prepared 6/88

USER REPORT: DENVER NE, SE, COLORADO 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 covered by Denver NE, SE base maps is located in east central Colorado (see Appendices). Bailey (1980) divides the study area into two Provences, the Great Plains-Shortgrass Steppe Provence and the Rocky Mountain Forest Provence. The Cherry Creek Watershed area comprises the Great Plains-Shortgrass Steppe Provence. This accounts for approximately 85% of the study area. The Rampart Range, located in the southwestern section makes up the remaining area.

The study of the Cherry Creek Watershed is the basis for this project. Cherry Creek flows from its headwaters in the Black Forest north into Cherry Creek Reservoir. Wetlands in the watershed are found in basins, below springs, along rivers and around impoundments. These areas are being threatened by potential urban expansion and agricultural development.

Basin and springfed wetlands can also be found throughout the study area. These are also decreasing in size or disappearing due to development. Relief in the drainage area ranges from just under 6,000 feet to over 7,000 feet.

The Rampant Range to the southwest comprises the remaining mapping area. Streams in these mountains flow west to east and some beaver activity is present. Elevations here range from 6,500 feet to over 9,500 feet.

Climate:

The climate of the Cherry Creek Watershed is of a semiarid, continental type. Winters are cold and dry, while summers are cool and relatively dry. Although most of the rainfall occurs in spring and summer evapotranspiration rates start to increase rapidly in early May. By mid July this rate exceeds the amount of moisture received as rain. Most of the precipitation comes from moisture brought in from the east. Prevailing winds from the west lose most of its moisture in passage over the high mountains and contributes only a small part of the precipitation. Rainfall amounts vary from 15-20 inches.

Precipitation in the Rampart Range falls mainly in the winter. The base of these mountains receive only 10-20 inches of rainfall. At the higher elevations precipitation increases to 40 inches with most of this being snow.

Vegetation:

Vegetation in the Cherry Creek area is made up of a mixture of short grasses. These grasses can be found in wet meadows, draws and along streams. Willows are found in draws and lining streams. A few cottonwoods can still be found along major creeks. Sagebrush and upland grasses dominate the drier areas.

The mountains contain a variety of vegetation. Species of trees in these forests are ponderosa pine and Douglas-fir. Several variety's of scrub oak can also be found. Grass mixed with sagebrush often covers the ground under open ponderosa pine forest.

Soils:

Differences in physical, chemical, and mineralogical properties of material have influenced soil formation in the Cherry Creek area. The four soil orders found here are the Entisols, Aridisols, Mollisols and the Alfisols. Sandy wet alluvial land can be found along the major drainageways in the northern part of the area. Loamy alluvial land can be found in swales or on flood plains of smaller drainages. Sandy alluvial land can be found in broad swales and on small drainageways of sandy uplands. In the south loamy wet alluvial land can be found in swales and on creek bottoms.

In the mountains soils range from Mollisols and Alfisols in the higher elevations to Aridisols in the foothills. Because of recent glaciation there are areas of Inceptisols.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table 1 - NWI Classification for Denver NE and SE, Colorado

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
R2UB (H,G)	Riverine, lower perennial, unconsolidated bottom	Rivers	Unconsolidated bottom
R2US (C,A)	Riverine, lower perennial, unconsolidated shore	Flats and sandbars	Sand or mud
R3RB (H)	Riverine, upper perennial, rock bottom	Mountain rivers or streams	Bedrock and rubble
R4SB (F,C,A)	Riverine, intermittent, stream bed	Streams or irrigation canals	Sand, mud or cobble-gravel
L1UB (H,G)	Lacustrine, limnetic, unconsolidated bottom	Lakes or reservoirs	Unconsolidated bottom
PUB (H,G,F)	Palustrine, unconsolidated bottom	Ponds, dugouts and stock ponds	Unconsolidated bottom
PAB (G,F)	Palustrine, aquatic bed	Vegetated ponds, beaver ponds	Lemna sp. (duckweed)
PEM (F,C,A)	Palustrine, emergent	Meadows, depressions, floodplains or swales	Typha latifolia (cattail) Scirpus acutus (hardstem bulrush) Polygonum spp. (smartweed) Scirpus americanus (american three square) Carex spp. (sedges) Juncus balticus (balticrush) Carex nebrascensis (nebraska sedge) Eleocharis macrostachia (spikerush) Verbascum sp. (mullein) Eleocharis acicularis (least spikerush)
PSS (C,A)	Palustrine, scrub-shrub	Shrub wetlands	Salix spp. (willow)
PFO (A)	Palustrine, forested	Forested wetlands	Populus deltoides (cottonwood)

