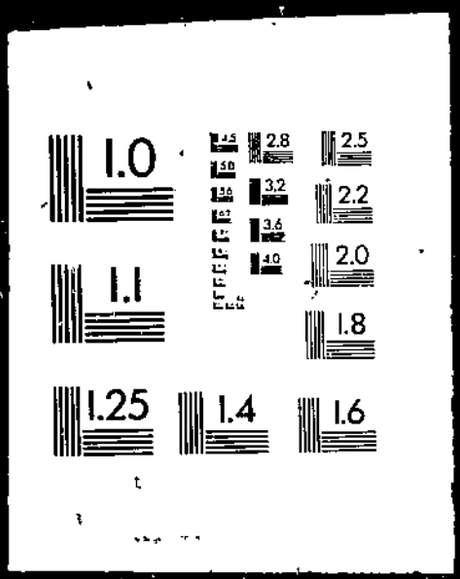
PB89-155709 USDA/SB-771 U.S. GRAZING LANDS: 1950-82.(STATISTICAL BULLETIN) / A . B. DAUGHERTY ECONOMIC RESEARCH SERVICE, WASHINGTON, DC. RESOURCE S AND TECHNOLOGY DIV. JAN 89 82P

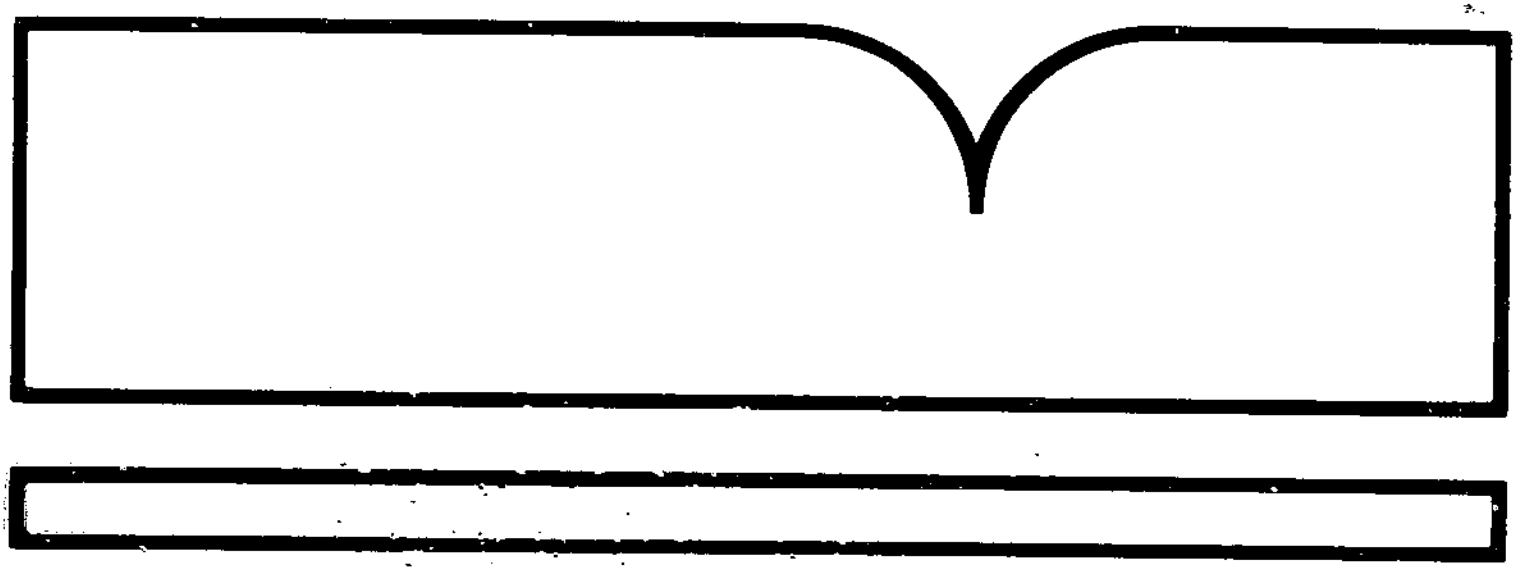


PB89-155709

U.S. Grazing Lands: 1950-82

(U.S.) Economic Research Service, Washington, DC

Jan 89



U.S. Department of Commerce
National Technical Information Service
NTIS

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. SB-771	2.	3. Recipient's Accession No. PB89 155709/AS

4. Title and Subtitle
U.S. Grazing Lands: 1950-82

5. Report Date
January 1989

6.

7. Author(s)
Arthur B. Daugherty

8. Performing Organization Rept. No.
SB-771

9. Performing Organization Name and Address
Resources and Technology Division
Economic Research Service
U.S. Department of Agriculture
Washington, D.C. 20005-4788

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address

13. Type of Report & Period Covered

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

U.S. livestock owners grazed their herds on 817 million acres in 1982, down about 20 percent from 1950. This drop resulted primarily from improved productivity of grazing lands, as animal units of cattle and sheep increased more than 30 percent during 1950-82. Only the Southern Plains, of all farm production regions, showed an increase in land grazed during 1950-82. Non-Federal grazing land consisted of rangeland (67 percent), pastureland (21 percent), and grazed forest (12 percent). More than 30 percent of the non-Federal range and pasture was rated in good to excellent condition, and 12 percent of the grazed forest had very high or high forage value. This report examines grazing trends, demands, resources, and conditions of resources through 1982.

17. Document Analysis a. Descriptors
Trends

b. Identifiers/Open-Ended Terms
Cattle
Sheep
Forest
Grazing
Land
Land values

c. COSATI Field/Group 02-B, 05-C

Prices as of 1/1/89
Paper:
Fiche: $6.95
Cost codes are: for Paper and A01 for Fiche

18. Availability Statement:
National Technical Information Service
5285 Port Royal Road, Springfield, VA 22161

19. Security Class (This Report) Unclassified
21. No. of Pages 82
20. Security Class (This Page) Unclassified
22. Price

(See ANSI-Z39.18) See Instructions on Reverse OPTIONAL FORM 272 (4-77) (Formerly NTIS-35) Department of Commerce

United States
Department of
Agriculture

Economic
Research
Service

Statistical
Bulletin
Number 771

U.S. Grazing Lands: 1950-82

Arthur B. Daugherty

U.S. GRAZING LANDS: 1950-82. By Arthur B. Daugherty. Resources and Technology Division, Economic Research Service, U.S. Department of Agriculture. Statistical Bulletin No. 771.

ABSTRACT

U.S. livestock owners grazed their herds on 817 million acres in 1982, down about 20 percent from 1950. This drop resulted primarily from improved productivity of grazing lands, as animal units of cattle and sheep increased more than 30 percent during 1950-82. Only the Southern Plains, of all farm production regions, showed an increase in land grazed during 1950-82. Non-Federal grazing land consisted of rangeland (67 percent), pastureland (21 percent), and grazed forest (12 percent). More than 30 percent of the non-Federal range and pasture was rated in good to excellent condition, and 12 percent of the grazed forest had very high or high forage value. This report examines grazing trends, demands, resources, and conditions of resources through 1982.

Keywords: Land use, grazing, pasture, range, forest, land classification, cattle, sheep, land values, trends.

SALES INFORMATION

Purchase copies of this report from ERS/NASS Reports, P. O. Box 1608, Rockville, MD 20850. Order by title and series number. Write to the above address for price information, or call the ERS/NASS order desk at 1-800-999-6779. You may also charge your purchase by telephone to VISA or MasterCard. Foreign customers, please add 25 percent for postage (includes Canada).

Microfiche

Purchase microfiche copies ($6.95 each) from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161. Order by title and series number. Enclose a check or money order payable to NTIS; add $3 handling charge for each order. Call NTIS at (703) 487-4650 and charge your purchase to your VISA, MasterCard, American Express, or NTIS Deposit Account. NTIS will RUSH your order within 24 hours for an extra $10; call (800) 336-4700.

Electronic Database Available

An electronic database containing data related to the subject of this report is available for sale from the Economic Research Service. This database is in the form of LOTUS 1-2-3 (Release 2) worksheet files on a MS-DOS/PC-DOS-compatible 5.25" DSDD diskette. To order, write ERS/DATA, Room 228, 1301 New York Ave., NW, Washington, DC 20005-4788. Specify Major Land Uses and include a check or money order payable to "ERS/DATA" for $20.

For further information on this database, write Ken Krupa, Room 408, 1301 New York Ave., NW, Washington, DC 20005-4788 or call (202) 786-1422.

Washington, DC 20005-4788 January 1989

SUMMARY

U.S. livestock producers grazed their herds on 817 million acres in 1982, down 20 percent from 1950. Non-Federal grazing land, which made up 75 percent of all land grazed in 1982, consisted of 67 percent rangeland, 21 percent pastureland, and 12 percent grazed forest land. More than 30 percent of the non-Federal rangeland and pastureland was in good to excellent condition, and 12 percent of grazed forest land had high or very high forage value. This report examines grazing trends, demands, resources, and conditions of resources through 1982.

The 20-percent decline in grazing land affected the Northeast, Lake States, and Southeast the most. The smallest declines occurred in the Northern Plains, Mountain, and Pacific regions. The Southern Plains had more land grazed in 1982 than in 1950, but the region's peak area grazed occurred in 1969.

The 1982 National Resource Inventory (NRI), a major source of data for this report, focused on the characteristics and conditions of more than 603 million acres of non-Federal pasture, range, and grazed forest. Over half the non-Federal pasture and range and 60-70 percent of the non-Federal grazed forest needed conservation treatment. However, the principal treatment recommended for grazed forest was timber stand upgrading rather than forage improvement.

CONTENTS

LIST OF TABLES

Appendix Tables

LIST OF FIGURES

U.S. Grazing Lands: 1950-82

Arthur B. Daugherty

INTRODUCTION

Grazing, the most extensive use of U.S. agricultural land, totaled more than 800 million acres in 1982, 36 percent of total U.S. land area (4).1/ The amount of grazing land varies, depending on definition (permanent pasture, range, cropland pasture, and grazed forest). One difficulty in quantifying grazing lands is the lack of a consistent classification system. For example, classifying land by vegetative cover produces estimates of from 1.14 billion acres of grazing land (10) to 1.22 billion acres (8). This report's focus is on the 817 million acres of land actually used for grazing in 1982 (4). This estimate included 65 million acres of cropland pasture and 158 million acres of grazed forest land.

This report summarizes available data on the Nation's grazing lands to help evaluate their adequacy in meeting the needs for grazed forage. This study examines trends in use of grazing land resources, analyzes the condition of resources, and relates the resources to forage demand in terms of animal numbers. This report also presents: trends in grazing land use, by major categories of grazing land during 1950-82; the condition of non-Federal grazing lands based on the 1982 National Resource Inventory (NRI), the most recent inventory for which data are available; the quality of resources based on the land capability classification system and reported land value and annual rent; and statistics for farm production regions and individual States. To introduce aspects of demand on the grazing land resource, the report analyzes cattle and sheep numbers for 1950-82.

