



*J. E. Hall*

United States

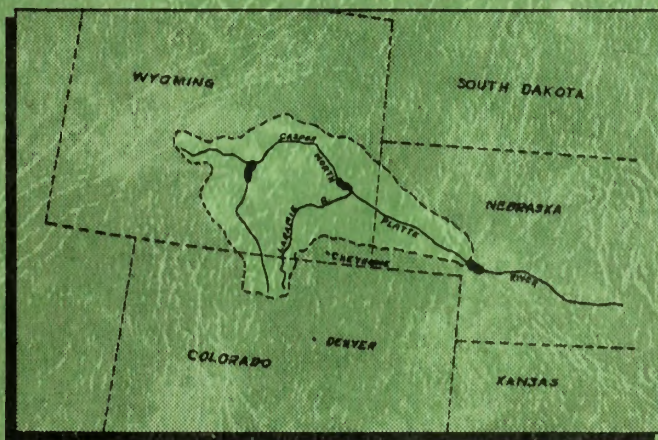
Department Of The Interior  
Bureau Of Land Management

Region III

# Missouri River Basin Investigations

PRELIMINARY

LAND PLANNING AND CLASSIFICATION REPORT  
as Relates to the Public Domain Lands  
in the



## NORTH PLATTE RIVER BASIN

(Colorado, Wyoming and Nebraska)

June, 1950

PROPERTY OF  
Bureau of Land Management  
D S C LIBRARY

(For Administrative Use Only)

HD  
243  
.C6  
P745  
1950

This report was compiled in connection with the program  
of the Department of the Interior for the Development  
of the resources of the Missouri River Basin.

BLM LIBRARY  
RS 150A BLDG. 50  
P.O. BOX 25047  
DENVER CO 80226

LD88075178

HD  
243  
C6  
P745  
1950

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
REGION III

(MISSOURI RIVER BASIN INVESTIGATIONS)

Preliminary  
Land Planning and Classification Report  
as relates to the public domain lands  
in the

NORTH PLATTE RIVER BASIN

(Colorado, Wyoming and Nebraska)

(For Administrative Use Only)

Billings, Montana  
June, 1950

BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225

This report was compiled in connection with the program of the Department of the Interior for the development of the resources of the Missouri River Basin.

TABLE OF CONTENTS

	<u>Page No.</u>
ACKNOWLEDGEMENTS and PURPOSE AND SCOPE	I
SUMMARY	II
PHYSICAL FACTORS	1
ECONOMIC and SOCIAL FACTORS	3
LAND OWNERSHIP	7
LAND MANAGEMENT PROGRAMS	8
Bureau of Land Management	8
National Forests	8
Colorado State Forest	9
Colorado State Game Refuges	9
Bureau of Reclamation	9
Soil Conservation Districts	10
National Wildlife Refuges	11
National Park Service	11
Production and Marketing Administration	11
PROBLEMS RELATING TO PUBLIC DOMAIN LANDS	13
Problem 1. Watershed Impairment and Sedi- mentation	13
Problem 2. Complexity of Land Ownership Pattern	15
Problem 3. Maladjustments in Management and Multiple Land-Uses	17
PROPOSALS FOR DETAILED STUDIES	23
North Park, Colorado	23
Sweetwater Sub-area	23
Seminoe Sub-area	23
Laramie Basin	23
Glendo Sub-area	24
Lower North Platte Sub-area	24
List of Tables	
Table 1	6
Table 2	20
Table 3	25
Figures 1 and 2	12
MAP APPENDIX	Map Jacket

## ACKNOWLEDGMENTS

Information contained in this preliminary report was obtained from published reports and maps of the Bureau of Land Management, Geological Survey, Bureau of Reclamation, Fish and Wildlife Service and National Park Service, U. S. Department of Interior, Soil Conservation Service, Extension Service, Forest Service and Production and Marketing Administration, U. S. Department of Agriculture, Bureau of the Census and Weather Bureau, U. S. Department of Commerce, Colorado State Land Board and Planning Commission and University of Wyoming.

H. Harrison Hoyt, Range Conservationist, performed the reconnaissance field survey, and Harold T. Tysk and J. Elliott Hall, Land Economists, gathered, assembled and prepared the report. Drafting was under the supervision of William C. Anderson, Engineering Draftsman, and the study in all its aspects was under the direction of R. D. Nielson, Regional Chief, Division of Land Planning, Region III, Bureau of Land Management, Billings, Montana.

## PURPOSE AND SCOPE

The purpose of the report and accompanying map is to show the location and extent of public domain lands in the North Platte River Basin and their inter-relationship to the numerous and varied land management programs of Federal and State governmental agencies in furtherance of the overall Missouri River Basin Development Program. General information is contained in this report with respect to the physical and economic features of the entire basin since the management, utilization and disposition of the public domain lands will, to a large degree, be dependent upon the various factors peculiar to the area in which they are located.

Particular emphasis was given to the determination and appraisal of the administrative, management and utilization problems as affect the public domain lands. Based primarily upon ghe location, amount and concentration of public lands in the area, the drainage area has been delineated into six sub-areas for the detailed studies which will follow.

## SUMMARY

The North Platte River Basin comprises all of the lands within the drainage of the North Platte River and its tributaries between its headwaters in Jackson County, Colorado, and the western end of Kingsley Reservoir in Keith County, Nebraska. The principal tributaries of the North Platte River are the Laramie, Sweetwater and Medicine Bow Rivers. The total drainage basin area is 28,500 square miles of which 22,170 square miles are in Wyoming, 4,254 square miles in Nebraska and 2,076 square miles in Colorado. (See map appendix)

The North Platte River Basin is one of the most productive agricultural areas in the intermountain area. Substantially all of the crop production is carried on within the Nebraska portion of the Basin and that part of the Basin in the extreme eastern part of Wyoming. In the remaining portion of the Basin, crop production is restricted by climate, topography and lack of water for irrigation except in localized areas. Approximately two million acres in the area are cultivated of which about one-half is irrigated and one-half is dry-farmed. Water for irrigation is provided by the storage of flood water of the North Platte River in the Seminoe, Pathfinder, Alcova and Guernsey Reservoirs. The principal crops are sugar beets, alfalfa, barley, corn, oats, potatoes, wheat and sweet clover.

The area, exclusive of the Nebraska portion, is primarily a grazing country. Stockraising represents an important segment of the economy of the area and in some localities the production of cattle and sheep is the only industry of importance. It is estimated that 500,000 cattle, 43,000 horses and 1,200,000 sheep obtain their major feed requirements from lands within the area. There are ordinarily heavy seasonal movements of livestock in and out of the area in the range and feedlot operations. Feeding and fattening of livestock, particularly in the North Platte Irrigation Project of Nebraska and eastern Wyoming, has become an important industry.

Oil is the principal mineral being produced in commercial quantities in the area. Most of the principal fields are in the Wyoming portion of the basin and those of most importance are the Quealy, Little Laramie and Herrick structures in Albany County, Wertz, Rock River, Medicine Bow and Hatfield structures in Carbon County; Big Muddy in Converse County; Horse Creek in Laramie County and Cole Creek and Poison Spider areas in Natrona County.

The recreational facilities of the area, including hunting, fishing and dude ranching, are also important resources of the area.

The gross area of the North Platte River Basin is 18,240,000 acres, of which 11,162,855 acres are privately owned; 5,665,431 acres are federally owned, and 1,411,714 acres are stated owned. Of the 5,665,431 acres of Federal lands, 3,647,290 acres are public domain lands administered by the Bureau of Land Management. About seventy percent of the public domain lands are located within the boundaries of four grazing districts, and the remaining thirty percent are found outside grazing districts. About 94 percent of the public domain lands are located in Wyoming, six percent in Colorado, and a fractional part of one percent in Nebraska.

The existing and proposed development and management programs in the area are numerous and varied, chief of which are the programs of the Bureau of Land Management administered under the provisions of the Taylor Grazing Act, National Forests, Colorado State Forest, Bureau of Reclamation projects, Soil Conservation Districts, National Wildlife Refuges, State Game Refuges, and National Monuments.

The principal problems, as relate to public domain lands within the Basin, are the need for proper watershed management and siltation control, particularly for the watershed area between Alcova and Guernsey Reservoirs; the need for integration of grazing land-uses with cropland uses for the most satisfactory and sound land-use economy; complex land ownership and operating patterns; trespass on stock driveways and inadequacy of driveways for the seasonal movement of livestock; classification of other forms of public fire control and disposition of timber; and, the need for and feasibility of rehabilitation programs for the conservation of the land and water resources of public domain. The detailed study of the area will provide a basis for the improvement or solution of these and other problems relating to the public domain lands.

Detailed classification and examination of the public domain lands in the area are necessary to obtain an inventory of the land and water resources and their problems which in turn will provide the basis for determination as to their proper management or disposition and the significance of the public domain as relates to the comprehensive development program of the Missouri River Basin. The North Platte River area has been sub-divided into six study areas for the detailed examination and classification which will follow. The designated study areas are the North Park, Sweetwater, Seminoe, Laramie, Glendo and Lower North Platte. The six major study areas were delineated primarily upon the basis of the amount, concentration and location of public lands and the problems relating thereto.





## PHYSICAL FACTORS

The North Platte River Basin includes all the lands within the drainage area of the North Platte River and its tributaries between its headwaters in North Park, in Jackson County, Colorado, and the western end of Lake McConoughy (Kingsley Reservoir) in Keith County, Nebraska (See map appendix). The division line between the North Platte River area and the Lower Platte River area was more or less arbitrarily established at the eastern end of Lake McConoughy in Keith County, Nebraska. The classification report of the Bureau of Land Management on the Lower Platte Sub-Basin was completed in March, 1948, and includes the remaining area within the North Platte River Drainage lying between the western end of Lake McConoughy and the confluence of the North Platte and South Platte Rivers near the town of North Platte, Nebraska.