Water Regime Description

(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) Seasonably 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.

F. MAP PREPARATION

The wetland classification that appears on the Denver National Wetlands Inventory (NWI) Base Map (Table 1) is in accordance with Cowardin et al (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography. The photography was taken during October 1984.

Field checks of areas found within Denver NE and SE photography were made prior to the actual delineation of wetlands. Field check sites were selected to clarify varying signatures found on the photography. These photographic signatures were then identified in the field using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic maps, SCS soil survey, climate, vegetation, and 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 during 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.

H. MAP ACQUISITION

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

Regional Wetland Coordinator
U.S. Fish and Wildlife Service - Region VI
Denver Federal Center
P.O. Box 25486
Denver, CO 80225

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.

LITERATURE CITED

Bailey, Robert G., 1980. Description of the Ecoregions of the United States. U.S. 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. U.S. Department of the Interior, Fish and Wildlife Service.

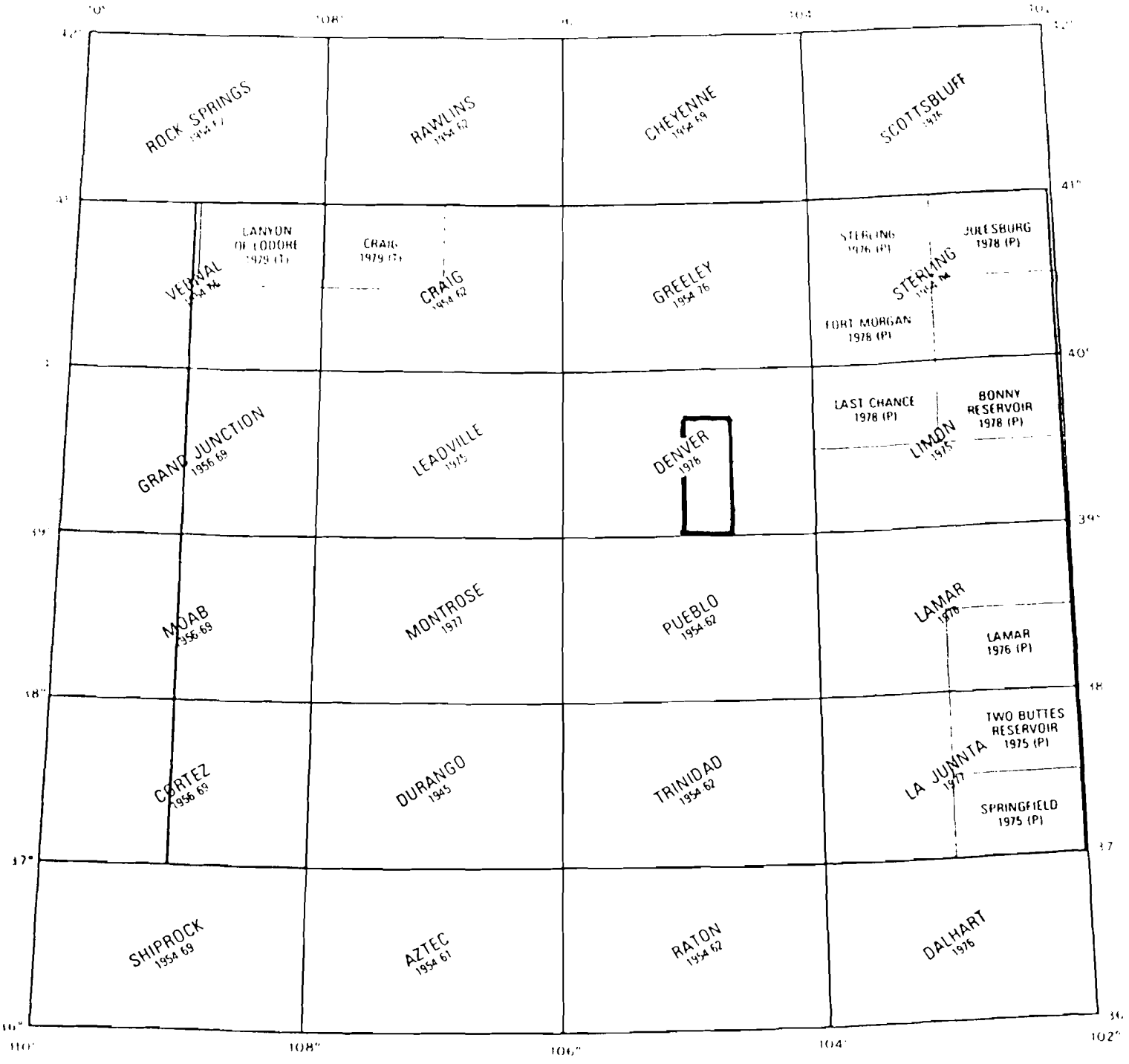
Duncan, A.C., R.C. Ugland, R.D. Steger and J.L. Blattner, 1984. Water Resources Data, Colorado, Water Year 1984. U.S. Department of the Interior, Geologic Survey, Data Report CO-84-1.

