The Clarks River Corridor; a land use base study
by Barbara Louise Garrett

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE in Earth Sciences (Geography)
Montana State University
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Abstract:
The Clarks Fork Corridor will potentially experience change in the future as the result of Yellowstone National Park policy and development of Wyoming State 292. To determine the use of this region at the present time the data for the United States national forests in the region was compiled. Information regarding the use of the private lands was derived by personal interviews and surveys. Forty per cent of the second home owners were personally interviewed between July 16, 1973 and July 7, 1973, and eighty-five per cent of the business operators were surveyed during this same time period. Travel patterns and use of the present road system was investigated by means of a highway survey. Road check stations were established for three days on both US 212 and the Crandall Read, and all traffic was s topped. The data acquired indicates that timber is being reservoired, mineral deposits explored (though not actively mined), and grazing and recreation use of the land is on the increase. Sixty-nine per cent of the second home owners have acquired their sites since 1963, and land values have increased in response to this demand. The Crandall Road is used as an access into the Corridor, and US 212 is basically a tourist route for Yellowstone National Park. The eighteen square miles of private property will come under increasing use pressure as change occurs.

A land use base study is the necessary basis for all land planning. This thesis provides this basis for the Clarks "Fork Corridor, an area which is currently on the threshold of change and in need of land planning.

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Bozeman, Montana

August, 1973

ACKNOWLEDGMENTS

The writer wishes to thank Mr. Robert Taylor for his assistance and guidance in the writing of this thesis. The United States Forest Service provided generous cooperation, and enrolled the writer in their volunteer program, without which the highway survey could not have been conducted. The aid provided by the United States Forest Service is greatly appreciated. The cooperation of landowners in the Corridor and numerous persons with knowledge of the area was of immeasurable help in the field.

My thanks go particularly to my husband, Phil, whose patience, support and understanding made this year's attendance at Montana State University, and this thesis possible.

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ABSTRACT

The Clarks Fork Corridor will potentially experience change in the future as the result of Yellowstone National Park policy and development of Wyoming State 292. To determine the use of this region at the present time the data for the United States national forests in the region was compiled. Information regarding the use of the private lands was derived by personal interviews and surveys. Forty per cent of the second home owners were personally interviewed between July 16, 1973 and July 7, 1973, and eighty-five per cent of the business operators were surveyed during this same time period. Travel patterns and use of the present road system was investigated by means of a highway survey. Road check stations were established for three days on both US 212 and the Crandall Road, and all traffic was stopped. The data acquired indicates that timber is being reservoired, mineral deposits explored (though not actively mined), and grazing and recreation use of the land is on the increase. Sixty-nine per cent of the second home owners have acquired their sites since 1963, and land values have increased in response to this demand. The Crandall Road is used as an access into the Corridor, and US 212 is basically a tourist route for Yellowstone National Park. The eighteen square miles of private property will come under increasing use pressure as change occurs. A land use base study is the necessary basis for all land planning. This thesis provides this basis for the Clarks Fork Corridor, an area which is currently on the threshold of change and in need of land planning.

INTRODUCTION

The Clarks Fork Corridor is a unique land area of spectacular beauty and great diversity. Yucca and sagebrush cover lowlands in the east, while tiny wildflowers edge snowfields in the tundra of the Beartooth Plateau. Jutting glaciated volcanic peaks form the horizon around timberskirted mountain meadows in the valleys. Water bodies are a dominant land feature, in the form of a multitude of streams and lakes. Wild lands contrasts with the tourist town of Cooke City.

The Corridor, straddling the valley between the Absaroka Mountains to the south and Beartooth Uplift to the north, extends eastward from the northeast entrance of Yellowstone National Park. This land area includes the national forest land of the Cooke Subunit, Gardiner District, Gallatin National Forest and Clarks Fork District, Shoshone National Forest, and integrated private property. (Figure 1, page 2)

The Beartooth Highway (US 212) from Red Lodge to Cooke City traverses the Corridor, and provides a scenic approach to Yellowstone National Park. The road is closed to through traffic from about October 15 to May 30 due to snow in the high areas. The Crandall Road, an unimproved

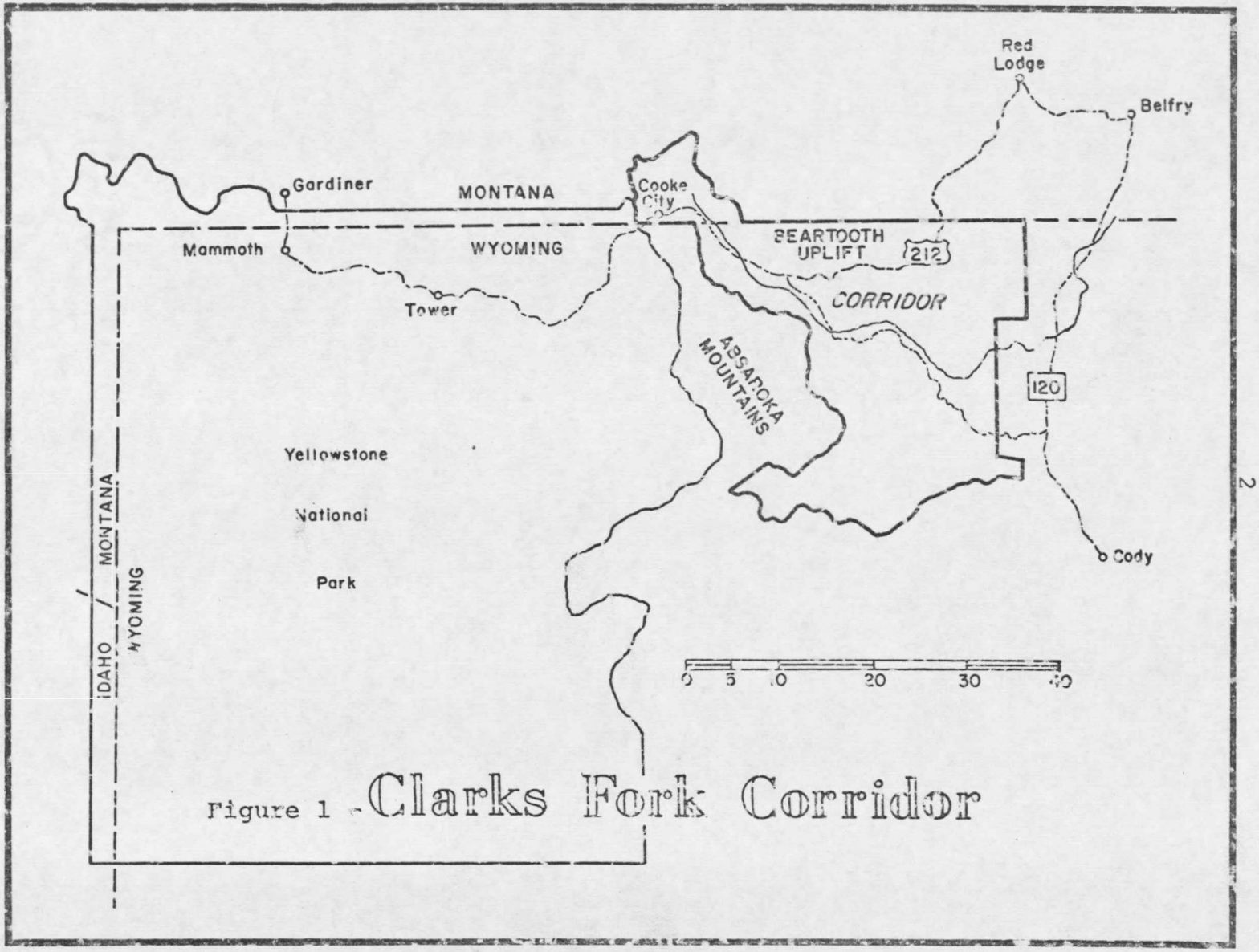

Figure 1 - Clarks Fork Corridor

dirt road, connects US 212 to Wyoming 120 providing access from Yellowstone National Park To Cody, Wyoming. This road does not provide through travel in the winter due to the closure of US 212 at Cooke Pass.

The Cooke City area, adjacent to Yellowstone National Park, provides goods and services for visitors. Most of the traffic through Cooke City is generated by its adjacency to Yellowstone National Park, and the existence of the businesses in this area hinge upon this factor.

The Problem

Most of the land of the Corridor is federally owned. The United States Forest Service compiles data on a continuing basis, of the natural resources and USFS facilities in this area. The National Forest land, however, is divided into the Gallatin and Shoshone National Forests, and is not administered as one unit. No study has been made of the Corridor as an integrated unit by the United States Forest Service; nor has any study considered the private land use. The dominant use of the area is recreational. Private lands, as well as the National Forests, are used for recreation purposes. This land use base study

will analyze the Clarks Fork Corridor as an integrated unit, including private as well as public land.

Justification

Increasing population, leisure time and mobility have increased the pressure on recreation land. Use of recreation land areas can be expected to increase. The Yellowstone Master Plan proposal and construction by the State of Wyoming of the Clarks Fork Road will encourage increased use of the Corridor and alter existing use patterns.

The Yellowstone Master Plan is a document which is intended to provide some comprehensive, conceptual direction in the ongoing process of planning for the Park. While the Park has no direct control over the adjacent gateway areas, its policies indirectly affect these areas.[1] The trend in the Park is to urge further development of overnight

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[1]Informal interview with Ted Bucknall, Resource Management Specialist, Yellowstone National Park, May 8, 1973.

facilities in the gateway areas rather than in the Park itself. Specifically, the Yellowstone Master Plan states:

> Every encouragement and assistance should be given to the development of visitor overnight accommodations outside and within an hour's driving distance of the Park. Means should be explored whereby the portal cities might receive planning and development assistance.[2]

Existing use intensity and patterns will alter with the completion of the Clarks Fork Road (Wyoming 292), which will closely follow and/or improve the present unimproved Crandall Road. The purpose of this road is to provide year around access from the Big Horn Basin into Yellowstone National Park. This would provide through access in the northeast section of the Park as well as year around road facilities in the Corridor. The Yellowstone Master Plan states:

> Construction by the State of Wyoming of the Clarks Fork Road from Cody to Cooke City will cause a shift in visitor-use patterns. As this occurs, studies should be initiated to determine levels of visitors facilities, both for winter and summer operations in the northeast section of the Park.[3]

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[2]United States Department of the Interior, National Park Service, Yellowstone: Master Plan. (Yellowstone National Park, Wyoming: National Park Service, 1971), p. 29.

[3]Ibid, p. 32.

The area served by the Crandall Road presently serves as a local recreation area. Development of the Clarks Fork Road will result in a sharp increase of tourist through traffic and alter use patterns.

The Clarks Fork Corridor is poised on the threshold of change, and understanding the use of this area now will aid in improved policymaking and provide a basis from which change can be measured in the future.

DESCRIPTION

Size

There are 377,441 acres in the Clarks Fork Corridor, or approximately 588 square miles. Of this, 12,110 acres are privately owned, or less than 4 percent of the total area. Shoshone National Forest, Wyoming, contains 330,331 of these acres and approximately 35,000 are in the Gallatin National Forest, Montana. (Figure 2)

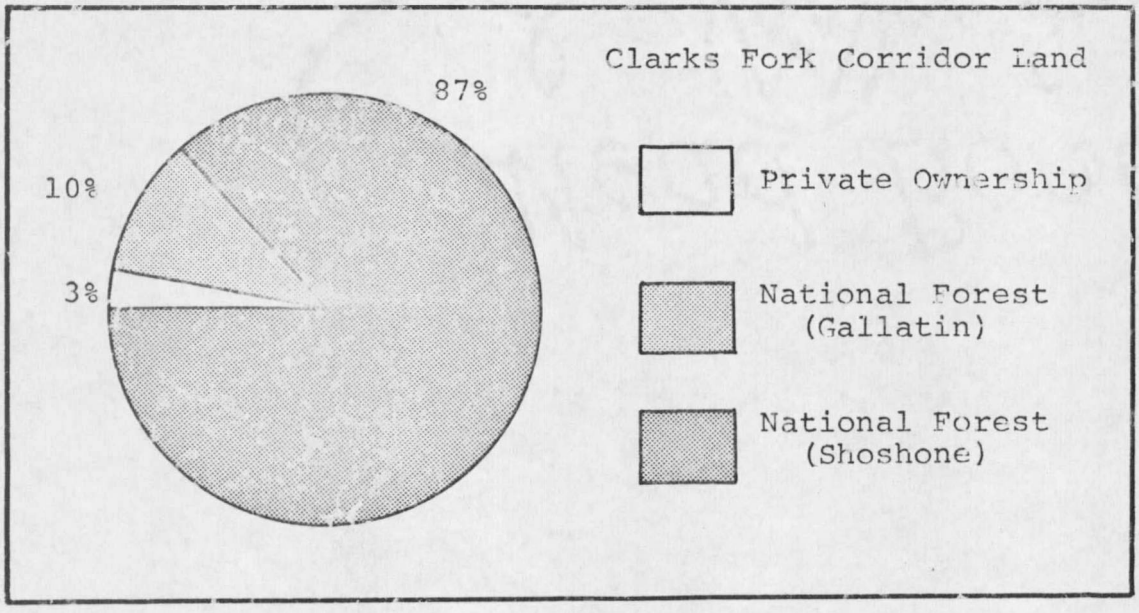

Figure 2. Land Ownership

Landforms

Elevations of the Corridor vary from 4,450 feet on the eastern border by the Clarks Fork River to over 11,000 feet along the north and south boundaries. Near the northeast corner of the Corridor the Beartooth Plateau meets the Absaroka Mountains and extends eastward. Along the west side, the Absarokas rise above the drainage valleys of the Clarks Fork of the Yellowstone River and its main tributary, Sunlight Creek. The twin peaks of Pilot and Index (Map I) located a little over a mile south of the Montana-Wyoming

Photograph 1. Pilot and Index Mountains: Viewed from the Clark Fork at the Yellowstone River.

stateline on the Corridor's western border, form a landmark and create the most photographed scene in the Corridor.