The North Platte River is formed in Jackson County, Colorado, by the accumulation of many snow-fed streams, chief of which are Grizzly, Little Grizzly and Lake Creeks, Roaring Fork, North Fork, Michigan, Canadian and Illinois Rivers. From its headwaters in Jackson County, Colorado, the North Platte River flows northerly to Casper, Wyoming, where it follows an easterly and southeasterly course around the north front of the Laramie Mountains to the plains of Wyoming and Nebraska. At Fort Laramie, Wyoming, the North Platte River is joined by the Laramie River which also rises in Colorado. The Sweetwater River, one of the largest tributaries of the North Platte River, rises in the western portion of the area of study in Wyoming, from whence it flows easterly to its confluence with the North Platte River just above the Pathfinder Dam located in the extreme north-central portion of Carbon County and south-central part of Natrona County, Wyoming.

The total drainage basin area of the North Platte watershed within this area is 28,500 square miles, of which 2,076 square miles are in Colorado, 22,170 square miles are in Wyoming, and 4,254 square miles in Nebraska (See map appendix and Table 1).

The North Platte River Drainage area lies partly within the Great Plains Province and partly within the Rocky Mountain Province. Several high mountain ranges lie partially or wholly within the area. The most prominent are the Park Range in Colorado which forms the Continental Divide and the Laramie Range and Wind River Mountains in the north-central and extreme northwestern portions of the area respectively.

Approximately the western one-third of the area is generally rough and mountainous with associated valleys, foothills and high plateaus. A portion of the Red Desert occupies the southwestern corner of the area in Wyoming. It is a high, undulating plateau crossed and intersected at varying intervals by low ranges of hills. Most of the plateau lies at elevations between 6,500 and 7,500 feet. The central one-third of the area lies in the High Plains where the country is generally undulating prairie land, blending into broken mountain ranges and low hills. The eastern third of the area is undulating prairie lands. Elevations range from about 13,000 feet above sea level in Colorado to about 3,000 feet at Kingsley Dam in Nebraska.

The climate of the area varies sharply with the location and altitude and may be divided into three distinct climatic regions; namely, mountains, foothills and plains. The forested mountain region is humid, with annual precipitation often exceeding 30 inches, much of which occurs in the form of snow. Summer temperatures in the mountains seldom reach 100 degrees and frosts may occur every month during the year. For the most part, the growing season is long and dependable enough for sustained crop production. The mountains are the principal water-yielding areas. Water for use in irrigated farming, power, and other purposes at lower elevations is provided from the melting of snow during prolonged periods during the spring and early summer. Lying below this high altitude zone of heavy water production is the intermediate foothill region, which yields some water for downstream use. The annual precipitation in the foothills exceeds 15 inches, much of which falls in the form of intense summer rains. The day to day temperature is relatively uniform as compared to the mountains and plains regions. The growing season is ordinarily adequate for the production of small grains and forage crops. The plains region is semi-arid, being characterized by low relative humidity, a considerable amount of sunshine, light rainfall, hot summers, cold winters, high winds and wide variations in temperature and rainfall from year to year. The annual precipitation is generally less than 15 inches, most of which falls during the period April through September. The growing season or frost-free period is usually adequate in the plains region for the production of grains and forage crops, as well as a variety of specialty crops, such as sugar beets, beans and potatoes.

Strong winds are common and severe blizzards often occur in the high plateau country as late as May. Many of the topographic features may be partly ascribed to climate. Certain small streams for example, flow east from the Medicine Bow Mountains, but fail to reach the Laramie River only 15 or 20 miles away because of lake formations which are said to have been the result of wind and soil blowing. Alkali flats are common. There are some hollows or "blow outs" of great size, apparently excavated by wind. Big Hollow--in the Laramie Plains, the largest, is nine miles long, three miles wide, and 150 feet deep. Elsewhere, curiously carved rocks also attest to the strength and erosive action of the wind in the area.

Vegetation varies from the prairie grass type of the low plains to the alpine grasses and sedges at the high altitudes above timber line. As the elevation increases, the prairie grasses merge with shrubs or give way to the short grasses of the high plains and yellow pine of the foothills and lower mountain slopes. Sagebrush and other semi-desert plants, such as salt sage, greasewood, juniper, desert sedge, salt grass and yucca occur throughout the area at intermediate elevations. Fescues, wheat-grasses, bluegrasses, and a variety of shrubs, such as rose, service berry, and bitterbrush are intermixed with the sagebrush and yellow pine. Certain of the mountainous areas support variable stands of spruce, fir, lodgepole pine, and aspen. Mountain meadows occur in many places where soils have been sufficiently developed. At higher elevations, the characteristic timberline vegetation includes grasses and sedges on shallow soils under sparse stands of white bark fir, limber pine and dwarfed spruce and fir.

## ECONOMIC AND SOCIAL FACTORS

The North Platte River Basin is sparsely populated, having only an estimated 150,000 inhabitants, according to a recent farm census. The Wyoming portion of the basin has about 88,000 inhabitants and 78 percent of the total land area of the basin; Nebraska has about 60,000 inhabitants and about 15 percent of the land area; and Colorado has approximately 2,000 inhabitants and 7 percent of the land area. The four largest cities in the area are Casper, Wyoming; Scottsbluff, Nebraska; Laramie and Rawlins, Wyoming, with populations of 17,964, 12,057, 10,627, and 5,531, respectively, according to the 1940 Bureau of Census. These cities constitute about one-third of the inhabitants of the entire drainage area.

Most of the basin is adequately serviced by railroads and highways. Schools and other social and public facilities are available in the larger towns.

Exclusive of the Nebraska portion of the basin, where crop production predominates, the area is primarily a grazing country. Stockraising has long been an established enterprise in the basin and represents a very important segment of the economy of the area. In some localities, the production of cattle, sheep and wool is the only industry of importance. Most of the livestock are produced under range conditions with a minimum of supplemental feeding. It is estimated that some 500,000 cattle, 43,000 horses and 1,200,000 sheep obtain the major part of their feed requirements within the area.

Approximately 11 percent of the lands, or approximately 2,000,000 acres within the entire area are cropland. Of this acreage, about 950,000 acres are irrigated and 1,050,000 acres are dry-farmed. The bulk of both irrigated and dry-farm cropland is in the Nebraska portion of the basin; which, together with the cropland in the adjoining extreme eastern part of Wyoming, comprises more than 90 percent of the cropland of the entire North Platte River Basin. Most of the crop production is carried on in those areas in the basin where the elevation is less than 5,500 feet above sea level. The principal crops grown in the lower elevations of the area are wheat, corn, small grains, sugar beets, beans, sorghum, alfalfa and other tame hay. Those lands cultivated at higher elevations are devoted chiefly to the production of alfalfa and other tame and wild hay.

Oil and gas in commercial quantities has been discovered in many parts of the basin--those of most importance being located in Wyoming. They include the Quealy and Rex Lake structures in Albany County, the Wertz, Rock Creek, Medicine Bow and Hatfield structures in Carbon County; Big Muddy in Converse County; Horse Creek field in Laramie County; Cole Creek and Poison Spider areas in Natrona County. Definitions of known geologic structures in the Wyoming portion of the Basin are described in Table 2.

The North McCallum field in Jackson County, Colorado is also a small producer of oil. Most of the oil production is from public domain lands or from private lands on which the minerals were retained in Federal ownership and are administered jointly by the Bureau of Land Management and Geological Survey.

Coal and lignite underlie portions of the Basin in Natrona, Converse, Carbon and Sweetwater Counties, Wyoming, and it is mined extensively at Hanna, Carbon County.

Metalliferous minerals, including iron, copper, gold, silver and manganese have been found in small quantities in various parts of the basin but the only properties producing at the present time are believed to be the iron mines at Sunrise, Wyoming and reported production of gold at South Pass. The Iron Mountain titaniferous iron ore in Laramie County is being tested by the Bureau of Mines. Uranium has been reported recently in northern Goshen County and in Carbon County. Examination and testing by the Bureau of Mines of the latter deposits are also reported to be under way.

Asbestos and jade have been found along the Sweetwater River in Fremont County, Wyoming and bentonite (some being mined near Casper) is reported in scattered areas.

The recreational facilities of the area, including hunting and fishing, are one of the principal resources. The area supports an abundance of big game, chiefly deer and antelope. The upstream tributaries of the North Platte River are ordinarily clear and cold, providing good environmental conditions for trout.

Substantially all the lands within the area valuable for commercial timber production lie within the National Forests or Colorado State Forest. The timber and woodland resources on public domain within the Basin are on lands bordering the various National Forests such as Elk Mountain in Carbon County; Shirley, Pedro, Seminole and the Ferris Mountain groups in the north part of Carbon County and the Green Mountain area in the south-eastern portion of Fremont County, Wyoming, contain commercial stands of timber. Lodgepole pine is the predominant species with scattered stands of western yellow pine, limber pine, Douglas fir and Utah juniper. Timber on public domain in the Green Mountain area is perhaps the most valuable stand found on public domain in the North Platte Basin. A timber cruise made several years ago indicated a gross volume of 151,000,000 feet board measure, of which an estimated fifteen million feet was considered as over-mature timber. Volume estimates for the other areas where commercial stands of timber are found are not available at the present time and detailed studies carried on at a later date will provide specific information concerning these resources on public domain lands.

On the basis of present estimates the total area of commercial timber stands on public domain lands is approximately 30,000 acres, virtually all of which is found within Wyoming Grazing Districts #2 and #3, and Colorado Grazing District No. #2. There are perhaps 8,000 acres of public domain land lying outside of grazing districts which support commercial stands of timber. It is estimated that approximately ten percent of the total lands administered by the Bureau of Land Management are of a woodland character and are highly significant insofar as watershed values are concerned.

