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Fact Sheet for the Chairman, Environment, Energy, and Natural Resources Subcommittee, Committee on Government Operations, House of Representatives

April 1993

RANGELAND MANAGEMENT

Profile of the Forest Service's Grazing Allotments and Permittees

GAO/RCED-93-141FS

GAO

United States
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Resources, Community, and
Economic Development Division

B-248775

April 28, 1993

The Honorable Mike Synar
Chairman, Environment, Energy, and
Natural Resources Subcommittee
Committee on Government Operations
House of Representatives

Dear Mr. Chairman:

This fact sheet responds to your February 14, 1992, request and subsequent discussions with your office regarding information about livestock grazing on public rangeland managed by the Department of Agriculture's Forest Service. Through the issuance of permits, the Forest Service allows livestock operators to graze livestock on parcels of the land it manages called allotments. These permits specify the terms for livestock grazing on each allotment, including the number and type of livestock allowed as well as the locations and dates that grazing is permissible. The Forest Service bills ranchers for the grazing, measuring usage in animal months (AM).[1]

As agreed with your office, this fact sheet provides information on (1) the number, average acreage, and average stocking rate[2] of Forest Service allotments and (2) the total and average number of AMs controlled by Forest Service permittees. We grouped the allotment and permittee information into several categories, emphasizing the 500 largest and smallest allotments and permittees. AMs provided by the Forest Service were organized by permittee number; therefore, in this fact sheet we refer to permittee numbers as permittees. However, the term "permittee" as used in this report does not accurately represent the number of livestock operators holding Forest Service permits because one livestock operator may hold permits

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[1]The Forest Service defines an animal month as 1 month's use and occupancy of the range by one weaned or adult cow with or without calf, bull, steer, heifer, horse, burro or mule, or five sheep or goats.

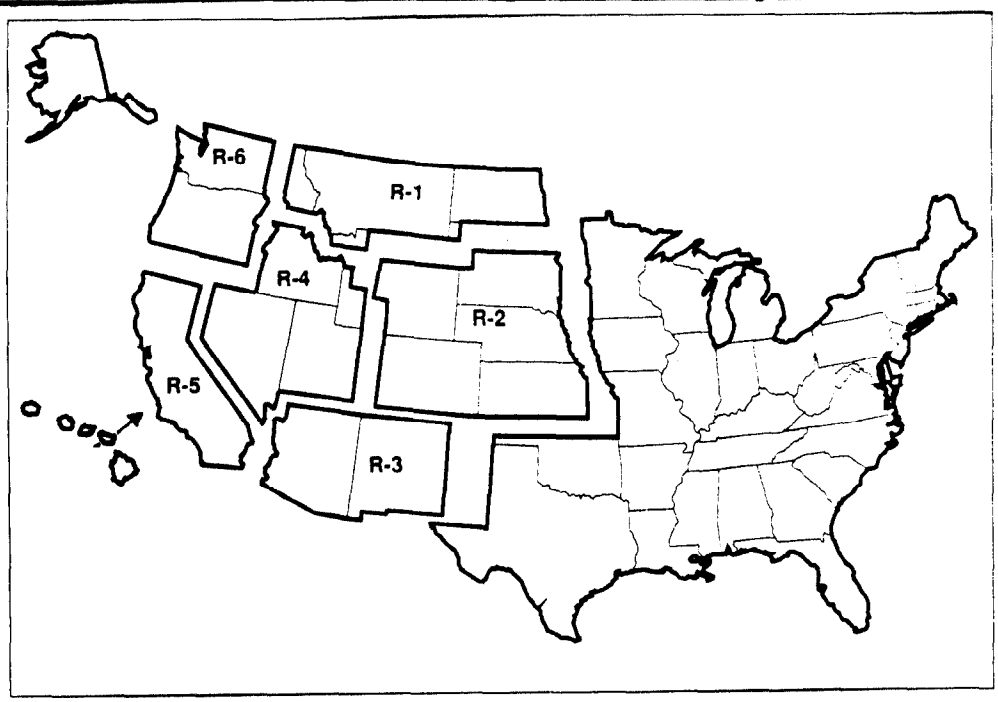
[2]The average stocking rate is the number of acres needed to provide 1 AM.

under more than one permittee number. Conversely, permittee numbers held by grazing associations may give several operators the authority to graze livestock under the permit.