Photograph 2. U-Shaped Valleys: Viewed from Near Beartooth Pass.

Glacial action has shaped and molded much of the Corridor. The valleys of the Clarks Fork River and Sunlight Creek have the characteristic U-shape resulting from alpine glaciation. In the fork area between the Clarks Fork River and Sunlight Creek volcanic cones dominate the landscape. Sunlight Basin is in the southern part of the region, and was named such because it was so inaccessible and only

sunlight could reach it.[4] The Absaroka Mountains enclose this basin. The eastern side of the area south of the

Photograph 3. The Clarks Fork Corridor: Viewed from the top of Dead Indian Hill.

Clarks Fork River is dominated by Dead Indian Hill, over which passes the Crandall Road, and Bald Ridge, which extends from Dead Indian Hill to the river. (Map I)

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[4]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

The Clarks Fork Corridor is a valley - which lies east-west between the Beartooths and the Absarokas.

Climate

Climate in the Clarks Fork Corridor varies sharply with elevation. In the easterly lowland areas semi-arid conditions prevail while semi-humid conditions exist at higher elevations. Long, harsh winters occur in the high country and exert their influence throughout the region.[5] The northwest section of the Corridor is above 7,000 feet and has snow depths from five to six feet for prolonged periods. Access over Beartooth Pass (10,940 feet) normally stops in October. Dead Indian Hill provides the most snow-free access in the winter months; however, it is susceptible to drifting and is not plowed on a daily basis. Mean average annual precipitation varies from close to 10 inches in the east river area, increasing westward and with elevation to over 30 inches.[6] Snowfall contributes less than 15 percent

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[5]Cf. ante, p. 14.

[6]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

in the drier, lower areas and more than 50 percent in the wetter, higher areas, to this annual precipitation. Temperatures vary with elevation and situation. There is an average 65-day frost-free period and an average yearly temperature of 38° F at Crandall Creek, which is situated in the valley near the center of the Corridor. (See folder, Map I) Extremes recorded at this station are -49° F and 95° F. Winter temperatures of -20° to -40° F are not uncommon in Cooke City. Mid-winter thaws occur throughout the area. Northwest, west and southwest winds prevail. Gusts of 100 m.p.h. have been estimated during winter and spring storms in the canyon of the Clarks Fork at the east border. This factor has terminated the development of proposed Wyoming 292 along this route. Fresh mountain air prevails throughout the Corridor.

Vegetation

Vegetation in the Corridor reflects climatic variation. Yucca and sagebrush areas occur in the canyon of the Clarks Fork. Various species of grasses and sagebrush dominate the landscape in the valley areas of the Clarks Fork River and Sunlight Creek, broken by timberland.

Cottonwood, birch, aspen and other broadleaf deciduous species mark streams.

Photograph 4. The Clarks Fork Canyon: Beartooth Mountains to the right and Bald Ridge to the left. Red vehicle at the lower right provides scale.

Evergreen forests cover much of the region, rising from the valley floors to timberline in the high country. Lodgepole Pine, Engelmann Spruce and Douglas Fir are examples of species which occur in this area. The Krummholz or crooked wood ecosystem blends the timberlands into the tundra, and bears witness to the elements which forbid

Photograph 5. Timberline: Krummholz Ecosystem along the Beartooth Highway.

extension of the timberline. Much of the Beartooth Plateau is tundra land and covered with a low, mat-like turf of grasses and alpine flowers. One of the most attractive features in the Corridor is the multitude of wildflowers everywhere - from tall grassland daisies to tiny high country blossoms which mesh to form a continuous carpet.

Water

Water in the Corridor is generally very pure; to such an extent that lack of nutrients and cold temperatures can deter aquatic life. A notable exception to area water quality is in the mining district near Cooke City. Most lakes occur along the northern edge of the Corridor at an elevation from 9,000 to 11,000 feet.[7] Streams have steep gradients in their upper reaches with many waterfalls and awesome stretches of whitewater rapids; and often are located in narrow U-shaped glaciated valleys. The lower reaches are marked by lower gradients and meandering patterns. Game fish include cutthroat trout, rainbow trout, brown trout, brook trout, golden trout and grayling. Grayling are uncommon in the region.

Wildlife

Big game hunting is an important feature of the Corridor. Elk, moose, Bighorn sheep, deer, black bear and grizzly bear are of interest to the sportsman. Small populations of mountain goats, wolves, and mountain lion reside here; and golden eagles are fairly abundant.

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[7] Ibid.

Picket pins and rock chucks appear to be skuttling everywhere. Geese and various species of ducks are scattered in the area with Swamp Lake as a major nesting site.

Cultural Features

Most of the ranch sites and second homes are not visible to the passing traveler. Basically, the Clarks Fork Corridor is a semi-primitive area with little evidence of

Photograph 6. Cooke City, Montana: Tourist town near the Northeast Entrance to Yellowstone National Park.

man's influence. The notable exception to this is the Cooke City Silvergate area.

Largely uninhabited, the region provides an uncrowded, accessible environment for vacationers. Scenery, wildlife and climate attract visitors into the area in ever increasing numbers.

HISTORY

Man's influence in the Clarks Fork Corridor has fluctuated greatly through time. For early native man, this was a land to hunt in and to live with. For the white man the Corridor was initially a place to trap furs, and later to run cattle or try to strike it rich by finding a vein of gold or silver. Many activities and uses of the land have evolved in the last century so that today the Corridor is a place to enjoy recreational time, graze stock, derive timber, explore for minerals, or serve the visiting tourist.

Archeological excavation indicates habitation of the Corridor by Indians for several thousand years before the arrival of white men. The Dead Indian Archeological Site, two and one-half miles south and one mile west of the Sunlight-Clarks Fork Stream junction, indicates habitation about 4,500 years ago. Two tribes have been identified, the Blue Bead and the Red Bead, of which little is known other than one tribe preferred blue beads and the other red beads. The Sheepeaters marked the landscape with tepees made of poles, brush and bark, several of which can be found within the region today in well-preserved condition.[8] It has been estimated that some of these structures

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[8] Ibid.

are 200 years old. Most of the Corridor area, in all likelihood, was probably used by various native people at various times for hunting purposes.

Apparently the earliest settlement occurred in the late 1850's when Pat O'Hara, a trapper, built a cabin in the southwest corner of the Corridor. A stockade was built, presumably before 1870, on the Beartooth Plateau above the Clarks Fork Canyon. Made of huge logs, the structure is nine feet high and fifty feet in diameter. Some logs were crudely worked while others were cut with an axe, and work appears to have been done by both natives and white men.[9]

The earliest recorded exploration of the northwest corner of the Corridor occurred in 1869 when Adam "Horn" Miller, Bart Henderson, J. H. Moore and James Gourley, four trappers, were on an expedition in the area and had their horses stolen near Cache Creek. Escaping on foot they headed northeast and stumbled onto the maganese-stained outcrop near Republic Mountain by Cooke City and panned a little gold. From here the party went on to the Crow Agency at Columbus and reported the Cooke City area as a

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[9]Ibid.

promising mining district.[10] Miller Mountain and Henderson Mountain north of Cooke City derive their names from two of these adventurers.

Claims were staked sometime within the next five years on Republic and Miller Mountains, although the area was still part of the Crow Indian Reservation. Pick and Plow, a Bozeman newspaper, published glowing reports of the mining near Cooke.[11]

It is known that during this period marauding bands of Indians and possibly horsethieves who moved stolen stock from Wyoming to Montana, still traveled through the Corridor. On or near July 1, 1870, a prospector, Jack Crandall, for whom Crandall Creek is named, and his partner were murdered and decapitated near the present Crandall Road by unknown persons.[12]

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[10]Lovering, T. S., The New World or Cooke City Mining District, Park County, Montana (Contributions to Economic Geology, 1929: United States Geological Bulletin 811, Washington: Government Printing Office, 1930), p. 44.

[11]Hansen, Virginia and Al Funderbunk, The Fabulous Past of Cooke City (Billings: Billings Printing Company, 1962), p. 3.

[12]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

A smelter was built near Cooke in 1875 and ore from Miller Mountain was reduced to silver-lead bullion. It is hard to determine the amount of ore smelted since the records were destroyed and bullion stolen, presumably to be converted into shot by the Nez Perce Indians in 1878.[13] They passed through the Corridor during Chief Joseph's famous run for Canada, burning the smelter and sending the miners scurrying into the hills.

In similar fashion the Bannack Indians led by Chief Elk Horn broke from their Idaho reservation in 1878 and came through the Corridor much as had the Nez Perce. It was in the Corridor that the army caught up with Chief Elk Horn and his band, and it is from the ensuing battle that the names Bennett Creek, Little Rock Creek, and Dead Indian Hill are derived. Captain Bennett and a Crow scout, Little Rock, were both killed.[14]

Cooke City gained its name in 1880 when George Houston bonded the Republic to Jay Cooke. Jay Cooke subsequently lost the property after the town acquired his

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[13]Lovering, T. S. op. cit.

[14]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

name.[15] The year 1882 proved to be eventful for the area. On April 13 the district was cut off from the Crow Reservation and thrown open for settlement. The first four-horse team was driven into Cooke from Gardiner; previously all goods were packed in on horses.[16] The Sheridan Trail (present Beartooth Highway) was established by General Sheridan over the Beartooth Plateau.

In 1883 the townsite of Cooke City was platted, making it the oldest town in Park County.[17] The miners were pressing for development of a railroad spur to the town so ore could be hauled out. The Livingston Enterprise reported in 1885:

> Congress expired without doing anything more with the (Park) bill . . . Congress objected to allowing the railroad to pass over public domain and it was asked that the Park boundaries be changed to allow the railroad to pass over public domain. But suspicions of jobbery entered the minds of the senators and they would not agree.[18]

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[15]Lovering, op. cit., p. 45.

[16]Ibid.

[17]Wolle, Muriel Sibell, Montana Pay Dirt: A Guide to Camps of the Treasure State (Denver: Alan Swallow, 1963), p. 392.

[18]News Item in Livingston Enterprise, March 7, 1885.

Cooke City again tried to get a railroad spur in 1908, when both the Stillwater and Boulder River areas were surveyed,[19] but this attempt also ended in defeat.

Homesteads were established in the Wyoming section of the Corridor in the 1880's, and some prospecting occurred although little is recorded. A camp was located near the Crandall Bridge on the Clarks Fork; (Map I) however, little evidence still remains. Near the tip of the Corridor's southwest thumb a few mining claims exist; however, most of the private land was removed from public domain by patent claim in Montana and homestead in Wyoming.[20]

The mining activity near Cooke City fluctuated after 1888. Activity lagged because of financial conditions and accessibility problems. Various promotional schemes would bring new activity to the area for short periods of time, the evidence of which can be seen north of Cooke City today. From 1901 to 1923 production in the New World Mining District was valued at $215,000. No records exist between 1886 and 1901; however, 1886 records

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[19]Wolle, Muriel Sibell, op. cit., p. 394.

[20]Park County, Montana, and Park County, Wyoming, Tax Assessment Files.

records showed production valued at $104,870 for that year.[21]

The first tourist camp was established in Cooke City in 1921. This was the Shaw Camp which exists as a resort today. Dude ranches developed along the Clarks Fork and Sunlight. In the early days of the recreation business normal guest stays averaged six weeks, and pack trips were arranged and rodeos staged for the visitor. Once mining activity declined and the tourist industry began to develop, the Corridor slowly evolved to the character it has today. Mining interests sporadically caused a few changes after the twenties, as when the upper reaches of the Sunlight road were completed to reach a claim in 1949; however, change in the land and growth has been oriented toward recreation.[22]

The Clarks Fork Corridor has a romantic history of cowboys and Indians, and legends of lost gold. The century-old history has shaped the Corridor today with mines, ranchland and an industry designed to serve the visitor.