The North Platte River Basin constitutes a favorable habitat for numerous and varied wildlife groups. The extensive areas of range lands provide an excellent habitat for antelope and deer. In the higher timbered and mountainous areas are found bear, deer, elk, moose, beaver and numerous small game and an abundance of mountain-inhabiting birds. Migratory waterfowl are provided with important rest stops during the fall and spring migration flights on the larger lakes and reservoirs. The several large and small streams now furnish excellent trout fishing, while lake fishing in the larger reservoirs bring many non-resident fishermen from adjoining states each year.

The recreational facilities, including hunting and fishing, are one of the Basins' primary resources; and, while this value is difficult to measure in dollars and cents, it is sufficiently attractive to bring hunters from every state in the union each fall. The principal hunting areas may be said to be coextensive with the public domain and National Forest areas. Antelope, being one of the most abundant of game animals in these areas and being also one of the most eagerly sought by trophy hunters, are especially dependent upon forage obtained from public domain land.

Many of the Basin's important and widespread guest ranching or dude ranching activities are partially or often wholly dependent upon game, fish and scenic attractions found upon Bureau of Land Management lands and National Forest lands.

Table 1. -- LAND OWNERSHIPS WITHIN AND OUTSIDE GRAZING DISTRICTS WITHIN THE NORTH PLATTE RIVER BASIN BY STATES AND COUNTIES, 1950 (acres)1/

LAND WITHIN GRAZING DISTRICTS												
State and County	Grazing District or Area of Responsibility	Lands Administered by Bureau of Land Management							National Forests	State	Private	Total
		Public Domain	Stock Oriveway Withdrawals	Public Water Reserves	Power Site Withdrawals	Total Administered by B.L.M.	Reclamation Withdrawals					
Colorado												
Jackson	Colorado 2	177,480			3,200	180,680	15,500		70,100	359,000	625,280	
Wyoming												
Albany	Wyoming 3	3,570				3,570		1,280	14,350	19,200		
Carbon	Wyoming 3	1,129,560	73,460	5,120	1,160	1,209,300		200,000	1,265,042	2,750,462		
Freemont:	Wyoming 2	604,760	71,240	3,840		679,840	2/ 76,120	62,363	53,182	795,385		
	Wyoming 3	65,840				65,840		5,120	2,000	72,960		
	Wyoming 4	98,570	12,800	120		111,490		10,200	22,310	144,000		
Natrona	Wyoming 2	289,000	12,755	400		302,175		42,000	78,925	425,600		
Sublette	Wyoming 4	16,510	2,080			18,590	2,500	3,440	1,574	23,604		
Sweetwater	Wyoming 3	7,640		40		7,640		40	80	7,800		
<b>Total</b>		<b>2,392,950</b>	<b>172,335</b>	<b>9,520</b>	<b>4,360</b>	<b>2,579,165</b>	<b>94,120</b>	<b>394,543</b>	<b>1,796,463</b>	<b>4,864,291</b>		
LAND OUTSIDE GRAZING DISTRICTS												
Colorado												
Jackson	Colorado 2	520				520		417,800	1,500	419,820		
Larimer	Colorado 2	26,040	480			26,520		199,600	5,160	283,493		
Nebraska 2/	Wyoming 2	1,900				1,900	1,700	151,000	2,567,600	2,722,200		
Wyoming												
Albany	Wyoming 3	297,410	10,080			307,490		543,000	185,322	2,661,759		
Carbon	Wyoming 3	84,540	14,500			99,040		492,400	22,133	825,300		
Converse	Wyoming 2	54,620	9,030	160		63,810		137,800	190,517	1,295,648		
Freemont	Wyoming 2							58,100		58,100		
Goshen	Wyoming 2	23,390				23,390	550	86,542	1,295,216	1,405,698		
Laramie	Wyoming 3	8,050				8,050		75,200	551,950	635,200		
Natrona	Wyoming 2	396,540	44,625	600		441,765	4/ 32,250	8,900	158,435	921,815		
Niobrara	Wyoming 2	1,000				1,000		12,704	108,796	1,563,165		
Platte	Wyoming 2	94,640				94,640	8,721	11,700	130,158	1,371,326		
Sublette	Wyoming 4							11,500		11,500		
<b>Total</b>		<b>988,650</b>	<b>78,715</b>	<b>760</b>		<b>1,068,125</b>	<b>43,221</b>	<b>1,880,800</b>	<b>1,017,171</b>	<b>9,366,392</b>		
LAND WITHIN AND OUTSIDE GRAZING DISTRICTS												
Colorado												
Jackson	Colorado 2	178,000			3,200	181,200	15,500	417,800	70,100	360,500	1,045,100	
Larimer	Colorado 2	26,040	480			26,520		199,600	5,160	52,213	283,493	
Nebraska 2/	Wyoming 2	1,900				1,900	1,700	151,000	2,567,600	2,722,200		
Wyoming												
Albany	Wyoming 3	300,980	10,080			311,060		543,000	186,602	1,640,297	2,680,959	
Carbon	Wyoming 3	1,214,100	87,960	5,120	1,160	1,308,340	2/ 76,120	492,400	222,133	1,476,769	3,575,762	
Converse	Wyoming 2	54,620	9,030	160		63,810		137,800	190,517	903,521	1,295,648	
Freemont	Wyoming 2,3,4	769,170	84,040	3,960		857,170		58,100	77,683	77,492	1,070,445	
Goshen	Wyoming 2	23,390				23,390	550	86,542	1,295,216	1,405,698		
Laramie	Wyoming 3	8,050				8,050		75,200	551,950	635,200		
Natrona	Wyoming 2	685,560	57,380	1,000		743,940	4/ 34,750	8,900	200,435	1,000,740	1,988,765	
Niobrara	Wyoming 2	1,000				1,000		12,704	108,796	122,500		
Platte	Wyoming 2	94,640				94,640	8,721	11,700	130,158	1,126,107	1,371,326	
Sublette	Wyoming 4	16,510	2,080			18,590		11,500	3,440	1,574	35,104	
Sweetwater	Wyoming 3	7,640		40		7,680		40	80	7,800		
<b>Total</b>		<b>3,381,600</b>	<b>251,050</b>	<b>10,280</b>	<b>4,360</b>	<b>3,647,290</b>	<b>137,341</b>	<b>1,880,800</b>	<b>1,411,714</b>	<b>11,162,855</b>		
RECAPITULATION BY AREA OF RESPONSIBILITY												
Total within by grazing districts:												
	Colorado 2	177,480			3,200	180,680	15,500	70,100	359,000	625,280		
	Wyoming 2	893,780	83,995	4,240		982,015	2,500	104,363	132,107	1,220,985		
	Wyoming 3	1,206,610	73,460	5,160	1,160	1,286,390	2/ 76,120	206,440	1,281,472	2,850,422		
	Wyoming 4	115,080	14,880	120		130,080		13,640	23,884	167,604		
<b>Total</b>		<b>2,392,950</b>	<b>172,335</b>	<b>9,520</b>	<b>4,360</b>	<b>2,579,165</b>	<b>94,120</b>	<b>394,543</b>	<b>1,796,463</b>	<b>4,864,291</b>		
Total outside by area of responsibility:												
	Colorado 2	26,560	480			27,040		617,400	5,160	53,713	703,313	
	Wyoming 2	572,000	53,655	760		626,505	4/ 43,221	216,500	729,356	6,923,055	8,538,637	
	Wyoming 3	390,000	24,580			414,580		1,035,400	282,655	2,389,624	4,122,259	
	Wyoming 4							11,500		11,500		
<b>Total</b>		<b>988,650</b>	<b>78,715</b>	<b>760</b>		<b>1,068,125</b>	<b>43,221</b>	<b>1,880,800</b>	<b>1,017,171</b>	<b>9,366,392</b>		
Grand Total by area of responsibility:												
	Colorado 2	204,040	480		3,200	207,720	15,500	617,400	75,260	412,713	1,328,593	
	Wyoming 2	1,465,870	137,650	5,000		1,608,520	4/ 45,721	216,500	833,719	7,055,162	9,759,622	
	Wyoming 3	1,596,610	98,040	5,160	1,160	1,700,970	2/ 76,120	1,035,400	489,095	3,671,096	6,972,681	
	Wyoming 4	115,080	14,880	120		130,080		11,500	13,640	23,884	179,104	
<b>GRAND TOTAL</b>		<b>3,381,600</b>	<b>251,050</b>	<b>10,280</b>	<b>4,360</b>	<b>3,647,290</b>	<b>137,341</b>	<b>1,880,800</b>	<b>1,411,714</b>	<b>11,162,855</b>		

1/Compiled from the records of the Bureau of Land Management, Region III, Billings, Montana

2/Lands in Nebraska portion undifferentiated as to counties

3/Approximately 18,000 acres are embraced within Pathfinder National Wildlife Refuge

4/Approximately 13,000 acres are embraced within Pathfinder National Wildlife Refuge

## LAND OWNERSHIP

As depicted on the map accompanying this report, and Table 1, page 6, the gross area of the North Platte River Basin is 18,240,000 acres, of which 78 percent (14,189,207 acres) is in Wyoming; 15 percent (2,722,200 acres) is in Nebraska; and 7 percent (1,328,593 acres) is in Colorado. The five principal agencies of the Federal government, which administer the lands in the Basin, are the Bureau of Land Management, Forest Service, Fish and Wildlife Service, National Park Service and Bureau of Reclamation. Twenty percent of the gross area is administered by the Bureau of Land Management, 10 percent by the Forest Service, 1 percent is under the jurisdiction of the Bureau of Reclamation, and a small fraction of 1 percent of the gross area is contained within the Fort Laramie National Monument and the Scottsbluff National Monument, administered by the National Park Service.