TRENDS IN GRAZING LANDS

The amount of land used for grazing livestock has been declining for several decades. The area grazed declined nearly 22 percent from 1.02 billion acres in 1950 to 817 million in 1982, mostly from less forest land grazed (fig. 1, table 1).

Comparing major land uses for 1950-82 gives some insight into new uses of land removed from the grazing land base. Cropland fell in the early part of the

1/ Underlined numbers in parentheses cite sources listed in the References section.

Figure 1
Pasture and range, by type

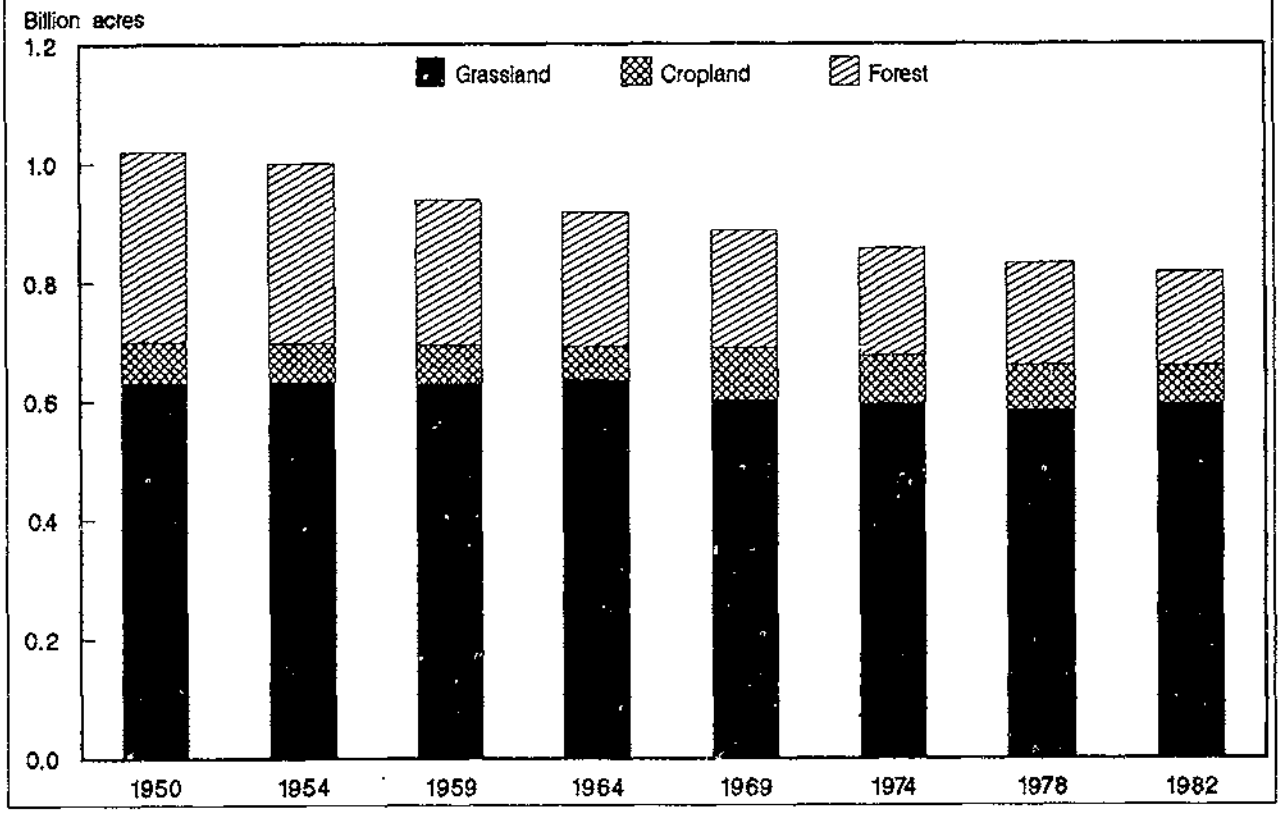


Table 1--Pasture and range, by type, selected years 1/

Year	Nonforested pasture and range			Forest land grazed	Total pasture and range
	Cropland pasture	Grassland and other pasture and range	Total		
			1,000 acres		
1950	69,332	631,078	700,410	319,450	1,019,860
1954	66,070	632,417	698,487	301,253	999,740
1959	65,441	630,131	695,572	243,554	939,126
1964	57,363	636,464	693,827	223,822	917,649
1969	88,181	601,004	689,185	197,481	886,666
1974	82,697	595,190	677,887	178,851	856,738
1978	76,128	584,302	660,340	171,245	831,675
1982	64,988	594,252	659,240	157,500	816,740

1/ Conterminous United States.

Sources: (1, 2, 3, 4, 5, 9, 19, 20, 21).

period. Increasing was the acreage of forest land not grazed and land in special uses, such as rural transportation systems, parks, and wildlife areas.

Grazed forest land consists mainly of forest, brushgrown pasture, arid woodlands, and other areas within forested areas that have grass or other forage growth (see Glossary). The amount of grazed forest land dropped in most farm production regions in 1950-82 (fig. 2) (see appendix for State acreages).

Cropland pasture is the smallest component of grazing lands and, as such, may change proportionately more over time. Changes in cropland pasture acreage are also affected by cropland acreage in set-aside programs. The area of cropland pasture declined in 1950-64. By 1969, however, cropland pasture accounted for nearly 54 percent more acres than 5 years earlier (table 1). The Bureau of the Census concluded that cropland pasture may have been overstated in 1969 due to the way the questions were asked (18). The acreage of cropland pasture has continued to decline since 1969 to 65 million acres in 1982, about 6 percent less than in 1950. Cropland pasture also varied considerably among farm production regions during 1950-82.

Grassland pasture and range accounted for the major portion of lands used for grazing and increased as a proportion of total land grazed each census period except 1964-69. In 1969, there was a sharp decrease in grassland pasture and range. Because the Bureau of the Census concluded that cropland pasture may have been overstated due to the way the questions were asked, grassland pasture and range may have been understated. The acreage of grassland pasture and range varied across farm production regions as well as over time within regions. Statistics on grassland pasture and range, by State, during 1950-82 appear in the appendix.

Figures 3-12 show the 1950-82 trends in grassland pasture, cropland pasture, and grazed forest land by farm production region. All regions had fewer acres of grazing lands in 1982 than in 1950 except the Southern Plains region (fig. 10). Less forest land was grazed in all regions. Total forest land declined in 6 of the 10 farm production regions, but much of the decline in grazed forest land was apparently a change in use, not a change in land cover. The area of cropland pasture increased in the Northern Plains, the Southern Plains, and the Mountain regions but declined in each of the other regions. The area of grassland pasture and range also declined in all but three regions: the Southeast, Delta, and Southern Plains.

In terms of the net changes in major land uses other than grazing land, cropland increased in the Lake States, Corn Belt, Delta, Mountain, and Pacific regions; decreased in the Northeast, Appalachian, Southeast, and Southern Plains; and was essentially unchanged in the Lake States. Forest land, in total, increased in the Northeast, Appalachian, Northern Plains, and Southeast regions. Nonagricultural uses of land increased in all but the Northern Plains and Delta regions.

CONDITION OF GRAZING LANDS

The principal source of information on the condition of the Nation's grazing lands is the periodic NRI conducted by the U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS). The most recent of these inventories for which data are available was conducted in 1982. The inventory did not include federally owned lands, which accounted for about 20 percent of the land