Also, as agreed, this fact sheet provides information on the Forest Service's six western regions (the Forest Service's three other regions were excluded). Grazing permits issued for the six western regions--which encompass 15 western states[3]--cover 97 percent of the Forest Service's total number of AMs. Figure 1 shows the locations of the Forest Service's six western regions.

[3]The 15 states within regions 1 through 6 are Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

Figure 1: Forest Service Regions 1 Through 6



Source: Map prepared by GAO based on Forest Service data.

According to the most recent allotment information available from the Forest Service in late 1992 on the six western regions, we found that

-- the Forest Service was administering 8,455 allotments[4] encompassing 89.6 million acres in the 15 western states;

-- the average acreage of these allotments--10,591 acres for all six regions--varied by region, ranging from a 5,371-acre average for Region 1 allotments to a 14,773-acre average for Region 6 allotments;

-- the 500 largest allotments in the data base encompassed over 29 million acres, or about 32 percent of the total allotment acreage, and the 500 smallest allotments

[4]The Forest Service was concerned that allotments encompassing fewer than 2 acres might be inactive and/or vacant and should have been removed from the data base. Consequently, we analyzed only those Forest Service allotments containing 2 or more acres, reducing the original data base by 17 allotments.

encompassed 49,007 acres, or .05 percent of the total allotment acreage; and

-- the average number of acres required to provide 1 AM on these allotments was 9.7 acres overall, ranging from a 7.2-acre average for allotments in Region 4 to an 18.5-acre average for Region 5 allotments.

Section 1 contains additional information on Forest Service allotments.

According to the most recent permittee information available from the Forest Service on these six western regions, we found that

-- the Forest Service was administering permits held by 8,206 permittees[5] encompassing over 9.2 million AMs in the 15 western states;

-- the overall average number of AMs controlled by a permittee was 1,127, ranging from a 557-AM average in Region 1 to a 1,380-AM average in Region 3; and

-- the 500 permittees in the data base with the highest livestock grazing levels encompassed nearly 4.5 million AMs, or about 48 percent of the total number of AMs, and the 500 permittees with the lowest livestock grazing levels encompassed 8,476 AMs, or .09 percent of the total number of AMs allowed.

Section 2 contains additional information on Forest Service permittees.

SCOPE AND METHODOLOGY

In an earlier fact sheet,[6] we provided information on (1) the number, average acreage, and average stocking rate of allotments managed by the Department of the Interior's

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[5]The Forest Service was concerned that permittees with 1 AM or less might hold inactive permits and should have been removed from the data base. Consequently, we only analyzed permittees with 2 or more AMs. This reduced the original data base by 158 permittees.

[6]Rangeland Management: Profile of the Bureau of Land Management's Grazing Allotments and Permits (GAO/RCED-92-213FS, June 10, 1992).

Bureau of Land Management (BLM) and (2) the total and average number of animal unit months (AUM)[7] covered by BLM's grazing permits. As agreed with your office, we were to provide similar information for livestock grazing on public rangeland managed by the Forest Service. However, the data on AMs provided by the Forest Service were organized by permittee number rather than by permit. A permittee number may encompass one or more permits and thus is not comparable to a BLM grazing permit. To make this distinction clear, we refer to permittee numbers in this fact sheet as "permittees" rather than permits.

Because the Forest Service has no central data base for grazing information, headquarters officials asked officials from each forest to compile the information. A Forest Service headquarters official stated that the data we received were the most recent available. We used a data base program to summarize and analyze the Forest Service's data, but we did not attempt to verify the accuracy of the data because doing so would have been too time-consuming. We discussed our approach with officials in the Forest Service's Range Management Division in Washington, D.C., and in Region 6 in Portland, Oregon. We also discussed the facts in this fact sheet with Range Management Division officials, who generally agreed with them. Appendix I provides greater detail on the data base as well as a discussion of some of the limitations of the Forest Service's data.

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Unless you announce its contents earlier, we plan no further distribution of this fact sheet until 30 days from the date of this letter. At that time, we will send copies to the Secretary of Agriculture and the Chief of the Forest Service. We will make copies available to others upon request.

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[7]BLM's definition of AUM is similar to the Forest Service's definition of AM. BLM defines an AUM as the amount of forage needed to sustain one 1,000-pound cow, one horse, or five sheep for 1 month.

