

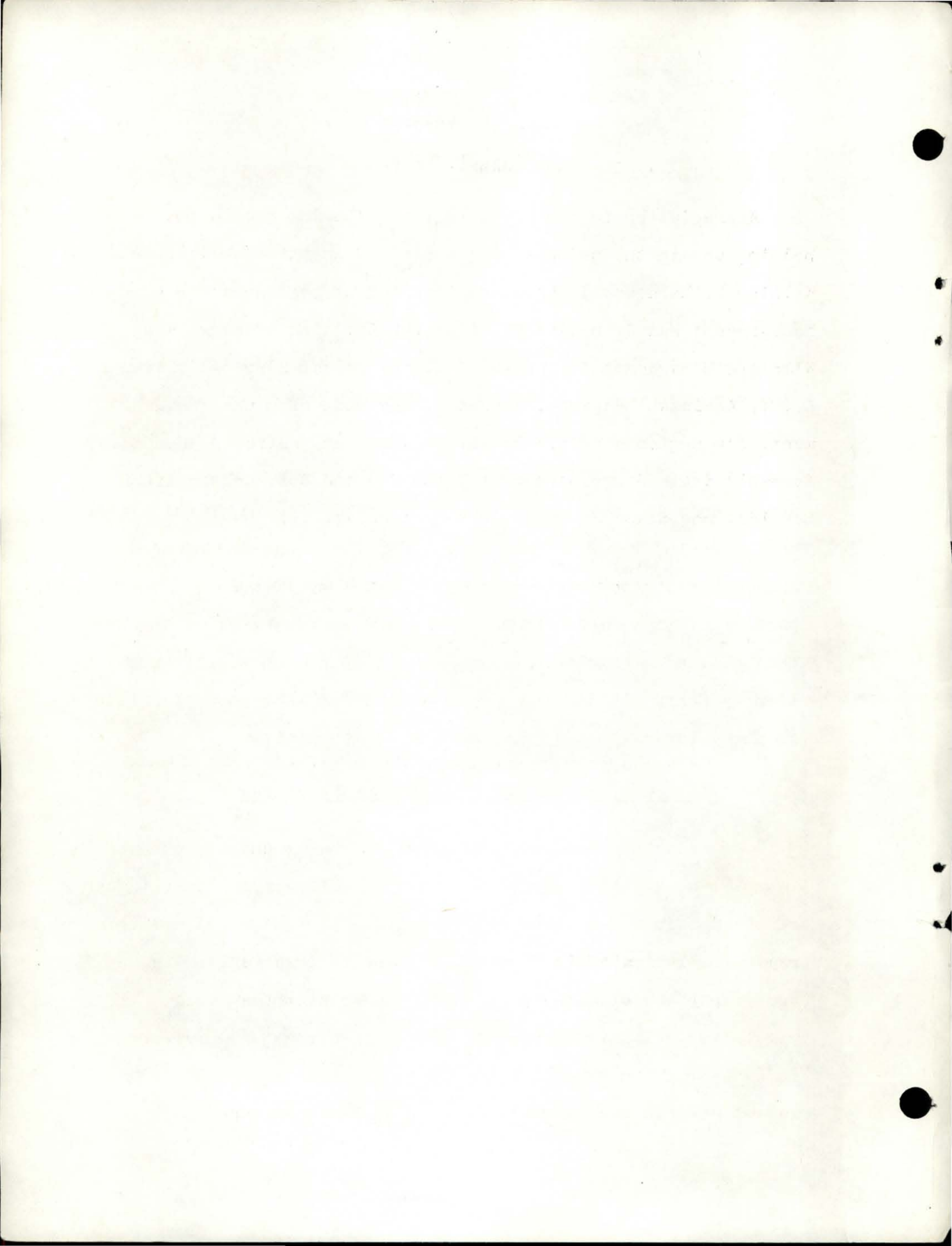
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Rangeland Improvement Practices in Idaho  
by:

Bruce E. Godfrey  
1972

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## RANGE LAND IMPROVEMENT PRACTICES IN IDAHO

### Introduction

The carrying capacity of many range lands in Idaho, like most range lands in the West, has decreased since the advent of livestock grazing. This decreased capacity has caused many land administrators to reduce the amount of grazing allowed on federal, state and private range land.

In an effort to increase the amount of grazing on the range lands in Idaho, administrators of public and private lands have invested large amounts of capital for range improvements such as brush control, seeding, and water developments. The purpose of this report is to: (1) provide a summary of the work that has been completed in Idaho, (2) update an earlier publication by Sharp (1965), and (3) assess some of the possible effects of these investments on the economy of the state.

### Amount and Type of Improvement Practices

Considerable variation is found in the amount and type of improvement practices that have been established in Idaho. Much of the possible variation is suggested by the major vegetation regions illustrated in Figure 1. These regions reflect the soil, topography and climate that exist in each of these areas. The vegetation potential of each area has been a major influence in dictating the type of investment practices that have been established on the range lands of Idaho. These vegetation