Figure 2

Farm production regions

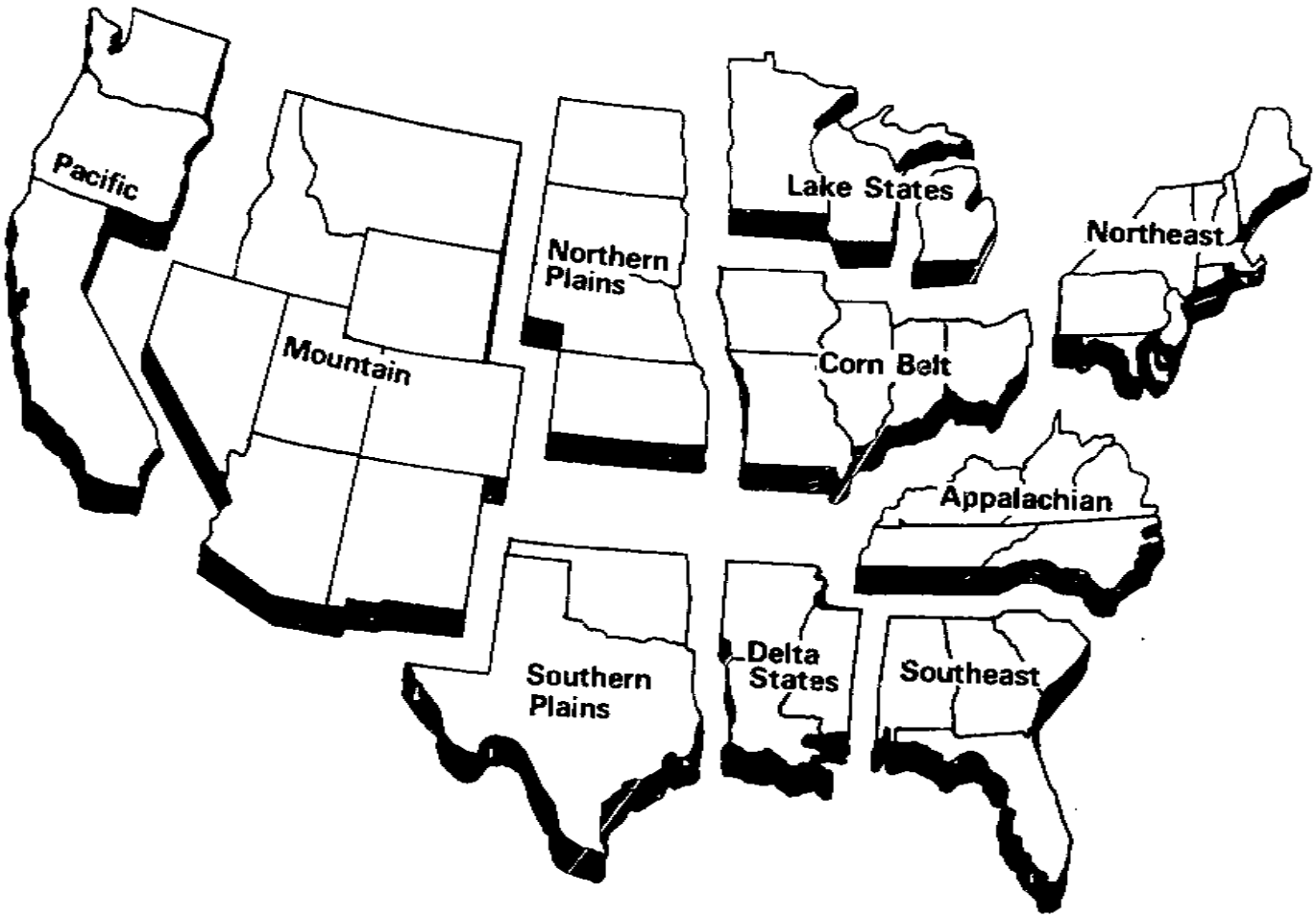


Figure 3
Northeast grazing lands

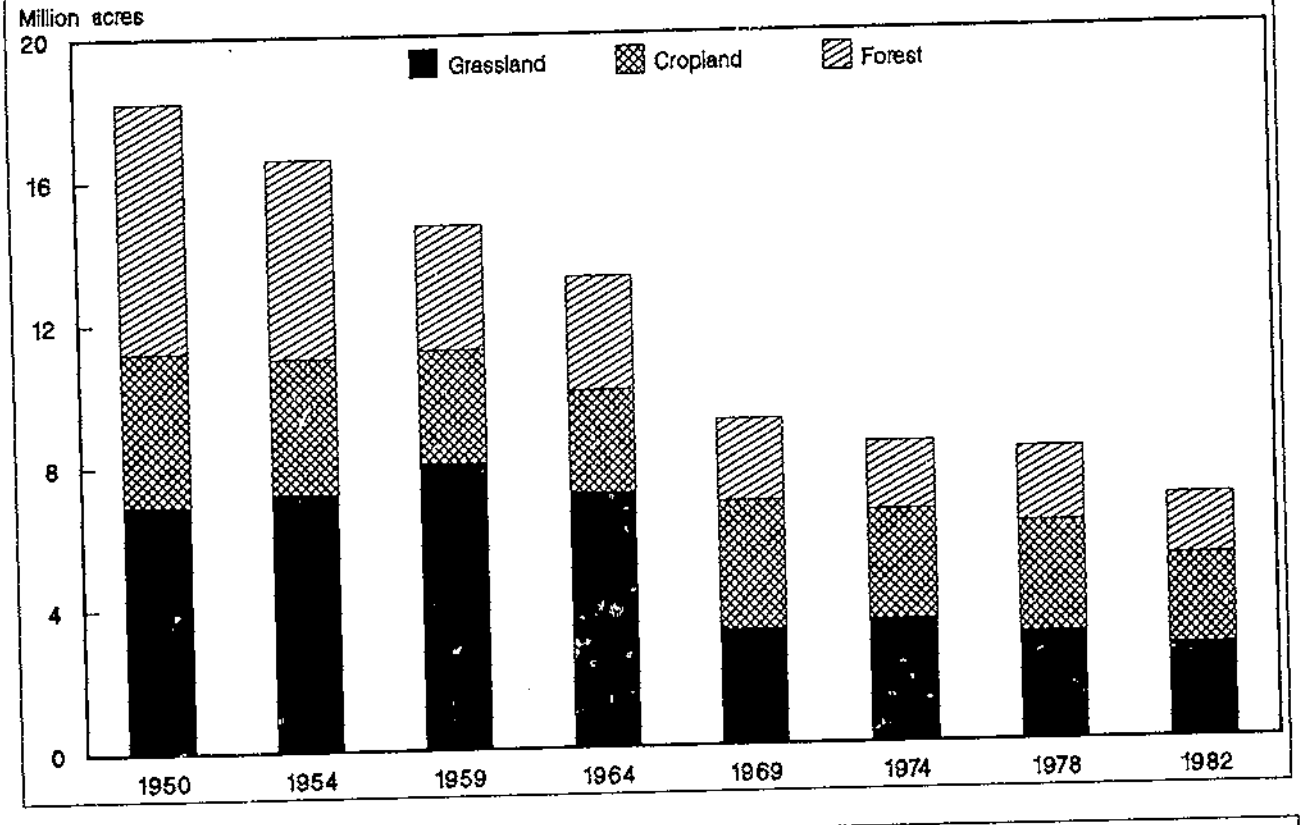


Figure 4
Lake States grazing lands

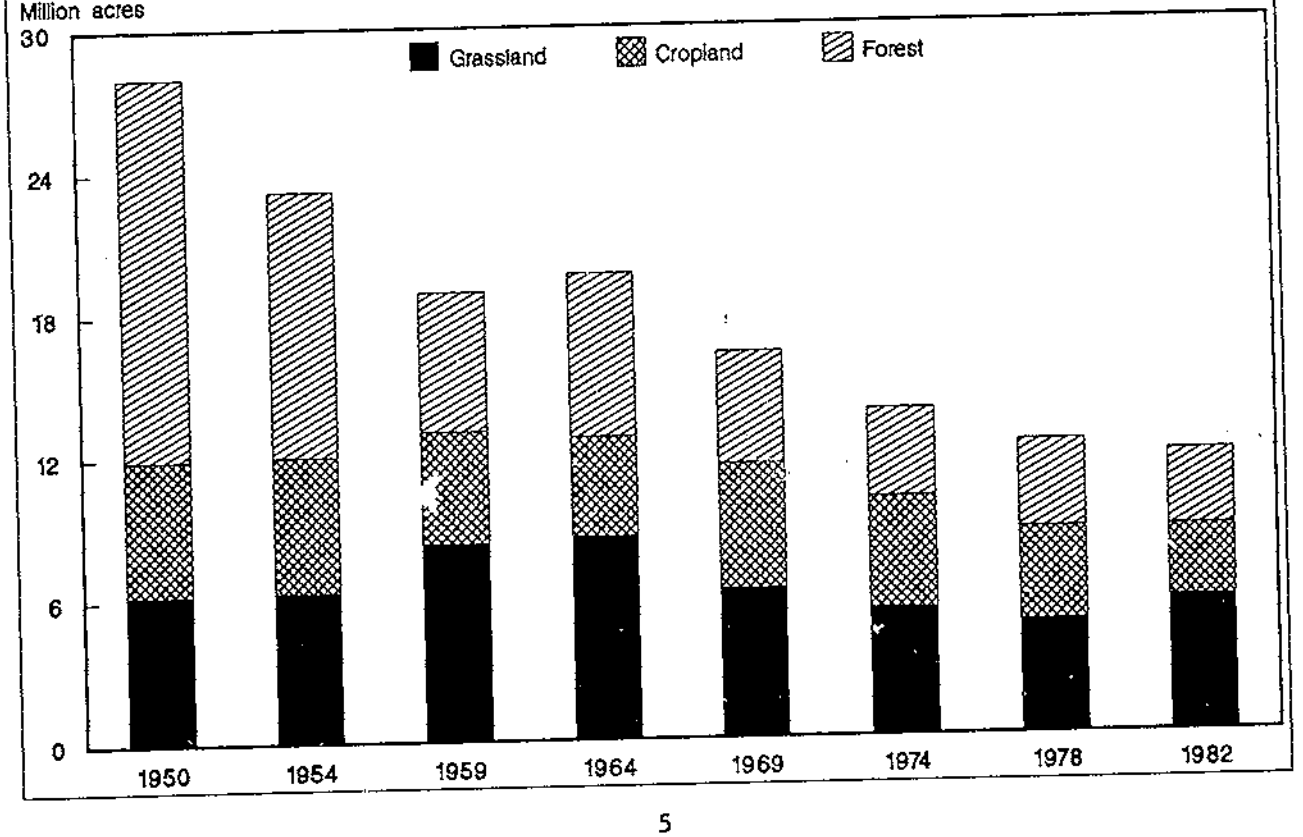


Figure 5

Corn Belt grazing lands