Please contact me at (202) 512-7756 if you or your staff have any questions concerning this fact sheet. Major contributors to this fact sheet are listed in appendix II.

Sincerely yours,

James Duffus III
Director, Natural Resources
Management Issues

CONTENTS

ABBREVIATIONS

AM	animal month
AUM	animal unit month
BLM	Bureau of Land Management
GAO	General Accounting Office

SECTION 1
FOREST SERVICE ALLOTMENTS

According to the most recent information available in late 1992, the Forest Service's six western regional offices were responsible for managing 8,472 allotments. However, we restricted our analysis to allotments encompassing 2 or more acres to (1) eliminate the allotments not used by active grazing permits and (2) respond to the Forest Service's concerns that allotments encompassing 1 acre or less might be vacant and should have been removed from the data base. Eliminating these allotments reduced our data base to 8,455 allotments encompassing 89.6 million acres. We analyzed the number, acreage, and location of these allotments to determine their distribution throughout the regions. We also isolated data on the largest and smallest allotments to see how they differed from allotments of average acreage. Finally, we analyzed the average stocking rate for Forest Service land managed by each regional office to compare the land's productivity for livestock grazing in each region.

OVERALL ALLOTMENT INFORMATION

As shown in table 1.1, the number of allotments located in each region, as well as the average acreage of these allotments, varied widely. The Forest Service's Region 2 managed the most allotments, while Region 5 managed the least. For the six western regions overall, the average allotment encompassed 10,591 acres. On average, Region 6 managed the largest allotments and Region 1 managed the smallest.

Table 1.1: Western Region Allotments With 2 or More Acres

Forest Service region	Number of allotments	Total acres	Average acreage
Region 1	1,582	8,496,670	5,371
Region 2	2,231	16,347,192	7,327
Region 3	1,414	19,227,774	13,598
Region 4	1,766	24,248,831	13,731
Region 5	680	9,677,801	14,232
Region 6	782	11,552,114	14,773
Total	8,455	89,550,382	10,591[a]

[a]This figure is the average for these allotments.

THE LARGEST ALLOTMENTS

The 500 largest allotments in the data base represented 5.9 percent of the total allotments in the data base, but they encompassed about 32 percent of the total allotment acreage, or over 29 million acres. As shown in table 1.2, the 500 largest allotments averaged 58,178 acres. Region 4 managed the largest numbers of allotments and acres in this breakout, while Region 1 managed the fewest allotments and acres.

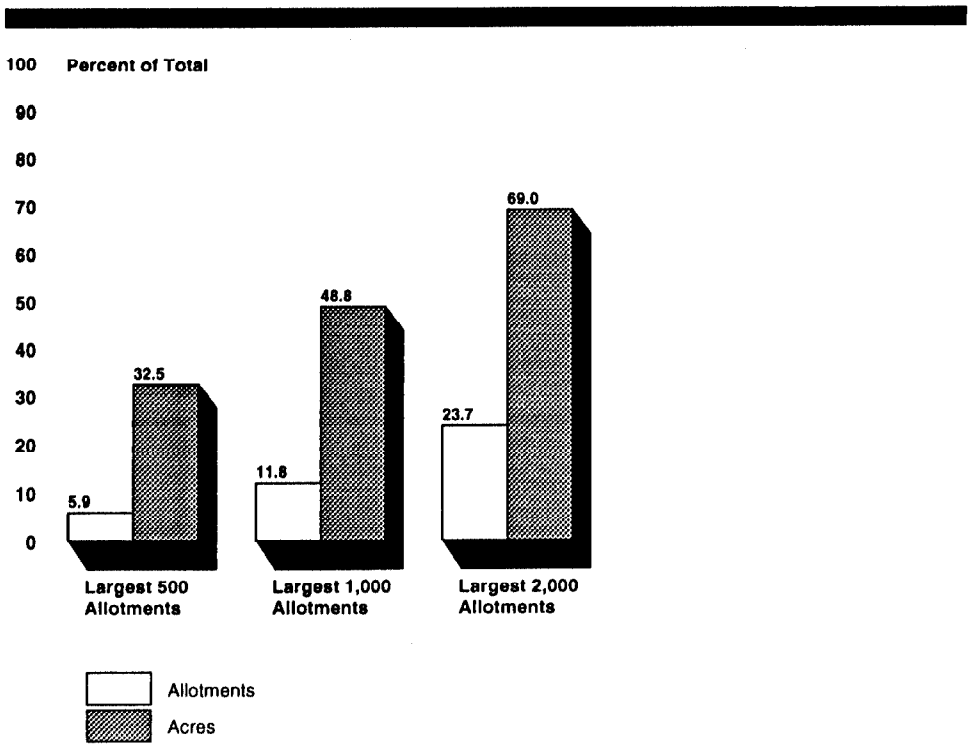
Table 1.2: 500 Largest Western Region Allotments

