

FIELD SUMMARY REPORT
FOR
NORTHERN NEW MEXICO BASE EFFORT I

I. INTRODUCTION

The purpose of this field trip was to ground truth numerous wetland sites and obtain general information on water systems and ecosystems within the mapping area to facilitate photo interpretation with a high degree of accuracy.

A. Map Names (1:100,000)

Aztec NE Raton NW
Raton SE Raton SW

B. Quads with check sites: (7.5' & 15')

Aztec NE

Canjilo Mountain
Tierra Amarila
Boulder Lake
Chama
Penaso Amarillo

Raton SW

Palo Flechado Pass
Osha Mountain
Rancho de Taos
Toas

Raton NW

Arroyo Hondo
Eagle Nest

Raton SE

Mora
Miami
Springer Lake
Taylor Spring
Mill East
Wagon Mound

C. Personnel:

Rose Sullivan - Martel Laboratories
Cindy Bohn - Martel Laboratories
Jerry Roehn - USFWS
Maureen Long - USFWS

D. Date of Trip:

July 23 - 28, 1984

E. Available Photography:

All photography is color infrared at 1:58,000 scale. The major dates include mid to late June, 1981; late September, 1981; early June, 1982; and late September to early October, 1982.

F. Collateral Data:

USGS quads either 15' and 7.5' are available for the entire area. USGS 1:250,000 maps for Raton and Aztec.

USDA Soil Surveys for Taos County, Colfax County, and parts of Rio Arriba and Mora Counties.

"Description of the Ecoregions of the United States," Robert G. Bailey, U.S. Dept. of Agriculture, Forest Service, 1978.

"The Audubon Society Field Guide to North American Wildflowers, Western Region," Richard Spellenburg, 1979.

"The Audubon Society Field Guide to North American Trees, Western Region," Elbert Little, 1980.

"Rocky Mountain Flora," William A Weber, 1976.

"Common Marsh, Underwater, and Floating-leaved Plants of the United States and Canada," Neil Hotchkiss, 1972.

"The Vegetation of New Mexico," Edward F. Castetter, New Mexico Quarterly, 26:257-282.

II. OVERVIEW:

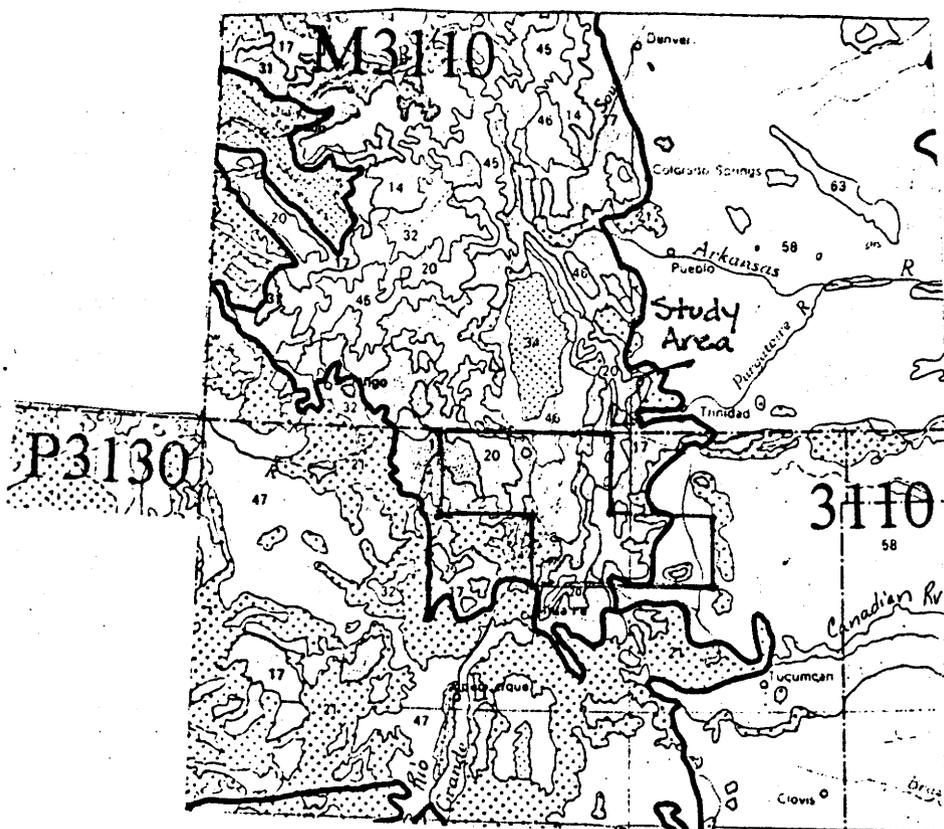
The mapping area covered by this field work is contained largely within the Ponderosa Pine-Douglas Fir forest of the Rocky Mountain Province as defined by Bailey's Ecoregion classification. The climate is a semi-arid steppe with 10-20 inches of rainfall at the base and increasing with altitude to 40 inches. The eastern slopes are much drier than the western. The major precipitation falls in the winter.