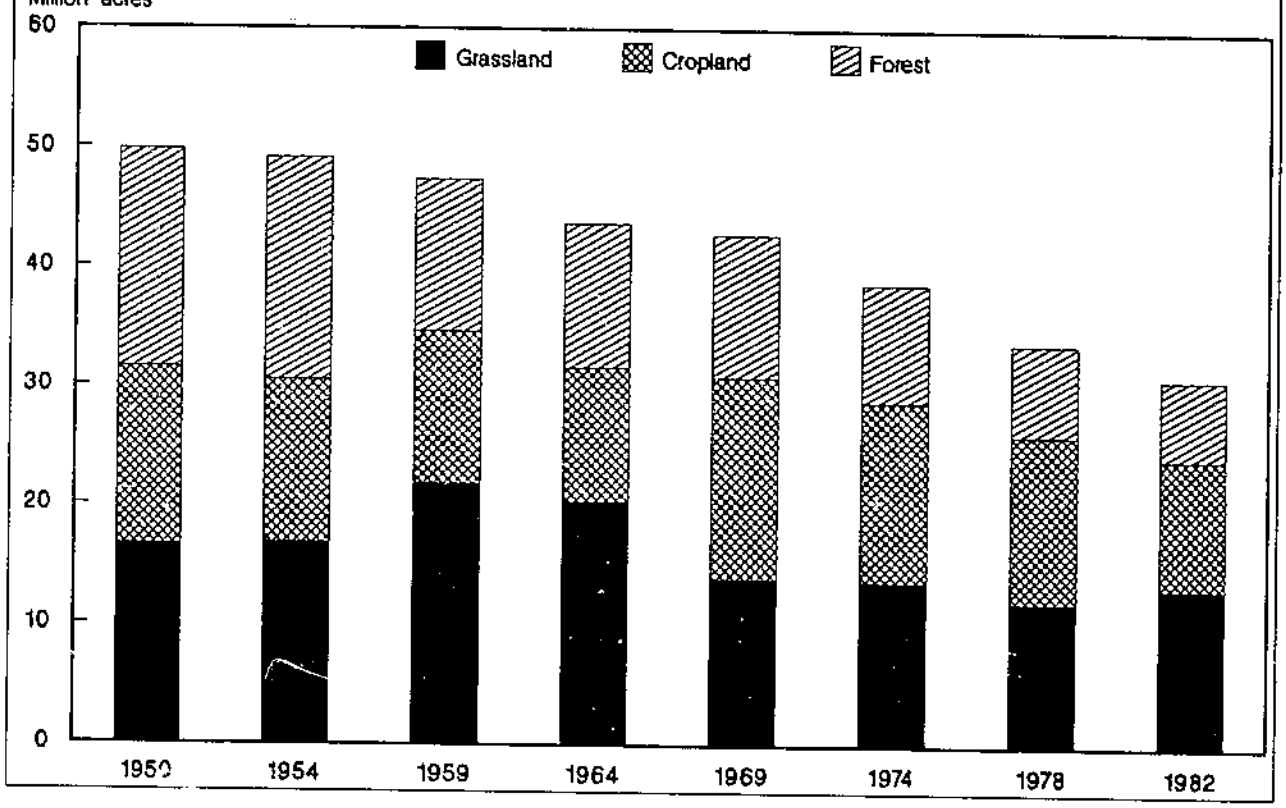


Figure 6

Northern Plains grazing lands

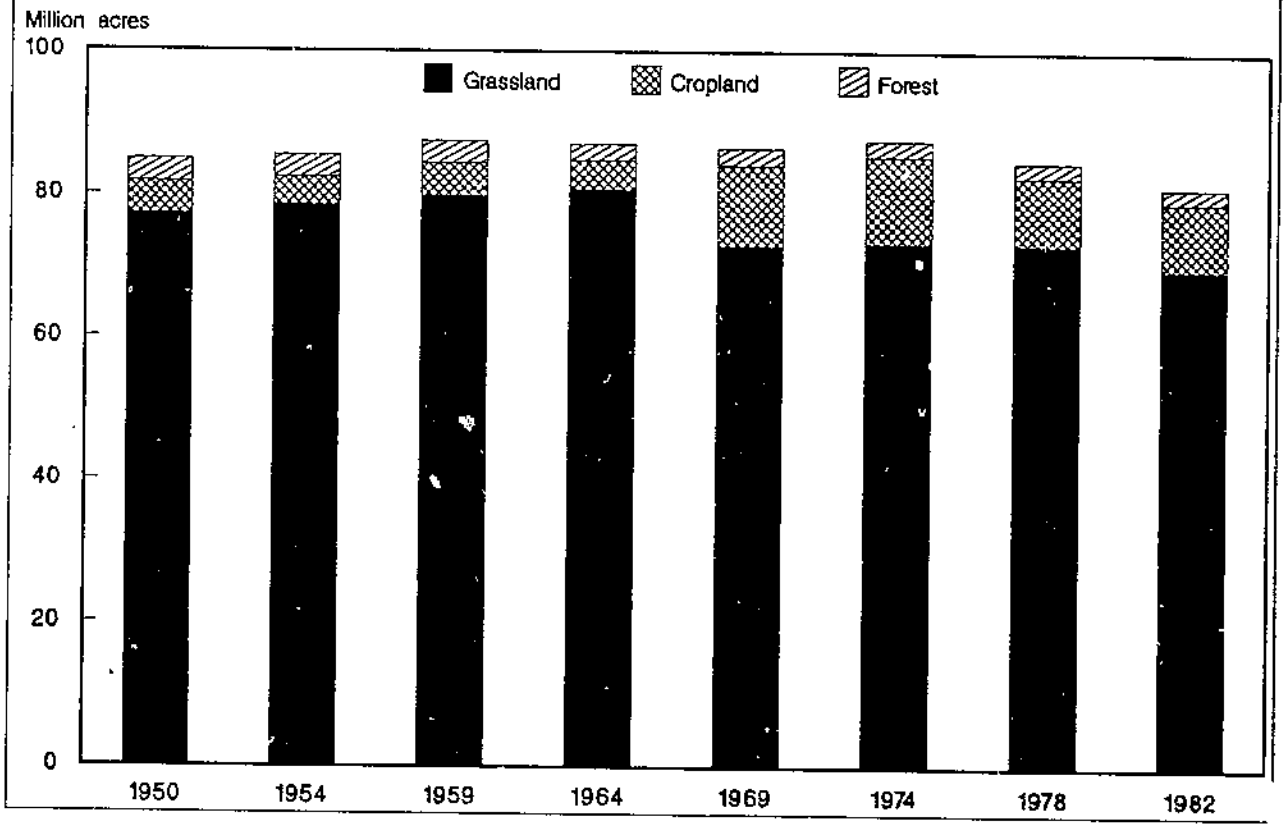


Figure 7

Appalachian grazing lands

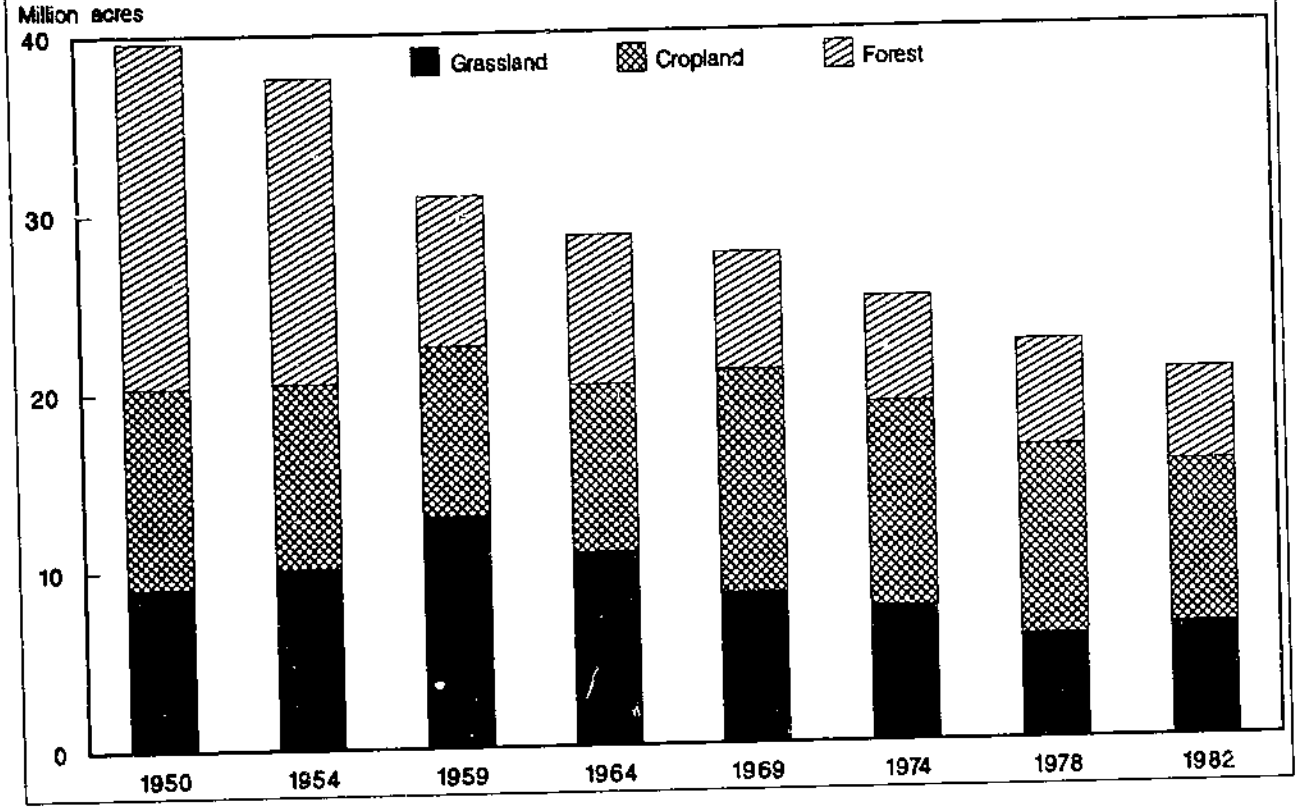


Figure 8

Southeast grazing lands

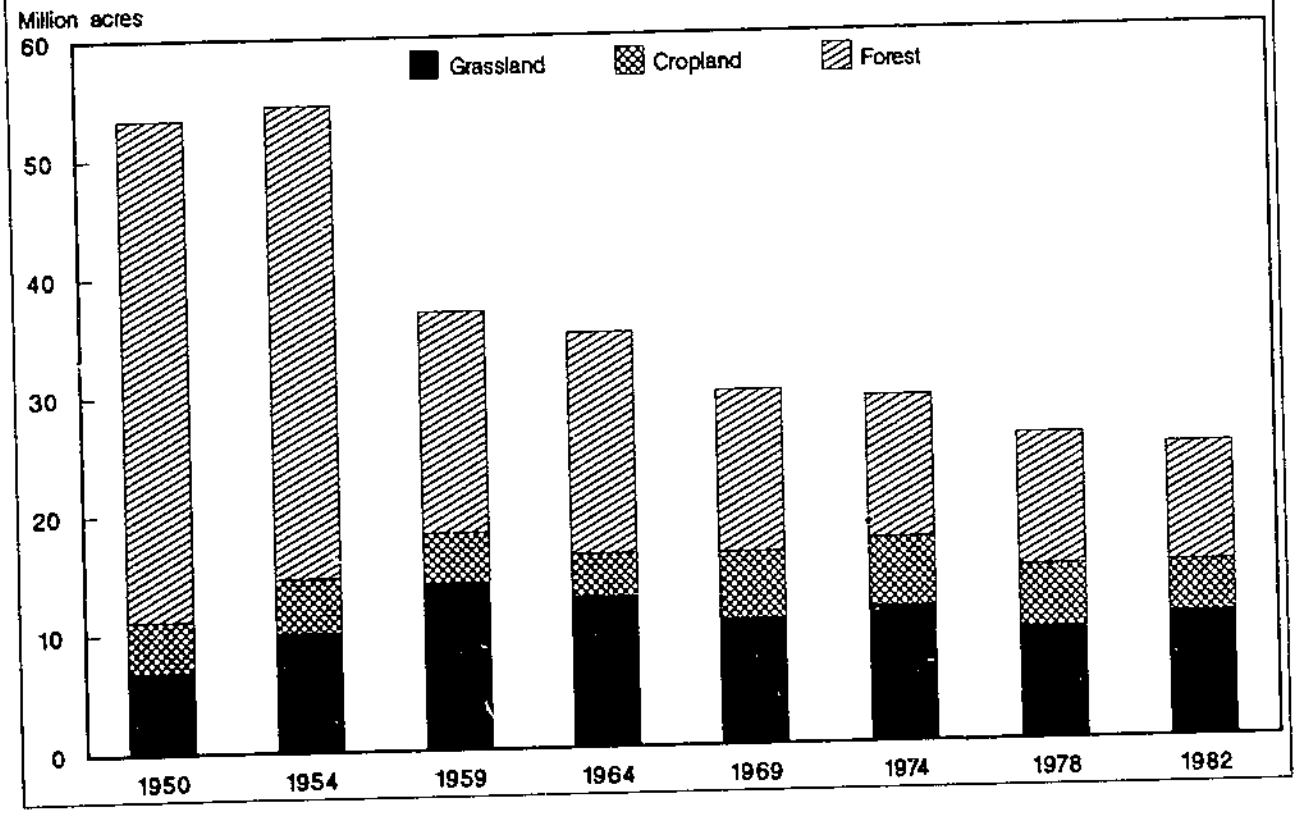