Forest Service region	Number of allotments	Total acreage	Average acreage
Region 1	20	964,696	48,235
Region 2	46	2,507,882	54,519
Region 3	130	8,290,914	63,776
Region 4	158	9,320,223	58,989
Region 5	68	3,471,698	51,054
Region 6	78	4,533,822	58,126
Total	500	29,089,235	58,178[a]

[a]This figure is the average for the largest 500 allotments.

We also calculated the percentage of acres encompassed by the 1,000 and 2,000 largest allotments in the data base. Figure 1.1 shows that, compared with the 500 largest allotments, these groups of allotments encompassed 48.8 percent and 69.0 percent, respectively, of the Forest Service's total allotment acreage in the western regions.

Figure 1.1: Percentage of the Western Region Allotments and Acres Encompassed by the 500, 1,000, and 2,000 Largest Allotments



THE SMALLEST ALLOTMENTS

The 500 smallest allotments in the data base represented 5.9 percent of the total allotments in the data base, but they encompassed .05 percent of the total allotment acreage, or 49,007 acres. As shown in table 1.3, the 500 smallest allotments averaged 98 acres. Region 1 managed the largest numbers of allotments and acres in this group, while Region 5 managed the fewest allotments and acres.

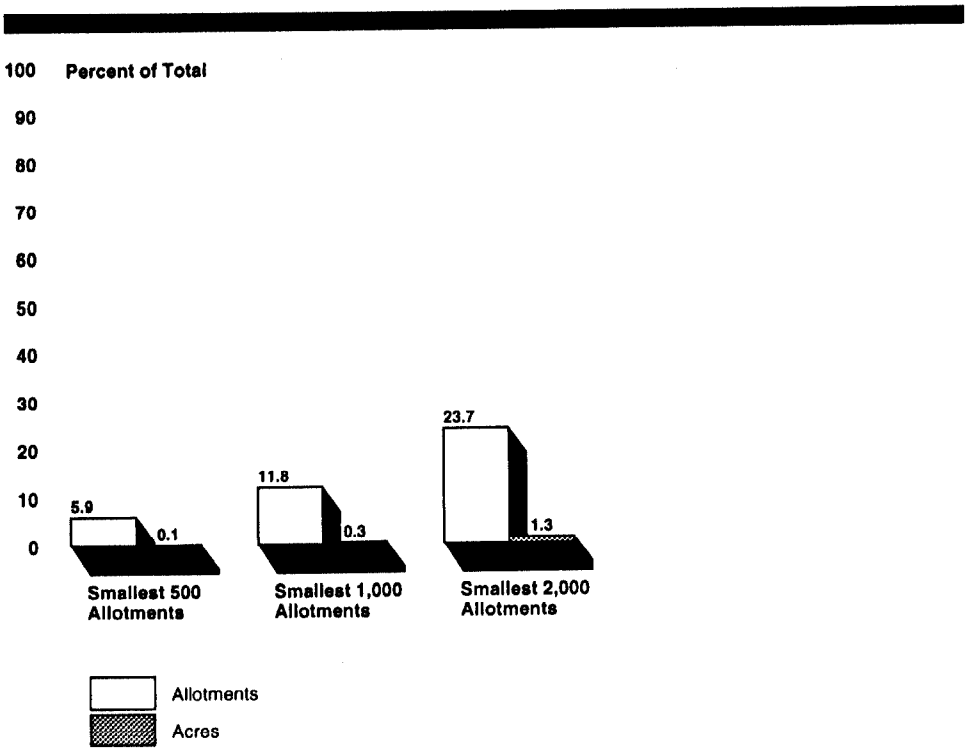
Table 1.3: 500 Smallest Western Region Allotments With 2 or More Acres

Forest Service region	Number of allotments	Total acreage	Average acreage
Region 1	120	12,856	107
Region 2	110	11,950	109
Region 3	93	11,244	121
Region 4	75	4,752	63
Region 5	20	1,721	86
Region 6	82	6,484	79
Total	500	49,007	98[a]

[a]This figure is the average for the smallest 500 allotments.