The most dominant vegetation in the northern region of the Sangre de Cristo Range of the Rocky Mountains is ponderosa pine and Douglas fir, depending on moisture availability and wind shelter. Within the higher mountains where water seepage occurs, large communities of false hellebore (Veratrum coliformicum) occur and quaking aspen (Populus tremuloides) is common in and along streams. In the mountain valleys, large wet meadows of Juncus sp., Scirpus sp., Carex sp., and Eleocharis sp. can be found. Almost all streams are upper perennial and permanent. It is also within this region that some Alpine tundra exists, especially on Wheeler Peak which is covered by dry snows for eight or nine months.

The southern Sangre de Cristo Range is dominated by pinyon-juniper association and scrub oak alternating with the Ponderosa pine when moisture permits. This extends southward and eastward into Bailey's Colorado Plateau Province, Grama-Galleta Steppe and Juniper-Pinyon Woodland Mosaic. Here the climate grows characteristically drier with annual precipitation ranging between 10-20 inches predominantly from summer thunderstorms. Consequently, most streams are intermittent in nature. The more major drainages support cottonwood (Populus sp.), narrow leaved cottonwood (Populus angustifolia), arroyo willow (Salix lasoltepis) or less predominant saltcedar (Tamarix sp.).

The eastern section of the mapping area can be more correctly identified as a grassland biome within the Great Plains Shortgrass Prairie Province. The area is almost totally dominated by small range and prairie grasses. Again, most drainage was intermittent and the climate drier with scattered rainfall between April and October. Playa lakes are abundant. This grassland receives around 16 inches of rain a year and supports a more abundant mix of prairie grasses.

ECOREGION DIAGRAM



Dry Domain Steppe Division

- 3110 -
Great Plains Shortgrass
Prairie Province
- M3110 -
Highland Province
Rocky Mountain
Forest Province
- P3130 -
Highland Province
Colorado Plateau
Province.

III. Biological Characteristics of Wetland Habitats:

Marine: Not present

Estuarine: Not present

Riverine:

The most developed riverine systems in the mapping area are the upper Rio Grande, the upper Canadian River and, to a lesser degree, the Rio Chama. In the mountainous region of the northern and western sections of this mapping effort the vast majority of riverine systems are upper perennial, R3OWH, as is the Rio Grande and the Canadian River as they are found throughout this area. As the elevation and rainfall drop into the pinyon-juniper and grassland systems, the majority of the riverine environments turn to an intermittent character and considered R4SBF to A depending on ground water availability and human use. Perennial rivers of a more localized nature are most often lower perennial, R2OWH, in these areas.

Lacustrine:

A number of large lakes (greater than 20 acres) can be found in the mountainous region and grassland region as well, commonly impounded by man and labeled L10WHh appropriately. Often, seasonal flats are associated with water release from the dam and fluctuating water lines. In the grassland area around Wagon Mound another significant lacustrine environment can be found. A large shallow alkalai lake with adjacent flats has formed on a flat basin fed by spring seepage. This was determined to be seasonally flooded at the wettest area (L2USC) with temporary flats around the drier edges (L2USA).