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[21]Lovering, T. S., op. cit., p. 48.

[22]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

RECREATION

Recreation is a key value in the Clarks Fork Corridor and has been identified as such, along with scenery and wildlife, in the Final Impact Statement for the Clarks Fork Road.[23] Recreation is presently an important use of the Clarks Fork Corridor, and, following national trends, increased emphasis on this use can be expected in the future.

The recreational opportunities in the Clarks Fork Corridor are as varied as the land itself. With 97% of the Corridor land in national forests, the emphasis is on outdoor recreation. The towns of Cooke City and Silver Gate provide only very minor indoor facilities, with the only facilities of any note being one swimming pool and one dancehall. Recreational activities have historically occurred during the summer season; however, the advent of snowmobiling and cross-country skiing has generated considerable winter activity in the last five years. Scenery, fishing, camping and big game hunting are important attractions, while a multitude of other activities such as backpacking, mountain climbing, downhill skiing and photography

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[23] Wyoming State Highway Department, Final Impact Statement: Wyoming Highway Project FLH 18-4 Clarks Fork Canyon Road (Wyoming State Highway Department: Cody) April, 1973.

contribute to the use of the area. Public and private facilities in the Corridor combine to offer the visitor accommodations ranging from comfortable lodges to cold water campsites. In essence, the outdoor recreation opportunities are as varied as the visitor's imagination, and the facilities cater to many tastes.

Public Land Recreation

There are presently 12 campgrounds, two boat launching sites, three ranger stations which serve as visitor information centers, one outdoor amphitheater, and numerous trails, vista points and fishing access sites in the Clarks Fork Corridor.[24] (Map II) The most heavily used facilities are located along the Beartooth Highway,[25] which is an access route to Yellowstone National Park.

Yellowstone National Park is the major attraction which draws people through the Corridor over the Beartooth Highway. While use of our national parks is on the

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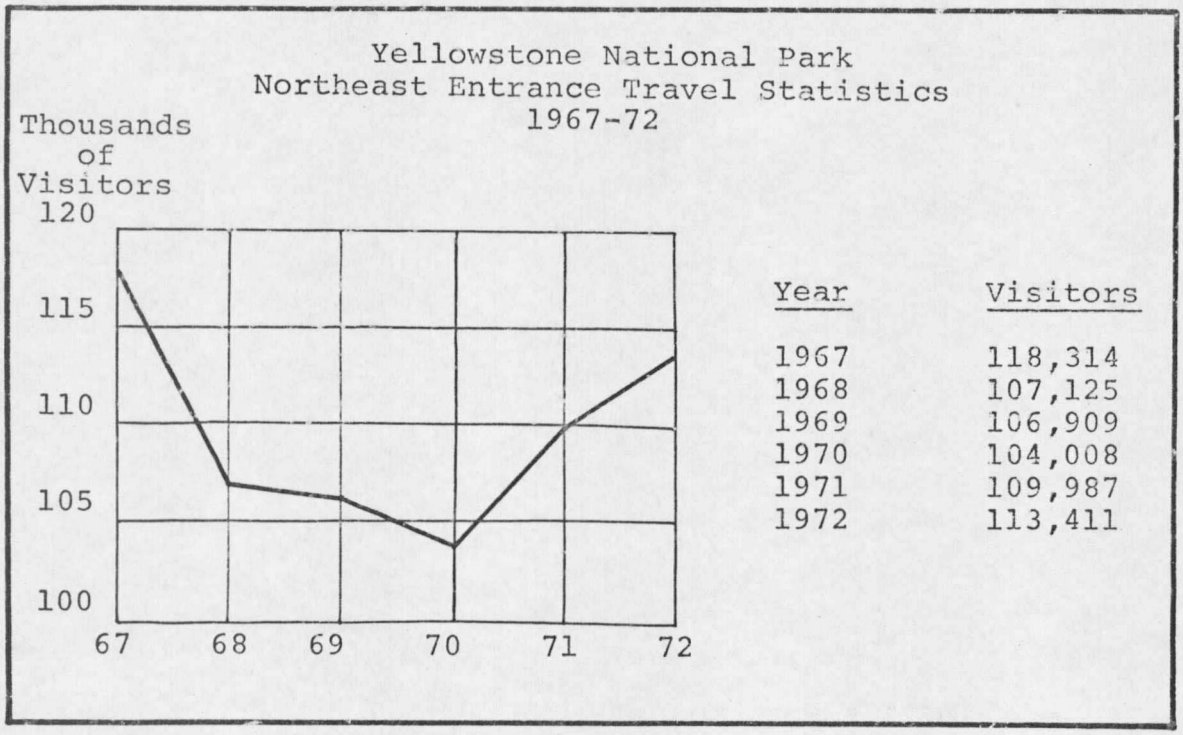
[24]Gallatin National Forest and Shoshone National Forest RIM Records.

[25]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

increase, individual years fluctuate. Travel through the northeast entrance to Yellowstone National Park has 10 percent range of variance. (Figure 3) Since 1961, 100,000 visitors have entered Yellowstone National Park annually via the Northeast Entrance.[26]



Year	Visitors
1967	118,314
1968	107,125
1969	106,909
1970	104,008
1971	109,987
1972	113,411

Data from Yellowstone National Park Annual Travel Reports

Figure 3. Yellowstone National Park Northeast Entrance Travel Statistics, 1967-72

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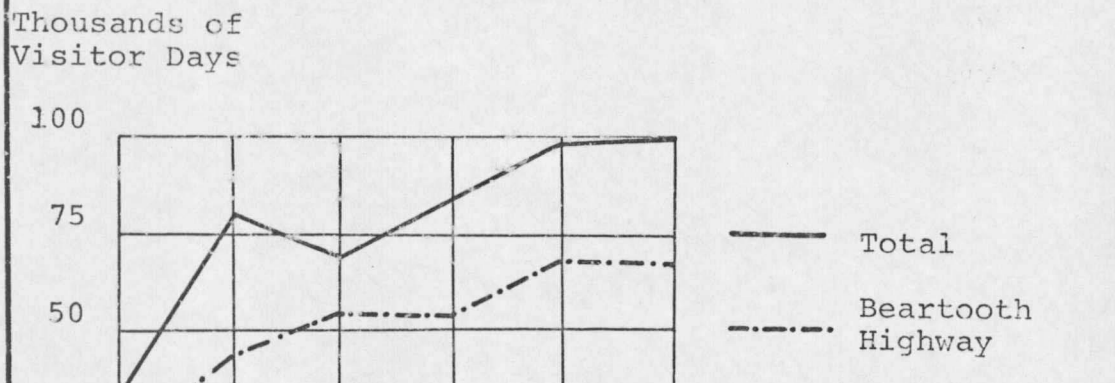
[26]Yellowstone National Park Annual Travel Reports, 1960-1972.

Campgrounds are the most used public recreation facilities in the Clarks Fork. Those campgrounds along the Beartooth Highway serve as bedrooms to the Park, (Table I) though their use has not reflected the variability of the northeast entrance. (See Figures 3 and 4) While the

Clarks Fork Corridor
Campground Use Data
1967-72



Visitor Day Use in Thousands

	1967	1968	1969	1970	1971	1972
U.S. 212	12.4	35.3	16.7	25.2	29.0	29.5
Crandall Road	22.2	44.7	54.0	59.6	70.8	70.5
Total	34.6	80.0	70.7	84.8	99.8	100.0

Data from Gallatin and Shoshone Nat'l Forest Use Records

Figure 4. Clarks Fork Corridor, Campground Use Data, 1967-72

number of travelers over the Beartooth Highway may vary, camping is on the increase and popularization of traveling with pickups and trailer campers is reflected in campground use. In 1971 and 1972 about one third of the total camping was trailer camping, up from one fourth in 1967 and 1966.[27]

While use of National Forest campgrounds has been on an increase along the Beartooth Highway, use of these facilities along the Crandall Road has fluctuated and increased at a slower rate. Construction on the Clarks Fork Road from the Beartooth Highway junction to the Clarks Fork Bridge began in 1969, and disruption of campground use resulted. This is graphically illustrated in Figure 5, page 30. Because of this construction, it is difficult to determine if any trends are being established at the present time or the extent of the construction influence. Within

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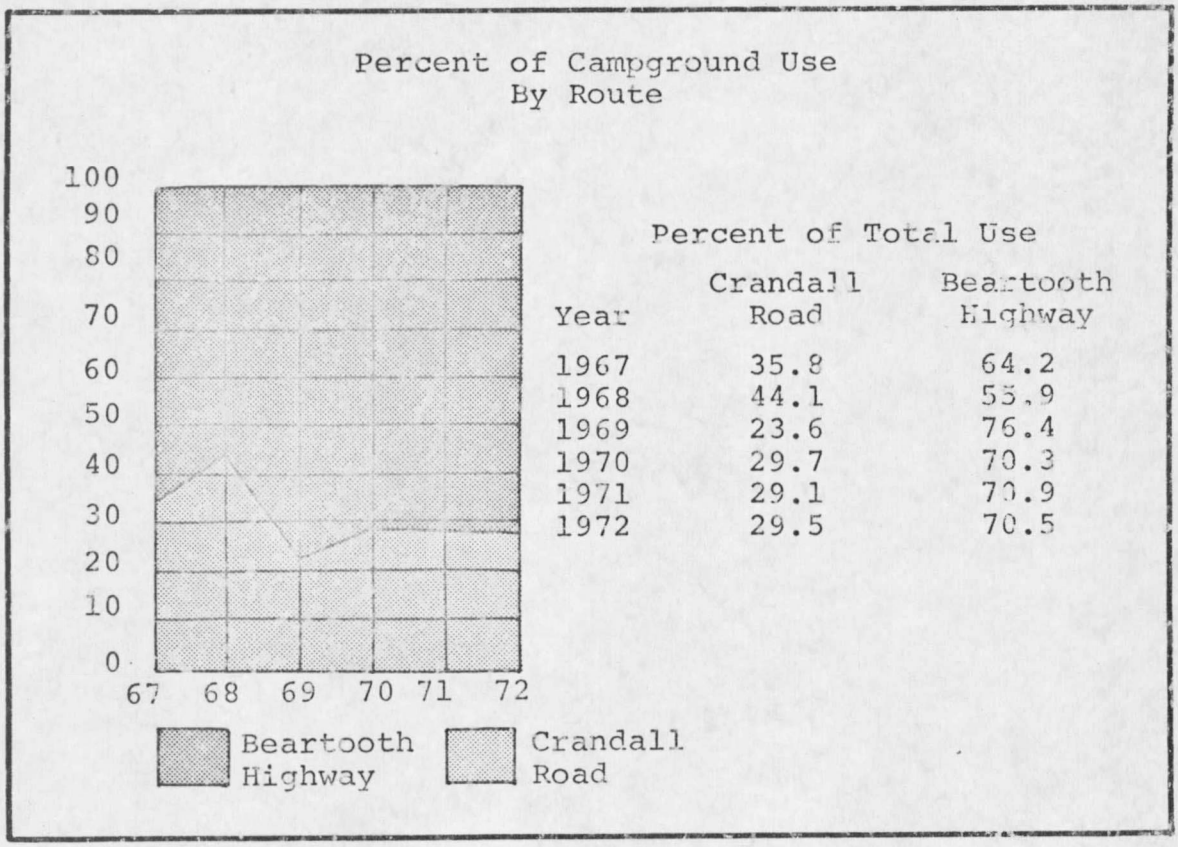
[27]Gallatin National Forest and Shoshone National Forest RIM Records.



Percent of Total Use

Year	Crandall Road	Beartooth Highway
1967	35.8	64.2
1968	44.1	55.9
1969	23.6	76.4
1970	29.7	70.3
1971	29.1	70.9
1972	29.5	70.5

Figure 5. Percent of Campground Use by Route

the past six years the Crandall Road campgrounds percent of total use has declined, even though use of these campgrounds has doubled. (Figure 5 and Table I) Current construction projects will be completed in late summer

TABLE I. CLARKS FORK CORRIDOR CAMPGROUND DATA

Campground	Location*	Normal Season	Persons at One Time Capacity	Theoretical Season Capacity Visitor Days	1972 Visitor Days	Percent Capacity
Chief Joseph	US 212-GNF	7/1-9/15	30	4,620	2.3	49.8
Colter	US 212-GNF	6/15-9/15	172	21,390	4.7	21.97
Soda Butte	US 212-GNF	6/15-9/15	105	19,530	10.7	54.78
Beartooth Lake	US 212-SNF	6/15-10/15	80	19,680	15.3	77.7
Crazy Creek	US 212-SNF	6/1-10/15	80	13,100	14.1	107.6
Fox Creek	US 212-SNF	6/1-10/15	135	36,990	6.3	17.0
Island Lake	US 212-SNF	7/1-10/15	85	18,190	17.1	94.0
Dead Indian	Crandall Road SNF	5/15-10/15	65	20,020	7.7	38.5
Hunter Peak	Crandall Road SNF	5/15-10/15	45	13,860	9.0	64.9
Lake Creek	Crandall Road SNF	5/15-10/15	30	9,240	9.9	107.1
Reef Creek	Crandall Road SNF	5/15-10/15	20	6,160	.5	8.1
Sunlight Picnic Ground	Crandall Road SNF	5/15-10/15	25	7,700	2.4	31.2

*GNF - Gallatin National Forest; SNF - Shoshone National Forest.