Eight percent of the gross area within the North Platte Basin is comprised of lands administered and owned by the respective states. By far the greater part of the state lands are contained within Wyoming, while in Nebraska are found approximately 10 percent of such lands, and in Colorado approximately five percent. The greater part of the state lands in Colorado are contained within the Colorado State Forest.

Lands in private ownership embrace 61 percent of the entire Basin, and contain 11,162,855 acres. Figure 1 depicts the distribution of land ownership by primary administering agencies in the North Platte Basin, in which Federal agencies administer 31 percent of the gross area, state agencies 8 percent, and private ownership embraces the remaining 61 percent of the gross area. Figure 2 illustrates the total area by states within the North Platte Basin and its relationship to the lands under the jurisdiction of the Bureau of Land Management.

Table 1, page 6, indicates land ownerships within and outside grazing districts within the North Platte River Basin by states and counties according to records obtained in 1949. Slightly more than one-fourth of the gross area is contained within grazing districts, more than one-half of which is administered by the Bureau of Land Management. Seventy-two percent of all lands within the North Platte Basin administered by this Bureau are located within established grazing districts. Three-fourths of the gross area within the Basin is located outside of grazing districts, of which slightly more than one million acres are comprised of lands administered by the Bureau of Land Management. This comprises slightly less than 7 percent of the total area outside of grazing districts.

Bureau of Land Management

Within the North Platte River Basin there are 3,647,290 acres of public land of which 2,579,165 acres lie within the exterior boundaries of Wyoming Grazing Districts 2, 3 and 4, and Colorado Grazing District #2 and 1,068,125 acres lie outside grazing districts (See Table 1).

The grazing districts were established pursuant to the Taylor Grazing Act, approved June 28, 1934 and amended June 26, 1936, "to stop injury to the public grazing lands by preventing overgrazing and soil deterioration; to provide for their orderly use, improvement and development; to stabilize the livestock industry dependent upon the public range and for other purposes". Permits or licenses for grazing privileges on the public lands within the districts are allocated to qualified livestock operators who own or control sufficient base property that, used together with the public land, provide for a year-round operation. The permits are ordinarily for a period of ten years, subject to modification or cancellation under certain conditions.

Approximately 56,150 cattle, 2,090 horses, and 460,300 sheep, a total of 150,300 animal units obtained seasonal grazing on the grazing district lands in 1947. No detailed range survey has been made of the forage resource but based on numerous field observations, it is estimated the amount of forage available from the public lands in grazing districts in the area is 468,500 animal unit months, or about five acres per animal unit month. In addition it is estimated from three to five percent of the natural forage resource of the area is required for wildlife. The livestock use of the lands in the area occurs during all seasons but averages only about three months use each year.

The public lands in the North Platte River area outside the grazing districts comprise 1,068,125 acres. Practically all of these lands are leased for grazing purposes under Section 15 of the Taylor Grazing Act. Livestock operators owning or controlling adjacent privately owned lands are given a preference right in leasing these lands. Leases are ordinarily for ten years but may be for a shorter period depending upon the location, amount and permanency of the lessee's private holdings.

National Forests

Part of the Medicine Bow and Shoshone National Forests in Wyoming and the Routt and Roosevelt National Forests in Colorado are within the North Platte River area. Substantially all of the forest lands are within the Medicine Bow and Routt National Forests. Of the 1,880,800 acres of National Forest lands in the North Platte River area, 1,263,400 acres are in Wyoming and 617,400 acres are in Colorado. There are no National Forest lands within the Nebraska portion of the Basin.



All of the land within the Pole Mountain unit of the Medicine Bow National Forest lying within the North Platte River area is also within the Pole Mountain Game Refuge. Sheep Mountain Game Refuge, comprising about 30,000 acres, is located on the eastern side of the Medicine Bow Division of the Medicine Bow National Forest, about twenty miles west of Laramie, Wyoming. These refuges are under the administration of the Forest Service in cooperation with the State Fish and Game Commission.

#### Colorado State Forest

Practically all of the Colorado State Forest is located within the North Platte River area. This forest comprises approximately 75,000 acres of forest lands lying along the continental divide and boundary line between Jackson and Larimer Counties, Colorado. Substantially all of the land lies in Jackson County, with only a small acreage in Larimer County.

#### Colorado State Game Refuges

Cameron Pass State Game Refuge, located in the extreme southeastern portion of Jackson County, Colorado, covers 63,350 acres and North Park State Game Refuge, lying in the northeastern corner of Jackson County, Colorado, comprises 18,560 acres. The North Park State Game Refuge is within the boundaries of the Routt National Forest and Cameron Pass Refuge is partly within the Colorado State Forest and partly within the Routt National Forest. These refuges are administered cooperatively by the Forest Service and Colorado Game and Fish Commission and serve as control points over which the opening and closing dates, types, sex and number of kill can be regulated. The principal game consists of mountain sheep, deer and upland birds.

#### Bureau of Reclamation

Irrigation development in the North Platte River area began in the 1880's. The construction of irrigation facilities were undertaken by the Bureau of Reclamation in 1904 and water for the projects for irrigation was provided in 1908.

The North Platte Irrigation Project is located in eastern Wyoming and western Nebraska, adjacent to the North Platte River. The irrigable lands comprise an area of about 237,000 acres lying in Goshen County, Wyoming and Scottsbluff, Sioux and Morrill Counties in Nebraska. Government and private irrigation developments in the area serve 425,000 acres of land, one of the largest bodies of irrigated land in the United States. Flood waters of the North Platte River are stored in the Pathfinder Reservoir, Guernsey regulating reservoir, and three smaller reservoirs, Lake Alice, Lake Winters Creek, and Lake Minatare.

The Kendrick Irrigation Project of the Bureau of Reclamation is located principally in Carbon and Natrona Counties, Wyoming. The major features of the project consist of Seminoe Dam and power plant, Alcova Dam, Casper canal and lateral systems and ultimately, transmission lines for the distribution of power. The Seminoe and Alcova Reservoirs with capacities of 1,025,000 and 190,500 acre-feet respectively, will provide the water storage facilities for the project. Approximately 50,000 acres of land in Natrona County have been proposed for irrigation under this project.

The Kortez Dam and power plant is located in Carbon County, Wyoming on the North Platte River and was authorized under the Flood Control Act, Public Law 534, December 22, 1944. The principal purpose of this dam is for power, taking advantage of the differences in head between Seminole Dam and Pathfinder Reservoir.

During the period 1927 to 1947, silt deposition in the Guernsey Reservoir had reduced its original capacity of 74,000 acre-feet by thirty-three percent or an average rate of storage depletion of 1.67 percent per year. Most of the silt enters the North Platte River between Alcova Dam and Guernsey Reservoir. The proposed Glendo Dam and resulting reservoir will afford additional storage capacity and will assist in extending the life of Guernsey Reservoir by desilting the major portion of the inflow. Approximately 80,000 acre-feet is proposed to be set aside for siltation.

In 1947, the Guernsey-Glendo Conservation Committee was organized to promote effective cooperation and integration of the respective conservation programs; to strive to develop ways and means of accomplishing objectives of common interests through cooperative investigation; to provide for exchange of information; and to strive to promote a fuller understanding of the meaning and significance of conservation, particularly as it relates to land, water and human resources.

The committee consists of one representative and one alternate of all interested Federal agencies, all interested State agencies, all interested county agencies and all interested local groups and individuals. The group meets quarterly to discuss problems and programs which affect coordination.

The Braziel Dam and reservoir proposed by the Bureau of Reclamation, will be located on Dry Creek Drain, a small tributary of the North Platte River, about four and one-half miles south of the town of Lyman, in Scotts Bluff County, Nebraska. The purpose of the reservoir is to provide additional storage water for the irrigation of lands in the Gering and Fort Laramie Irrigation District in Wyoming. The reservoir will receive its water for storage from the Fort Laramie Canal, which is fed by water diverted from the North Platte River.

It is proposed that the capacity of the reservoir be 8,650 acre-feet and the impounded water will create a reservoir about two and one-half miles long and about six tenths of one mile wide.

#### Soil Conservation Districts

Within the Basin are fifteen soil conservation districts covering a total of 7,614,800 acres. There are about 1,250,000 acres of public domain lands within these soil conservation districts within the Wyoming and Nebraska portion of the area. There are no soil conservation districts covering the portion of this Basin in Colorado. Technical advice of the Soil Conservation Service is furnished cooperating farmers and ranchers on phases of range and farm conservation. Many of the users of Federal range cooperate with the Soil Conservation Service in its program. The State law, under which these districts operate, provides for cooperation with all Federal agencies concerned with the conservation of soil and water.

## National Wildlife Refuges

All of five National Wildlife Refuges and substantially all of Crescent Lake National Wildlife Refuge are located within the North Platte River Basin. These refuges and locations are as follows:

Sheep Mountain	Albany County, Wyoming
Bamforth	Albany County, Wyoming
Hutton Lake	Albany County, Wyoming
Pathfinder	Carbon & Natrona Counties, Wyoming
North Platte	Scottsbluff County, Nebraska
Crescent Lake	Garden County, Nebraska

A small portion of Pole Mountain Game Refuge in Albany County, Wyoming, lies within the North Platte River Basin. Most of the refuges are for the protection and conservation of migratory waterfowl. Virtually all of the public land withdrawn for use and administration by the Fish and Wildlife Service in connection with the Pathfinder National Wildlife Refuge is coextensive with reclamation withdrawal.