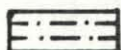
POTENTIAL VEGETATION OF IDAHO

LEGEND

Pacific Northwest Grassland

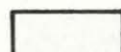


wheatgrass-bluegrass

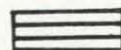


fescue-wheatgrass

Northern Desert Shrub



sagebrush-grass



salt-desert shrub

Woodland



Utah juniper



western juniper

Other Features



lava field



impounded water



Coniferous forests

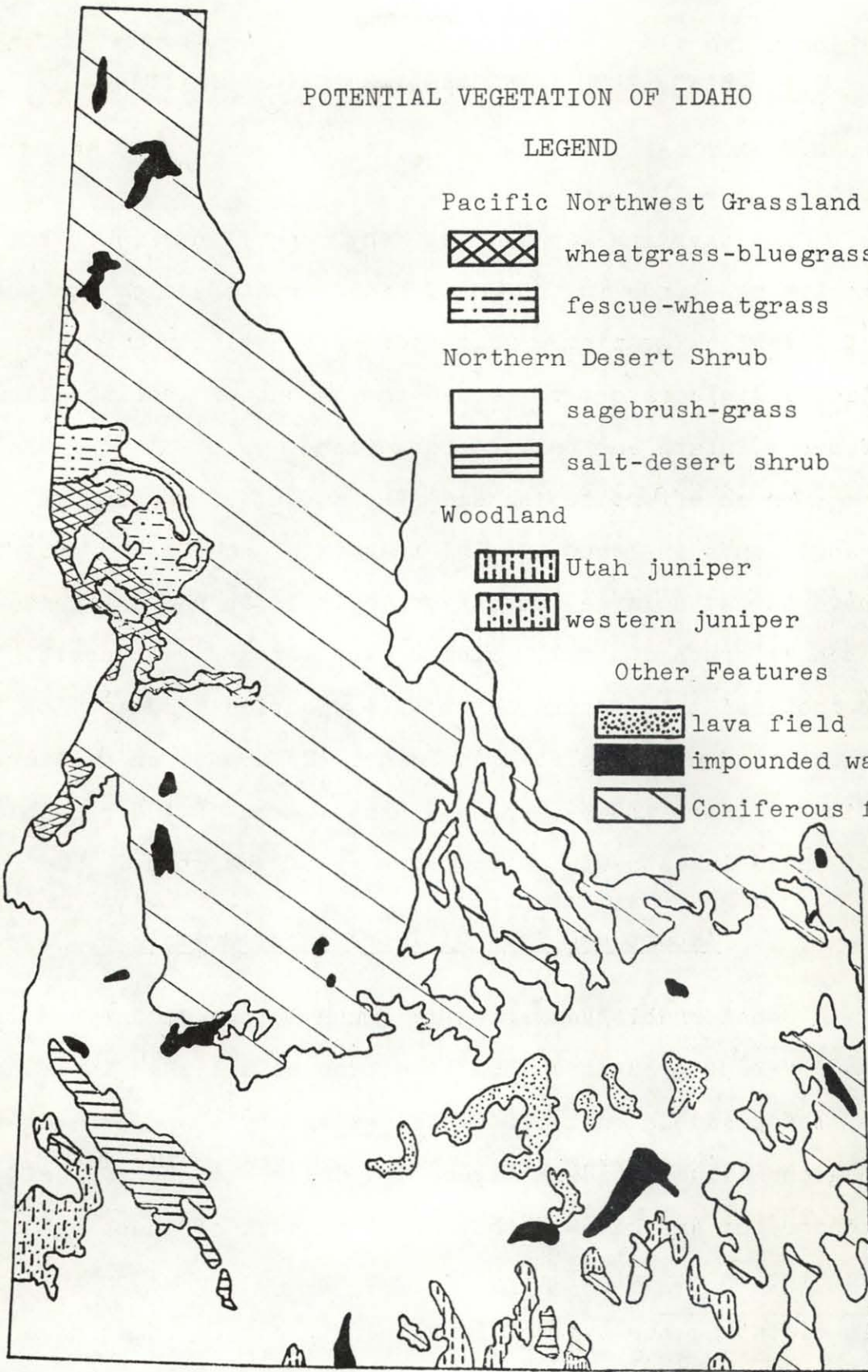


Figure 1. Sketch map showing major potential vegetation types in Idaho. From: Tisdale, Hironaka, and Fosberg (1969).

regions have also influenced the use and ownership of lands in the state (see Figure 2).<sup>1</sup> It is noted that most of the sagebrush region is administered by the Bureau of Land Management (BLM), the forested areas by the U.S. Forest Service and the areas near rivers, streams and lakes are generally administered by private land owners. These land administrators have had the major influence over the amount of money that has been spent for range improvements in the state.

#### Investments on State and Private Land

The number of acres of seeding, brush control and the number of springs that have been developed on private and state leased lands within soil conservation districts by county is presented in Tables 1 through 3. These data indicate that relatively small numbers of springs and acreages of seeding have been developed during the last two years. This reduced amount of improvement is further exemplified by the change that has occurred since 1964. Sharp (1965) reported that by 1964 a total of 425,492 acres of range land had been seeded in the state by private land owners. By June 30, 1969 this total had been increased to 531,652 acres (Table 2). Thus, approximately 116,000 acres had been seeded between 1964 and June 30, 1969. This represents an annual seeding rate of approximately 23,000 acres per year. The data in Table 2 indicate, however, that only 17,758 acres were seeded during fiscal years 1969 and 1970. This represents a substantial

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<sup>1</sup> Other agencies own and/or administer lands found in the major areas illustrated in Figure 2, including the Atomic Energy Commission, The Bureau of Indian Affairs, The State of Idaho, the Fish and Wildlife Service and other government agencies.

COUNTIES AND MAJOR LAND ADMINISTRATIVE AREAS OF IDAHO

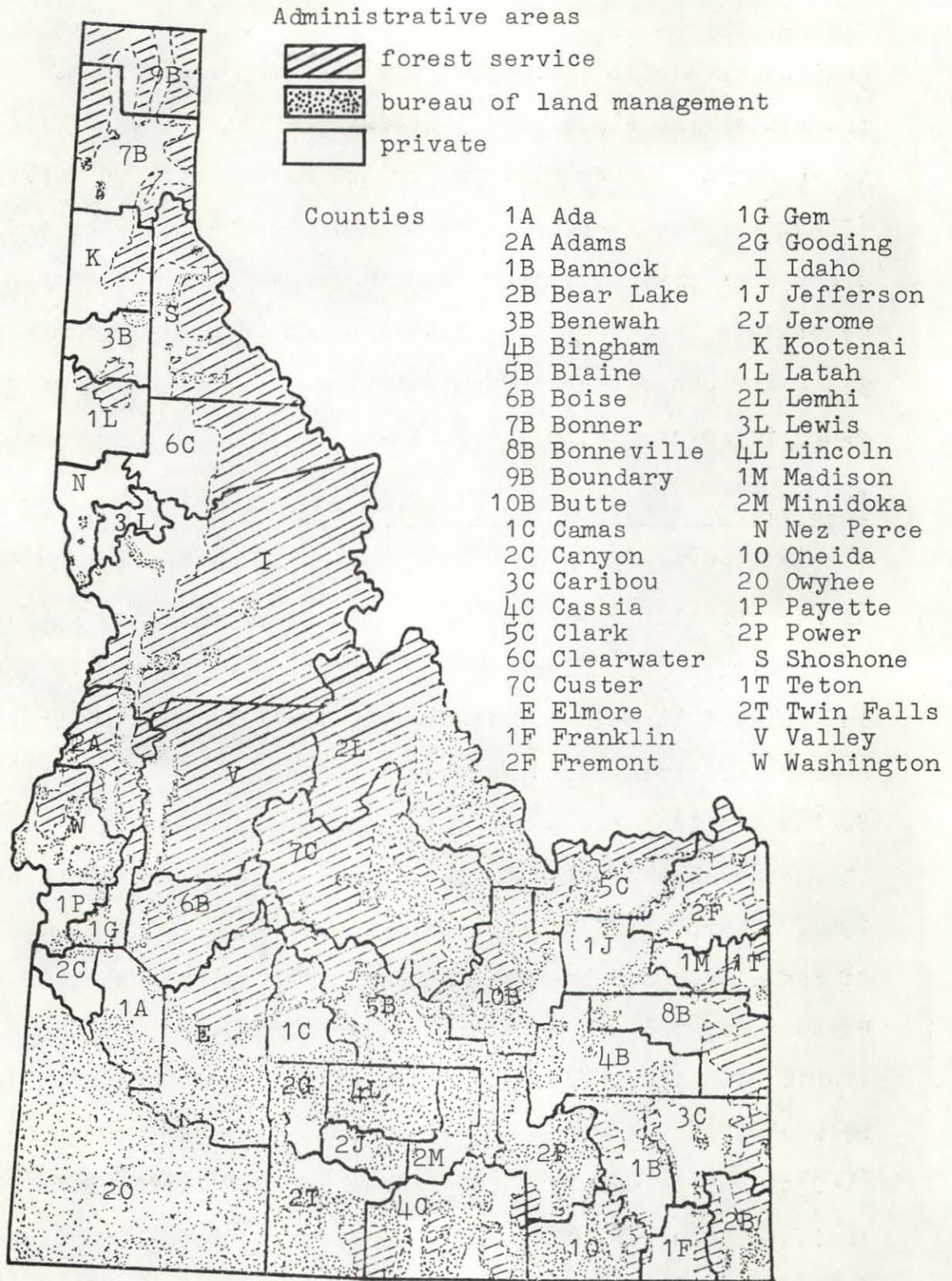


Figure 2. Sketch map of counties and land administration areas.

decline in the rate of seeding that has occurred within the state during the last two years. Similar changes in the rate of brush control and spring developments may also have occurred during this period, but sufficient data are not available to confirm this supposition.

