of the playas include black greasewood (Sarcobatus sp.) and silver sage (Artemisia cana) and are flooded on a temporary basis.

Forested wetland communities are dominated by the river birch with a scrub shrub understory of box elders (Acer negundo). These trees can be flooded on a temporary or seasonal basis and identified as PFOA or PFOC. Typically they are found in drainages immediately adjacent to the waterway or in depressions. Spring heads may also support a tree growth with their saturated soil and are identified as PFOB.

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 interpretatior of 1:58,000 scale color infrared photography.

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 limitation- 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

H. MAP ACQUISITION

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

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Lloyd 500 Building, Suite 1692
Portland, Oregon 97232

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.

I. LITERATURE CITED

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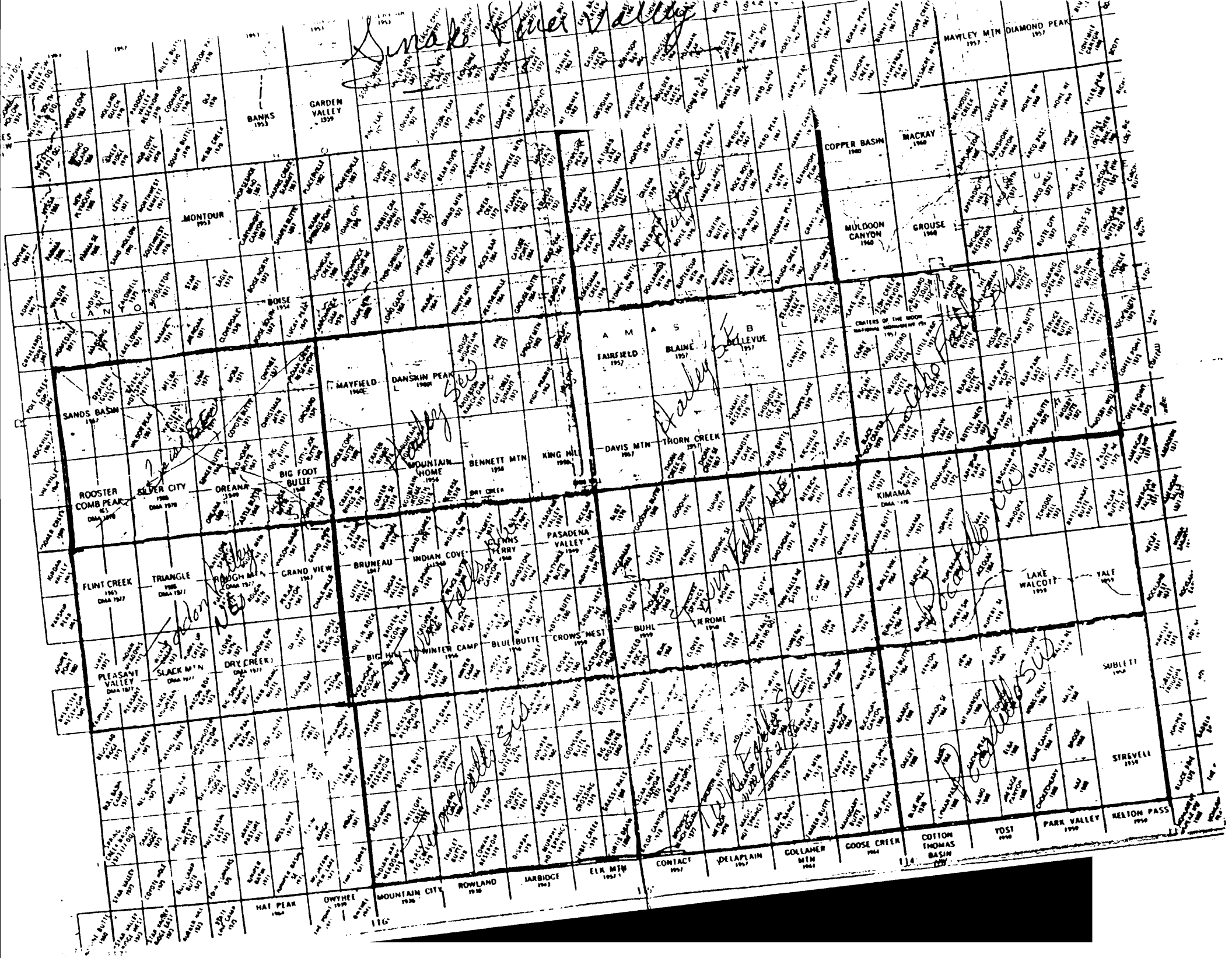
Snake River Valley
BANKS 1953
GARDEN VALLEY 1959
MONTOUR 1953
BOISE 1956
MAYFIELD 1968
DANSKIN PEAK 1968
SANDS BASIN 1967
ROOSTER COMB PEAK DMA 1978
SILVER CITY 1968 DMA 1978
OREANA 1969
BIG FOOT BULLE
MOUNTAIN HOME 1956
BENNETT MTN 1956
KING HILL 1956
FAIRFIELD 1957
BLAINE 1957
DAVIS MTN 1967
THORN CREEK 1957
HAWLEY MTN 1957
DIAMOND PEAK 1957
COPPER BASIN 1960
MACKAY 1960
MULDOON CANYON 1960
GROUSE 1960
CRATERS OF THE MOON 1957
KIMAMA DMA 1978
LAKE WALCOTT 1959
YALE
SUBLETT 1958
STREVELL 1959
FLINT CREEK 1965 DMA 1977
TRIANGLE 1965 DMA 1977
ROUGH CREEK DMA 1977
GRAND VIEW 1967
PLEASANT VALLEY DMA 1977
SLACK MTN DMA 1977
DRY CREEK DMA 1977
BRUNEAU 1967
INDIAN COVE 1958
JOHNS TERRY 1960
PASADENA VALLEY 1959
BIG HILL
WINTER CAMP 1956
BLUE BUTTE 1956
CROWS NEST 1959
BUHL 1959
JEROME 1960
MOUNTAIN CITY 1936
ROWLAND 1936
JARBIDGE 1963
ELK MTN 1957
CONTACT 1957
PELAPLAIN 1957
GOLLAHER MTN 1964
GOOSE CREEK 1964
COTTON THOMAS BASIN 1964
YOST 1959
PARK VALLEY 1959
HELTON PASS 1959
HAT PEAK 1964
OWYHEE 1959
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