## National Park Service

There are two National Monuments within the North Platte River Basin, Fort Laramie National Monument near Laramie, Wyoming, and Scottsbluff National Monument near Scottsbluff, Nebraska. The Scottsbluff National Monument comprises 2,196 acres and is a land mark on the Oregon Trail. The Fort Laramie National Monument embraces 214 acres and is a land mark of a military post on the route of the forty-niners on the Oregon Trail.

## Production and Marketing Administration

The Production and Marketing Administration of the Department of Agriculture is organized on a state and county basis throughout the entire Basin to assist farmers and ranchers to maintain and improve the soil and water resources on private and state lands; and, in certain instances, upon lands which are partly or temporarily owned by the Federal government. The agricultural conservation program is administered by locally-elected farmers and ranchers. Payments are made by the Federal government to cooperators for carrying out approved soil and water conservation practices. This soil conservation program is not applicable to public domain lands under the Bureau of Land Management.

Figure 1. LAND OWNERSHIP BY PRIMARY ADMINISTERING AGENCIES IN THE NORTH PLATTE BASIN, 1950

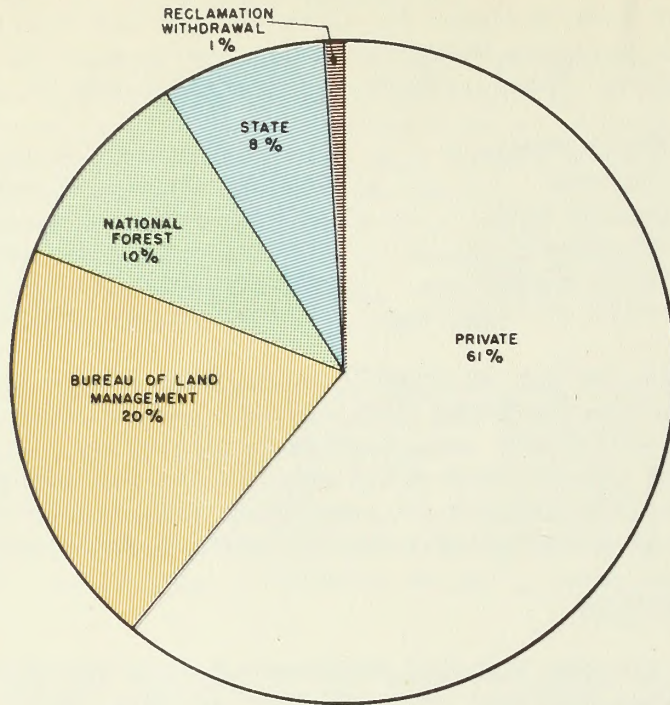
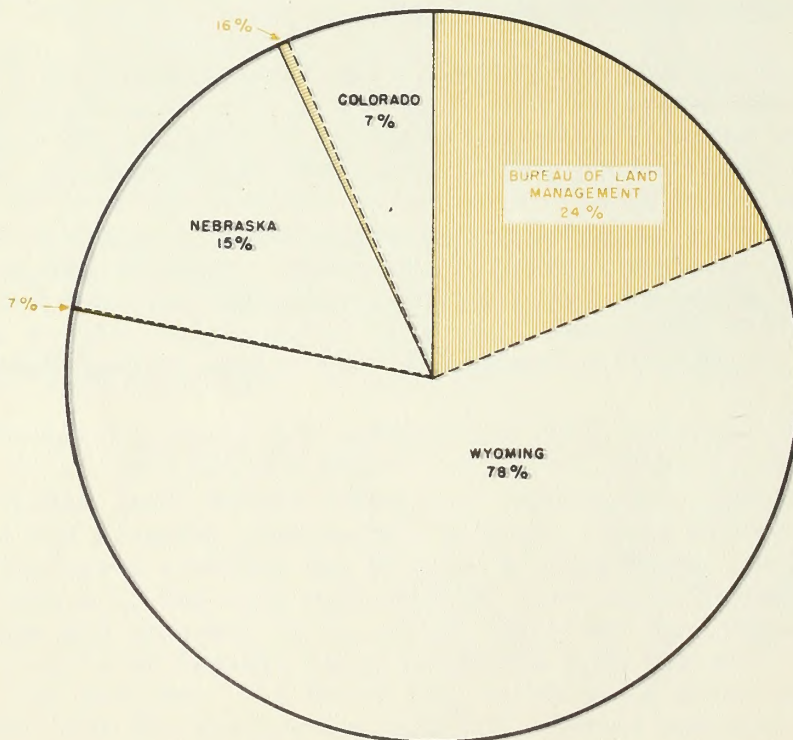


Figure 2. RELATIONSHIP OF LANDS ADMINISTERED BY BUREAU OF LAND MANAGEMENT TO THE TOTAL AREA BY STATES IN NORTH PLATTE BASIN, 1950



## PROBLEMS RELATING TO PUBLIC DOMAIN LANDS

A reconnaissance survey and a preliminary analysis of published reports has revealed many problems relating to the management, protection, development and utilization of the public domain lands and their resources. These studies are not intended to prescribe detailed corrective measures since they have not been of sufficient detail to determine their scope and seriousness. Further investigations will be necessary and no doubt additional problems to those listed below will be discovered in the detailed studies which will follow. In providing for the maximum contribution and service of these public lands to the comprehensive Missouri River Basin resource development program, the following general problems appear pertinent at this time:

### Problem 1. Watershed Impairment and Sedimentation

This probably is the largest single problem pertaining to the public domain lands in the North Platte Basin. The vast bulk of the public domain lands lie tributary to the major dam structures in the main stem of the North Platte River. One-third of the entire drainage area above the Guernsey Dam in Wyoming is comprised of public lands administered by the Bureau of Land Management. These public domain lands are the remains of a land disposal program which has been carried on for more than a century and therefore, are for the most part of a poorer quality than other lands in the area. They occupy areas of the lowest productivity with respect to the surficial resources and are inherently the greatest contributors per unit area to siltation from geologic erosion. Uncontrolled use of these lands, prior to the passage of the Taylor Grazing Act in 1934, has unquestionably contributed to their depletion. Other factors also affecting the erosion problem are the low annual precipitation, its seasonal distribution and wide variation from year to year, its generally sparse vegetation and consequent depleted soil mantle. An optimum vegetative cover is necessary for protecting these lands against accelerated erosion and to provide for a continuous stream flow for the dependent croplands downstream. There are a number of areas in which public domain lands predominate and which are known to be major sediment contributors per unit drainage area. Present available data, however, are inconclusive and do not permit the reliable determination of the amounts of sediments produced. Until sufficient reliable data are made available to determine the true origin and volume of the sediments produced in such critical watersheds, a wholly reliable and comprehensive plan of action to obtain the optimum of soil erosion and silt control cannot be accomplished.

The most acute problem from the standpoint of watershed management and siltation control in the North Platte Basin is the 5,500 square mile watershed area between the Alcova and Guernsey Dams commonly referred to as the "Glendo Area". The situation here is one of concern to a number of state and Federal agencies, several communities, local land owners and the water users of the North Platte Valley downstream. Due to the excessive siltation of the Guernsey Reservoir, extreme measures are necessary in order that the life and utility of the reservoir may be protected and the agricultural economy dependent thereon be perpetuated. Extensive studies made by the

Bureau of Reclamation have emphasized the necessity for providing additional storage space above the Guernsey Reservoir to adequately provide for the expected sediment production from drainage areas above this reservoir. The proposed Glendo Dam, to be located about six miles upstream from the head of Guernsey Reservoir, is only a partial answer to this problem. In addition to silt traps along the main stem of the North Platte River, there is need for treatment of watershed lands from which the silt is derived. This is a matter of concern to all land management agencies.

To get at the root of this problem and to coordinate action programs in this critical erosion area, representatives of all these interests organized what is known as the Guernsey-Glendo Conservation Committee in 1947. Its primary objectives are to push forward a cooperative study of the problem area, find ways and means for correction of the watershed problems and to initiate an action program based on these findings. The broad public interest in this problem area is shown by the fact that over one-fifth of the land in the Glendo Area is Federally-owned. More than one-half million acres of the Federal land is public domain administered by the Bureau of Land Management, only a small part of which is in established grazing districts. Other Federal lands include 260,000 acres in National Forests, and 23,000 acres in reclamation withdrawals. In addition there are large acreages of state land intermingled with public and private land. A considerable part of the area is embraced within Soil Conservation Districts. Due to the complex pattern of land ownership, as well as to the varied relationships in ownership and management, it is futile for any one agency to attempt an independent rehabilitation program with the expectation of desired results. This fact has emphasized the need for cooperation among all interested agencies and groups. The work of this Committee is instrumental in bringing all of these interests together in a coordinated effort to combat the common menace of erosion, which is a threat to the stability of reservoirs, to irrigation developments and, in fact, to the entire economy of the Basin. As a result a modest step towards correction of a bad situation has already been made. The problem is one which involves many needed adjustments in land-use, both public and private, structural improvements, area treatments and additional research as to causes and cures. The University of Wyoming, for example, through its College of Agriculture and Extension Service, is anxious to cooperate in research programs of this type, not only in an advisory capacity but also in the application of conservation measures which are found to be feasible.

As its part in a comprehensive action program, the Bureau of Land Management has already initiated a detailed examination of the public domain land in this area. It has also accumulated considerable data pertaining to range and ranch operations in the area, including livestock movements and forage requirements. Other agencies have contributed in the form of investigations and installations within the scope of their respective fields. Most of this latter work has been within the so-called "Bates Hole Area", an area of some 350,000 acres near Casper, Wyoming, in which are found some of the most critical erosion problems on the entire North Platte Drainage Basin. The survey work completed so far has emphasized the need for a comprehensive rehabilitation program for this critical area, the Bates Hole. To this end it is proposed that an intensive study of the Bates Hole Area be carried out as soon as possible.