The data in Tables 1 and 2 indicate that nearly 40 percent of the range seeding and one-fourth of the brush control has occurred in Twin Falls County. If Cassia, a neighboring county, is included with Twin Falls, the percentages change to 48 percent for seeding and 28 percent for brush control. This indicates that a relatively small area has received a major portion of the range improvements that have occurred on private and state leased lands in Idaho.

Brush has been controlled on nearly twice as many acres of private and state leased lands as have been seeded. Differences in the development costs of these practices is one reason why brush has been controlled on more acres than have been seeded. Areas that are seeded generally require a minimum of one-two year's deferred grazing. Brush control areas, however, do not require a deferred grazing period.<sup>2</sup> If grazing is deferred on an area that has been seeded, ranchers generally have to either decrease the size of their herd, buy more expensive feed to replace the forage that is lost during a deferred grazing period, or overgraze other portions of their range. These costs can be substantial in many cases. Furthermore, development costs for seeding an area are generally higher than controlling the brush

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<sup>2</sup>It should be noted that grazing may profitably be deferred on brush control areas and is often required on lands administered by federal agencies.

on a similar number of acres. For example, plowing and seeding costs, excluding deferred grazing costs, generally range from \$4 to \$25 per acre with an average of approximately \$8.50 per acre. Costs for spraying sagebrush, however, generally range from \$2 to \$6 per acre with an average of approximately \$3 per acre. This difference in capital outlay (development and deferred costs) may have caused many ranchers to invest in brush control rather than seeding. It should be emphasized that this decision may not be the most profitable alternative because seeded areas generally produce more forage and last longer than do brush control areas. Furthermore, the relatively low costs of brush control may have caused some ranchers to choose this alternative when it was not profitable due to the lack of sufficient understory of grass on the treated areas.

The data in Table 3 indicate that a major portion (37%) of the springs that have been developed by private land owners have been established in Nez Perce, Owyhee, and Idaho counties. Relatively large numbers of springs have also been developed in Latah, Clearwater, Lewis, Kootenai, Twin Falls, and Washington counties. All of these counties, except Twin Falls and Owyhee, receive more yearly precipitation than do most areas of Idaho and have received relatively small amounts of other range land improvement. Reasons why these counties have not received more intensive developments such as seeding and brush control are not known at this time.



## National Forests

All or major portions of fifteen national forests are found within the borders of Idaho (see Figure 3). These forests have been administratively divided into two regions. Region 4, with headquarters in Ogden, Utah, administers the forests of southern Idaho and Region 1, with headquarters in Missoula, Montana, administers the forests of northern (generally north of the Salmon River) Idaho. The importance of grazing in each region is reflected by the relative amount of range improvement work that has been completed in each area.

### Region 1

The St. Joe, Clearwater, Nez Perce and major portions of the Kaniksu, Kootenai, Coeur d'Alene and Bitterroot national forests are found within the borders of Idaho. These forests are managed primarily for timber, recreation, aesthetics and watershed. The amount of range improvement work that has been completed in this region and reported in Table 4 reflects the relative unimportance of grazing in this region.

The Nez Perce forest<sup>3</sup> has received a major portion of the range improvements completed within the forests of Region 1 that are found in Idaho. The relative importance of livestock grazing in this forest has been a major contributing factor in allocating the investments within the forests of Region 1.

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<sup>3</sup>The amount of seeding reported in Tables 4, 7, and 8 sometimes differ from the totals reported by Sharp (1965). The magnitude of the differences is small except for the Nez Perce forest, however. The source of data (Region vs. Forest) is the major reason for these reported differences.

NATIONAL FORESTS AND BUREAU OF LAND MANAGEMENT DISTRICTS IN IDAHO.

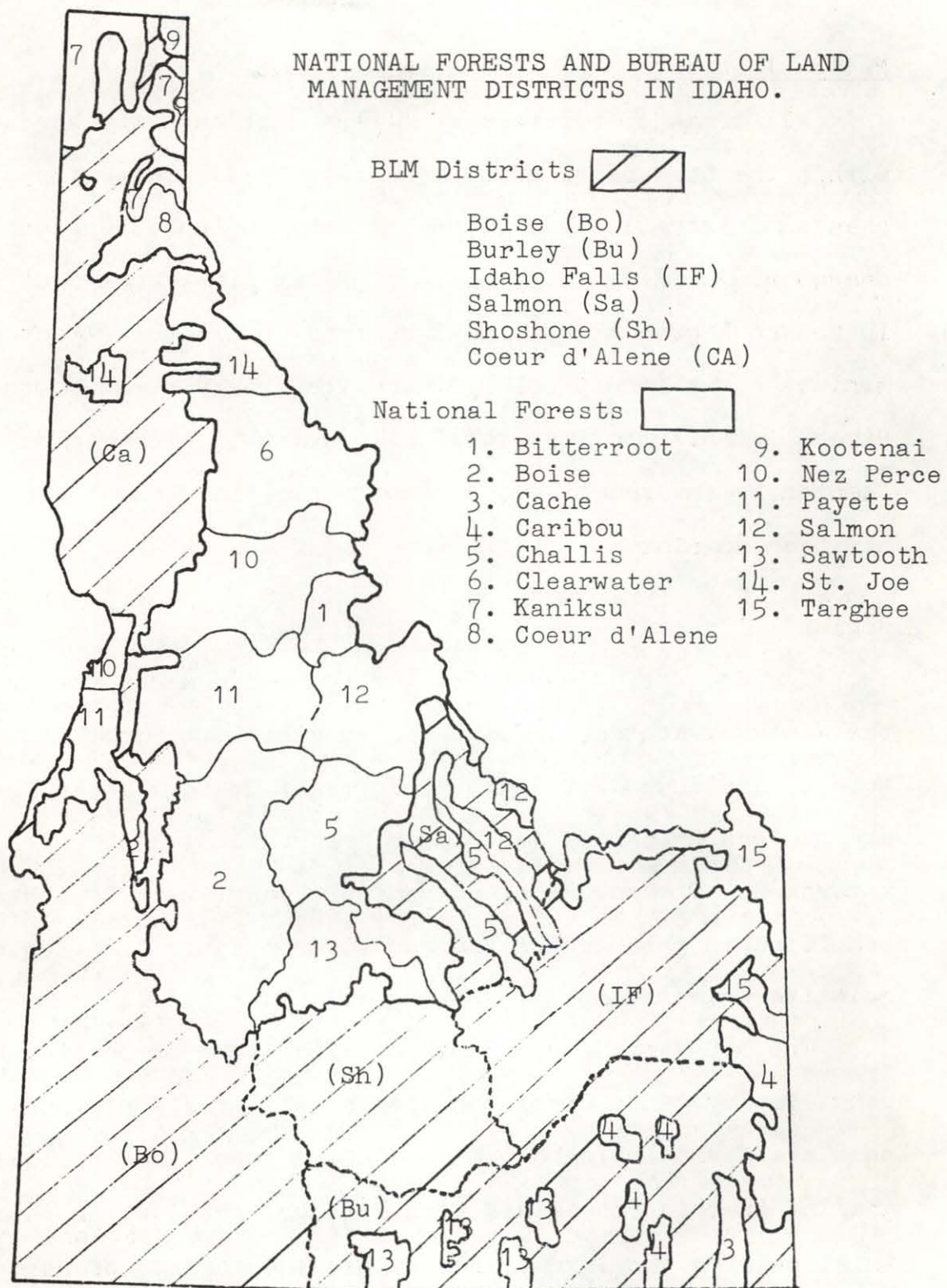


Figure 3. Sketch map of National Forests and BLM districts.