We also calculated the percentage of acres encompassed by the 1,000 and 2,000 smallest allotments in the data base. As shown in figure 1.2, compared with the 500 smallest allotments, these groups of allotments encompassed .25 and 1.27 percent, respectively, of the Forest Service's allotment acreage in the western regions.

Figure 1.2: Percentage of Western Region Allotments and Acres Encompassed by the 500, 1,000, and 2,000 Smallest Allotments With 2 or More Acres



AVERAGE STOCKING RATE

We analyzed the average stocking rate on Forest Service land in each region to compare the land's productivity for livestock grazing. To determine the average stocking rate, we divided the number of acres managed by each Forest Service regional office by the number of animal months (AM) controlled by permittees under each office. We limited this analysis to allotments with 2 or more acres and permittees with 2 or more AMs. Table 1.4 shows that the average stocking rate for these Forest Service allotments was 9.7 acres per AM. On average, Forest Service land managed by Region 5 needed the most acreage to provide one AM of forage, while Forest Service land managed by Region 4 needed the least acreage.

Table 1.4: Average Stocking Rate, by Regional Office, for Permittees With 2 or More AMs and Allotments With 2 or More Acres

Forest Service region	Total acres	Total AMs	Average stocking rate
Region 1	8,496,670	683,986	12.4
Region 2	16,347,192	2,200,979	7.4
Region 3	19,227,774	1,710,111	11.2
Region 4	24,248,831	3,351,418	7.2
Region 5	9,677,801	522,605	18.5
Region 6	11,552,114	780,140	14.8
Total	89,550,382	9,249,239	9.7[a]

[a]This figure is the average rate for these allotments.

SECTION 2
FOREST SERVICE PERMITTEES

According to the most recent information available, the Forest Service's six western regional offices were administering permits held by a total of 8,364 permittees. We restricted our analysis to those permittees using 2 or more AMs, to respond to the Forest Service's concerns that permittees with 1 AM or less might represent permittees that should have been removed from the data base. Eliminating these permittees reduced the number of permittees in our analysis to 8,206 controlling 9.2 million AMs. We analyzed the number of permittees and the average AMs the permittees controlled to determine their distribution throughout the Forest Service's western regions. We also grouped the information on permittees into several categories and isolated information about the permittees that controlled the largest number and the smallest number of AMs.

OVERALL PERMITTEE INFORMATION

As shown in table 2.1, the regions varied widely in the number of Forest Service permittees and the average number of AMs that the permittees controlled. Region 4 had more permittees, who controlled more AMs, than any of the other western regions. However, Region 3 permittees, numbering about half as many as Region 4 permittees, controlled the largest average number of AMs in the Forest Service's western regions. Region 5 had the smallest number of permittees and AMs. However, Region 1 permittees controlled the smallest average number of AMs in these regions.

Table 2.1: All Permittees With 2 or More AMs, by Region

Forest Service region	Number of permittees	Total AMs	Average AMs
Region 1	1,227	683,986	557
Region 2	1,809	2,200,979	1,217
Region 3	1,239	1,710,111	1,380
Region 4	2,692	3,351,418	1,245
Region 5	608	522,605	860
Region 6	631	780,140	1,236
Total	8,206	9,249,239	1,127[a]

[a]This figure is the average for these permittees.

THE LARGEST PERMITTEES

The 500 permittees that controlled the largest number of AMs accounted for 6.1 percent of the total number of permittees in the data base. About 48 percent of the AMs in the data base, or almost 4.5 million AMs, were controlled by these permittees. Table 2.2 shows that the average number of AMs controlled by the permittees in this category was 8,934. Region 4 had the largest number of permittees and AMs in this breakout. Region 1 had the smallest number of permittees in this breakout, but these permittees controlled the largest average number of AMs.