This should be undertaken cooperatively by all interested agencies with the primary objective of completing a comprehensive plan of action including type, locations and amounts of rehabilitation work to be done, and estimates of costs and benefits which will be involved in the long-range conservation program.

## Problem 2. Complexity of Land Ownership Pattern

The complex pattern of land ownership in the North Platte Basin presents a difficult problem from the standpoint of administration and public land management. As shown on the attached map, thousands of acres of public domain lands are withdrawn for stock driveway purposes, public water reserves, power site withdrawals and reclamation withdrawals. Other tenure problems are presented because of the alternate section of railroad lands within some areas and the intermingled private and state lands throughout most of the area. The pattern of land ownership within the area has resulted largely from a century of public land disposition; and, in more recent years, an acquisition program on the part of other Federal and state agencies.

### Stock Driveway Withdrawals

There are 251,050 acres of public land within the North Platte River Drainage withdrawn for stock driveway purposes. These lands were withdrawn from entry and other forms of appropriation under the public land laws to provide access by the public to live-stock watering places and for use in the movement of stock to summer and winter ranges or to shipping points. Livestock operations in the area have changed somewhat since these withdrawals were effected, particularly since improvements in rail and trucking have reduced the trailing of livestock to markets, shipping points and to seasonal ranges. Available information is inadequate to determine the extent of use of these driveways; however, it is believed that the resource condition on some stock driveways is more critical than on other types of public land in the Basin. This condition may be attributable in part to the fact that there had been no administrative authority charged with the responsibility of regulation, management and administration of stock driveway lands outside of Federal grazing districts until recent years. In some portions of the driveways, the purpose for which the lands were withdrawn is being defeated, due to trespass and unseasonal use. Reconnaissance studies indicate there is a vital need for some of the driveways to be retained for trailing purposes. There is also a need for improvements such as water developments, fencing, and resting places. Driveway continuity is a localized problem which will require adjustments in tenure through exchanges and additional withdrawals.

The extensive areas of lands which were granted to the Union Pacific Railroad extending on both sides of the railroad right-of-way for a distance of approximately twenty miles creates a problem insofar as the trailing of livestock is concerned within the Divide Grazing District (Wyoming #3). The alternate sections of railroad lands do not provide for a continuity of stock driveway right-of-way. Plans are now being made to correct this situation

whereby alternate sections of railroad land will be exchanged under Section 8 of the Taylor Grazing Act for public lands elsewhere. In order to accomplish this exchange program it will be necessary to make detailed classification of all of the lands involved in such exchange. Under such a plan the Government will obtain control of lands needed for stockdriveway purposes which will provide for better supervision and control of necessary trailing operations affecting extensive areas of range lands.

#### Public Water Reserves

There are 10,280 acres of public domain lands within the North Platte Basin which are withdrawn as public water reserves. The greater part of these lands are located within the Grazing Districts in Wyoming, mostly in Carbon and Fremont Counties. Prior to the passage of the Taylor Grazing Act, when there was no regulation of unreserved public land, possession of watering places resulted in control over large areas of surrounding public grazing land. It became apparent, after stock raising enterprises were established in the Basin, that public grazing lands would be monopolized by the larger interests through control of the watering places unless steps were taken to reserve such waters for the benefit of the public. On April 17, 1926, a blanket order was made by the President known as Public Water Reserve No. 107, withdrawing the land within one-fourth mile of any spring or water hole on vacant, unappropriated and unreserved public land. It is the responsibility of the Division of Land Planning in the Bureau of Land Management to determine whether springs or water holes located on the public lands are of the type intended to be withdrawn.

The general withdrawal of public land by Executive Orders No. 6910 of November 26, 1934, and No. 6964 of February 5, 1935, as well as the orders creating grazing districts provide for blanket protection of all public land, including land containing springs or water holes. Consequently, there is now no special administrative need for reserving lands as public water reserves. All such public water reserves are under the jurisdiction of the Bureau of Land Management and a classification of these lands will be necessary in order to determine whether the lands are still needed or are now being used for the purpose for which they were withdrawn.

#### Power Site Withdrawals

There are 4,360 acres of public domain lands which are withdrawn for power sites of which 3,200 acres are located in Jackson County, Colorado and the remainder in Carbon County, Wyoming. Most of these lands are situated adjacent to the larger streams in the Basin and the lands so withdrawn are administered by the Federal Power Commission under authority of the Act of June 10, 1920 and the Act of June 25, 1910 as amended. Section #24 of the Act of June 10, 1920, provides that public land entries may be made upon these withdrawn lands provided the tracts applied for are restored to entry and the tracts entered or patented are subject to later use by the United States or its permittees for power purposes. The Federal Power Commission does not administer withdrawn areas as an administrative agency, its activities being more or less confined to the issuance of permits or licenses covering the construction of power plants and power developments. By cooperative agreement the Federal Power Commission officially consented to the issuance of



licenses, permits and leases for grazing purposes under Sections 2, 3, and 15 of the Taylor Grazing Act upon power site withdrawals subject to its issuance of permits or licenses under the authority of the Federal Power Act, and upon the issuance by the Commission of a permit or license for power purposes. Any grazing use in conflict therewith must be considered automatically cancelled. Grazing licenses, permits or leases may not be issued for land theretofore included in a permit or license issued by the Federal Power Commission for a power project. Some of these withdrawals were made many years ago and classification is necessary at this time to determine if they are still needed for the purpose for which they were originally withdrawn.

### Bureau of Reclamation Withdrawals

There are 137,341 acres of public domain land withdrawn for Reclamation purposes both under the first form withdrawal and the second form withdrawal under the authority of the Reclamation Act of June 17, 1902. The first form withdrawals embrace lands which may be needed in the construction and maintenance of irrigation projects and removes the land from the operation of mining laws; whereas the second form withdrawals include lands which are believed to be susceptible of irrigation from a reclamation project, and does not remove the land from the operation of the mining laws. Most of the public domain lands within the North Platte Area were withdrawn for the North Platte Irrigation Project, which was established many years ago and the Kendrick Irrigation Project, Wyoming. One of the largest jobs in connection with these withdrawals is to determine the acreage and location of those lands that have been withdrawn for reclamation purposes. Following this a detailed classification of each tract will be necessary to determine whether the lands are being used or are needed for the purpose for which they were withdrawn. More than two-thirds of such withdrawals are located in Natrona and Carbon County, Wyoming, of which 31,000 acres are embraced within the Pathfinder National Wildlife Refuges.

### Problem 3. Maladjustments in Management and Multiple Land-Uses

The need for a broad consideration of the concept of multiple land-use is becoming increasingly important in the North Platte Basin. Multiple land-use is "the practice that characterizes Federal land administration in the west . . . . Under multiple use no one use and no one user is granted exclusive use of any single area although he may be granted the exclusive practice of one use on an area. Multiple use is simultaneously the chief supporting argument for public ownership and management and the chief source of conflict between users and the managing agency."<sup>1/</sup>

<sup>1/</sup> J. W. Powell, report from the Lands of the Arid Region of the United States, 47th Congress, Second Session, House, Miscellaneous Document No. 45

"Federal lands in the range region may be used to grow forage for domestic livestock, as a home for game and other wild animals, to produce merchantable timber, to serve as watershed areas or recreational areas or for various specialized aspects of these broad uses or for any combination of them. Some federally-owned range land is also used for military purposes. Each use has its own particular clientele - the group particularly interested in that use. To a large extent the various uses are complementary and without conflict. Thus good range management of domestic animals does not interfere with game animals and good management of the latter probably will not interfere with domestic livestock. Timber reproduction and growth may not be impaired by conservative grazing. Good range or timber management may produce watershed conditions that are wholly satisfactory. Other illustrations of non-conflicting uses could be cited.

"But some uses do conflict and more important maximum utilization of many areas for one use impairs or reduces its value for others. If the land were owned by an individual he would ordinarily seek to obtain the maximum benefit for the use for which he was chiefly interested". 2/

Frequently the public domain in this basin has several uses, some of which conflict and others which may be compatible and subject to use in common. Some of the grazing lands support timber yet the primary use may be grazing and timber. The timber and woodland resources on public domain lands within the Basin are on lands bordering various National Forests such as Elk Mountain in Carbon County, Shirley, Pedro, Seminoe and the Ferris Mountain groups in the north part of Carbon County and the Green Mountain area in the Sweetwater Drainage of the southeastern portion of Fremont County, Wyoming. The above areas are known to support commercial stands of timber from reconnaissance studies, however, no specific timber cruising has been accomplished. Timber cruising is required to determine the location and amount of timber on the area. Most of these timbered areas are not accessible by road, making effective fire control impossible. Information indicates road development is necessary for the protection of the timber and the watershed resource of the land. The detailed investigation which will follow will determine the feasibility of construction of access roads to the timbered areas and provide the basic information necessary for the establishment of a program for the management and proper disposition of the timber resource. Here again it must be kept in mind that these timbered areas also provide for use by livestock and wildlife for grazing purposes, for recreational use by vacationers and for watershed services to the irrigation projects downstream.

The same is true in connection with recreation and wildlife uses. Game animals are a very important resource of the area particularly the Wyoming and Colorado portion of the Basin. Substantially all public domain lands are utilized in common by livestock and a large number of antelope, deer and some elk. In providing for the maximum utilization of the public domain lands consistent with the

2/ The Western Range Livestock Industry by Marion Clawson, Director of the Bureau of Land Management, Department of Interior, 1950

public interest involved, the proper balance between the available forage and the forage requirements for both livestock and game must be determined.