Livestock grazing is not an important use of land in most of this forest, however, and a relatively small amount of range improvement has been completed.

#### Region 4

The Boise, Payette, Challis and major portions of Cache, Caribou, Salmon, Sawtooth and Targhee national forests are found within the borders of Idaho. Livestock grazing is a relatively important use of land in these forests. These forests also contain important recreation, wildlife, watershed and aesthetic areas. The amount of range improvement that has occurred in the forests of this region reflects the importance of grazing in these areas. Tables 5 through 10 contain summaries of the improvements established in each forest between 1961 and 1970.

The Sawtooth National Forest received a major portion of each of the improvements reported in Tables 5-10: Fencing (29%), Water developments (18%), Revegetation (59%), Plant control--sprayed and seeded (20%), Plant control--sprayed (18%), and Poison plant control (9%). This is also the same general area (Twin Falls-Burley) that received a major portion of the seeding and brush control by private land owners.

Some of the improvement work reported in Tables 4 through 10 may have occurred in other states because portions of some of the fifteen national forests of Idaho are also found in bordering states. The improvements that are reported in this study for national forests in Idaho may therefore include some that have been established in Utah, Montana, Wyoming or Washington.

## Bureau of Land Management

The Bureau of Land Management is the largest administrator of grazing land in Idaho. It is also the largest investor of funds for range improvements in the state. These investments have been intensive as well as extensive in nature.

The data in Tables 11-23 indicate that a major portion of each type of investment has occurred within an eight-year period (1959-1966). The overall low productivity of many areas, the development of improvement techniques, the Halogeton glomeratus Control Act of 1954, and improvements for pest control all contributed to the increased work during this period. It was estimated, however, that 71 percent of the range land administered by the Bureau of Land Management in Idaho was in need of improvement work in 1966 (University of Idaho and Pacific Consultants, Inc., 1970, p. S-26).

More than \$12,785,000 has been spent for range improvements on BLM lands in Idaho. Of this amount, the following percentages were spent by designated district (see Figure 3): Boise (34.75%), Burley (24.24%), Idaho Falls (14.56%), Salmon (8.96%), Shoshone (17.32%), and Coeur d'Alene (0.17%). Further differences in the allocation between districts is indicated by the amounts spent per acre<sup>4</sup> for each district: Boise (0.89), Burley (2.30), Idaho Falls (0.89), Salmon (0.87), Shoshone (1.17), and Coeur d'Alene (0.09). Thus, the most intensive amount of investment

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<sup>4</sup>These values were determined by dividing the total amount spent in each district, as reported by the BLM, by the total acres in that district on June 30, 1969.

on BLM lands has occurred in the Burley-Twin Falls area, which also is the same general area that has received a large portion of the investments that have occurred on private, state, and Forest Service lands.

Several possible reasons may be given for the relatively large percent of the improvement work that has occurred in the Burley-Twin Falls area. First, this general area was one of the first areas in the state to be grazed by domestic livestock. Furthermore, much of this early grazing was year long and relatively heavy. This pattern of use made overgrazing nearly inevitable. The resultant deteriorated status of this area made improvement necessary if livestock were to continue to be grazed on these range lands.

Second, seedings at the Point Springs Project near Malta were established in 1952. This project was one of the early successful seeding projects to be established in the state. This project has shown that a significant increase in forage production can occur as a result of seeding an area to crested wheatgrass (*Agropyron desertorum* and *A. cristatum*). Furthermore, this area has been used by range managers and administrators to demonstrate the benefits of a seeding project to other range managers and ranchers.

Third, improvements on private range lands have probably been made necessary for the profitable use of increased forage made available on public lands.

Fourth, this area was one of the major areas that experienced an invasion of Halogeton. This invasion and subsequent federally sponsored control programs allowed substantial investments to be made in the area.

Fifth, some of the federal administrators in this area during the late 1940's and early 1950's anticipated the increased production that could be realized from range investments and helped obtain the necessary funds for the improvements.

#### Impact of Range Improvements

More than 56 percent of the total land area of Idaho is classified as pasture and range by Frey, Krause, Dickason (1968). This makes grazing the most extensive use of land in the state. Approximately 64 percent of the total land area of Idaho is owned by the federal government and nearly 96 percent of these lands are administered by the BLM and Forest Service. Nearly all of the land administered by the BLM and approximately one-half of the land administered by the Forest Service is suitable for grazing. The BLM and Forest Service therefore control grazing on two to three times as many acres of range land that is suitable for grazing as all other land owners and government agencies combined.

Private land owners have controlled brush or seeded nearly 1.5 million acres of range land within soil conservation districts in Idaho. This represents a substantial portion of the range land in these districts. This also represents an amount equal

to the total number of acres of brush control and seedings reported in this study by the BLM and Forest Service. It should be noted, however, that different periods of reporting are involved in these totals. If the periods of reporting were comparable, the BLM and Forest Service total would be larger than that for private and state leased lands but would not likely represent as large a percentage of the total range land area administered by these agencies as that has been improved as has been improved by private land owners.

It is not known what impact the preceding investments have had upon the incomes of ranchers in Idaho. These investments have, however, probably helped make possible the large increase in animal numbers shown in Table 23. These data indicate that two major changes in livestock production have occurred in the state during the past 20 years. First, there has been a significant change in production from sheep to cattle, and second, the total number of animal units<sup>5</sup> has nearly doubled.

The change in livestock production from sheep to cattle has been affected by several factors. First, there has been a large increase in the demand for beef and beef products relative to other livestock products during the past decade. This change in demand has helped make beef production relatively more profitable. Furthermore, the introduction of synthetic

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<sup>5</sup>An animal unit is assumed to be one mature cow or its equivalent. The following conversion factors were used to make the various livestock types comparable: cows and heifers 2 years or over = 1.0, heifers 1-2 = 0.75, calves = 0.4, steers = 0.75, bulls = 1.25, and sheep (all groups) = 0.2.

fibers has caused the demand for wool to decline. Second, some administrators within the federal agencies have encouraged grazing by cattle over sheep because sheep have often been blamed for much of the extensive "overgrazing" that has occurred in the West. Third, sheep ranches have found it increasingly difficult to obtain reliable herders at a reasonable wage. Fourth, sheep operations have experienced relatively larger fluctuations in yearly income than cattle ranchers have recently encountered. Fifth, the Forest Service has found it necessary to decrease the amount of grazing on many high watershed areas that have historically been used as summer ranges for sheep.

Investments for range improvements such as seeding or brush control commonly increase the carrying capacity of a rehabilitated area many times. Furthermore, the increased carrying capacity of a rehabilitated area may allow decreased utilization of another area that may have been overgrazed. Thus, the management of a rehabilitated area may result in increased carrying capacity of other areas (Godfrey, 1971).

Some of the investments reported in this study have not resulted in a net increase in the grazing of livestock. For example, investments undertaken by the BLM have increased the carrying capacity of some areas many times, but as the data in Table 24 indicate, total permitted use of grazing district lands increased a small amount between 1960 and 1969. However some of the



increased production resulting from range improvements may have been allocated to big game or increases in rehabilitated areas have been more than offset by decreases in other areas.

Many of the impacts of these investments are unknown at the present time, but additional research in this area should help clarify the results that can be expected from a given range improvement investment.

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Table 1: Acres of range seeding by ranchers on private and state leased land.