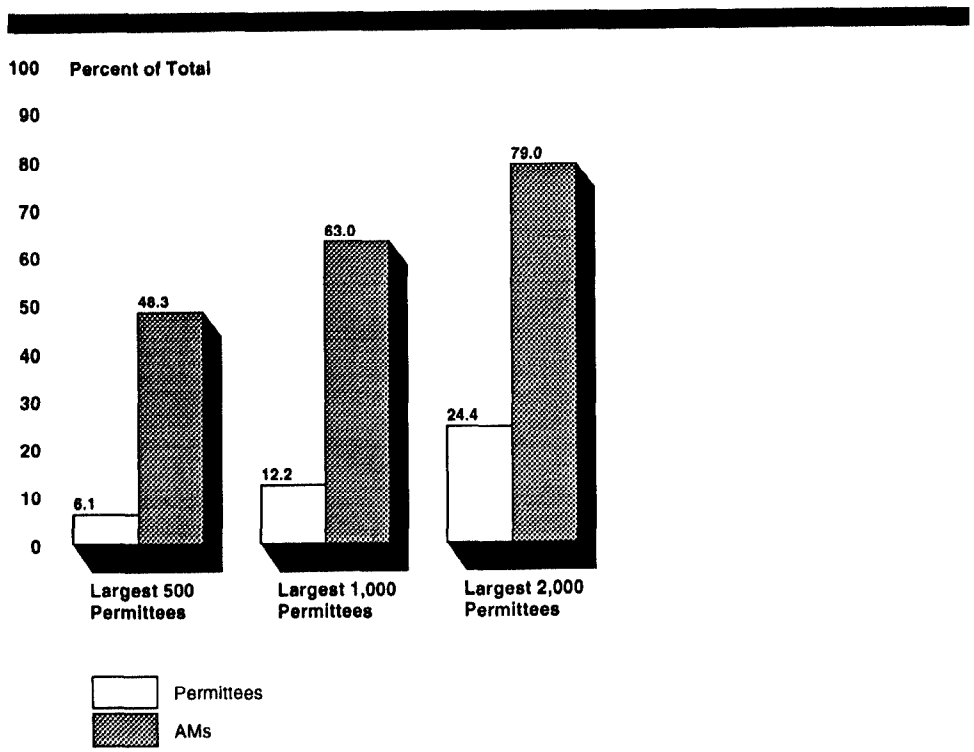
Table 2.2: 500 Permittees Controlling the Largest Number of AMs

Forest Service region	Number of permittees	Total AMs	Average AMs
Region 1	9	204,258	22,695
Region 2	114	1,002,336	8,792
Region 3	130	929,080	7,147
Region 4	193	1,936,553	10,034
Region 5	20	151,256	7,563
Region 6	34	243,616	7,165
Total	500	4,467,099	8,934[a]

[a]This figure is the average for the largest 500 permittees.

We also calculated the percentage of AMs controlled by the 1,000 and 2,000 largest permittees in the data base. Figure 2.1 shows that, compared with the 500 largest permittees, the 1,000 and 2,000 largest permittees--accounting for 12.2 percent and 24.4 percent, respectively, of the permittees in regions 1 through 6--controlled the use of 63 percent and 79 percent of the total allowable AMs in these regions.

Figure 2.1: Percentage of Western Region Permittees and AMs Covered by the 500, 1,000 and 2,000 Largest Permittees With 2 or More AMs



THE SMALLEST PERMITTEES

The 500 permittees that controlled the smallest number of AMs in the data base accounted for 6.1 percent of the total permittees in the data base. About .09 percent of the total AMs, or 8,476 AMs, were controlled by these permittees. As shown in table 2.3, the permittees in this category controlled an average of 17 AMs each. Region 4 had the largest number of permittees and AMs in this group, while Region 6 had the smallest number.