To obtain the optimum objective of watershed management the planning and management should be designed to restore and maintain optimum watershed conditions from the standpoint of water yield, control of siltation and sedimentation. The plans for the use of the public domain resources must include consideration of such factors as existing and potential recreational use. To achieve proper management of the range resources it will be necessary to obtain a detailed inventory of such resources in order that the harvesting of the forage crop by livestock and game animals is so managed that the fertility of the soil will not be impaired. The same objectives should provide for sustained production of a desirable plant cover thereby protecting the watersheds and contributing to the stabilization of the livestock industry.

Mineral examination are necessary to clear public land titles, to permit proper public land-use and to provide for orderly and lawful exploitation of the mineral resources on the public domain and at the same time prevent illegal usurpation of public lands under the guise of claims which are invalid. While an inventory of mineral resources is not the responsibility of the Bureau of Land Management, detailed classification studies will reveal the mineral resources of the public domain and will be carried out in close cooperation with the Geological Survey and other agencies interested in such resources.

There are twenty-two areas within the North Platte Basin delineated as oil and gas geologic structures. These areas are withdrawn from all forms of appropriation. Table 2 shows the name of the field, the county in which it is located, the area and the date of definition. The administration of lands within these known geologic structures is accomplished jointly by the Bureau of Land Management and the Geological Survey.

The irrigation developments in the area have, to a great extent, changed the entire economy of the area. Additional water developments for the irrigation of new lands as well as providing for a supplemental water supply for existing projects in irrigation districts can reasonably be expected to have a further effect upon the area economy. As previously discussed the North Platte River Basin, exclusive of the Nebraska portion, is a livestock area. Alfalfa hay and other wild and tame hay crops produced from the irrigated lands are fed to livestock for fattening or as a supplement for winter grazing. However, most of the forage requirements for livestock are obtained from range lands. Significantly in the western part of the North Platte River Basin the public domain provides the greater part of such feed requirements. Increased irrigation in the area is very likely to increase the demands for public domain grazing in making year-round operations for livestock units.

Table 2. Definition of Known Geological Structures-Wyoming

Name	Location (County)	Area (acres)	Date of Definition
Rex Lake Field	Albany	1,280	4-5-37
Quealy Dome Field	Albany	526	7-10-46
Hatfield Dome	Carbon	1,676	9-21-25
Dutton Creek Field	Carbon	918	7-26-46
East Allen Lake Field	Carbon	1,169	7-10-46
Cooper Cove Field	Carbon	240	7-26-46
Medicine Bow Field	Carbon	1,000	6-4-46
Rock Creek Field	Carbon	2,373	7-10-46
East Mahoney Dome	Carbon	3,194	8-21-45
West Ferris Dome	Carbon	720	4-9-26
Oil Springs Field	Carbon	280	7-22-46
Bunker Hill Field	Carbon	2,288	11-4-40
East Ferris Dome	Carbon	876	4-7-26
Big Muddy Field	Converse	6,427	8-20-20
Crooks Gap Field	Fremont	1,156	7-10-46
Bison Basin Field	Fremont	440	12-2-32
Poison Spider Field	Natrona	5,359	9-17-20
Midway Field	Natrona	5,032	6-1-32
Cole Creek Field	Natrona and Converse	2,360	7-26-46
Bolton Creek Field	Natrona	720	11-30-21
Boone Dome	Natrona	2,320	2-4-24
Iron Creek Field	Natrona	920	9-17-20

Virtually all the public domain lands are presently leased or allotted for grazing use and some difficulty may be encountered in readjusting these grazing privileges to the existing and ultimate base property requirements. The increased demands for grazing lands will, to a large degree, be off-set by the increase in hay and grain crops produced from the irrigated lands. Nevertheless the integration of these land-uses is necessary to provide for the further stabilization for the agricultural economy for the area. Detailed studies of the public lands and their inter-relationship to the proposed irrigation projects and providing year-round forage for livestock is fundamental to the solution of the problem.

A minor problem relating to the reclamation development program will be that of displacement of range livestock operators resulting from the construction of proposed reservoirs such as the Glendo Dam. Insofar as the public domain lands are concerned, this is a relatively insignificant problem, although some public lands will be inundated by the construction of this reservoir.

Increased demands for recreational purposes will undoubtedly arise as the full reclamation development program gets under way and will undoubtedly necessitate the integration of multiple uses on adjoining public domain lands, which may become riparian to the reservoir. Detailed examination of the public lands will reveal their contribution to the recreation resources of the area.

Prior to the passage of the Taylor Grazing Act in 1934, the public domain range lands in the North Platte Basin, as elsewhere, were seriously overgrazed and overstocked. Since the passage of this Act, the use of the public domain lands have been under regulation. There is evidence of improvement in range conditions on many parts of the area during the recent years of management and favorable period of growing conditions, however, optimum conditions on the public range lands has not yet been reached despite this program of conservation management coupled with the favorable growing years. There is, for example, in the Bates Hole area of Natrona County, Wyoming, ample evidence to indicate that excessive rates of stocking or improper seasonal use has resulted in continued deterioration of the range and soil resources. Continued over-utilization of these land resources will tend to decrease forage production in both quantity and quality. Improvement of the vegetative cover is imperative in order to reduce soil and water losses and permit the reduction of the silt load entering drainages leading to downstream reservoirs. Detailed studies are needed to determine the critical areas and set up a program of range rehabilitation which will have the following beneficial results:

1. Increase grazing capacity of the forage resources through improved range management, protection, rehabilitation and development.
2. A reduction in resource losses from plant poisoning, predators, rodents and insects.
3. Perpetuation of range and forest resources through prevention and control of fires.

4. Reduction in sedimentation through erosion and silt control practices thus prolonging the longevity of downstream reservoirs and related projects.
5. The installation of such soil and moisture conservation practices as will result in the stabilization of stream flow through proper land use and conservation practices.
6. Improve stability of ranch and farm enterprises using both the public land and associated cropland under a properly integrated land-use economy.
7. Improve wildlife habitat and hunting by the development of watering places, feeding and nesting grounds and shelter areas on the public lands.

A problem indirectly related to the problem of land-tenure and public land control is that of the need for cadastral resurveys for public domain areas where precise horizontal control is inadequate or entirely lacking. Detailed field studies will reveal the need for reestablishing and remonumentation of public survey corners in public domain areas within the North Platte River Basin. Such cadastral resurveys will prove beneficial not only for the proper administration of the public lands and the development programs thereon, but will expedite location surveys made by other public land users and Federal agencies. The Bureau of Land Management is the only agency authorized by law to make these surveys and resurveys of public land.

The problems as relate to public domain lands as discussed are, to a large degree, peculiar to the western portion of the area where the public lands lie in rather large and consolidated blocks. The public domain land within the Nebraska portion of the Basin and also the extreme eastern part of Wyoming within the Basin, lie in small and isolated tracts making effective and feasible administration by this Bureau very costly and ineffective. There has never been a study made of public lands in this part of the Basin except as applications have been received for the use or acquisition of given tracts. Aside from such cases the public lands have not been examined and no consideration has been given heretofore for management of these tracts on a broad area basis. There is a need for a long-range plan for the disposition and management of such public domain lands. In order to bring about the proper disposition and management of these tracts (sale, exchange, transfer or retention of some form of public management) the tracts will need to be examined in detail. Those public lands within this area, not needed in connection with any Federal or state program will be disposed of under appropriate public land laws.

The use values of each tract of public land must be considered and a determination made as to the highest uses in the public interest to which the public lands can be put. Recognition of possible increase of public uses must be borne in mind. A detailed classification of the public domain lands in the Basin will reveal all the possible land-uses which are best in the public interest, and will thus serve as a guide to the administrator in the management of the lands in accordance with optimum and multiple use principles.

## PROPOSALS for DETAILED STUDIES

Based primarily upon the location and density of the public domain lands within the North Platte River Basin, and specific problems peculiar to the Basin, the area has been delineated into six major areas for more detailed studies and investigations. These study areas have been designated, North Park, Colorado; Sweetwater, Seminoe, Laramie, Glendo and Lower North Platte Sub-area, Wyoming. These major study areas are shown on the map appendix and the land ownership within each is shown in Table 3.

The location, area and brief description of each study area are as follows:

### North Park, Colorado

This sub-area is coextensive with Jackson County, Colorado and embraces that part of Colorado Grazing District No. 2 situated within the North Platte River Basin. Its gross area, including State and National Forests, is 2,076 square miles or seven percent of the entire Basin; six percent of the lands administered by the Bureau of Land Management are located in this basin; and, sixteen percent of all lands within this study area are public domain lands under the jurisdiction of the Bureau of Land Management.

### Sweetwater Sub-area

This includes the Sweetwater River Drainage and the side drainages entering the Pathfinder and Alcova Reservoirs. It includes a gross area of about 3,513 square miles lying in parts of five Wyoming Counties, or twelve percent of the entire basin; forty-three percent of the lands administered by the Bureau of Land Management are located in this basin; and, sixty-nine percent of all lands within this study area are public domain lands under the jurisdiction of the Bureau of Land Management.

### Seminoe Sub-area

This includes all of the North Platte River Basin between the Colorado and Wyoming line and Kortes Dam. It embraces a total area of about 5,910 square miles in Albany, Carbon and Converse Counties, Wyoming, or twenty-one percent of the entire basin; twenty-eight percent of the lands administered by the Bureau of Land Management are located in this basin; and, twenty-eight percent of all lands within this study area are public domain lands under the jurisdiction of the Bureau of Land Management.

### Laramie Basin

This includes the Laramie River Drainage of Larimer County, Colorado and parts of Albany, Carbon and Platte Counties in Wyoming. This sub-area embraces a total of about 3,032 square miles in these two states, or eleven percent of the entire basin; eight percent of the lands administered by the Bureau of Land Management are located in this basin; and, twelve percent of all lands within this study area are public domain lands under the jurisdiction of the Bureau of Land Management.