**Use of campgrounds for picnics is included in all data; therefore, Sunlight Picnic Ground is also included.

Data from Gallatin National Forest and Shoshone National Forest Use Records

1973 along this section of the Crandall Road; however, tentatively, bids will be let for an additional section in the near future and in all likelihood construction conditions will exist along this road for several years to come.

Chief Joseph Campground is closed this year, 1973, and will tentatively remain closed. It is proving to be uneconomical for the Forest Service to operate small campgrounds such as this one and current budget restrictions necessitate this action. The Forest Service is adopting policy similar to that of Yellowstone Park to meet its needs inasmuch as it wishes to encourage private development of campgrounds and other recreational sites.[28]

At the time of the Clarks Fork District Inventory, 39 areas of the Shoshone National Forest in the Corridor were identified as potentially feasible campground sites. (Map II) Seven of these sites occur along the undeveloped Clarks Fork Highway and over 500 acres is involved in

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[28]Informal interview with Pat Finney, District Forest Ranger, Clarks Fork District, United States Forest Service, March 2, 1973.

these 39 inventoried sites.[29] Development of these sites would provide accommodations for over 9,500 people per night;[30] however, it is reasonable to assume this type of development will not occur. The Forest Service presently is in an era of cutback, not expansion, and financial constraints are being reflected in the Corridor today. It is questionable whether or not the Corridor has the capacity to withstand the impact full development of this nature would create, and intensive studies regarding the possible impact would need to be undertaken before development occurred.

While campgrounds serve as focal centers around which most public recreational use of the Corridor occurs, there are several other facilities worthy of comment. Island Lake and Beartooth Lake have boat launching sites; these two lakes are capable of supporting 11 and 15 boats, respectively, at a density of one boat per ten acres.[31]

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[29]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

[30]Ibid.

[31]Ibid.

Kersey Lake has a private commercial operation under special permit which offers boat rentals to the public. There is little awareness of this service, and it is largely unused. An outdoor amphitheater in Cooke City has a capacity of 125 people,[32] and campfire programs, which are fairly well attended, are offered to summer visitors by the Forest Service. Two ski camps located near Beartooth Pass and Henderson Mountain, north of Cooke, have operated in the Corridor during June and July under special permit for the past several years. Instruction offered varies from beginning classes to downhill racing. The Spalding All-American Camp, centered in Cooke City, has annually brought close to 300 skiers into the area[33] and generated local business, while Red Lodge serves as the center for the Beartooth Pass activity. In addition to the use of these specific sites, the Corridor has much fishing access sites, vista points and trails which lead into the back country.

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[32] Ibid.

[33] Cooke Subunit, Gardiner District, Gallatin National Forest, office files.

Public recreation use in the Clarks Fork Corridor h has increased at a rate of seven percent annually,[34] and continuance of this rate would result in doubling use of public recreation facilities in the Corridor within the next decade. Regardless of any specific projections, it is evident recreational land use in the Corridor is on the increase -- it is an important use now and will be more so in the future if present trends continue.

Private Land Recreation

The Clarks Fork Corridor has 89 second homes, and a sales and service industry designed to serve tourist trade. To determine the use of the second homes and the nature of the business community, 40 percent of the second homeowners and 85 percent of the business operators were interviewed between June 16 and July 7, 1973. Time constraints negated the possibility of surveying a larger percentage of second homeowners, since many visit the area during other time periods. Limitations of the business survey are discussed on page 41.

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[34]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

Second Homes - Second homeowners currently are the largest, most visible group of landowners in the Corridor.[35] Survey data indicates that second home sites average 4.86 acres, and 68 percent are one acre or less. (See Table II) These sites are centered around Cooke City and three subdivisions near Crandall Bridge. (Map I)

Sixty-nine percent of the second home sites have been purchased since 1963, and as a result, land values have increased. Discussion with realtors and bankers suggests that in 1963 undeveloped second home sites of one acres or less sold for $1,000 to $2,000, while in 1973 similar sites are valued at $5,000. Value varies with situation and size. Land value is higher in the Cooke City area than near the Crandall Bridge, and lowest in Sunlight Basin. This variation is the result of accessibility and climate. Sixty-two percent of the second home sites were purchased as undeveloped property, while 38 percent were developed sites.

Sixty-three percent of the second homeowners are from Montana and Wyoming, while California owners rank third. (See Table II) Over half first visited the area prior to 1953, which indicates that most second homeowners are

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[35]Ownership of mineral claims may exceed second home ownership; however, there is presently no active mining.

familiar with the area prior to purchasing. These residents were first introduced to the region as a result of vacation trips, employment, and fishing and hunting excursions. When asked why they selected a site in this area, 46 percent simply replied "because we liked the mountains."

Fishing, hiking, hunting, snowmobiling, horseback riding, carpentry, and simple relaxation are common activities which owners enjoy. Few use Yellowstone National Park as an area for outdoor recreation, rather they utilize the public lands within the Corridor; and though the Corridor was selected as a site for a recreation residence, it is not considered a place to retire.

There are two basic types of usage, weekend use and visits of one month or more. Many residents come and stay for the summer. Thirty-five percent have average

TABLE II. SECOND HOME STATISTICS

Site Statistics			
Size of Site		**Site Purchased**	
Average Acreage	4.86	1968-1972	46%
Less than 1 Acre	38%	1963-1968	23%
1 Acre	30%	Prior to 1963	31%
Development of Site at Time of Purchase			
Undeveloped Land	62%		
House on Site	38%		

Owner Statistics			
Home Site		**Year of First Visit to the Corridor**	
Wyoming	33%	1963-1973	5%
Montana	30%	1953-1963	36%
California	17%	Prior to 1953	56%
First Visit Purpose		**Reason for Choosing Site in Corridor**	
Vacation	35%	Mountain Setting	46%
Employment	24%	Land Availability	10%
Fish/Hunt	15%	Isolation	11%
All Others	26%	Fishing and Sports Opportunities	5%
		All Others	27%

TABLE II. SECOND HOME STATISTICS (Continued)

Activities Participation	
Fish	38%
Site Improvement	13%
Hike	10%
Hunt	8%
Snowmobile	7%
General Relaxation	6%
Horseback Ride	5%
Photography	2%
All Other	11%

Area Use	
Park and Corridor	22%
Only Corridor	78%

Considered Second Home for Retirement Site	
Yes	33%
No	66%

Use of Site Statistics

Average Annual Visits	
1 Visit	32%
1-20 Visits	33%
+20 Visits	35%
Average No. Visits	14

Average Length of Visits	
1-3 days	35%
3 days - 1 week	14%
1 week - 2 weeks	5%
2 weeks - 1 month	11%
Greater than 1 month	35%

Rank of Season Popularity
1 - Summer
2 - Fall
3 - Spring
4 - Winter

Change in Use	
Increase	60%
Decrease	8%
Same	32%

Use of Site by Other Families	
Sites Used by Others	51%
Average No. of Other Families	2.16
Average Length of Visits	Less than 2 weeks

stays of 1-3 days, and 35 percent have stays in the greater-than-1-month category. Half of the second homes are used by more than one family.[36] Homes with this multiple factor average 2.16 additional families. These additional families average one visit of less than two weeks.

At present rates of development, five summer homes are being built in the Corridor annually, and land value is increasing. Development of the Clarks Fork Road would further increase land value and encourage speculation.

Several meetings with the landowners in the Clarks Fork Corridor have been held by the Park County, Wyoming, Planning and Zoning Commission in an attempt to control land speculation and further subdivision of property. Landowners expressed the feeling that a lot size of five acres minimum was necessary to protect and maintain a desirable environment, and possible resolutions are presently being considered by the Zoning Board.[37] Action regarding this

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[36]The homeowner is not on the site at the time of these visits.

[37]Correspondence with Park County Planning and Zoning Commission, April, 1973.

matter will tentatively be completed late Fall, 1973. There is no action similar to this occuring at the present time in Park County, Montana. The most recent subdivision approved by Park County, Montana, Commissioners in the Fall of 1972 provided for twenty lots on a fifteen-acre site.[38]

Sales and Service Industry - Five dude ranches and one trailer park, operated in conjunction with a dude ranch, are located along the Crandall Road. The dude ranches have generally changed from operations frequented by guests who stayed a month or more to more short-term visitations since the time of their origins. Fishing, hiking and horseback riding opportunities are offered by all of the dude ranches. In addition, three of them offer hunting guide services.

The sales and service industry, centered around Cooke City, serves the tourist trade.[39] Fifty-nine percent of the businessmen own and operate their business. The remaining 41 percent are partnership, corporation, or

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[38]Park County Courthouse, Livingston, Montana, land records.

[39]It is this area which was surveyed; inasmuch as the dude ranches along Crandall Road are so few in number and variable, significant data could not be established. Outfitters were excluded for the same reason, and in addition not all outfitters who use the area are centered in it.

single owner/manager operations. Sixty-seven percent of the business are seasonal only, with an average season from June 1 to September 15. July to August is the peak season for all businesses concerned. Year-round operations report the development of winter business caused by snow-mobiling and cross-country skiing activity.

The average businessman has operated his business for nine and one-half years. Twenty-five percent have entered their business since 1968, and 16 percent have owned their business since 1948. Only 35 percent of the businessmen derive their sole income from their operations. Over half cited preference of the area because of its aesthetic appeal and sports opportunities, as their reason for entering the community. Only 22 percent had experience in a related field prior to their present occupation.

The businessmen estimate that an average of 75 percent of their customers are Yellowstone National Park visitors; sightseeing, fishing, hunting, camping and snow-mobiling activities bring their other customers to the area. Business has generally increased 10 percent annualy as a result of increased travel in the area and modernization of facilities.

In addition to continual improvement of facilities, sites have been consolidated. The average businessman has increased his acreage by 76 percent since the time of initial purchase. Use of sites at the time of purchase normally remains the same, although buildings may be replaced, repaired or added on to.

Fifty-two percent of the establishments offer more than one type of sales and/or service. There are three lodging-dining-bar complexes in the area; in addition, various combinations of sales and services are offered. Thirty-seven businesses provide 59 separate sales and services.[40] (See Table III)

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[40]Numerous incidental items are not included in this tabulation. Often out of necessity, the community has integrated facilities where feasible and as a result a restroom complete with barber chair, coin operated laundry facilities, and shower does not surprise frequent visitors.

TABLE III. BUSINESS STATISTICS

No. of Business Sites		No. of Sales and Services Offered	
Cooke City	22	Lodging Accommodations	20
Cooke Pass	4	Dining Facilities	9
Silvergate	11	Service Stations	8
		Trailer Parks	5
		Grocers	4
		Bars	4
		Curio Shops	4
		Miscellaneous	5

Although the Northeast entrance is the least-used entrance of Yellowstone National Park, the Cooke City area does not have the lowest number of accommodations.[41] (See Table IV) The sole income for the area is tourist and recreation trade, and it is geared toward this source of income.

[41]"Briefing Statements - Division of Resources Management and Visitor Projection," (Yellowstone National Park), p. 3 (Mimeographed).