County	ACC to* 1969	FY 1969	FY 1970	Total
Ada	2500	-	-	2500
Adams	88	-	-	88
Bannock	436	-	46	482
Bear Lake	1012	-	-	1012
Benewah	198	-	198	396
Bingham	23817	355	752	24924
Blaine	8957	50	357	9364
Boise	320	100	130	550
Bonner	-	-	-	-
Bonneville	7792	-	-	7792
Boundary	-	-	-	-
Butte	8700	-	-	8700
Camas	3055	-	260	3315
Canyon	-	-	1260	1260
Caribou	8491	-	30	8521
Cassia	49835	-	3845	53680
Clark	12500	850	446	13796
Clearwater	350	342	-	692
Custer	20956	-	136	21092
Elmore	15827	217	837	16881
Franklin	4600	-	-	4600
Fremont	2500	-	-	2500
Gem	2875	200	2850	5925
Gooding	2808	-	70	2878
Idaho	1089	-	-	1089
Jefferson	5000	-	-	5000
Jerome	5600	-	-	5600
Kootenai	-	-	-	-
Latah	2440	330	-	2770
Lemhi	562	-	-	562
Lewis	4750	-	-	4750
Lincoln	57804	160	135	58099
Madison	-	-	-	-
Minidoka	-	-	-	-
Nez Perce	1925	-	655	2580
Oneida	-	-	-	-
Owyhee	23820	1980	240	26040
Payette	2910	40	150	3100
Power	11191	48	197	11436
Shoshone	-	-	-	-
Teton	-	38	-	38
Twin Falls	210944	-	454	211398
Valley	-	-	-	-
Washington	26000	-	-	26000
Total	531652	4710	13,048	549,410

\*Reported acres on the land as of June 30, 1969.

Table 2: Acres of brush control by ranchers on private and state leased range land.

County	Acc. thru* 6/30/69	FY 1969	FY 1970	Total
Ada	6,600	-	-	6,600
Adams	196	105	1	302
Bannock	8,083	795	570	9,448
Bear Lake	28,624	2,715	511	31,850
Benewah	260	223	210	693
Bingham	28,300	854	4,985	34,139
Blaine	7,954	354	1,757	10,065
Boise	-	500	-	500
Bonner	10,000	-	-	10,000
Bonneville	22,875	1,150	1,170	25,195
Boundary	6,000	-	-	6,000
Butte	22,687	1,000	2,777	26,464
Camas	24,590	2,908	362	27,860
Canyon	-	50	-	50
Caribou	49,244	600	2,824	52,668
Cassia	27,677	1,059	4,647	33,383
Clark	85,000	14,256	1,780	101,036
Clearwater	800	-	-	800
Custer	32,861	249	163	33,273
Elmore	45,852	1,542	3,588	50,982
Franklin	3,751	26	25	3,802
Fremont	20,069	2,720	2,933	25,722
Gem	-	208	-	208
Gooding	5,233	1,061	355	6,629
Idaho	178	43	-	221
Jefferson	2,440	420	400	3,260
Jerome	7,674	-	-	7,674
Kootenai	125	643	30	798
Latah	-	12	-	12
Lemhi	9,990	162	-	10,152
Lewis	1,023	-	-	1,023
Lincoln	41,670	300	-	41,970
Madison	46,200	-	-	46,200
Minidoka	2,610	-	50	2,660
Nez Perce	409	25	-	434
Oneida	2,300	636	45	2,981
Owyhee	55,246	2,057	20	57,323
Payette	220	-	-	220
Power	8,300	-	-	8,300
Shoshone	50	-	-	50
Teton	1,526	28	935	2,489
Twin Falls	220,353	2,200	495	223,048
Valley	200	-	144	344
Washington	6,634	-	-	6,634
Total	843,804	38,901	30,777	913,482

\*Reported acres on the land as of June 30, 1969.

Table 3: Number of springs developed by ranchers on private and state leased land.

County	ACC to** FY 1969	FY 1969	Fy 1970	Total
Ada	95	-	-	95
Adams	33	-	1	34
Bannock	42	2	-	44
Bear Lake	152	5	3	160
Benewah	53	2	4	59
Bingham	24	1	-	25
Blaine	82	2	3	87
Boise	20	5	9	34
Bonner	103	-	-	103
Bonneville	88	5	4	97
Boundary	77	1	-	78
Butte	-	-	-	-
Camas	138	5	1	144
Canyon	-	-	-	-
Caribou	135	3	5	143
Cassia	111	21	-	132
Clark	10	1	-	11
Clearwater	194	8	6	208
Custer	-	-	-	-
Elmore	110	26	-	136
Franklin	73	3	1	77
Fremont	1	-	-	1
Gem	27	14	2	43
Gooding	2	-	2	4
Idaho	941	24	32	997
Jefferson	-	-	-	-
Jerome	-	-	-	-
Kootenai	164	5	6	175
Latah	184	12	7	203
Lehmi	4	1	-	5
Lewis	181	5	8	194
Lincoln	5	-	-	5
Madison	-	-	-	-
Minidoka	-	-	-	-
Nez Perce	280	13	21	314
Oneida	29	-	-	29
Owyhee	247	56	13	316
Payette	23	4	-	27
Power	23	-	2	25
Shoshone	-	-	-	-
Teton	4	1	1	6
Twin Falls	169	3	-	172
Valley	3	-	-	3
Washington	178	3	2	183
Total	4005	231	133	4369

\*Reported number on the land as of June 30, 1969.

Table 4: Range improvements completed in Region 1 forests of Idaho from 1961 through 1970.

Practice	Clear-water	Coeur d'Alene	Kan-iksu	Nez Perce	St. Joe	TOTAL
Seeded <sup>1</sup> (acres)	1,782	15	40	7,080	17	8,934
Revegetation <sup>2</sup> (acres)	60	19	20	110	32	241
Noxious Farm Weed Control (acres)	758	0	67	50	2	877
Plant (Brush) Control not seeded (acres)	5	0	80	16	41	142
Poison Plant Control (acres)	0	0	25	35	0	60
Fertilization (acres)	0	0	0	37	274	311
Fencing (miles)	2	2	20	64	19	107
Water Devel- opments (No.)	0	0	1	126	14	141
Cattle Guards (No.)	6	5	34	37	26	108
Stock Driveways (No.)	8	7	6	37	2	60
Rodent Control (acres)	50	20	0	0	0	70
Corrals (No.)	0	0	0	4	2	6

1. From 5-year Grazing Statistical Report (includes all seeding done by range, soil, timber, and wildfire funds where establishment of forage cover for grazing purposes results).
2. From Annual Structural and Nonstructural Range Improvement reports (includes work done with any funds that primarily benefit livestock grazing).

Table 5: Miles of fencing constructed in eight National forests in Idaho, 1961-1969.

Forest	1961	1962	1963	1964	1965	1966	1967	1968	1969	TOTAL
Boise	7	27	10	9	7	6	3	21	-	90
Cache	14	13	10	7	4	9	10	7	5	79
Caribou	12	20	30	16	12	10	15	10	21	146
Challis	9	6	6	23	13	5	28	5	21	116
Payette	4	15	-	15	17	65	6	5	18	145
Salmon	4	7	9	11	10	8	12	13	15	89
Sawtooth	21	24	14	11	11	23	212	7	14	337
Targhee	13	29	30	11	10	15	15	14	9	146
TOTAL	84	141	109	103	84	141	301	82	103	1148

Table 6: Number of water developments\* constructed in eight national forests in Idaho, 1961-1969.