## Glendo Sub-area

This area covers approximately 5,526 square miles lying between the Alcova and Guernsey dams commonly referred to as the "Glendo Area", or nineteen percent of the entire basin; fourteen percent of the lands administered by the Bureau of Land Management are located in this basin; and, fifteen percent of all lands within this study area are public domain lands under the jurisdiction of the Bureau of Land Management.

## Lower North Platte Sub-area

This includes the Nebraska portion of the North Platte River Basin and also that portion of eastern Wyoming which drains into the North Platte River below the Guernsey Reservoir.

As shown in Table 3 the Lower North Platte Sub-area comprises 8,443 square miles or about thirty percent of the total land area of the North Platte River Basin, of which seventy-six square miles, less than one percent of the total area comprises public domain lands. As previously stated the public land within the Lower North Platte lies in small, widely scattered and isolated parcels, making effective and efficient management on the part of the Bureau of Land Management costly and ineffective. In view thereof the public lands within this area will be disposed of to other Federal, State or private interests.

The public lands in the Glendo and Laramie study areas are comprised of both isolated parcels and relatively large blocks of public domain lands. In these study areas a program of the Bureau of Land Management, based upon preliminary studies, will consist of the disposition of those tracts too isolated for effective administration; continued public ownership and management in those areas where public domain dominates and have primary public values. The public domain land in the Sweetwater, Seminoe and North Park study areas is comprised largely of rather solid blocks of public domain lands all within Grazing Districts. Except for small and isolated tracts lying on the fringe areas, the public land in this area will be retained in public ownership for management and protection. This analysis is made primarily upon the basis of the pattern of public land ownership, although examination and classification will determine the principal suitability of the lands consistent with their most efficient administration and management as they relate to the overall public resource development program in the Basin.



Table 3. Land Ownership in the North Platte River Basin  
by

Areas Proposed for Detailed Studies, 1950 (acres) 1/

Ownership	North Park	Sweetwater	Seminole	Laramie	Glendo	Lower North Platte	Total Area
Bureau of Land Management							
Outside Grazing District	26,560	62,180	171,590	2,267,420	412,340	48,560	988,650
Inside Grazing District	177,480	1,381,220	784,890	1,680	47,680		2,392,950
Stock Driveway withdrawal	480	100,230	89,320	4,480	56,180		251,050
Public water reserve		8,760	480		1,040		10,280
Power site	3,200		1,160				4,360
<b>Total</b>	<b>207,720</b>	<b>1,552,390</b>	<b>1,047,440</b>	<b>273,940</b>	<b>517,240</b>	<b>48,560</b>	<b>3,647,290</b>
Reclamation withdrawal and Fish and Wildlife Service	15,500	44,720	51,440		23,430	2,251	137,341
National Forests	617,400	69,600	498,100	432,840	262,860		1,880,800
Total Federal Lands	840,620	1,666,710	1,596,980	706,780	803,530	50,811	5,665,431
State	75,260	178,250	219,230	154,220	425,600	359,154	1,411,714
Private	412,713	403,430	1,966,060	1,079,740	2,307,720	4,993,192	11,162,855
<b>Total Area</b>	<b>1,328,593</b>	<b>2,248,390</b>	<b>3,782,270</b>	<b>1,940,740</b>	<b>3,536,850</b>	<b>5,403,157</b>	<b>18,240,000</b>

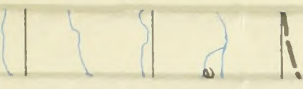
1/ Compiled from records of Bureau of Land Management, Region III, Billings, Montana  
Definition of major study areas are delineated on accompanying map.

2/ Does not include 26,520 acres which have been included in North Park sub-area.

BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225

LEGEND

ES





**LEGEND**

**BOUNDARIES**

- AREA BOUNDARY LINE
- STATE LINE
- COUNTY LINE
- FOREST AND GAME REFUGE
- STATE FOREST
- SOIL CONSERVATION DISTRICT
- GRAZING DISTRICT
- SUB AREA



**LANDS**

- PUBLIC DOMAIN
- STOCK DRIVEWAY
- FOREST
- RECLAMATION WITHDRAWAL
- PUBLIC WATER RESERVE
- POWER SITES
- CAREY ACT LANDS
- GAME REFUGE AND NATIONAL MONUMENTS
- KNOWN GEOLOGICAL STRUCTURES
- IRRIGATION PROJECTS
- MILITARY AREAS



**TOPOGRAPHY**

- RIVERS
- STREAMS
- LAKES
- RESERVOIRS
- CANALS
- DAM SITES

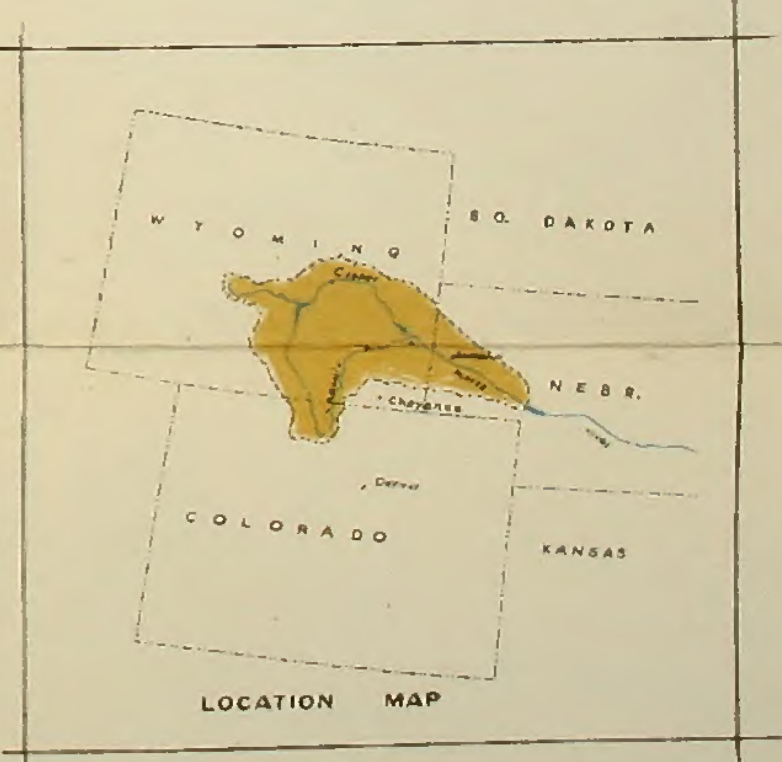
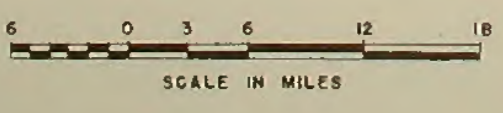


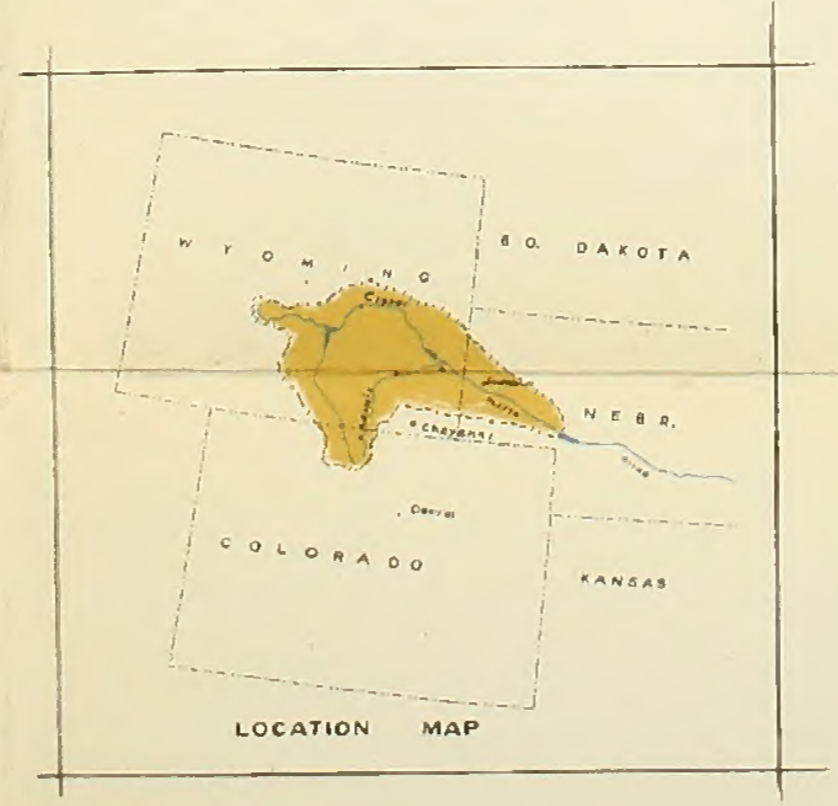
**WORKS & STRUCTURES**

- HIGHWAYS
- RAILROADS
- TOWNS



**NOTE:** ALL LANDS UNCOLORED ARE EITHER PRIVATE, STATE, OR CONTROLLED BY OTHER AGENCIES.





# NORTH PLATTE RIVER BASIN PUBLIC DOMAIN MAP

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
DIVISION OF PLANNING

WYO., COLO., AND NEBR.  
OCT., 1948

COLO. GRAZING  
DIST. NO. 2

Department of the Interior  
UNITED STATES LAND OFFICE.

BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225



R'S CARD

745 1950  
of Land  
Region III.  
land planning  
ication report

OFFICE	DATE RETURNED

(Continued on reverse)

HD 243 .C6 P745 1950  
U. S. Bureau of Land  
Management. Region III.  
Preliminary land planning  
and classification report

BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225