Figure 9

Delta grazing lands

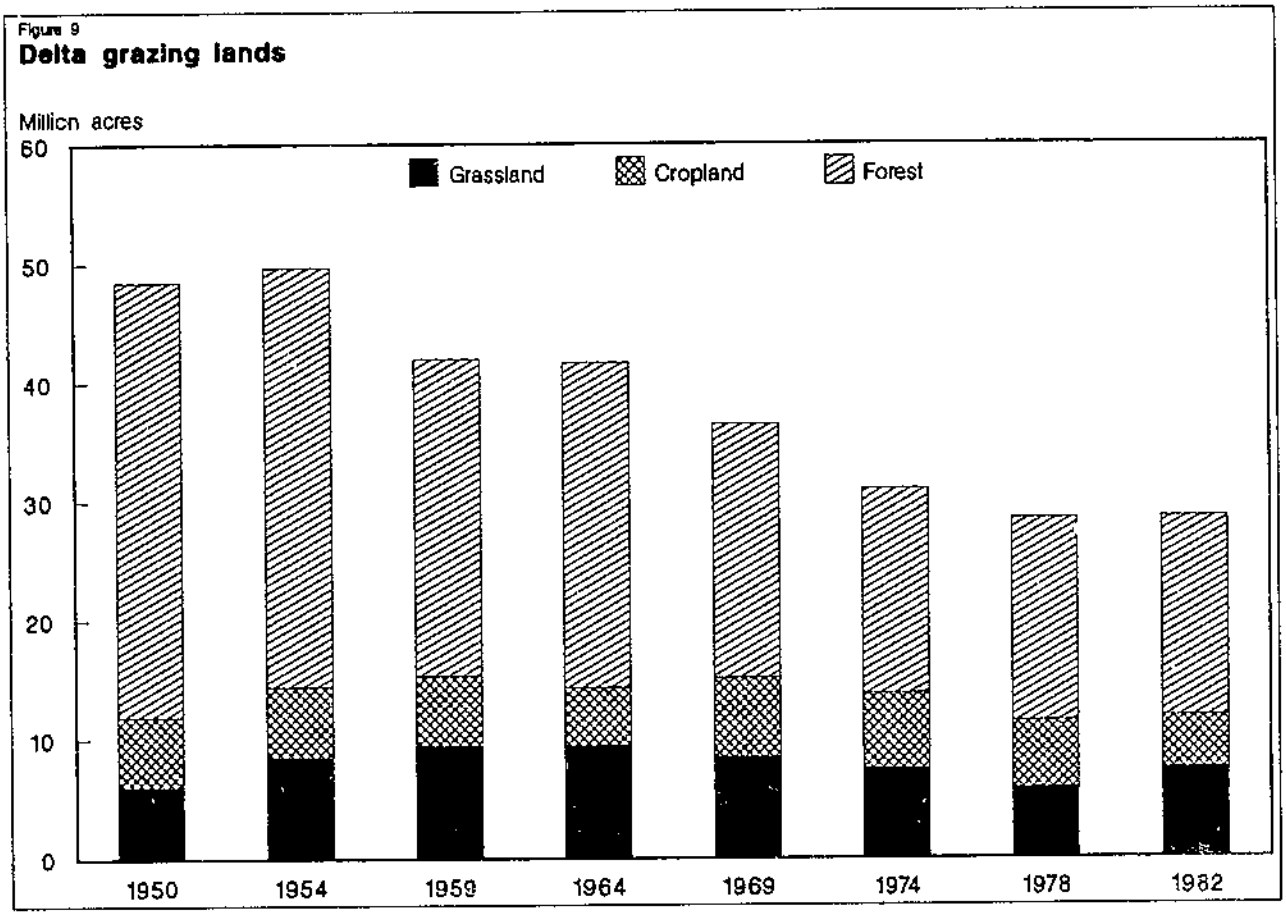


Figure 10

Southern Plains grazing lands

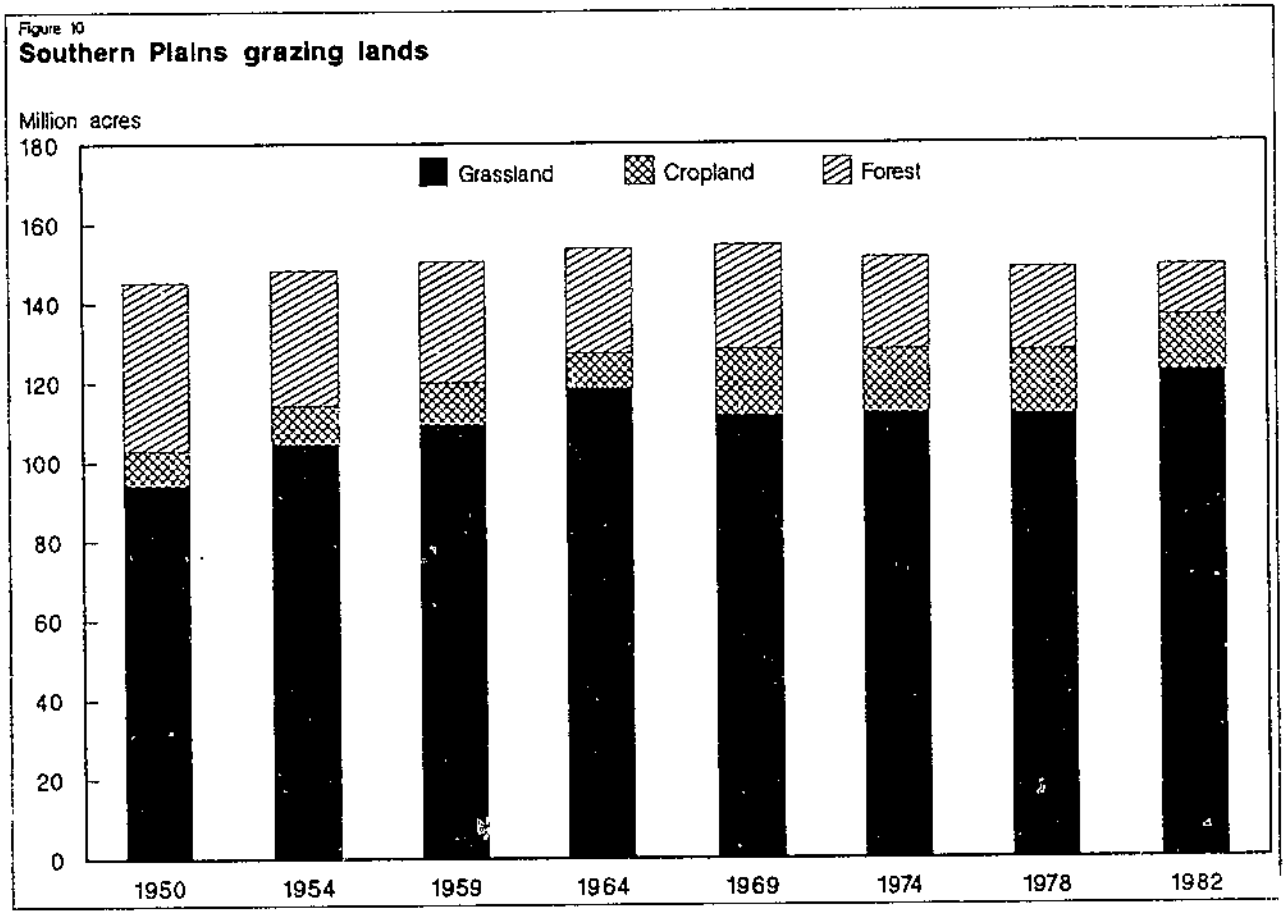


Figure 11

Mountain grazing lands

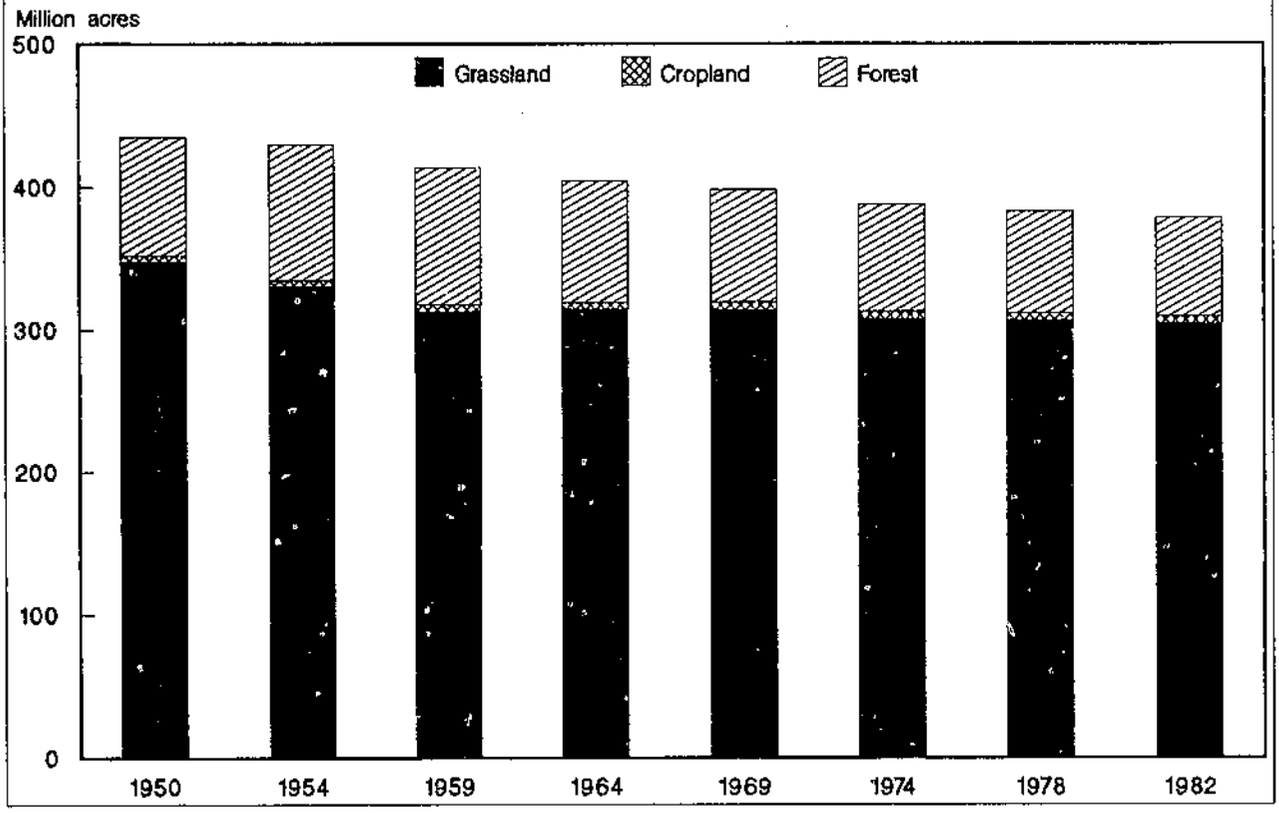
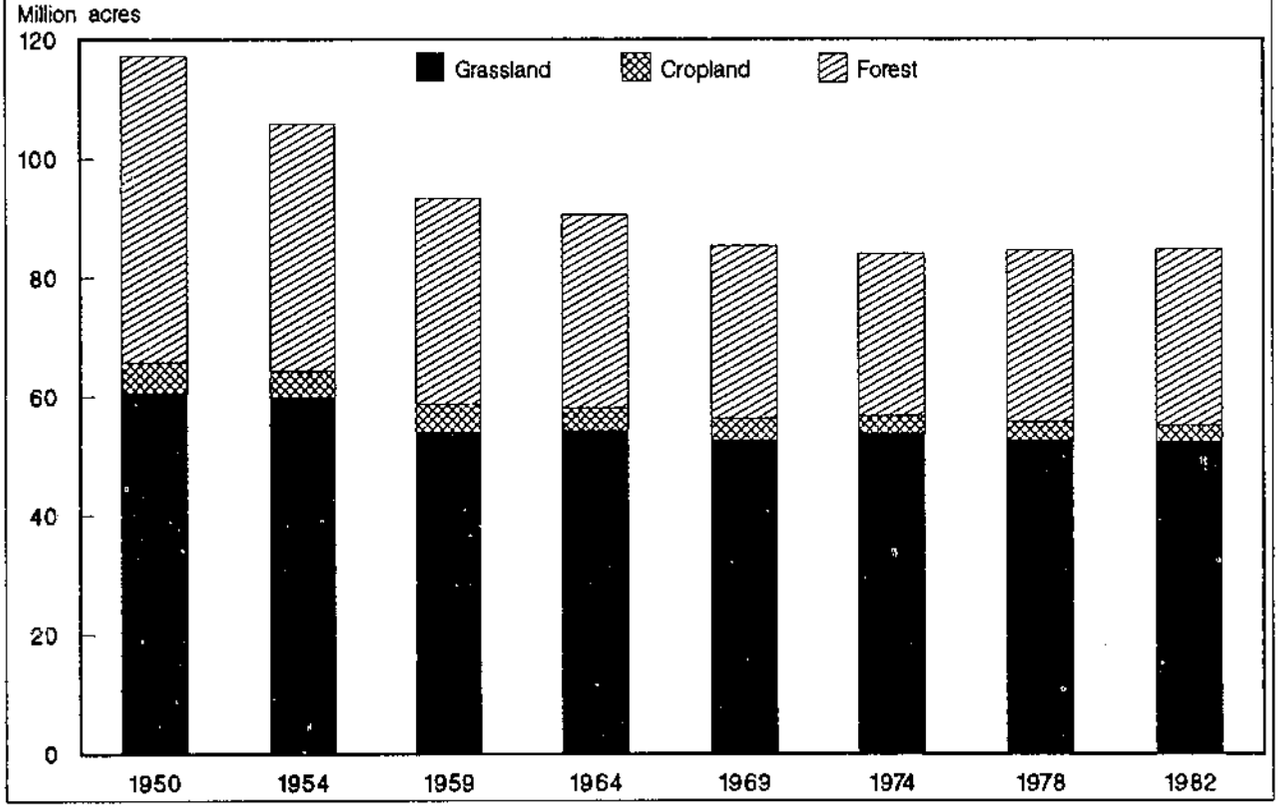