TABLE IV. LOCATION AND TYPES OF FACILITIES OUTSIDE THE PARK

Site	Motels, Hotels Lodges	Pillow Count
West Yellowstone, Montana	72	7,000
Gardiner, Montana	16	640
Cooke City Area, Montana	20	1,700
Cody, Wyoming	39	3,366
Jackson, Wyoming	40	3,881

Area Use

The Clarks Fork Corridor is a recreation region for the Powell-Cody area and Billings vicinity, as well as a scenic route into Yellowstone National Park. A highway survey was conducted to compare use of the area by Corridor and Park visitors. This survey was also designed to yield information regarding the use of two routes, U.S. 212 and the Crandall Road, since development of Wyoming 292 along the present Crandall Road is one of the factors projected to alter the Corridor. To analyze the traffic patterns on U.S. 212 and Crandall Road, and the use of the Corridor,

the highway survey was conducted three days on each road.[42] Seven hundred ninety-four parties, averaging 3.02 passengers per party, are included in the data derived. At the time of the survey in late June and early July, peak seasonal travel is beginning in the Corridor, as indicated by interviews with businesses in the Cooke area.[43]

The Crandall Road is an unimproved dirt road which provides the shortest access into the region from the Powell-Cody area. U.S. 212 is a popular, scenic route which connects Yellowstone Park to Interstate 90, and is the shortest route from Billings into the area. Traffic was three times greater on U.S. 212 than on the Crandall Road at the time of the survey, as indicated below. (See Table V, page 46) Due to road conditions, the Crandall Road is presently not used as a route into Yellowstone National Park. Ninety-six percent of the parties surveyed were destined for some point within the Corridor. Yellowstone National Park, in comparison, generated 64

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[42]All private vehicles were surveyed. The survey was conducted at each station, one weekday and one weekend day at each station, and an additional weekday on U.S. 212 and the 4th of July on Crandall Road

[43]Survey dates are June 22, 23 and 26 for U.S. 212, and July 4, 5 and 7 for Crandall Road.

TABLE V. AVERAGE VEHICLE/HOUR

U.S. 212			Crandall Road		
		Vehicles per hour[44]			Vehicles per hour
6-23-72	Weekend Day	28.3	7-7-73	Weekend Day	8.83
6-26-73	Weekday	27.7	7-5-73	Weekend Day	8.33

percent of the traffic on U.S. 212, while the Corridor proved to be the attraction point for 26 percent, and thru traffic accounted for 10 percent. (See Table VI, page 48)

Since U.S. 212 and Crandall Road provide the shortest routes into the region from Billings and Powell-Cody, respectively, high use by Yellowstone County, Montana, residents on U.S. 212 and Park County, Wyoming, residents on Crandall Road can be expected, and was established by the data assembled. These two counties accounted for 32 percent of all vehicles on these two routes. On the Crandall Road specifically, Park County, Wyoming, accounted for 68 percent of the traffic, Yellowstone County, Montana, 8 percent and other Montana and Wyoming counties 24 percent.

[44]Hours tabulated were from 9-12 and 1-4 on each road.

TABLE VI. HIGHWAY SURVEY DATA: TRAFFIC COMPARISONS

General Data			
No. Vehicles Surveyed	794		
No. Passengers	2,397		
Average No. Passengers/ Vehicle	3.02		
States by Rank			
Montana	23.4%	Wisconsin	3.5%
Wyoming	23.3%	Washington	3.0%
Minnesota	4.4%	All Others	38.6%
California	3.8%		

Comparison by Road		
Destination	U.S. 212	Crandall Road
Corridor	26.0%	96.1%
Park	63.6%	3.4%
Thru	10.4%	.5%
Instate/Out-of-State		
Total Instate*	34.9%	81.7%
Total Out-of-State	65.1%	18.3%
Destination		
Instate		
Corridor	73.1%	83.0%
Park	19.7%	-
Thru	31.6%	-

*Montana and Wyoming are considered instate since the state-line crosses the Corridor.

TABLE VI. HIGHWAY SURVEY DATA: TRAFFIC COMPARISONS (Continued)

Destination	U.S. 212	Crandall Road
Out-of-State		
Corridor	26.8%	17.0%
Park	80.2%	-
Thru	68.3%	-

Eight-three percent of the vehicles were from these two states, while on U.S. 212 only 35 percent of the vehicles were from these two states. Of the Montana-Wyoming traffic on U.S. 212, 54 percent was from Yellowstone County, Montana, 13 percent from Park County, Wyoming, and 33 percent from other Montana-Wyoming counties. (See Table VI)

Since much of the Crandall Road use is by Montana-Wyoming parties destined for the Corridor, repeat use is frequent. U.S. 212 has more out-of-state and Park destined traffic, and a high percentage of first time travelers. Parties destined for a point within the Corridor are repeat visitors; and over 60 percent are at least annual visitors to the region. Over half of the thru travelers on U.S. 212 were first time visitors, and 73 percent of the Park

travelers were also using a Corridor route for the first time. (See Table VII)

Table VII. FREQUENCY OF USE BY ROUTE AND DESTINATION

	U.S. 212			Crandall Road
Use	Corridor	Park Thru		Corridor
Repeat Visitors				
Weekly	12.1%	.6%	-	11.7%
Monthly	6.0%	.8%	-	13.9%
Annually	43.9%	8.6%	16.1%	44.4%
Biannually	6.0%	3.0%	8.9%	1.9%
Less	13.6%	13.3%	16.1%	11.1%
First Visitors	18.2%	73.8%	58.9%	17.9%

Most of the travelers destined for the Corridor were visiting for the day only, with an additional 33.9 percent on U.S. 212 and 18.4 percent on Crandall Road planning overnight stays. Sightseeing was the leading attraction on U.S. 212, while fishing ranked first on Crandall Road. For residents along the Crandall Road, Cody is the nearest town via Crandall Road. In the Cooke vicinity travel time to Livingston thru Yellowstone Park or Billings via U.S. 212 is

comparable. As a result, Crandall Road has a slightly higher business trip percentage compared to U.S. 212 (See Table VIII)

TABLE VIII. CORRIDOR DESTINED USE STATISTICS

	Activity	
	U.S. 212	Crandall Road
Visiting	12.3%	2.4%
Sightseeing	33.3%	24.5%
Fishing	17.4%	46.1%
Camping	6.5%	2.9%
Miscellaneous Recreation	18.1%	8.2%
Business	12.3%	15.9%
	Length of Stay	
	U.S. 212	Crandall Road
Daytrip	42.9%	65.6%
2 Days	33.9%	18.4%
3 Days	10.7%	6.1%
4 Days	6.6%	1.9%
5 Days	1.7%	4.9%
6 Days	-	-
7 Days	-	-
+ Week	3.3%	3.1%

Travel in the Clarks Fork Corridor is generated by Yellowstone National Park or recreation opportunities within the Corridor itself. The majority of travel on U.S. 212 is destined for the Park, while Crandall Road has Corridor traffic. Development of Wyoming 292 will alter the pattern, and the data derived from the highway survey gives some indication what this change will be like. To reiterate, U.S. 212 has three times the vehicles per hour that Crandall Road has. Sixty-three percent of the travel on U.S. 212 is destined for Yellowstone National Park, and 3 percent of the Crandall Road has the same destination. Sixty-five percent of the travel on U.S. 212 is out-of-state, and 18 percent on Crandall Road. Crandall Road will lose the local recreation travel pattern it presently has, and acquire a pattern similar to that of U.S. 212 in the future, in addition to experiencing increased use.

AGRICULTURE

Much of the Clarks Fork Corridor was initially settled as a result of agricultural interests. Significant livestock grazing began with settlement between 1890 and 1900, and since that time changing economic conditions have caused consolidation of private ranchlands. Forest Service grazing allotments have been combined to form larger units, and a conscientious administration of the units developed. The Forest Service grazing allotments are used by both ranchers withholdings in the Corridor and stockgrowers who have no other interests in the region. Five of the allotment users are dependent on the livestock business for their livelihood, and other grazing allotments provide important summer pasture for them.

Private Agricultural Use

The largest single type of private land use in the Clarks Fork Corridor is ranching; however, six of the ranches are dude operations on which agricultural activity is of secondary concern. There are three cattle operations with ranch sites in the area, and the remaining agricultural land is pasture for horses, or cattle operations

located elsewhere. Agricultural activity does not provide the primary means of livelihood on any of the ranches.

The majority of the ranchland was withdrawn in 160 and 320 acre plots from the public domain under the homestead acts although some pastureland in the northeast corner of the Corridor was withdrawn in larger plots under the Desert and Entry Act of 1877 and a railroad land grant.[45] As agricultural and undeveloped land gained in value, outside interests have acquired ranch properties and this trend continues.[46]

Ranch and pasture land in the Corridor provides summer range for cattle operations. Some of the cattle remain on the eastern ranges of the Corridor year round, but the majority are shipped out by November to ranch sites outside the area and brought back in June. Stock numbers have generally increased in the past ten years, primarily as a result of range improvements. Some hay is grown, but there are no other crops in the area.

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[45]Park County, Wyoming Tax Records - Cody, Wyoming.

[46]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

Pasturelands for horses in units ranging from 160 acres to plots less than 10 acres are scattered throughout the region. Most of the grassland on dude ranches is devoted to horse pasture; however, a few head of dairy cattle are maintained on these ranches to provide a supply of fresh milk. Several second homeowners with larger sites keep saddle horses on their property.

Public Agricultural Use

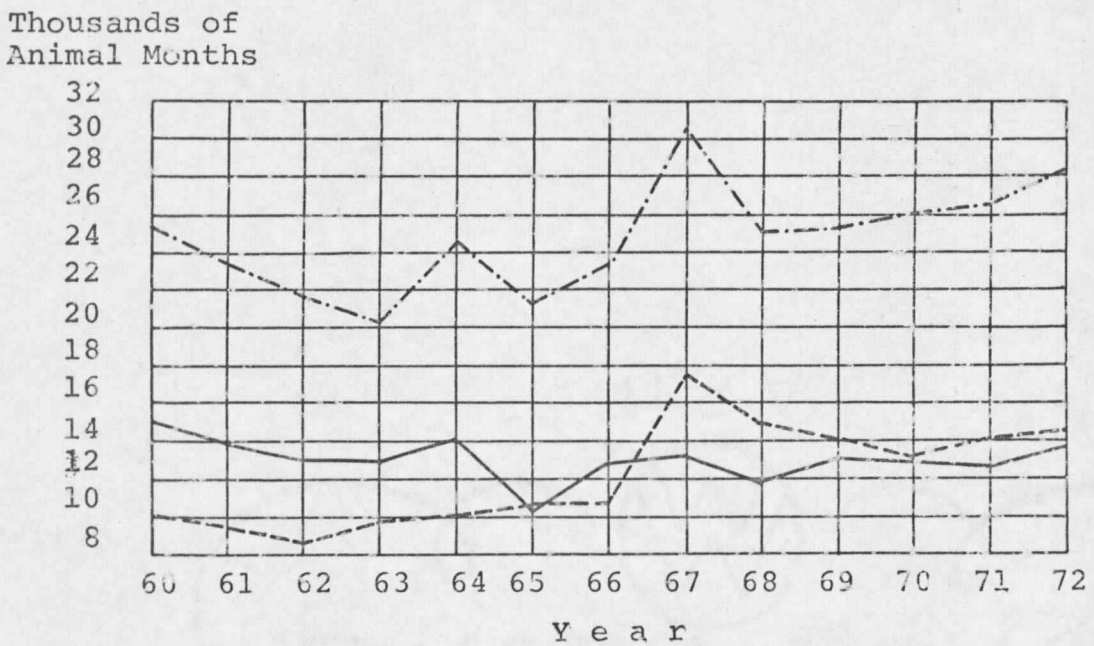
Within the Clarks Fork Corridor there are 19 grazing allotments in the Shoshone National Forest, and some additional minor grazing occurs under special U.S.F.S. permit in both the Gallatin and Shoshone National Forests. From the early 1900's to around 1950 grazing allotments were fully stocked, most used summer-long, while in Sunlight Basin there were year-long permits. During the same time the elk population, along with populations of other big game animals, was increasing and range quality declined as the area became overused. By 1957 winter use was eliminated[47] as the Forest Service developed a policy of more

[47] Ibid.

controlled use of the grasslands. Since that time, analysis of the grasslands indicates that range quality has been stabilized and on many allotments a trend of slight to moderate improvement is evident. General improvement of the range and creation of two new allotments, Crandall and Little Rock in 1967, have resulted in increased use. (Figure 6, page 56) There is a notable exception to the trend of improved range quality in Sunlight Basin where range is deteriorating as a result of an elk and domestic stock conflict. (Map III) This area is a winter elk range as well as a cattle allotment, and the resultant year-round use is damaging the grassland.

Ten sheep allotments and nine cattle and horse allotments have been designated in the Shoshone National Forest. (Map III) Sheep permits exist on the short grass Beartooth Plateau, while cattle and horse allotments are located along the valleys of the Clarks Fork River and Sunlight Creek. Portions of the allotments are adjacent to private ranchland and have been fenced by the ranchers. These areas are governed by the same controls exercised within the other allotments.

Allotments are grazed under a system of rest and rotation. The allotments are divided into numerous units by



Year	Cattle Animal Months	Sheep Animal Months	Total Animal Months
1960	10,029	14,914	24,943
1961	9,589	13,884	23,473
1962	8,635	13,159	21,794
1963	9,935	13,125	20,306
1964	10,201	14,271	24,472
1965	10,789	10,305	21,094
1966	10,893	12,883	23,776
1967	17,512	13,105	30,617
1968	15,022	11,988	27,010
1969	14,080	13,282	27,362
1970	13,348	12,802	26,150
1971	14,031	12,583	26,614
1972	14,500	13,813	28,313

Data derived from United States Forest Service, Grazing Folders, Clarks Fork District, Shoshone National Forest, Powell, Wyoming.

