

SOUTHWESTERN WYOMING

Field Summary Report

I. Purpose:

The purpose of this field trip was to ground truth aerial photography of the study area, so that photointerpretation could be facilitated with a high degree of accuracy.

A) The following 1:100,000 were reviewed:

|            |           |
|------------|-----------|
| Preston NE | Lander NW |
| Preston SE | Lander SW |

B) 7.5' Quadrangle maps with checksites:

|                |                   |
|----------------|-------------------|
| Big Piney East | Olsen Ranch       |
| Halfway        | Big Sandy Opening |
| Merna          | Boulder Lake      |
| Grover         | Farson            |
| Salt Flat      | Four Mile Knoll   |
| La Barge       | Juel Spring       |

C) Personnel:

|               |                           |
|---------------|---------------------------|
| Chuck Elliott | USFWS/Region 6            |
| Kelly Drake   | USFWS/Region 6            |
| Lynn Ashby    | Martel Laboratories, Inc. |
| Greg Pipkin   | Martel Laboratories, Inc. |

D) Dates of field trip:

8/23/87 to 8/29/87

E) Available Photography:

Color Infrared - 1:58,000 scale

|      |        |
|------|--------|
| 8/82 | 20.5%  |
| 9/82 | 6%     |
| 8/83 | 24%    |
| 9/83 | 59.75% |
| 9/84 | 7.75%  |

F) Collateral Data:

USGS Quads 128 @ 1:24,000  
2 @ 1:250,000

Soil Survey available for area:

Star Valley Area, Wyoming - Idaho

- Bailey, Robert G.; 1980. Description of the Ecoregions of the United States; United States Department of Agriculture Forest Service. Miscellaneous Publications.
- Cowardin, L.M.; V. Carter, F.C. Golet and T.T. LaRue, 1979. Classification of Wetland and Deepwater Habitats of the United States; United States Department of the Interior, 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 Interior, Geologic Survey, Data Report Wy-82-1.
- 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.

## II. Overview:

The study area is located between 109° - 111°W longitude and 42° - 43°N latitude. Bailey's Ecoregion Classification (1980) identifies this area as Wyoming Basin Province (Sagebrush-Wheatgrass Section) and Rocky Mountain Forest Province (Douglas Fir Forest Section).

### Wyoming Basin Province:

Wyoming Basin elevations range from 6,000 ft. to 8,000 ft. with the Salt River Range to the west 1,000 ft. to 2,000 ft. higher. The high altitude of this area 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 chief vegetation is sagebrush, greasewood and a mixture of short grasses. Streams and valley bottoms are lined with willows and sedges.

### Rocky Mountain Forest Province:

The Rocky Mountains are rugged glaciated mountains as high as 14,000 ft. in this mapping area. The climate is a semiarid steppe regime in which precipitation falls in winter. In the highest mountains, a considerable part of the annual precipitation is snow, however, permanent snowfields and glaciers cover only relatively small areas. The base of these mountains receive only 10 to 20 in. of

rainfall annually. At higher elevations, precipitation increases to 40 in. and temperatures decrease.

This province is 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 this zone often have a growth of shrubs in which mountain mahogany and several kinds of scrub oak are predominant.

### III. Biological Characteristics of Wetland Habitats

Marine: Not present.

Estaurine: Not present.

Riverine:

The majority of rivers and creeks observed, such as Pine Creek, Dutch Joe Creek and Smiths Fork River, had the following characteristics: medium to high water velocity (gradient), cobble-gravel substrate, low water temperature and high insect population. These will therefore be classified as an upper perennial system. Other rivers such as the Green River, Salt River and New Fork River showed old oxbows, meander scars and a highly developed floodplain, making these lower perennial systems. The permanently flooded water regime will be used on both the upper and lower perennial systems.

The intermittent stream classification will be used for the smaller drainages in the mapping area. Water regimes will be determined by information given in the Wyoming Water Resource Book or by photo signature.

Lacustrine:

Glacial lakes more than 20 acres in size and those less than 20 acres but with a bedrock shoreline, were found in the higher elevations. These will be classified in the lacustrine system as limnetic and with unconsolidated bottoms. Mud lake was observed in the field as being less than 20 acres and having a vegetated shoreline. However, information gained from local residents suggested that this lake had a depth of 16 feet placing it in the lacustrine system. Unless collateral information is provided, all other glacial lakes less than 20 acres with a vegetated shoreline will be classified in the palustrine system.

Reservoirs and impoundments greater than 20 acres were found throughout the study area and will be considered in the lacustrine system as limnetic, unconsolidated bottoms. The permanently flooded water regime will be used for all of the above mentioned.

Fontenelle Reservoir, found to be drastically below normal pool elevation at time of ground truthing, will be delineated as shown on photography.