Figure 12

Pacific grazing lands



in all States except Alaska. Alaska was not included in the inventory, but Caribbean territories of the United States were included. This report will include NRI data for the 48 conterminous States plus Hawaii.

The inventory gathered data on the Nation's soils, land use, and conservation treatment needs. Other data included parameters for estimating soil erosion and qualitative assessments of the condition of grazing lands. Because of different definitions, procedures, and levels of coverage, the NRI estimates of grazing land differ from other estimates such as the Census of Agriculture. The grazing land inventoried by the NRI was identified and classified on the basis of land cover, so the NRI may have included areas that appeared to be grazing lands but which may not have been used for grazing.

Of the more than 600 million acres of non-Federal grazing land inventoried in the 48 conterminous States in the 1982 NRI (table 2), more than 67 percent was rangeland, nearly 22 percent pastureland, and 11 percent grazed forest land. These grazing land types will be referred to as range, pasture, and grazed forest, respectively. No range was inventoried in the Northeast or Appalachian regions, while in the Lake States, range was inventoried only in Minnesota; in the Corn Belt, only in Missouri; and in the Southeast, only in Florida (app. table 4). No range was identified in Mississippi in the Delta farm production region. Thus, range occurred in the 17 Western States plus Arkansas, Louisiana, Florida, Missouri, and Minnesota. Pasture and grazed forest was inventoried in each of the 48 conterminous States and Hawaii.

Table 2--Non-Federal grazing land, by type and by farm production region, 1982 1/

Region	Pasture	Range	Grazed forest	Total
		1,000 acres		
Northeast	8,818	0	729	9,547
Lake States	9,896	199	1,965	12,059
Corn Belt	25,192	168	5,292	30,652
Northern Plains	8,341	73,739	1,326	83,406
Appalachian	18,477	0	4,433	22,910
Southeast	12,274	3,804	4,831	20,910
Delta States	12,138	406	6,912	19,455
Southern Plains	24,181	110,413	7,554	142,148
Mountain	7,361	184,035	19,865	211,261
Pacific	4,703	33,154	12,965	50,822
Total	131,380	405,917	65,873	603,170
		Percent		
All grazing land	21.8	67.3	10.9	100.0

1/ Conterminous United States.

Source: (16).

Qualitative Assessments

The NRI included ratings on the condition of the pasture, range, and grazed forest. Different rating systems were used, however, for each type of grazing land, so meaningful comparisons cannot be made among types of grazing land.

Pasture Condition

Pasture condition was primarily a rating of the level of management applied and the quality and quantity of forage produced. Subjective classifications were good, fair, and poor, terms that should not be confused with ratings of range condition relating the existing vegetation to the "climax vegetation," which is the potential natural plant community for a site. Native pasture was not rated in this system but is reported as "other" in graphic or tabular presentations of the pasture condition data (14). (Definitions of good, fair, and poor pasture appear in the Glossary under pasture condition ratings.)

About 32 percent of pasture was rated good, 40 percent fair, and less than 19 percent was in poor condition (table 3). Less than 9 percent was either native pasture or was unrated for some other reason.

The Lake States and the Northeast have high percentages of unrated pasture, so their proportion of good pasture was small. The Northern Plains and Southeast had the highest rated pasture, with over 85 percent classified as good or fair. The Northern Plains had a smaller area of pasture than many of the other farm production regions because much of the grazing land in the Northern Plains is range. The high quality rating of pasture in that region may reflect the effects of irrigation. The Lake States and the Northeast still had the

Table 3--Non-Federal pasture, by pastureland condition and by farm production region, 1982 1/

Region	Pastureland condition			
	Good	Fair	Poor	Other
	Percent			
Northeast	16.4	31.7	23.3	28.5
Lake States	7.0	22.6	18.2	52.3
Corn Belt	27.7	46.9	22.5	3.0
Northern Plains	43.2	44.2	12.3	.3
Appalachian	30.4	43.6	24.4	1.5
Southeast	44.7	40.3	14.6	.4
Delta States	41.1	37.7	17.7	3.5
Southern Plains	38.3	40.2	15.1	6.4
Mountain	38.0	45.3	15.3	1.4
Pacific	26.5	46.0	19.7	7.8
Total	32.0	40.6	18.8	8.6

1/ Conterminous United States.

Source: (16).

smallest proportion of pasture rated good, followed by the Corn Belt, Pacific, and Appalachian farm production regions, based on proportion of total rated pasture.

Range Condition

The condition classification for non-Federal range defined the relative degree to which the kinds, proportion, and amounts of plants, expressed as a percentage, resemble the climax vegetation for the site (see definitions in Glossary). The range condition classes were not measures of current productivity, because an area with a low proportion of natural climax vegetation but a high proportion of an introduced forage species may be more productive than an area with the opposite plant mix. However, climax vegetation should have higher long-range productivity than non-native species. Range seeded to an introduced species or annual range was not rated.

More than 33 percent of the range was classified as excellent or good in 1982 (table 4). The Northern Plains had the highest proportion of range rated as excellent or good. The Delta was second, but considerably behind the Northern Plains in the proportion of the range rated excellent or good. The Southeast (Florida only) had the smallest proportion of range rated excellent or good. The Southern Plains and the Pacific regions (after adjusting for the areas not rated) had the next smallest proportions of range rated excellent or good. The appendix shows range condition ratings for States.

Table 4--Non-Federal range, by rangeland condition and by farm production region, 1982 1/

Region	Rangeland condition				
	Excellent	Good	Fair	Poor	Other
			Percent		
Northeast	N.A.	N.A.	N.A.	N.A.	N.A.
Lake States	10.2	24.3	50.4	13.9	1.2
Corn Belt	.8	33.5	29.6	33.1	3.0
Northern Plains	8.9	55.3	30.5	5.2	.2
Appalachian	N.A.	N.A.	N.A.	N.A.	N.A.
Southeast	.6	7.2	48.1	43.1	.9
Delta States	4.3	41.9	30.6	23.2	0
Southern Plains	1.3	15.5	55.4	25.9	1.9
Mountain	4.1	31.8	49.1	14.3	.7
Pacific	2.7	10.4	17.8	18.4	50.7
Total	4.1	29.6	44.9	16.4	5.0

N.A. = Not applicable.
1/ Conterminous United States.

Source: (16).

Grazed Forest Condition

The forage value of non-Federal grazed forest employed a third condition rating system, based on the proportion of the understory (undergrowth) forage produced by preferred plant species.

Only 12 percent of grazed forest land had very high or high understory forage value (table 5). Over 40 percent of the area had low forage value. More than 1 acre in 6, however, was not rated. The Corn Belt had more than 4 of 5 acres not rated.

More than 33 percent of the rated grazed forest area had low understory forage value in all regions. Distributions of understory forage value ratings for States are in appendix tables.

Grazing Lands With Erosion Exceeding "T"

The average national erosion rates on non-Federal grazing land and for most individual regions were not high, particularly compared with erosion on cropland, but additional data are needed to determine the extent of erosion problems on grazing lands. One indication of excessive erosion comes from the proportion of grazing lands with erosion rates exceeding "T," where "T" represents the maximum level of soil erosion "that will permit a high level of productivity to be sustained economically and indefinitely" (16, p. 151).