Figure 6. Use of Grazing Allotments, 1960-1972.

fencing or natural barriers. Stock is rotated within the allotment allowing given units time to reseed before grazing. (Figure 7) Stock is moved from a unit when 40% of

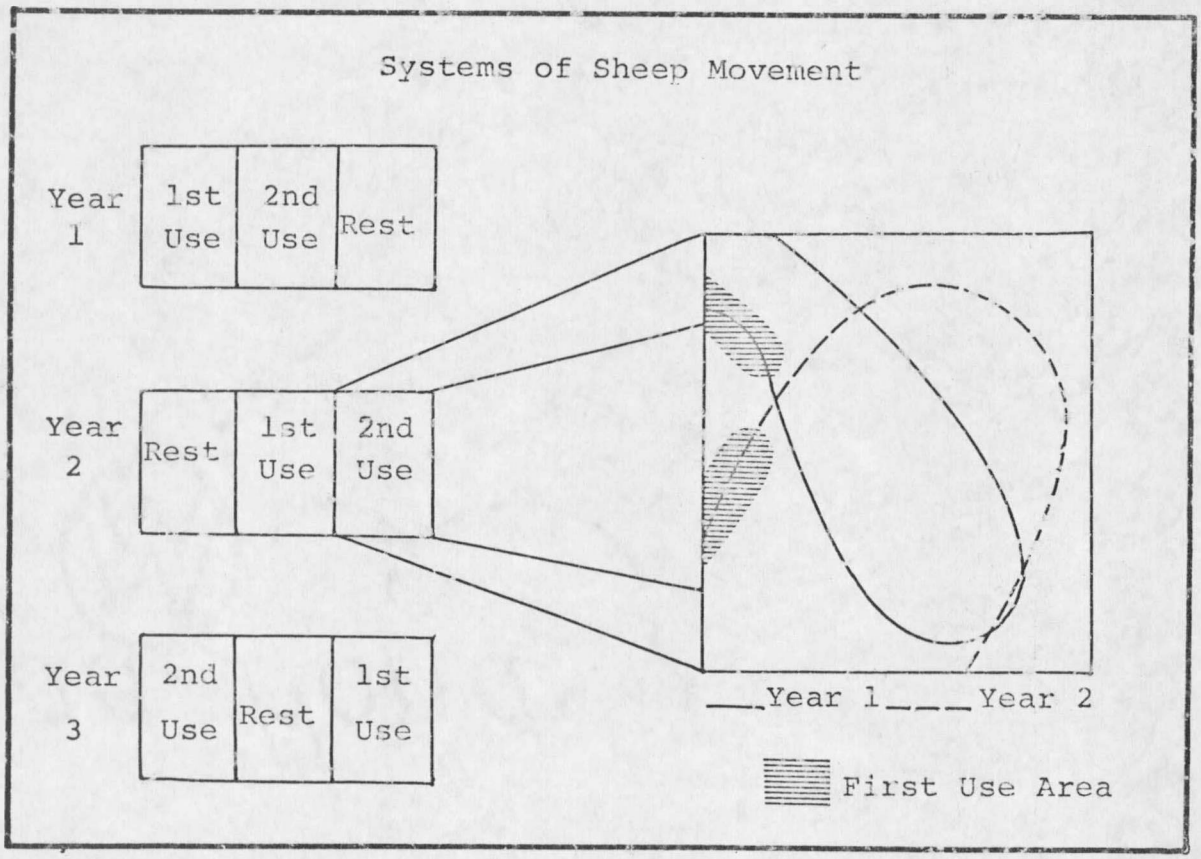


Figure 7. Systems of Sheep Movement

the grass has been grazed.[48] Range management students have been employed by the Forest Service as field managers and

[48]Informal interview with Pat Finney, District Forest Ranger, Clarks Fork District, United States Forest Service, March 2, 1973.

this practice has enabled use to be controlled with a greater degree of accuracy. Sheep grazing of allotments is further controlled by management of movement within the unit. Specific points of entry and exit, and directions of flock movement are established. (Figure 7) By controlling animal use, deterioration of range is avoided.

The usable grassland within allotments varies from 22 percent to 87 percent. (Table IX, page 60) Number of acres per animal month vary from 212 to 25.3. The sheep allotments in the northern section of the area are the most heavily used. (Map IV)

The allotments are situated on the Beartooth Plateau above timberline, and the use of these fragile grasslands as sheep allotments is of concern to some area residents.[49]

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[49]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

TABLE IX. GRAZING ALLOTMENT DATA

	Allotment	Gross Acreage	Suitable Acreage	Percent of Suitable Acreage	Animal Month Capacity	Average Annual Animal Month Use, 1960-72
Cattle	Bald Ridge	26,573	6,552	25%	3,632	1,916
	Basin	69,338	15,465	22%	5,344	2,696
	Bench	29,022	6,778	23%	1,220	950
	Crandall	25,542	9,262	36%	3,357	2,338
	Face of Mt.	7,844	6,841	87%	2,277	854
	Ghost Creek	10,944	8,748	80%	2,150	1,558
	Lake Creek	19,905	11,548	58%	2,218	1,892
	Little Rock	4,166	2,837	68%	386	112
	Table Mt.	11,040	4,325	39%	1,851	1,210
Sheep	Beauty Lake	5,606	2,953	53%	1,636	1,353
	Bennett Creek	5,726	2,799	49%	2,973	1,197
	Burnt Mt.	4,248	3,420	81%	1,733	1,314
	Clay Butte	5,033	2,633	52%	1,287	1,101
	Deep Creek	4,337	3,411	59%	4,804	1,140
	Island Lake	5,698	3,517	62%	4,120	1,381
	Line Creek	5,793	4,623	80%	3,308	1,623
	Little Rock	5,615	4,024	72%	3,208	1,094
	Peat Beds	6,598	3,686	57%	2,147	1,313
	Stockade	8,540	5,285	62%	6,725	1,569

EXTRACTIVE INDUSTRIES

Mining in the 1800's was important to the Clarks Fork Corridor, but all active mining has ceased. Locally, timber was cut for the mines and to produce charcoal for smelting at the turn of the century. Sales by the Forest Service for lumber production began fifty years ago, but timber production currently is minor.

Mining

There are two major mineralized areas in the Clarks Fork Corridor; the New World Mining District-Goose Lake District north and south of Cooke City, and the Sunlight Mining Region around the head of Sunlight Creek.

The New World Mining District includes that private land area in the Montana section of the Clarks Fork Corridor, and adjoins the Goose Lake District, an eight square mile area on the northern border of the Corridor. (Map IV) Although the New World Mining District was once one of the most promising camps in Montana, there is no active mining in the District today. There has been little production since 1953 (estimated at less than $2,000 annually), and all active mining halted in 1967 when an avalanche destroyed

the Glengary mill in the District; however, it is presumed that active mining will eventually occur again.[50]

There are known bodies of copper, lead, zinc, silver, and gold ore. Two companies plan to drill sample cores this summer (1973) and some gold exploration is being considered.[51] Development of the gold deposits would be economical at this time and factors which will influence development of the District include:

1. Favorable economic conditions
2. Sufficient national demand
3. Alleviation of accessibility problems by development of Wyoming Highway 292[52]

Some of the abandoned and inactive mines are presently creating environmental problems as a result of acid mine drainage. The mining area is at the head of the three drainage systems of the Stillwater River, Clarks Fork River, and Soda Butte Creek, which empties into the Lamar

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[50]United States Department of Agriculture, United States Forest Service, Acid Mine Drainage Control: Feasibility Study, Cooke City, Montana (Bozeman: Gallatin National Forest).

[51]Informal interview with Mr. Buster La Moure, U.S.F.S. Geologist, Gallatin National Forest, April 25, 1973.

[52]Cooke Subunit, Gardiner District, Gallatin National Forest, office files.

River. Water seepage through piles of mine wastes, mill tailings and open pit areas are polluting these streams. This area has been selected as a site by the National Environmental Protection Agency for a study of methods to rehabilitate acid mine drainage in alpine and subalpine environments.[53] Water monitoring systems are being installed and methods of contouring and sealing spoil piles will be undertaken in the future. Specific objectives will be:

1. Promote rapid surface runoff
2. Divert surface water flow around spoil piles
3. Seal spoil piles to prevent surface water infiltration
4. Reinstate visual values
5. Study revegetation methods[54]

The Sunlight Mining Region is located on the southwest tip of the Corridor and is approximately ten square miles in size. Several small pockets and one large body of high grade copper have been discovered and it is known that

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[53]United States Department of Agriculture, United States Forest Service, Acid Mine Drainage Control: Feasibility Study, Cooke City, Montana (Bozeman: Gallatin National Forest).

[54]Ibid.

lead, zinc, gold and silver are present. Sulfur has been discovered nearby.[55] The copper ore has generated considerable interest and there has been core drilling activity in recent years.[56] Oil exploration is currently underway in the northeast corner of the Corridor below the Beartooth Plateau in the area known as Face of the Mountain. No producing wells have been developed as of yet. The mineral resources have been extensively explored, yet little developed. To reiterate, it is expected that active mining will occur in the future.

Timber

Timber production began in the late 1930's in the Shoshone National Forest and harvesting occurred by selective cutting. In many instances clearcutting removed larger trees killed by bark beetles. A new management policy was developed in 1960 and clearcutting allowed.[57]

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[55]United States Department of Agriculture, United States Forest Service, Clarks Fork District Resource Inventory (Powell: Shoshone National Forest, Clarks Fork District, 1971).

[56]Informal interview with Mr. Pat Finney, District Ranger, Clarks Fork District, March 2, 1973.

[57]Ibid.

There have been two small family-operated sawmills in the area and in June 1973 a third small portable mill went into production in Cooke City. Cutting has been negligible in the Gallatin National Forest and has been handled by special permits. Production from private lands has occurred in very small quantities when clearing has occurred for second homes and private roadways.

All of the timber in the Gallatin National Forest is classified as marginal due to the accessibility problems of the area.[58] The Shoshone National Forest has little operable timber, compared to the total area.[59] Slope is a determining harvest factor in addition to species, size and density, and a slope of 20% or less is currently considered harvestable. Should logging techniques such as use of helicopters or balloons be further developed, slope criteria could be changed.

Sixty-nine percent of the commercial timber is located in the Shoshone National Forest. Seven percent of

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[58]Cooke Subunit, Gardiner District, Gallatin National Forest, office files.

[59]This area is noted on Map IV and criteria for operable classification is presented in Table X, page 65.

TABLE X. OPERABLE TIMBER CRITERIA

Cover Type Classification	
P	Ponderosa Pine
LP	Lodgepole Pine
WLP	Whitebark, Limber or Bristlecone Pine
SF	Engelmann, Blue or Black Hills Spruce
D	Douglas Fir
DS	Dead Spruce
WF	White Fir
A	Aspen
Co	Cottonwood
OH	Other Hardwoods

Stand Size Class	
8	Pole 5.0" to 10.9" d.b.h.
9A	Small Sawtimber 11.0" to 20.0" d.b.h.
9B	Large Sawtimber 21.0" and over d.b.h.

Stocking Class		
W	Well Stocked	70 - 100%
M	Medium Stocked	40 - 69 %

the 22,178 acres have been harvested, yielding 23,347,300 board feet.[60] Acreage harvested by type is as follows:

553 acres	Douglas Fir Ecosystem
706 acres	Engelmann Spruce Ecosystem
295 acres	Lodgepole Ecosystem
1,554 acres	Total

A review of timber inventory maps indicates that Douglas Fir is the dominant species; however, Engelmann Spruce currently leads production figures. (Figure 8, page 68)

The United States Forest Service is committed to a multiple use, sustained yield policy. Wildlife, water, recreation and aesthetic values must be considered when a stand of timber is selected for sale. As a result of this policy, no clearcut areas are visible from any of the roads which traverse the area. On a sustained basis, 168 acres of timber can be harvested annually from this forest. Locally, the Forest Service has adopted a policy to encourage local production of timber. Small sales rather than large sales have been let; large sales would encourage larger operations in Montana and Wyoming to bid on sales.[61]

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[60]Clarks Fork District, Shoshone National Forest, office timber atlas.

[61]Informal interview with Mr. Pat Finney, District Ranger, Clarks Fork District, March 2, 1973.