Forest	1961	1962	1963	1964	1965	1966	1967	1968	1969	TOTAL
Boise	2	-	-	2	-	-	1	3	-	8
Cache	20	9	12	13	10	8	34	-	16	122
Caribou	7	15	17	2	3	5	5	12	8	74
Challis	8	14	12	8	11	52	9	21	56	191
Payette	2	-	67	2	-	-	22	1	5	99
Salmon	3	1	9	5	3	7	17	17	15	77
Sawtooth	6	7	9	10	16	7	24	35	41	155
Targhee	1	6	6	11	6	9	69	6	8	122
TOTAL	49	52	132	53	49	88	181	95	149	848

\*Includes spring development, ponds, reservoirs, and wells.



Table 7: Acres of range revegetation completed in eight national forests in Idaho, 1961-1969.

Forest	1961	1962	1963	1964	1965	1966	1967	1968	1969	TOTAL
Boise	6	2	-	2	48	-	-	-	365	423
Cache	-	94	4	-	146	100	5	-	-	349
Caribou	475	-	31	-	200	-	106	1	-	813
Challis	10	-	30	10	-	-	2381	200	6	2637
Payette	-	182	-	150	1066	-	260	190	235	2083
Salmon	-	-	-	50	-	-	-	100	-	150
Sawtooth	3267	432	837	1506	2512	108	4581	-	387	13630
Targhee	650	104	402	720	186	-	760	252	-	3074
<b>TOTAL</b>	<b>4408</b>	<b>814</b>	<b>1304</b>	<b>2438</b>	<b>4158</b>	<b>208</b>	<b>8093</b>	<b>743</b>	<b>993</b>	<b>23159</b>

Table 8: Acres of range land treated with herbicide and seeded in eight national forests in Idaho, 1961-1969.

Forest	1961	1962	1963	1964	1965	1966	1967	1968	1969	TOTAL
Boise	-	-	-	450	450	-	-	-	-	900
Cache	20	-	-	100	507	250	450	500	-	1827
Caribou	-	-	-	305	2542	-	-	75	-	2922
Challis	-	-	-	-	-	-	-	-	-	-
Payette	-	-	-	-	-	-	1200	109	-	1309
Salmon	-	-	-	-	-	-	-	-	-	-
Sawtooth	189	-	-	-	855	108	270	454	-	1876
Targhee	-	92	86	193	-	-	-	-	-	371
<b>TOTAL</b>	<b>209</b>	<b>92</b>	<b>86</b>	<b>1048</b>	<b>4354</b>	<b>358</b>	<b>1920</b>	<b>1138</b>	<b>-</b>	<b>9205</b>

Table 9: Acres of range land treated with herbicide in eight national forests in Idaho, 1961-1969.

Forest	1961	1962	1963	1964	1965	1966	1967	1968	1969	TOTAL
Boise	-	5	8	10	80	350	288	-	-	741
Cache	1000	1200	625	2220	1467	1370	555	150	550	9137
Caribou	200	3870	2084	2957	-	1047	2223	253	730	13364
Challis	1300	1525	-	4697	795	85	1405	-	3784	13591
Payette	-	-	-	-	800	-	733	83	301	1917
Salmon	1050	-	6	315	-	-	755	2290	3155	7571
Sawtooth	2880	2116	1174	135	272	4080	720	-	2774	14151
Targhee	2070	465	2106	1810	1298	3241	1592	-	4230	16812
TOTAL	8500	9181	6003	12144	4712	10173	8271	2776	15524	77284

Table 10: Acres of poison plant control in eight national forests in Idaho, 1961-1969.

Forest	1961	1962	1963	1964	1965	1966	1967	1968	1969	TOTAL
Boise	-	-	-	-	-	-	-	-	50	50
Cache	-	-	-	-	2	-	-	-	-	2
Caribou	-	-	-	10	20	5	-	-	-	35
Challis	-	-	11	170	10	10	-	-	-	201
Payette	301	83	733	-	800	-	-	-	-	1917
Salmon	50	-	5	-	-	10	85	-	77	227
Sawtooth	10	36	90	70	-	90	-	90	54	440
Targhee	-	14	-	40	61	65	24	878	929	2011
TOTAL	361	133	839	290	893	180	109	968	1110	4883

Table 11: Miles of pipeline laid in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Couer d'Alene</u>	<u>State Totals</u>
Prior to 1950	-	-	4.3	-	-	-	4.3
1950	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-
1952	-	1.8	-	-	-	-	1.8
1953	-	0.2	-	-	-	-	0.2
1954	-	1.0	-	-	-	-	1.0
1955	-	-	-	-	-	-	-
1956	-	-	0.8	-	-	-	0.8
1957	-	2.8	-	-	-	-	2.8
1958	-	-	-	3.2	-	-	3.2
1959	-	0.5	-	1.0	-	-	1.5
1960	-	3.7	-	-	-	-	3.7
1961	4.5	13.0	-	-	-	-	17.5
1962	0.7	7.3	2.0	9.0	1.5	-	20.5
1963	5.5	15.6	-	19.8	6.4	-	47.3
1964	8.7	13.6	3.3	6.3	1.1	-	33.0
1965	-	3.8	8.3	20.2	-	-	32.3
1966	8.3	3.1	5.0	18.2	0.3	-	35.0
1967	5.2	94.3	0.5	27.0	2.8	-	129.8
1968	-	6.5	0.9	18.6	2.3	-	28.3
1969	-	7.1	-	-	9.8	-	16.9
1970	14.3	5.8	-	15.0	-	-	35.1
Total	47.2	180.1	25.1	138.4	24.2	0	415.0

Table 12: Number of wells developed in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Couer d'Alene</u>	<u>State Totals</u>
Prior to 1950	4	1	5	-	-	-	10
1950	-	-	3	-	-	-	3
1951	2	-	1	-	-	-	3
1952	1	-	1	-	-	-	2
1953	-	6	1	-	-	-	7
1954	-	2	-	-	-	-	2
1955	-	4	1	-	-	-	5
1956	-	2	-	-	6	-	8
1957	2	1	-	-	-	-	3
1958	-	1	-	-	2	-	3
1959	2	3	1	-	4	-	10
1960	5	2	-	-	10	-	17
1961	2	1	-	-	6	-	9
1962	1	-	-	-	-	-	3
1963	-	3	4	2	2	-	9
1964	2	1	1	-	6	-	10
1965	-	4	3	-	1	-	8
1966	1	2	1	2	1	-	7
1967	-	-	-	-	-	-	-
1968	-	2	1	-	-	-	3
1969	-	2	2	-	-	-	4
1970	-	1	4	-	2	-	7
Total	22	38	29	4	40	0	133

Table 13: Number of reservoirs and springs developed in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Couer d'Alene</u>	<u>State Totals</u>
Prior to 1950	258	60	71	76	120	12	597
1950	14	5	7	9	13	-	48
1951	23	11	-	11	5	-	50
1952	19	-	1	6	2	-	28
1953	3	9	2	6	1	-	21
1954	12	14	-	12	2	-	40
1955	16	17	1	5	2	-	41
1956	27	9	-	3	3	1	43
1957	10	20	-	4	5	-	39
1958	50	9	-	11	14	-	84
1959	39	3	1	12	28	-	83
1960	53	19	-	7	13	-	92
1961	37	19	7	28	26	-	117
1962	55	2	1	17	28	-	103
1963	12	11	6	28	27	-	84
1964	39	14	4	62	20	-	139
1965	14	27	8	48	32	-	129
1966	18	4	10	51	7	-	90
1967	27	15	28	42	23	-	135
1968	14	3	13	27	17	-	74
1969	12	7	6	18	42	-	85
1970	14	25	5	34	15	-	93
Total	766	303	171	517	445	13	2215