National Technical Committee for Hydric Soils, 1985. Hydric Soils of the State of Colorado. U.S. Department of Agriculture, Soil Conservation Service.

Reed, Porter B. Jr., 1986. 1986 Wetland Plant List, Colorado, U.S. Department of the Interior, Fish and Wildlife Service.

GC:wp

LOCATOR MAP (A)



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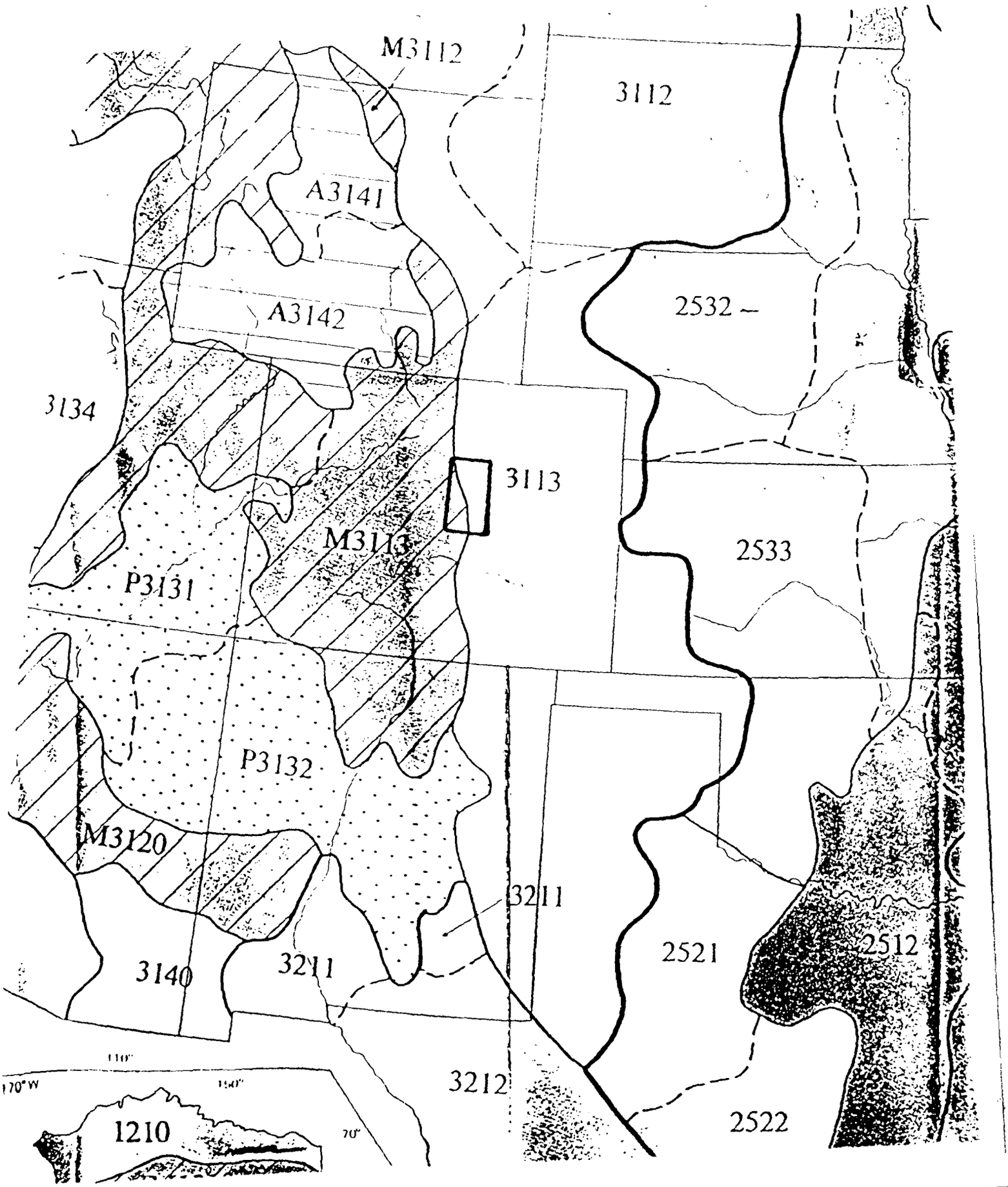
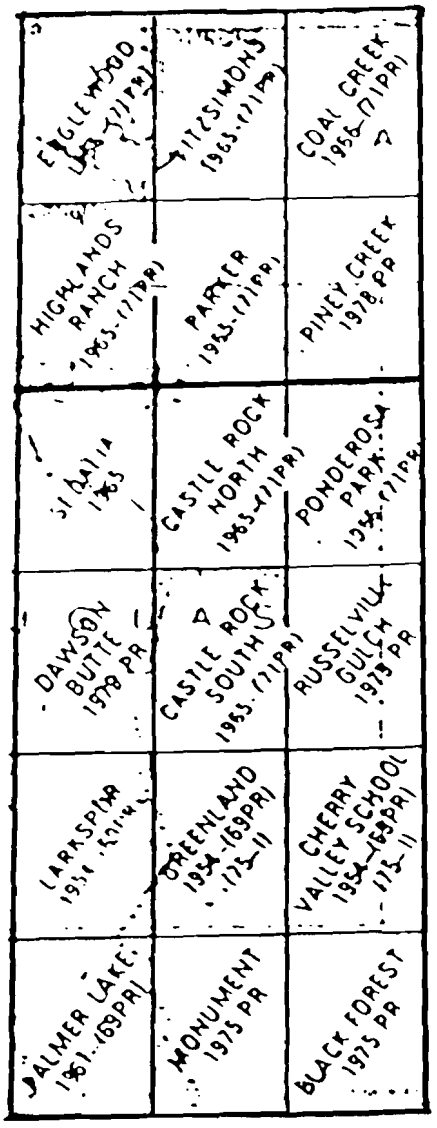
LOCATOR MAP (B)