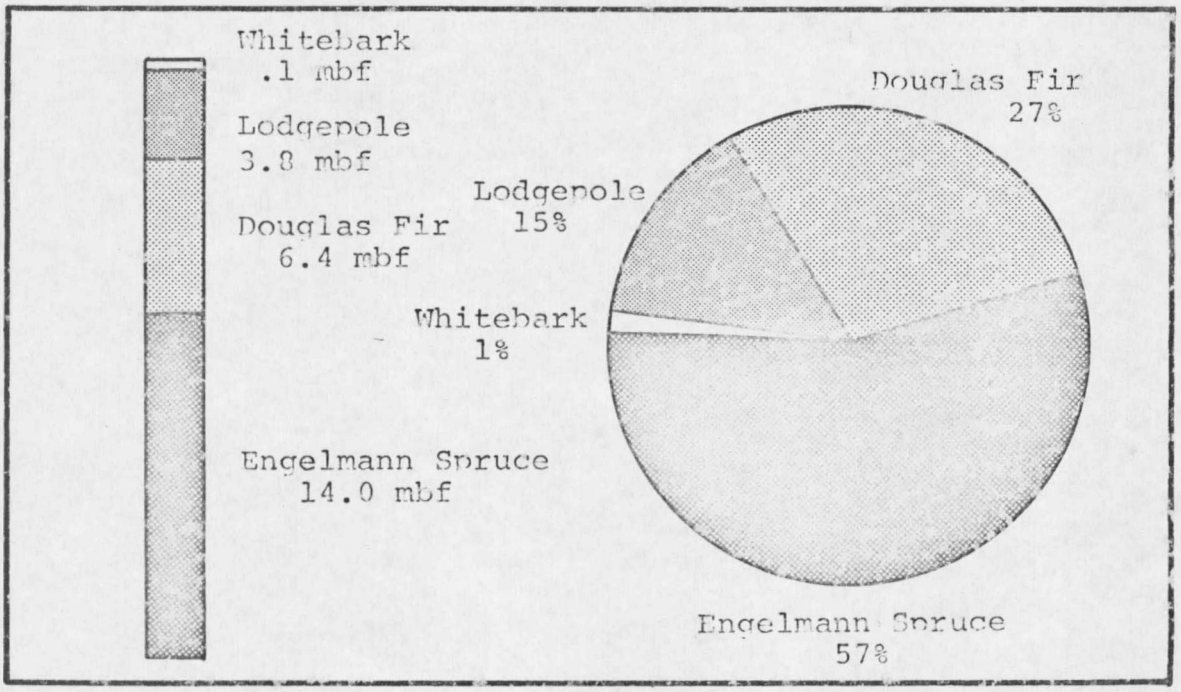
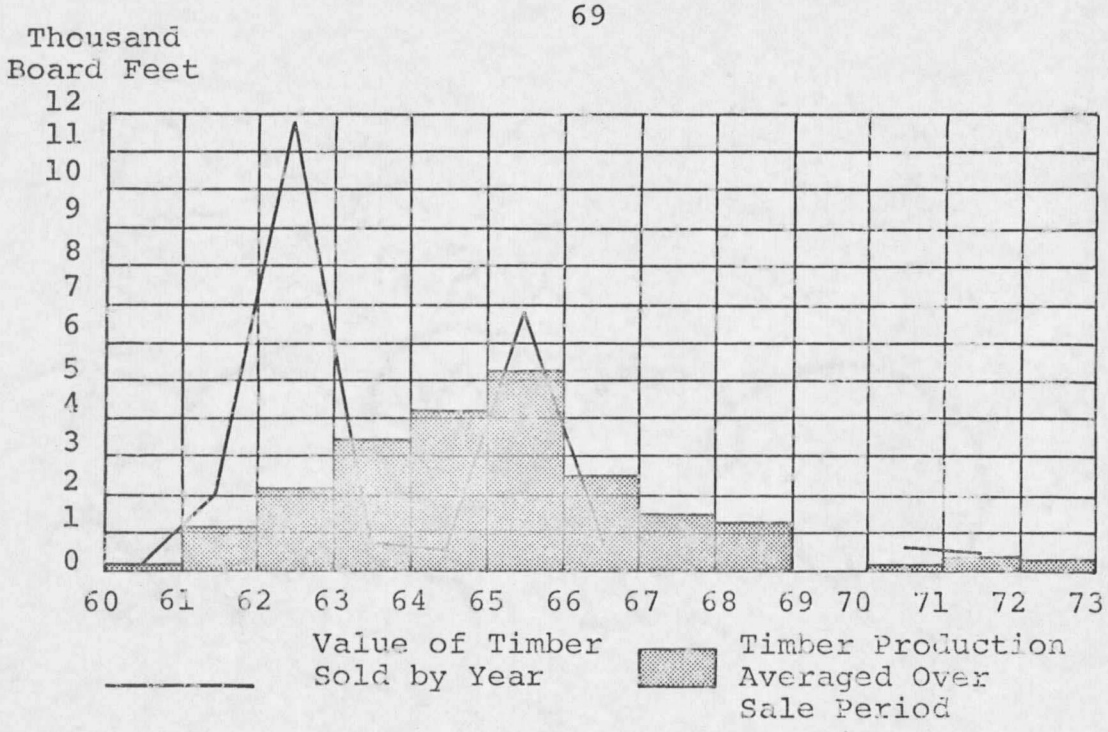


Figure 8. Timber Production by Type

Timber is presently being reservoired as a result of Forest Service finance and manpower deficiencies. Necessary surveys and assessments of sale sites are lagging, and local producers have been forced to look elsewhere for timber. (Figure 9, page 68) No timber sales occurred in 1967, 1968, and 1969, and production was the result of former sales. Sales in 1970 and 1971 account for the 1972 production.



Year	Douglas Fir	Lodgepole Pine	Engelmann Spruce	Whitebark Pine	Total
1960	181.6	17.4	63.9		262.9
1961	539.6	490.3	1027.9		2057.8
1962	2288.9	1418.0	8172.1		11879.0
1963	524.3	355.5			879.8
1964	213.9		371.1	81.6	666.6
1965	1855.7	1745.1	3274.4	21.0	6896.2
1966	291.0	186.2	303.8		781.0
1967					
1968					
1969					
1970	349.0		292.0		641.0
1971	136.0		147.0		283.0
TOTAL	6380.0	3857.0	14007.7	102.6	24347.3

Figure 9. Timber Sales and Production in Shoshone National Forest

CONCLUSION

The Clarks Fork Corridor is a mountain valley area of 588 square miles of which 18 square miles is private property. This 18 square mile area is divided into mining regions, ranchland, two town sites and second-home subdivisions. With the private land and cultural features scattered along U.S. 212, Crandall Road and Sunlight Road, scant evidence of man's influence on the land is visible. This mountain environment is semi-primitive, with abundant water areas and wildlife; consequently, as the initial mining development of the area waned, the land use and economy of the region shifted toward recreation. Thirty-seven private businesses have been established since 1921 to serve the travelers destined for Yellowstone National Park and visitors attracted by the local recreation opportunities. Second homes have grown in number and importance to the community in the last ten years, creating a demand for land and forcing land values up. Ranchland has been concentrated among fewer owners controlling larger areas.

Public recreation facilities in the form of twelve campgrounds, two boat launching sites, a boat rental site, and an amphitheater have developed in addition to three Forest Service stations, numerous trails and vista points. Potential recreation sites have been designated by the

Shoshone National Forest; however, further development of recreation facilities on any of the national forest land is unlikely with present economic circumstances and Forest Service policy. The Forest Service would prefer that future development of facilities, such as campgrounds, be undertaken by private developers, though, presently only that area along U.S. 212 has enough traffic to warrant such development. Private development of recreation facilities is limited by present demand and available land suitably situated for commercial development.

The Beartooth Highway is a scenic entrance into Yellowstone National Park with less use than other present entrance routes. Traffic on this route will probably not decline as a result of Crandall Road development, rather the Corridor will receive a portion of the Cody-East entrance traffic. More than a dispersion of existing traffic volumes will occur; additional travel will enter the area. Roadside services, such as gas stations and restaurants, are currently nonexistent between the Cooke area and Cody, Wyoming. Potential development of such facilities concerns the landowners along the Crandall Road and has created a favorable climate for some form of land use planning.

The Cooke City area is in need of land use planning though it has taken no steps in that direction. The town site of Cooke particularly needs controlled development since it was platted in lots twenty-five feet wide and at this time has no central sewer system. Until recently, septic tanks were placed on lots of this size, though now three town lots must be consolidated to gain enough acreage to meet Montana codes.[62] Development of a central sewer system, without initiating a comprehensive plan for the area, will not benefit the community, inasmuch as there are no building codes in effect and construction of a central sewer system would again allow development on twenty-five foot wide lots. Second home sites, trailer parks and sales and service sites are presently intermingled and increased uncoordinated growth will only further impair community organization.

The policies of Yellowstone National Park and United States Forest Service, and construction of Wyoming 292 will cause enlargement and extension of the existing tourist-oriented industry. The trends of consolidation of

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[62]As explained by Health Department, Gallatin County, Montana, 10,000 square feet are required for a septic tank when on city water.

large ranch holdings and subdivision of smaller tracts for second homes can be expected to continue. That development which has occurred in the Corridor is centered around a portion of the region, and increasing pressure on this portion creates the desirability for guidelines and directions.

The large ranch holdings in the Corridor have inadvertently controlled development to this time, particularly of second homes, along the Crandall Road area. Ranchers are competitively bidding with subdivision developers for land, so they may consolidate holdings and prevent encroachment of second homeowners. While restricting growth of homesite development in the area, they have continued to contribute to the semi-primitive setting of the region. The mining regions with decaying cabins and tumbled-down mills are currently points of interest explored by area visitors. Rejuvenation of mining activity poses a threat to the recreation use of the land and to the present level of environmental quality. Intensive study of any potential mining can be expected by the Forest Service, if and when development of the mines appears imminent. Competitive demand for land and alternative uses of land has been emphasized within the last ten years, as a result of second home

developments. Prior to this time, competition was noticeably lacking. With mining, ranching and recreation interests existing in the same area, conflicts in land use can be expected in the future. The Clarks Fork Corridor needs land use planning if conflict is to be controlled.

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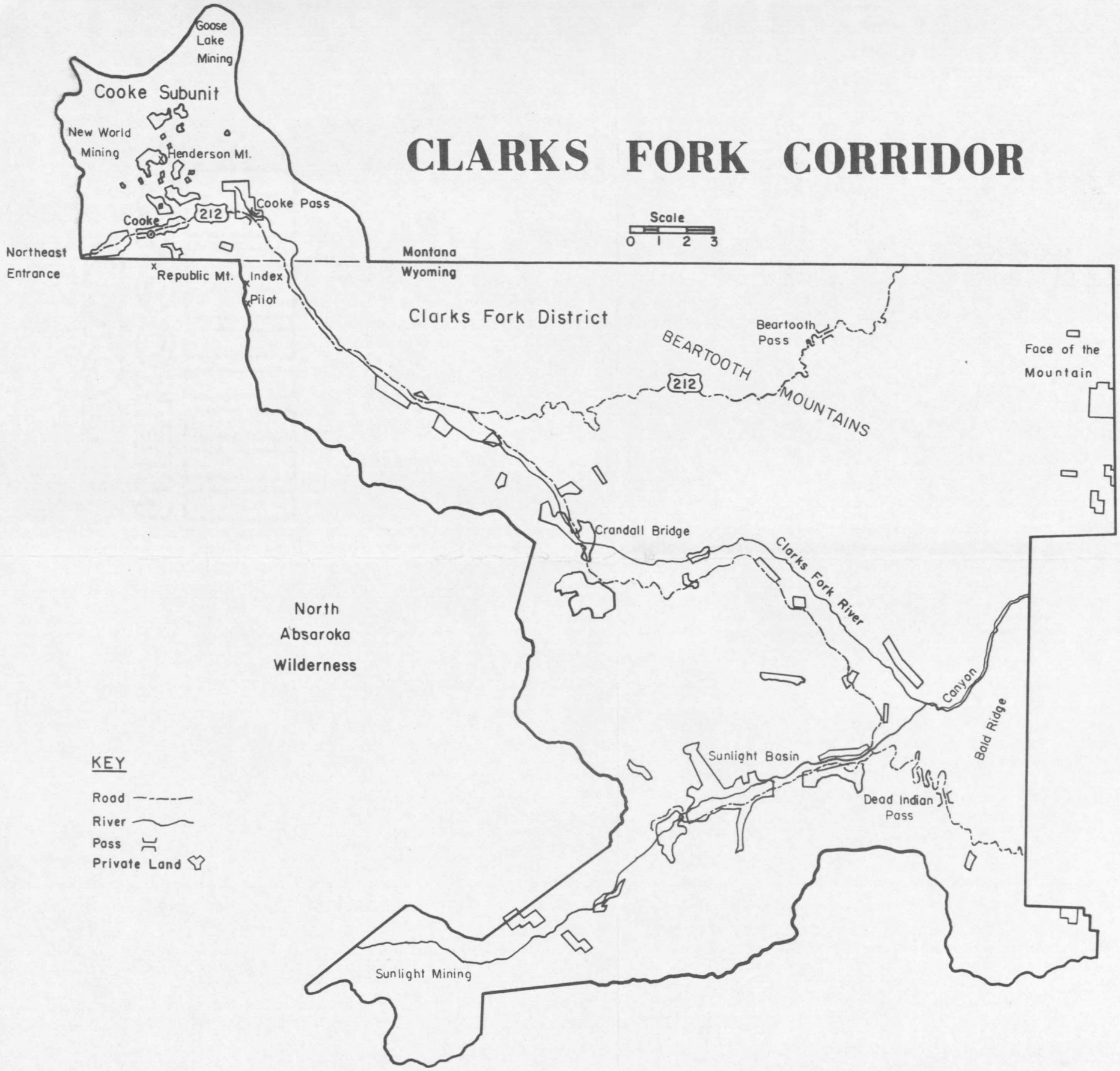