About 8 percent of the Nation's pastureland was eroding in 1982 at a rate greater than "T" (table 6). Erosion problems were more severe on range and grazed forest, where 17-19 percent of the non-Federal acreage was eroding in

Table 5--Non-Federal grazed forest, by understory forage value rating and by farm production region, 1982 1/

Region	Forage value rating				
	Very high	High	Moderate	Low	Other
			Percent		
Northeast	0.2	1.9	14.1	53.7	30.2
Lake States	.2	1.1	9.5	22.3	66.9
Corn Belt	0	.6	3.9	15.0	80.5
Northern Plains	7.8	9.7	36.0	33.9	12.7
Appalachian	.2	.9	7.9	37.0	54.1
Southeast	1.4	3.5	21.3	63.9	9.9
Delta States	.6	4.7	29.1	61.8	3.7
Southern Plains	.5	4.0	31.9	62.8	.8
Mountain	6.8	14.3	43.2	34.8	.9
Pacific	3.1	15.4	34.7	34.0	12.7
Total	3.1	8.9	30.1	41.2	16.7

1/ Conterminous United States.

Source: 1982 NRI data tape.

excess of "T." Erosion rates on grazing lands eroding in excess of "T" averaged 10.5 tons per acre for pasture, 14 tons per acre for range, and 10.6 tons per acre for grazed forest land.

Grazing land with excessive erosion varied widely across regions. The Corn Belt had serious erosion problems on all types of grazing land yet not the most serious for any one type. The Appalachian region had the highest proportion of pasture land eroding at a rate greater than "T" and the greatest soil loss per acre on that severely eroding area. The Pacific region, second in average soil loss per acre, had a much smaller proportion of the region's pastureland.

Nearly 30 percent of the Pacific region's non-Federal range was eroding at a rate greater than "T" in 1982. Range in the adjoining Mountain region was also experiencing considerable erosion, ranking third in the proportion of rangeland exceeding "T" and second in the soil loss per acre from the severely eroding area.

More than 33 percent of the grazed forest in the Corn Belt had erosion rates exceeding "T." The Northeast's grazed forest with erosion exceeding "T" had the highest rate of erosion of any region or type of grazing land. Grazed forest land in the Appalachian region was similar to the Corn Belt's in both the proportion eroding in excess of "T" and in the average annual soil loss from the severely eroding area. More than 20 percent of the non-Federal grazed forest in both the Pacific and Mountain regions was eroding in excess of "T," but at much lower rates of soil loss than in the Northeast, Corn Belt, and Appalachian regions.

Table 6--Non-Federal grazing lands with erosion rates exceeding "T" and average erosion rates, by type of grazing land and by farm production region, 1982 1/

Region	Pasture		Range		Grazed forest	
	Erosion > T	Average erosion rate	Erosion > T	Average erosion rate	Erosion > T	Average erosion rate
	Percentage of acres	Tons per acre	Percentage of acres	Tons per acre	Percentage of acres	Tons per acre
Northeast	4.5	9.1	NR	NR	9.7	26.6
Lake States	3.0	10.5	2.1	12.0	10.5	12.9
Corn Belt	16.0	10.5	25.3	9.7	33.5	14.5
Northern Plains	5.4	8.8	7.6	10.8	13.8	7.5
Appalachian	16.3	12.1	NR	NR	29.3	14.3
Southeast	2.3	6.1	.3	3.2	2.2	7.3
Delta States	5.8	9.7	8.3	5.9	4.9	11.5
Southern Plains	4.8	8.5	14.8	9.6	9.7	7.4
Mountain	3.0	10.0	20.4	14.0	22.7	7.9
Pacific	5.0	12.0	29.9	23.2	22.1	11.4
Total	8.2	10.5	17.1	14.0	18.4	10.6

NR = No range in this region.
1/ Conterminous United States.

Source: 1982 NRI data tape.

The appendix contains State data on erosion exceeding "T." The more detailed disaggregation of the data leads to greater variation in the proportion of a type of grazing land eroding in excess of "T," as well as to greater variation in the average erosion rate. For example, in the Appalachian region, over half of West Virginia's grazed forest land was eroding at a rate greater than "T." On the land eroding in excess of "T" in Maryland, the average erosion rate was more than 44 tons per acre per year.

Conservation Treatment Needs

Treatment needs, such as changes in land use and management and installation of conservation practices required to protect the land and water resources, were determined in the 1982 NRI for the three categories of non-Federal grazing lands. The NRI determined that a considerable portion of each type of grazing land was adequately protected. The protected areas varied from about 31 percent for grazed forest to nearly 34 percent for range to 46 percent for pasture. Treatment was considered not feasible for only small proportions of the grazing lands, constituting less than 1 percent of pasture but nearly 5 percent of both range and grazed forest.

The remaining portions of each of the types of grazing lands were classified among six categories of treatment needs. Because of the different nature of the types of grazing lands, the recommended treatments varied. Erosion control was indicated for less than 5 percent of pasture, about 6 percent of range, and almost 10 percent of grazed forest. Treatments needed most frequently were protection/improvement/re-establishment of the forage, and covered 19 percent of the non-Federal grazed forest and about 46 and 48 percent of the pasture and range, respectively.

The Corn Belt region had the largest proportion of pasture needing conservation treatment (table 7). The Appalachian and the Pacific regions followed in percentage of pastureland needing treatment. All of these regions had large portions of pasture needing improvement and re-establishment. The Pacific region had a considerable portion needing irrigation management.

Brush management was the indicated treatment on the largest proportion of non-Federal range in the Southeast (Florida only), Corn Belt, and Southern Plains (table 8). Protection from overgrazing was the primary treatment in the Delta, Mountain, Northern Plains, Lake States, and Pacific regions. The NRI classified range improvement as an important treatment need in the United States overall but not the most important in any one region.

Treatment needs of grazed forest relate principally to timber improvement rather than forage improvement. Elimination or reduction of grazing to improve timber crops was recommended on the largest proportion of acres needing treatment in the Lake States and Northeast regions (table 9). Timber stand improvement was the most important treatment need indicated in a number of regions. This treatment was recommended for more than 25 percent of the grazed forest in the Delta, Appalachian, Corn Belt, Southeast, Southern Plains, and Northeast regions. The only other treatment need indicated for more than 25 percent of a region's grazed forest was erosion control in the Corn Belt.

Similar data on the treatment needs on non-Federal grazing lands by States are presented in appendix tables 10-12. Over half of the Nation's non-Federal pasture and range needs treatment of some type (table 10). Nearly 65 percent of grazed forest land needs treatment. The poor condition of considerable

Table 7--Conservation treatment needs on non-Federal pastureland, by farm production region, 1982 1/

Region	Adequately protected	Treatment not feasible	Treatment needed						
			Erosion control	Drainage	Irrigation management	Protection only	Improvement	Re-establishment	Total
	Percentage of acres								
Northeast	47.9	1.2	5.3	5.9	0.1	1.4	24.9	13.3	50.9
Lake States	56.9	1.6	4.0	6.0	0	4.0	19.8	7.7	41.6
Corn Belt	37.7	.7	8.9	1.2	0	8.2	31.7	11.6	61.7
Northern Plains	58.1	.2	2.7	.5	.1	16.7	17.4	4.2	41.7
Appalachian	39.0	.5	5.9	.9	0	4.3	38.1	11.2	60.4
Southeast	49.1	.2	2.3	1.1	.7	10.1	30.3	6.2	50.7
Delta States	44.1	.4	3.5	1.2	0	5.6	31.7	13.5	55.5
Southern Plains	51.5	.2	2.2	.6	.1	9.4	29.1	7.0	48.3
Mountain	46.0	.5	3.1	1.7	13.7	12.8	13.4	8.8	53.5
Pacific	37.5	2.2	3.6	3.9	12.3	8.0	20.9	11.7	60.4
Total	46.0	.6	4.6	1.8	1.3	7.8	28.3	9.5	53.4

1/ Conterminous United States.

Source: (16).

Table 8--Conservation treatment needs on non-Federal rangeland, by farm production region, 1982 1/

Region	Adequately protected	Treatment not feasible	Treatment needed						
			Erosion control	Drainage	Protection only	Improvement only	Improve with brush mgt.	Re-establishment	Total
	Percent of acres								
Northeast	NR	NR	NR	NR	NR	NR	NR	NR	NR
Lake States	58.4	3.1	0.5	1.2	19.1	14.7	3.0	2/	38.6
Corn Belt	20.7	2/	5.8	2/	11.7	6.8	38.4	16.6	79.3
Northern Plains	60.9	.7	2.2	.1	19.5	10.7	4.2	1.7	38.4
Appalachian	NR	NR	NR	NR	NR	NR	NR	NR	NR
Southeast	17.3	2.1	.4	2.2	4.2	23.4	46.9	3.5	80.6
Delta States	15.5	7.9	1.7	2.0	25.6	6.0	23.0	18.4	76.6
Southern Plains	24.8	2.5	1.9	2/	8.4	18.5	31.1	12.7	72.6
Mountain	29.4	5.5	9.8	2/	22.8	16.5	11.0	5.0	65.1
Pacific	27.2	15.0	10.4	.2	14.4	11.2	11.0	10.7	57.8
Total	29.3	4.0	5.4	.1	15.2	13.6	13.6	6.0	53.9

NR = No range in this region.
1/ Conterminous United States.
2/ Less than 0.05 percent.

Source: (16).

Table 9--Conservation treatment needs on non-Federal grazed forest land, by farm production region, 1982 1/

Region	Adequately protected	Treatment not feasible	Treatment needed						
			Erosion control	Timber establishment and reinforcement	Timber stand improvement	Treatment to improve timber crops	Forage needs protection only	Improvement or re-establishment of forage	Total needing treatment
	Percentage of acres								
Northeast	19.3	2.2	6.0	3.0	26.3	29.0	1.1	12.9	78.4
Lake States	23.8	1.3	6.4	6.2	18.4	30.6	2.1	11.3	75.0
Corn Belt	10.2	.9	28.8	6.3	28.9	23.9	.2	.9	88.9
Northern Plains	44.2	6.3	4.7	.3	20.2	7.4	6.4	10.6	49.5
Appalachian	16.4	2.2	17.9	7.1	29.2	23.9	.8	2.6	81.4
Southeast	42.6	2.4	1.4	11.8	28.7	3.6	1.1	8.3	55.0
Delta States	46.2	2.2	2.6	7.4	32.3	4.2	1.8	3.3	51.6
Southern Plains	28.3	2.0	2.7	9.8	28.1	3.7	3.2	22.2	69.7
Mountain	33.7	6.4	12.8	1.5	15.8	1.1	12.9	15.8	59.8
Pacific	29.0	8.4	7.7	5.9	21.0	1.4	5.9	20.6	62.5
Total	30.9	4.6	9.9	5.6	23.2	6.6	6.0	13.3	64.5

1/ Conterminous United States.

Source: (16).

portions of the grazing lands is also reflected in the extent of the resource eroding at a rate greater than "T" and by the proportions rated as being in poor or low condition. However, the condition ratings for each of the types of grazing lands differ from each other and none of the ratings accurately reflects forage productivity. Work is underway to develop more adequate measures of grazing resource condition, an example of which is a proposal by the Range Inventory Standardization Committee (1983) of the Society for Range Management.