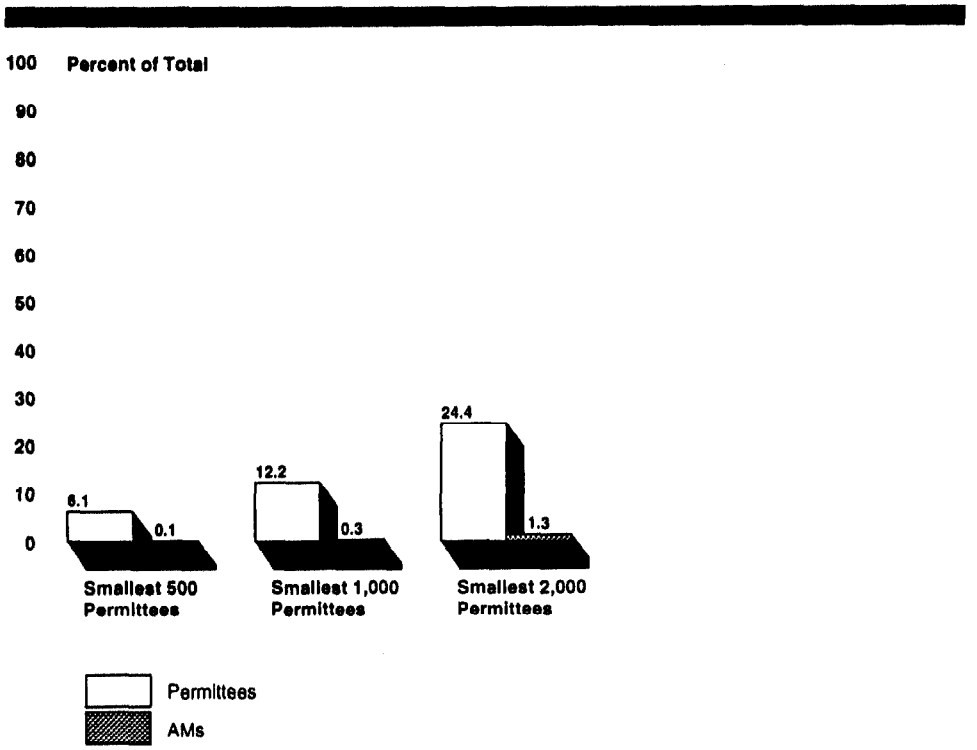
Table 2.3: 500 Permittees, With 2 AMs or More, Controlling the Smallest Number of AMs

Forest Service region	Number of permittees	Total AMs	Average AMs
Region 1	135	1,966	15
Region 2	64	1,073	17
Region 3	83	1,483	18
Region 4	177	3,182	18
Region 5	22	438	20
Region 6	19	334	18
Total	500	8,476	17[a]

[a]This figure is the average for the smallest 500 permittees.

We also calculated the percentage of AMs controlled by the 1,000 and 2,000 smallest permittees in the data base. As shown in figure 2.2, compared to the smallest 500 permittees, these groups controlled .3 and 1.3 percent, respectively, of the total allowable AMs in the western regions.

Figure 2.2: Percentage of Western Region Permittees and AMs Covered by the 500, 1,000, and 2,000 Smallest Permittees With 2 or More AMs



STRATIFICATION OF ALL FOREST SERVICE PERMITTEES

To determine how the number of permittees in the Forest Service compared to the number of AMs controlled by these permittees, we stratified the data base for regions 1 through 6 into seven categories on the basis of the number of AMs allowed to be grazed. Table 2.4 shows that more Forest Service permittees in the western regions fell into the 101-to-500 AM category than in any other category. The categories with the fewest Forest Service permittees in these regions were the 2-to-10 AM and the over-10,000 AM categories, which had an almost equal number of permittees.

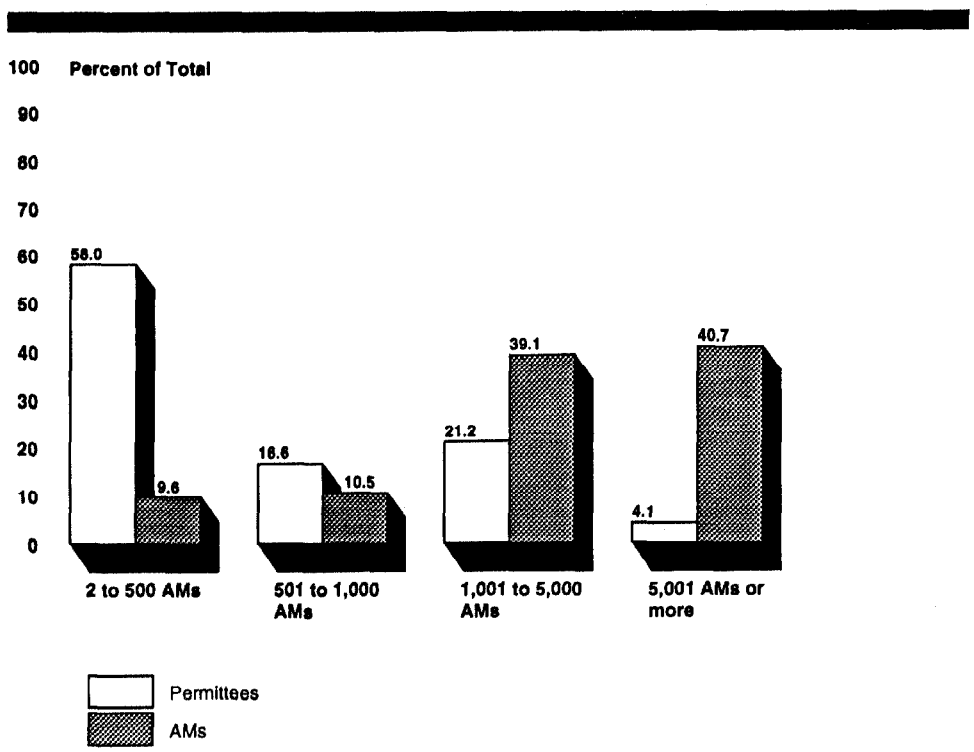
Table 2.4: Western Region Grazing Permittees, by Category, With 2 or More AMs