COMMERCIAL TIMBER

in the

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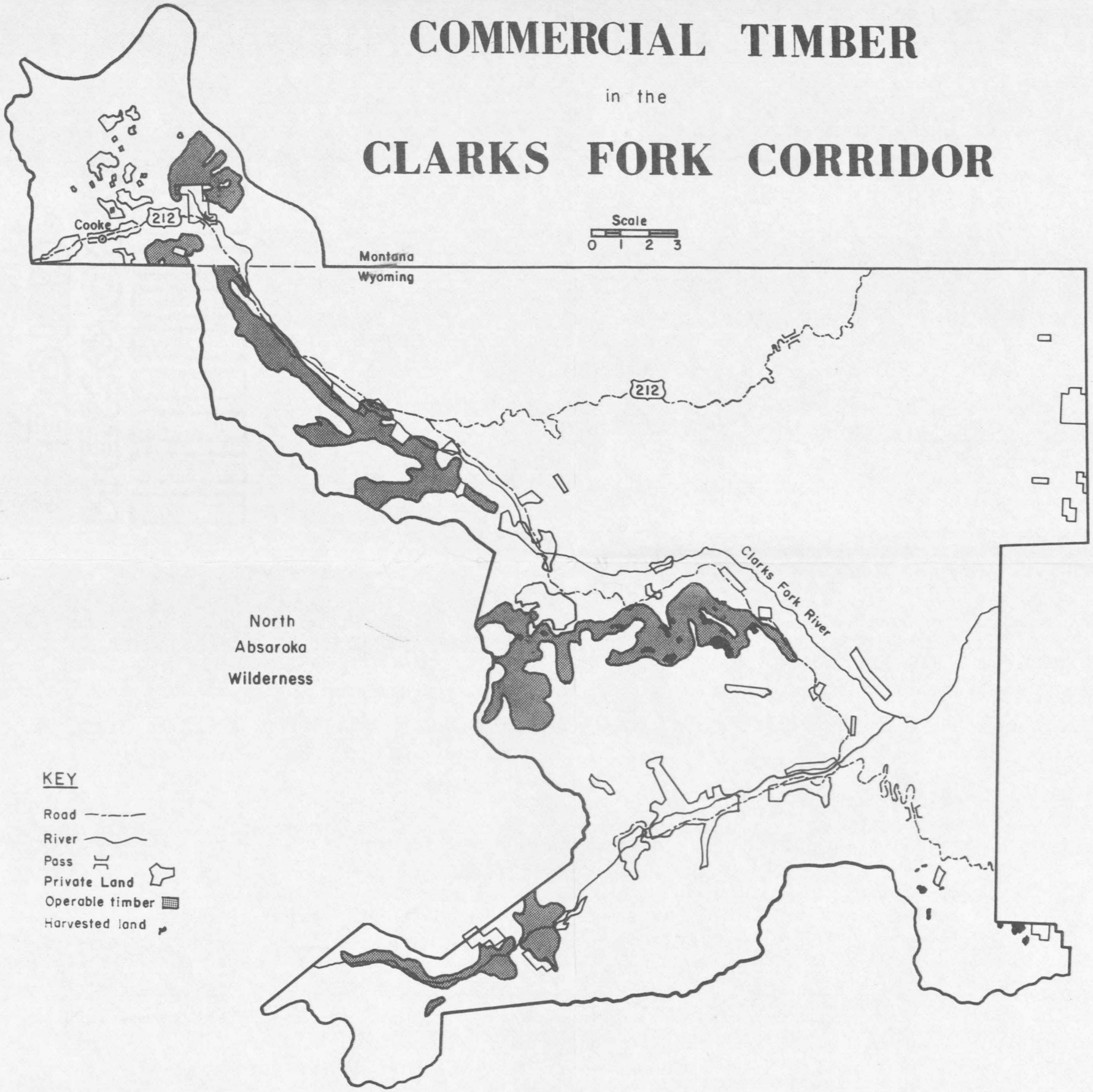

GRAZING DISTRICTS

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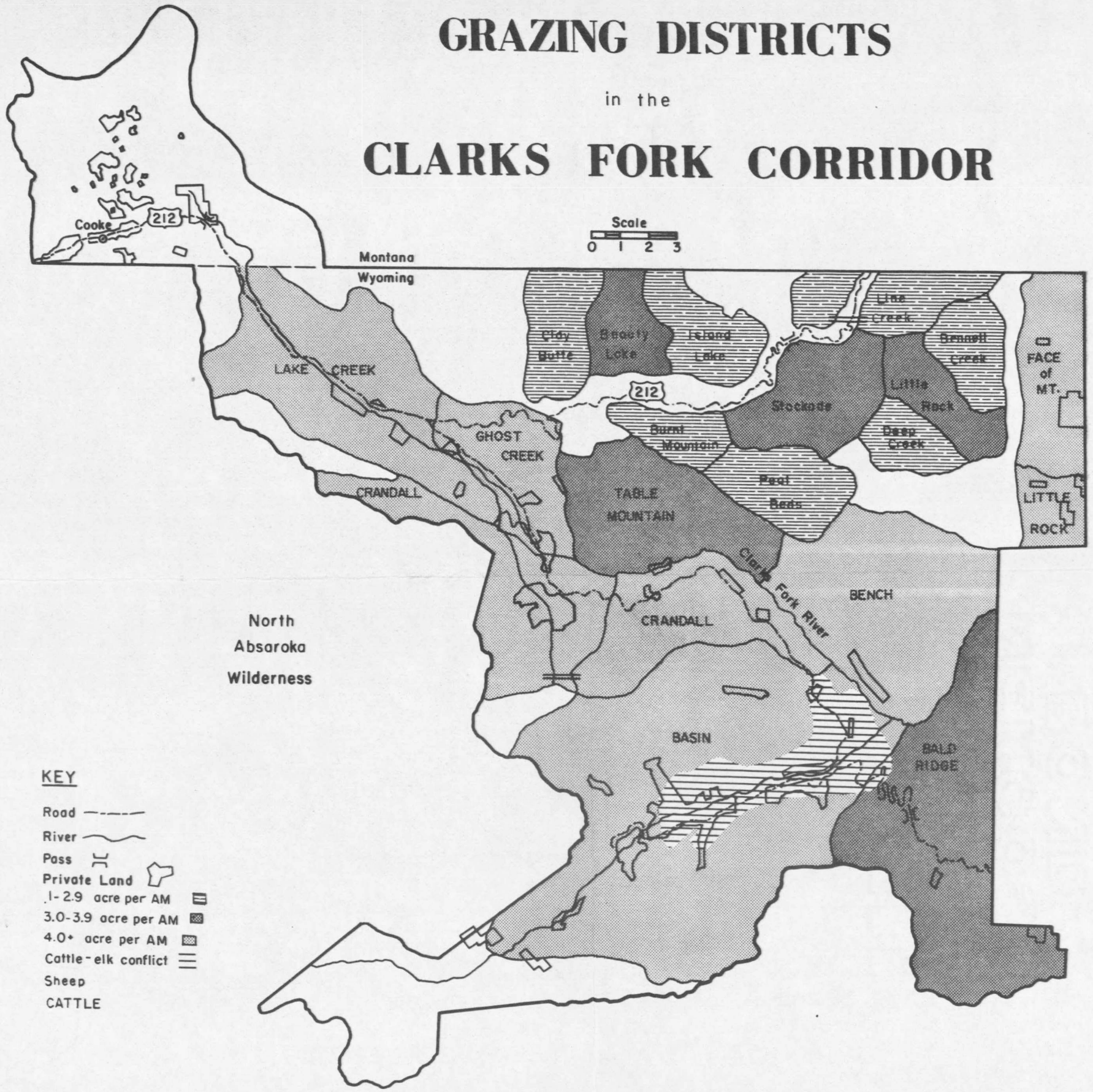
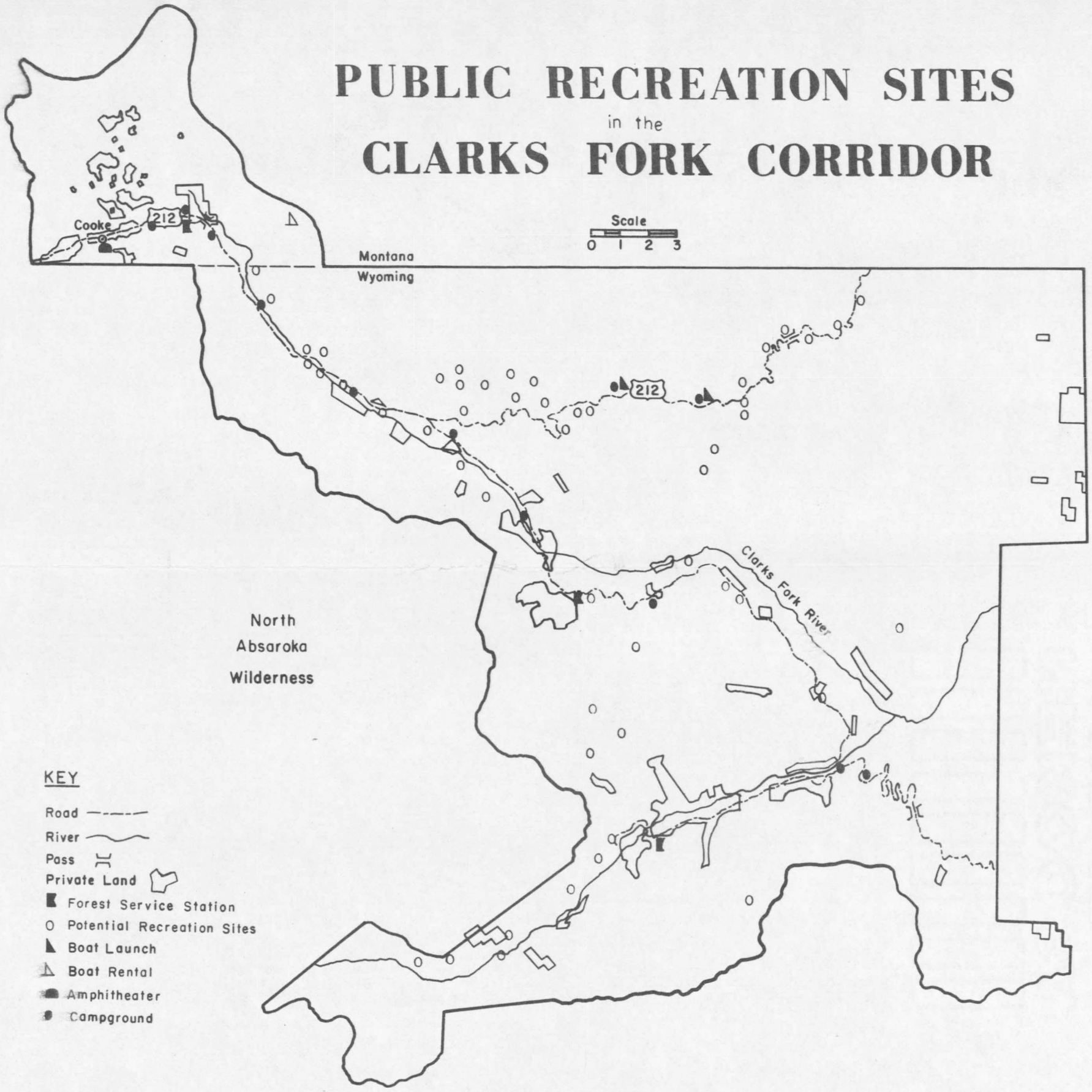


KEY

- Road
- River
- Pass
- Private Land
- .1-2.9 acre per AM
- 3.0-3.9 acre per AM
- 4.0+ acre per AM
- Cattle-elk conflict
- Sheep
- CATTLE

PUBLIC RECREATION SITES
in the
CLARKS FORK CORRIDOR



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