Table 14: Acres of range land burned and seeded in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Sho-shone</u>	<u>Couer d'Alene</u>	<u>State Totals</u>
Prior to 1950	8783	6350	-	-	3800	-	18933
1950	-	1285	-	-	1325	-	2610
1951	1100	3000	-	-	4084	-	8184
1952	-	2770	-	-	1010	-	3780
1953	-	4650	1600	-	-	-	6250
1954	2025	3804	-	-	4140	-	9994
1955	1435	-	720	-	9631	-	11786
1956	1000	411	-	-	-	-	1411
1957	-	-	-	-	-	-	-
1958	2852	7915	-	-	2650	-	13417
1959	8367	2597	-	-	2475	30	13469
1960	4249	-	-	-	1500	67	5816
1961	21600	6230	8860	-	22600	500	59790
1962	170	839	-	-	612	-	1621
1963	-	4570	-	-	-	-	4570
1964	11494	1609	-	-	-	-	13103
1965	-	1133	5000	-	1283	-	7416
1966	-	60	-	-	-	-	60
1967	8566	7322	70060	-	900	-	86848
1968	240	640	-	-	800	-	1680
1969	-	-	-	-	826	-	826
1970	1100	680	5000	-	7375	-	14155
Total	73006	55865	91240	0	65011	597	285719



Table 15: Acres of brush mechanically controlled and seeded in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Coeur d'Alene</u>	<u>State Totals</u>
Prior to 1950	100	1140	355	-	3520	40	5155
1950	-	160	-	-	1000	-	1160
1951	4366	15129	1340	-	-	-	20835
1952	4620	17799	684	-	800	160	24063
1953	14648	24936	7475	1310	10971	-	59340
1954	8200	21192	1879	-	614	-	31885
1955	1000	16230	4090	1110	1080	-	23510
1956	3400	8463	3616	700	5745	-	21924
1957	9427	2764	2994	-	13277	-	28462
1958	6728	4635	3250	1204	4440	-	20257
1959	14936	17026	2572	3565	13040	53	51192
1960	9477	11555	2129	2670	6045	111	31987
1961	20563	2285	520	780	63	626	24837
1962	3690	967	2700	-	2918	-	10275
1963	33	4578	1353	-	536	65	6565
1964	32315	2635	-	-	3461	-	38411
1965	18244	9545	-	-	13858	-	41647
1966	16123	8120	-	-	9868	-	34111
1967	13307	778	-	60	9376	-	23521
1968	26694	2560	-	-	8478	-	37732
1969	1586	3201	-	-	2128	-	6915
1970	18804	270	-	-	5132	-	24206
Total	228261	175968	34957	11399	116350	1055	567990

Table 16: Acres of brush treated with herbicide and seeded in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Coeur d'Alene</u>	<u>State Totals</u>
Prior to 1950	25	-	-	-	-	-	25
1950	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-
1955	420	-	-	-	-	-	420
1956	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-
1958	640	1667	-	-	-	-	2307
1959	-	-	-	-	-	-	-
1960	2706	-	450	-	-	-	3156
1961	5755	-	1250	-	6500	-	13505
1962	2166	3940	2360	1710	-	-	10176
1963	16850	8960	-	4500	-	-	30310
1964	5560	8733	1400	1950	1900	-	19543
1965	10740	12031	-	2780	-	-	25551
1966	6210	2007	6542	180	-	-	14939
1967	8852	403	-	-	-	-	9255
1968	2600	964	-	-	600	-	4164
1969	-	-	-	-	-	-	-
1970	4830	-	-	-	-	-	4830
Total	67354	38705	12002	11120	9000	0	138181

Table 17: Acres of range land burned (natural revegetation) in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Sho-shone</u>	<u>Coeur d'Alene</u>	<u>State Totals</u>
Prior to 1950	-	-	-	-	-	-	-
1950	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-
1952	6000	-	-	-	-	-	6000
1953	500	-	-	-	-	-	500
1954	-	-	-	-	3500	-	3500
1955	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-
1961	-	-	-	-	-	-	-
1962	-	-	-	-	-	-	-
1963	-	-	-	-	-	-	-
1964	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-
1966	-	-	-	-	1920	-	1920
1967	-	-	4800	-	-	-	4800
1968	-	915	-	-	-	-	915
1969	-	-	-	-	-	-	-
1970	-	-	-	2000	-	-	2000
Total	6500	915	4800	2000	5420	0	19635

Table 18: Acres of brush mechanically controlled (natural revegetation) in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Coeur d'Alene</u>	<u>State Totals</u>
Prior to 1950	-	-	-	-	2080	-	2080
1950	-	-	-	-	640	-	640
1951	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-
1961	-	-	-	-	-	-	-
1962	-	-	-	-	-	-	-
1963	-	240	-	-	3930	-	4170
1964	-	-	-	-	-	-	-
1965	10500	-	-	-	4980	-	15480
1966	-	-	-	-	640	-	640
1967	-	-	-	-	-	-	-
1968	13364	-	-	-	3000	-	16364
1969	-	-	-	-	-	-	-
1970	-	-	-	-	-	-	-
Total	25864	240	0	0	15270	0	41374

Table 19: Acres of brush treated with herbicide (natural revegetation) in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Coeur d'Alene</u>	<u>State Total</u>
Prior to 1950	-	240	-	-	-	-	240
1950	-	-	-	-	350	-	350
1951	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-
1954	-	-	-	-	397	-	397
1955	-	-	-	-	-	-	-
1956	-	1000	-	-	-	-	1000
1957	1000	2500	-	-	-	-	3500
1958	400	3307	-	-	2400	-	6107
1959	1600	2600	322	-	1500	-	6022
1960	9523	1930	3800	-	7950	-	23203
1961	6951	8240	4848	4600	4790	-	29429
1962	-	8400	7660	4500	8995	-	29555
1963	3565	1360	12602	6182	1200	-	24999
1964	2500	3697	5600	8030	7480	-	27307
1965	12000	900	12700	6830	2120	-	34550
1966	31915	1344	3640	-	2500	-	39399
1967	12100	1119	1440	1650	630	-	16939
1968	-	600	2690	2100	3500	-	8890
1969	-	-	-	5650	7000	-	12650
1970	-	640	-	5400	1100	-	7140
Total	81554	37877	55302	44942	51912	0	271587

Table 20: Miles of stock trails developed in the six BLM districts of Idaho through 1970.