Number of AMs	Number of permittees	Total AMs	Average AMs
2 to 10	121	748	6
11 to 100	1,534	81,911	53
101 to 500	3,107	809,366	260
501 to 1,000	1,365	973,552	713
1,001 to 5,000	1,743	3,618,849	2,076
5,001 to 10,000	217	1,512,999	6,972
Over 10,000	119	2,251,814	18,923
Total	8,206	9,249,239	1,127[a]

[a]This figure is the average for these permittees.

We combined the seven categories into four groups to depict graphically how the permittees and the AMs they control were distributed. As shown in figure 2.3, 58 percent of the permittees control between 2 and 500 AMs each. These permittees control 892,025 AMs, or 9.6 percent of the total AMs allowed. In contrast, 4.1 percent of Forest Service permittees in the western regions control more than 5,000 AMs each. These permittees control the use of 3.8 million AMs, or about 41 percent of the total AMs allowed.

Figure 2.3: Percentage of Western Region Permittees and AMs, by Group, With 2 or More AMs



THE FOREST SERVICE'S DATA BASE AND ITS LIMITATIONS

To prepare the profile of the Forest Service's grazing allotments and permittees, we obtained data from Forest Service headquarters officials in the Range Management Division. Because the Forest Service has no central data base for grazing information, officials at headquarters requested officials at each forest to compile the information. Regional officials coordinated the effort for all forests in their region and sent the most recent information available to the Forest Service's staff at headquarters. The headquarters staff then consolidated the data and sent it to us. Because the allotment data was found to be incomplete, we requested new data from the Forest Service. As a result, the allotment and permittee data might have been taken during different time periods. These data bases provided us with information pertaining to every active Forest Service permittee and allotment in regions 1 through 6, including the allotment number, the allotment location, the amount of federal land in the allotment, the permittee number, the permit holder's name, and the number of animal months (AM) controlled by the permittee.

There were some limitations to the data that affected the information we could report. These limitations include the following:

-- Forest Service data were organized by permittee number. A permittee number may encompass more than one permit, but not necessarily all of the permits held by a permittee. For example, a livestock operator may hold permits under one permittee number using the name "John Smith" and other permits under another permittee number using the name "Smith Ranch." These permittee numbers would show up individually in the data

base and in our profile and each could cover one or more permits. We did not consolidate all of the permittee numbers that had been issued to a particular livestock operator into one entry. Consequently, an operator holding more than one permittee number may be represented in our profile more than once. For this report, we refer to each permittee number as a permittee.

-- Permittee numbers assigned to grazing associations were counted as one entry in the data base, even though several livestock operators may have the authority to graze livestock under the permits associated with that permittee number. According to a Forest Service Range Management official, grazing associations are responsible for determining which individual operators will be allowed to graze their livestock each year and the number of AMs allowed to each operator, up to the limit specified in the permit. We did not identify how many livestock operators actually used these allotments.

-- The data gathered and sent to us by the Forest Service does not agree with the Forest Service's fiscal year 1991 annual report. The annual report lists 550 more allotments and 8.2 million more acres in regions 1 through 6, all sizes of allotments included. The Forest Service's Chief of Range Management could not explain these differences. However, he commented that the Forest Service recently changed its data collection procedures and that, in the future, such data should be more accurate and consistent.

APPENDIX II

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