#### Palustrine:

The majority of emergent species found along rivers, streams and in draws included sedges (Carex spp.), cattail (Typha latifolia), rushes (Juncus spp.), and arrowgrass (Triglochin maritima). These areas will be classified as seasonally flooded with some temporarily flooded areas. Pockets of emergents found on the slopes of the Wind River Range and the Salt River Range will be seasonal to semi-permanently flooded due to the slow rate of evaporation.

In addition to the emergent wetlands found directly along the rivers, extensive wet meadows are found in the valleys associated with the major rivers. These were found to exhibit unique characteristics for each area. Therefore, these wetland communities are discussed in detail in section IV.

Small open water bodies were found to support aquatic vegetation at some time during the growing season. Although the signature may not always be present at time of photography, these water bodies less than 20 acres will be classified as such, and are semipermanently flooded throughout the mapping area. Beaver activity was observed in the higher elevations of the work area and considered to be vegetated with intermittently exposed aquatics. The beaver modifier will be used strictly on the beaver ponds. Vegetation around these ponds is believed to have been wetland previous to beaver intrusion.

Small impoundments, with little to no water present were found throughout the area. These will be classified in the palustrine system with unconsolidated shore substrates. These varied from temporarily to seasonally flooded.

Willows (Salix spp.) were the only shrubs found in the floodplains, draws and seeps. These were seasonally flooded in the mountain ranges and temporarily to seasonally flooded in the valleys.

Forested areas along rivers and streams were for the most part vegetated with upland species. Very few temporarily flooded forested areas were found. When observed, cottonwood (Populus deltoides) was the dominant species. Although historically wet, these are now dying out because

of lowering of the water table. No seasonally flooded forested areas were found during the ground truthing.

#### IV. Special Interpretation Considerations

As previously mentioned, wetland valleys 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. These will be interpreted as follows:

##### Star Valley Area:

This valley was located on the western side of the Salt River Range. Irrigation here was applied overhead in contrast to the sub-irrigated fields on the eastern side of the Salt River Range. These hayed fields are mainly upland with seasonal to semipermanent linears with pockets throughout. Cattail, hardstem bulrush (Scirpus acutus) and sedges were the predominant vegetation found in these linears and pockets. Willow shrubs are mainly temporarily flooded in this valley.

##### Bear River Valley:

Although this area was not ground truthed, Dave Lockmann of the Wyoming Game and Fish Service supplied the following information. The area contains mostly seasonally flooded fields with some temporarily flooded regions. Rushes can be found throughout these meadows and are considered to be temporarily flooded indicator species. Stands of cattail and hardstem bulrush were found in the wetter seasonal to semipermanently flooded pockets. Most willow and some cottonwood along the river banks are temporarily flooded in the Bear Valley.

##### Merna Area:

This area was very different from other wet meadows ground truthed. Red top (Agrostis sp.), foxtail barley (Hortem jubatum) and sweet clover (Melilotus sp.) were abundant here. However, because this area was mowed at the time of field investigation, temporarily flooded zones could not be distinguished from the upland vegetation. Seasonally flooded linears and pockets were identified and will be delineated. These areas will therefore be classified as upland with the temporary wetland delineations added at draft map review.

##### West of the Green River:

Temporarily flooded fields west of the Green River supported Kentucky blue grass (Poa pratensis), dock (Rumex sp.), buffalo grass (Buchloe sp.), red top, rushes and

sedges. Large stands of foxtail barley can also be found here, but only when mixed with other wetland vegetation will it be classified as temporarily flooded. Seasonally flooded wetlands supported cattail, hardstem bulrush and East of the Green River:

Hayed fields to the east of the Green River exhibited more seasonally flooded characteristics. However, some temporarily flooded fields with seasonally flooded swales were observed. When swales were absent from mowed fields these were determined to be upland but will be reviewed closely at draft map review.

In general, delineations of mowed and grazed fields will not be influenced by land use changes and wetland signatures will be carried across these man induced boundaries. All hayed fields in question will be closely investigated at draft map review and decisions on wetland-upland break made at that time.

V. Summary

Field reconnaissance of the study area showed photography to be consistent with field observations. All photography was taken during August and September and field work was conducted in August. Consequently, spring conditions were not observed. The photography showed high resolution and should facilitate accurate photo interpretation.

COMMONLY FOUND SPECIES

PFOA

cottonwood - Populous deltoides

PSSC-PSSB-PSSA

willows - Salix spp.

PEMA

foxtail barley - Hordeum jubatum  
Kentucky bluegrass - Poa pratensis  
buffalo grass - Buchloe sp.  
red top - Agrostis sp.  
western wheat - Allen raffia  
dwarf spikerush - Eleocharis sp.  
saltgrass - Distichlis spicata

PEMC

sedges - Carex sp.  
cattail - Typha latifolia  
spikerush - Eleocharis sp.  
rush - Juncus sp.  
hardstem bulrush - Scirpus acutus  
arrow grass - Triglochin maritima

PEMB

sedges - Carex sp.

PEMF

cattail - Typha latifolia  
hardstem bulrush - Scirpus acutus

PABF

pondweeds - Potamogeton spp.

sh/#AWP