Palustrine:

The mapping area contains a number of significant palustrine systems. There are numerous smaller impounded water bodies throughout the area. These range from permanent, semipermanent, and seasonally flooded (POWHh, POWFh, and PUSCh, respectively) in the higher elevations to a more temporary and intermittent situation in the eastern grasslands (PUSA and PUSJ). The latter being mostly for stock tank purposes and often excavated as well.

Semipermanently flooded emergent swamps occur adjacent to many of the impounded lakes in the mountains. Also in this area are large expanses of wet mountain meadows that are spring fed and watered by meandering streams. Juncus sp., Scirpus, Carex sp., Typha sp. and Eleocharis sp. were abundantly thick in these areas and classified PEMIF, C, or A, depending on amount of water present at field time and the correlated signature on the photography. Another important mountain palustrine feature are the large stands of helebore (PEM1A) found growing on seepage areas often with good slope.

Riparian zones and forested areas adjacent to streams can be identified throughout the area--from the high mountain streams that feed into the major drainages of the adjacent grassland. Quaking aspen, alders and willows are dominant in the higher and wetter regions, and cottonwood (particularly narrow leaf), drier willows and, ultimately, saltcedar dominate along the rocky streambeds of the more developed flood basins in the lower areas. Generally, however, all riparian areas are temporarily flooded because of the difference in stream cuts. Many expected wet forest areas in the mountain foothills and grasslands were determined to be dry because of the height of the terrace they were growing on, regardless of its proximity to the stream. Saltcedar and arroyo willow dominate along the upper flats of the lower section of the Rio Grande and Canadian River. Along and in the intermittent rivers, vegetation, whether forested or emergent, is given precedence when classifying.

Playa lakes are abundant in the drier, flatter regions in the east and south. These lakes show a temporarily flooded characteristic and are generally vegetated when drying or absent of water. Consequently, it was decided that these playas be delineated as PEM1A regardless of the presence of water on the photo or portrayal by USGS on topo. PEM1J may be used for the smaller playas or where they have been artificially drained.

Common Herabciuous Species

PEMIF-C

Typha latifolia - cattail
Scirpus spp. - bullrush
Juncus s.p.
Carex sp. - sedge
Equisitum sp. - horsetail
Eleocharis sp. - spike rush
Polygonum sp. - smartweed

PEMIC-A

Juncus s.p.
Scirpus sp.
Eleocharis sp.
Equisitum sp.

PEMIA

Iris missouriensis - Rocky Mountain iris
Hystrix patula - bottlebrush
Veratrum californicum - fake hellebore
Eleocharis sp. - spike rush
Panicum sp. - panic grass

PEMIJ

Cirsium sp. - thistle
Taxacum aquitica - dandelion
Sporobolus sp. - sacaton

Lemna sp. - duckweed
Nasturtium officianle - water cress
Polygonum sp. - smartweed
Myriophyllum sp. - water milfoil
Sagitarium sp. - arrowroot

Common Woody Species

PSSIC - PFO1C

Salix sp. - willow
Alnus sp. - alder

PSS1A - PFO1A

Salix sp. - willow
Salix lasiolepis - arroyo willow
Populus sp. - cottonwood
Populus tremuloides - quaking aspen

PSS2A-J

Tamarix sp. - saltcedar

IV. Imagery, Primary Delineations and Field Checking

Imagery for this mapping area is of good quality and resolution. However, the emulsion in many instances seems to have a very dark green or blue cast making accurate analysis difficult. Continual comparison of signatures and similar hydric situations should aid in solving the problem.

Preliminary delineation revealed a number of expected wetlands that were field checked to be upland. The forested areas adjacent to the streams and drainages were found to be on upper banks and only the pinker toned vegetation directly adjacent to the water will be considered palustrine. A number of confusing signatures on expected wetland emergents were identified as agriculture and the actual wetland signatures were identified and documented. Care will need to be taken in delineation.

The field checking was extensive and covers most major ecotypes and ecocline communities with the exception of the alpine tundra areas, particularly Wheeler Peak the highest point in New Mexico.

V. Summary

The general overall quality of the photography along with the field checking should afford an accurate interpretation of wetland communities and cover types. As usual, for detailed community type or species information, an on-ground site review will be helpful to the user.