	<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Coeur d'Alene</u>	<u>State Total</u>
Prior to 1950	807.6	28.9	152.7	57.2	5.3	-	1051.7
1950	1.5	.2	-	-	-	-	1.7
1951	-	-	-	3.5	-	-	3.5
1952	-	-	-	-	-	-	-
1953	-	-	30.0	-	-	-	30.0
1954	3.0	-	-	.7	-	-	3.7
1955	-	-	-	-	2.5	-	2.5
1956	11.8	.5	7.8	-	-	-	20.1
1957	.5	-	-	-	-	-	.5
1958	68.5	5.7	-	-	-	-	74.2
1959	16.3	2.2	-	.2	-	-	18.7
1960	97.5	-	15.0	.3	-	-	112.8
1961	22.7	-	-	-	-	-	22.7
1962	4.8	20.5	-	-	.3	-	25.6
1963	1.8	21.0	-	-	.1	.1	23.0
1964	1.2	67.5	9.7	-	1.7	-	80.1
1965	-	121.8	4.5	-	.3	-	126.6
1966	-	3.0	-	-	3.3	-	6.3
1967	-	-	-	-	-	-	-
1968	-	-	-	-	-	-	-
1969	-	-	-	-	-	-	-
1970	-	3.0	-	-	-	-	3.0
Total	1037.2	274.3	219.7	61.9	13.5	.1	1606.7

Table 21: Number of cattle guards established in the six BLM districts of Idaho through 1970.

		<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Coeur d'Alene</u>	<u>State Totals</u>
Prior to	1950	20	12	16	4	5	-	57
	1950	10	1	-	-	-	-	11
	1951	1	3	-	-	3	-	7
	1952	5	-	-	-	2	-	7
	1953	7	5	1	1	4	-	18
	1954	6	8	-	-	2	-	16
	1955	3	12	3	5	2	-	25
	1956	-	12	1	-	1	-	14
	1957	5	4	-	4	3	-	16
	1958	5	5	5	-	4	-	19
	1959	18	9	2	-	4	-	33
	1960	10	8	-	7	3	-	28
	1961	19	2	4	6	4	-	35
	1962	16	17	11	10	12	-	66
	1963	13	19	10	19	27	-	88
	1964	24	4	5	7	9	-	49
	1965	6	15	11	7	14	-	53
	1966	21	10	3	21	12	-	67
	1967	16	9	30	21	8	-	84
	1968	14	11	7	7	3	-	42
	1969	2	-	3	-	2	-	7
	1970	15	3	-	3	5	-	26
	Total	236	169	112	122	129	0	768

Table 22: Miles of Fencing constructed in the six BLM districts of Idaho through 1970.

		<u>Boise</u>	<u>Burley</u>	<u>Idaho Falls</u>	<u>Salmon</u>	<u>Shoshone</u>	<u>Coeur d'Alene</u>	<u>State Totals</u>
Prior to	1950	295.4	38.6	73.0	39.2	73.0	3.5	639.2
	1950	36.6	10.3	14.5	7.1	14.5	-	86.1
	1951	52.2	14.4	14.6	0.6	14.6	-	92.7
	1952	48.0	20.3	13.1	4.4	13.1	0.8	93.2
	1953	100.3	30.3	19.5	10.0	19.5	-	176.3
	1954	44.3	45.3	35.4	8.5	35.4	-	156.9
	1955	31.4	89.9	10.9	9.1	10.9	-	154.4
	1956	17.1	25.2	19.8	12.7	19.8	-	128.4
	1957	62.5	36.7	14.6	14.4	14.6	1.8	143.0
	1958	63.9	28.3	44.7	10.8	44.7	1.9	168.0
	1959	138.8	48.1	28.2	25.1	28.2	3.9	248.9
	1960	69.4	23.0	49.1	24.7	49.1	0.5	171.2
	1961	122.0	30.2	40.3	40.4	40.3	1.5	264.7
	1962	49.3	27.2	39.4	48.4	39.4	-	217.1
	1963	51.4	66.6	122.4	74.9	122.4	1.1	402.4
	1964	160.8	86.7	42.9	51.4	42.9	0.3	400.4
	1965	150.4	84.4	38.6	61.7	38.6	0.8	363.9
	1966	142.4	99.0	37.1	65.9	37.1	-	372.5
	1967	129.4	77.6	35.7	64.4	35.7	-	386.1
	1968	94.2	72.6	42.6	41.8	42.6	-	341.1
	1969	61.7	30.8	66.6	32.5	66.6	-	214.1
	1970	96.7	21.4	42.8	28.2	42.8	-	196.4
	Total	2018.2	1006.9	854.8	676.2	845.8	16.1	5418.0



Table 23: Thousands of cattle and calves, not kept for milk; stocker sheep; and animal units on farms - January 1, by year

Year	Cattle and Calves (a)						Stock Sheep (b)					Animal Units		
	Cows and Heifers	Heifers 1-2	Calves	Steers	Bulls	No. on farms	Lambs		1 yr. & over		No. on farms	Cattle	Sheep	Total
							Ewes	Rams and Wethers	Ewes	Rams and Wethers				
1971														
1970	588	146	480	172	29	1415	70	5	544	13	632	1054.8	126.4	1181.2
1969	564	145	469	172	28	1378	83	5	585	14	687	1024.4	137.4	1161.8
1968	537	146	447	171	29	1330	88	6	609	16	719	989.9	134.8	1133.7
1967	513	132	429	160	28	1262	80	6	616	17	719	938.6	143.8	1082.4
1966	521	145	426	177	28	1297	93	2	645	21	761	968.0	152.2	1120.2
1965	508	140	425	170	29	1272	102	4	779	32	917	946.8	183.4	1130.2
1964	475	127	441	187	26	1256	111	4	779	32	926	919.5	185.2	1104.7
1963	444	114	394	167	25	1144	93	4	847	31	975	843.7	195.0	1038.7
1962	420	101	344	161	24	1050	92	6	856	33	987	784.2	197.4	981.6
1961	385	100	338	166	24	1013	100	5	911	34	1050	749.7	210.0	959.7
1960	385	105	338	166	24	1018	124	8	902	37	1071	753.5	214.2	967.7
1959	389	110	320	165	23	1007	131	9	884	36	1060	752.1	212.0	964.1
1958	374	104	306	154	22	960	119	8	867	35	1029	717.4	205.8	923.2
1957	378	104	311	154	23	970	123	8	834	34	999	724.7	199.8	924.5
1956	357	101	344	184	23	1009	105	11	848	35	999	737.2	199.8	937.0
1955	357	95	323	156	24	955	116	14	865	35	1030	704.4	206.0	910.0
1954	312	92	255	155	25	839	120	19	865	36	1020	630.6	208.0	838.6
1953	286	99	247	172	23	827	134	14	865	37	1030	616.9	210.0	826.9
1952	275	86	243	143	21	768	156	17	840	37	1040	570.3	210.0	780.3
1951	236	81	196	121	18	652	113	12	840	35	990	488.5	200.0	688.5
1950	219	70	165	115	17	586	96	12	848	34	990	445.1	198.0	643.1

(a) Data for 1954-1970 from Ag Statistics, 1950-1953 from Livestock and Poultry inventory.

(b) Data for 1964-1970 from Ag Statistics, 1961-1963 from Livestock and Meat Statistics, 1954-1960 from Statistical Bulletin No. 278, and 1950-1953 from Statistical Bulletin No. 177.

Table 24: Permitted use of grazing district land administered by the BLM in Idaho, 1960 through 1969.

Year	Animal-Unit-Months of Use		
	Cattle and Horses	Sheep and Goats	Total
1969	915,452	256,576	1,172,028
1968	916,719	264,825	1,181,544
1967	909,430	265,473	1,174,903
1966	910,631	282,603	1,193,234
1965	910,502	305,562	1,216,064
1964	871,269	325,746	1,197,015
1963	842,423	343,321	1,185,744
1962	808,955	344,582	1,153,537
1961	789,332	377,832	1,167,164
1960	752,710	378,694	1,131,404

Source: U.S. Department of Interior, Bureau of Land Management, Public Land Statistics, 1960-1969.