RESOURCE QUALITY

Information on condition ratings and erosion levels in the previous section provides some insight into the quality of the Nation's non-Federal grazing lands due to variables such as levels of use and management. Information on other characteristics reflecting the inherent quality of the resource may also be helpful. These include the land capability classifications of grazing lands and, to a lesser degree and in a different sense, their dollar values. The 1982 NRI provided information on the land capability classification of non-Federal land and ERS's periodic surveys of land values were used for estimating the sale value of grazing lands.

Land Capability Classification of Grazing Lands

The land capability classification system groups soils according to their potential and primary limitations for sustained production of crops and pasture. The system involves a two-level designation of class and subclass. The capability class designation ranges from I to VIII according to the general suitability of the soils for agricultural use. Class I soils have no limitations, while soils in classes II-VIII have progressively more limitations. Subclass designations group soils by major conservation problems. The subclasses are: "e"--erosion; "w"--wetness, drainage, or overflow problems; "s"--soil condition (root zone limitations, stoniness, or low moisture-holding capacity); and "c"--climate (temperature or lack of moisture). The subclass designations are assigned in a priority order of e, w, s, and c. Therefore, erosion supersedes a wetness problem and so on. See (15) for a more detailed description and discussion of the land capability classification system.

The proportions of non-Federal pasture, range, and grazed forest inventoried in each of the class-subclass combinations emphasize the differences in land quality, especially between pasture and other grazing lands. Very little of any type grazing land is in either class I or class VIII. Very little pasture

Table 10--Summary of grazing lands needing treatment

Item	Pasture	Range	Grazed forest
		Percent	
Condition: Poor/low	18.8	16.4	41.2
Erosion rate > "T"	8.2	17.1	18.4
Needs conservation treatment	53.4	53.9	64.5

or grazed forest and less than 5 percent of range is on subclass c soil. The percentage distributions by capability class and subclass for non-Federal pasture, range, and grazed forest appear in tables 11, 12, and 13.

Close to 60 percent of all types of inventoried grazing land was on subclass e soils. Most of the remainder was either subclass w or s, with pasture predominately w and range and grazed forest predominately subclass s. Pasture was on the better class soils, over half on class I, II, or III soils. More than 67 percent of both range and grazed forest were on poorer class VI or VII soils.

The soil characteristics of non-Federal grazing lands vary tremendously in different parts of the country. More than 30 percent of pasture was on class III soils in 7 of the 10 farm production regions (table 14). A relatively high percentage of pasture in at least 8 of the 10 regions was also on class II and IV soils, similar to the pattern at the national level. A considerable proportion of pasture occupied class VI soils, especially in the Appalachian and Mountain regions.

Range is concentrated on class VI and VII soils with more than 70 percent on one of these soil classes in the Mountain, Pacific, and Delta regions (table 15). Range on better land classes occurred mainly in the Corn Belt and Lake States. These regions, however, have very small proportions of the Nation's range (see table 2). Range in the Southeast (Florida only) is concentrated in land capability class IV but with a considerable amount in class III. Nearly all of this class III and IV rangeland in Florida is in subclass w.

Table 11--Non-Federal pasture, by land capability class and subclass, 1982 1/

Land capability class	Land capability subclass				Total
	e	w	s	c	
			Percent		
I	N.A.	N.A.	N.A.	N.A.	1.9
II	14.4	8.2	1.5	0.6	24.7
III	20.6	6.4	3.3	.1	30.4
IV	12.5	3.7	3.0	2/	19.3
V	3/	3.4	2/	3/	3.4
VI	9.3	1.2	2.9	2/	13.5
VII	3.3	.4	3.0	2/	6.6
VIII	2/	.1	2/	3/	.1
Total	60.1	23.3	13.8	.8	100.0

N.A. = Not applicable.
1/ Conterminous United States.
2/ Less than 0.05 percent.
3/ No acreage identified for this land capability class/subclass combination.

Source: (16).

Table 12--Non-Federal range, by land capability class and subclass, 1982 1/

Land capability class	Land capability subclass				Total
	e	w	s	c	
			Percent		
I	N.A.	N.A.	N.A.	N.A.	0.1
II	2.4	0.6	0.3	0.8	4.1
III	9.3	1.0	.6	.5	11.4
IV	10.5	1.1	1.1	.4	13.1
V	3/	1.4	2/	3/	1.5
VI	23.7	1.1	7.9	1.6	34.3
VII	13.3	.6	19.6	1.2	34.7
VIII	.3	.1	.4	3/	.8
Total	59.6	5.9	29.9	4.5	100.0

N.A. - Not applicable.
1/ Conterminous United States.
2/ Less than 0.05 percent.
3/ No acreage identified for this land capability class/subclass combination.

Source: (16).

Table 13--Non-Federal grazed forest by land capability class and subclass, 1982 1/

Land capability class	Land capability subclass				Total
	e	w	s	c	
			Percent		
I	N.A.	N.A.	N.A.	N.A.	0.3
II	3.5	2.5	0.3	0.1	6.3
II	5.7	3.2	1.3	2/	10.3
VI	7.3	2.6	1.5	2/	11.5
V	3/	3.0	2/	3/	3.0
VI	22.3	1.0	6.0	.6	29.8
VII	19.4	.6	18.1	2/	38.2
VIII	.2	.1	.3	3/	.5
Total	58.4	13.0	27.5	.8	100.0

N.A. - Not applicable.
1/ Conterminous United States.
2/ Less than 0.05 percent.
3/ No acreage identified in this land capability class/subclass combination.

Source: (16).

Table 14--Non-Federal pasture, by land capability class and by farm production region, 1982 1/

Region	Land capability class							
	I	II	III	IV	V	VI	VII	VIII
	Percentage of acres							
Northeast	1.6	25.3	36.3	17.3	2.2	9.1	8.1	0.1
Lake States	.7	27.3	24.9	18.7	4.5	17.4	6.1	.5
Corn Belt	2.0	28.4	30.4	17.7	.8	13.1	7.6	0
Northern Plains	2.9	28.6	28.7	18.6	2.5	16.6	2.0	.1
Appalachian	3.1	21.2	22.3	19.0	.3	19.7	14.3	.1
Southeast	1.1	24.4	30.4	31.0	2.3	6.2	4.4	.2
Delta States	1.9	28.0	37.0	12.7	3.0	9.7	7.6	0
Southern Plains	2.2	26.2	33.9	14.9	8.9	11.6	2.3	0
Mountain	.5	6.6	30.2	30.3	5.5	21.0	5.6	.3
Pacific	2.1	17.3	30.9	26.5	3.4	14.2	5.3	.3
Total	1.9	24.7	30.4	19.3	3.4	13.5	6.6	.1

1/ Conterminous United States.

Source: (16).

Table 15--Non-Federal range, by land capability class and by farm production region, 1982 1/

Region	Land capability class							
	I	II	III	IV	V	VI	VII	VIII
	Percentage of acres							
Northeast	0	0	0	0	0	0	0	0
Lake States	1.3	36.4	9.4	10.4	1.2	29.1	12.2	0
Corn Belt	0	41.4	12.9	7.3	3.7	8.7	26.1	0
Northern Plains	.3	10.1	13.6	12.9	2.5	46.1	14.3	.2
Appalachian	0	0	0	0	0	0	0	0
Southeast	0	.2	26.3	56.9	2.2	3.7	10.5	.2
Delta States	.2	.8	9.7	8.9	.5	8.8	61.9	9.0
Southern Plains	.2	7.8	18.0	13.3	2.9	23.9	33.7	.2
Mountain	0	.1	7.1	11.8	.4	38.0	41.5	1.1
Pacific	0	.7	6.8	14.9	.5	25.9	48.0	3.2
Total	.1	4.1	11.4	13.1	1.5	34.3	34.7	.8

1/ Conterminous United States.

Source: (16).

More than 94 percent of non-Federal grazed forest in the Mountain region and more than half in the Pacific, Northern Plains, Appalachian, Corn Belt, and Southern Plains was on classes VI and VII land (table 16). About 25 percent of the grazed forest in the Northeast, Southeast, and Delta States regions was on class III land, while 24 percent of grazed forest in the Lake States was on class II land. These areas were predominately subclass e soils.

Appendix tables 13-15 contain equivalent data on land classification of non-Federal pasture, range, and grazed forest by States.

Estimated Values of Grazing Lands

Grazing lands in 1982 ranged in estimated value from $137 per acre in Montana to more than $1,700 in Louisiana (7, p. 16). The weighted average value for the 48 conterminous States (except Rhode Island) averaged $372 per acre. It is not clear how these values reflect other prospective uses of the land, a common occurrence when land values are reported. The value of pasture can also be determined and analyzed from grazing land rents. In 1982, grazing land rents were $3.37 per acre in Montana, about 2.5 percent of weighted average value, while Louisiana pasture rents averaged $11.03, about 0.6 percent of value. Annual rent, weighted by total grazing land, by State, averaged $8.42 per acre nationally (47 conterminous States, excluding Rhode Island). The extent and quality of rented pasture is difficult to measure because little information exists in relation to total pasture. One other conclusion may be drawn, however. If pasture is a residual use of land, as is frequently asserted, then pasture rents may reflect the highest return obtainable at that particular time and location. However, the value may reflect the value of the land as part of a total farming operation or of nonagricultural uses.

Table 16--Non-Federal grazed forest, by land capability class and by farm production region, 1982 1/

Region	Land capability class							
	I	II	III	IV	V	VI	VII	VIII
	Percentage of acres							
Northeast	1.3	12.4	24.3	13.8	2.9	23.0	22.0	0.4
Lake States	.1	24.0	13.9	16.7	4.8	20.1	19.9	.6
Corn Belt	1.0	11.2	16.4	14.9	1.0	20.8	34.7	.1
Northern Plains	.8	10.2	9.3	3.5	2.8	33.0	39.6	.8
Appalachian	.6	6.8	11.4	12.7	.5	23.6	44.3	.1
Southeast	.1	6.3	25.0	31.7	7.9	12.2	16.6	.2
Delta States	.5	19.1	25.3	11.6	8.2	15.3	20.0	0
Southern Plains	.3	10.6	15.4	11.9	9.9	20.7	31.2	0
Mountain	0	.1	.6	4.0	.2	38.2	56.1	.7
Pacific	0	1.0	4.6	13.4	0	44.1	35.5	1.4
Total	.3	6.3	10.3	11.5	3.0	29.9	38.2	.5

1/ Conterminous United States.

Source: (16).

Estimated grazing land values by farm production region in 1982 varied from a low of $226 per acre in the Northern Plains and Mountain regions to $1,164 in the Southeast (table 17). Annual grazing land rents varied from a low of $5.43 per acre in the Southern Plains region to a high of $24.10 in the Corn Belt.

These regions also approach the extremes of rent as a percentage of value. Only in the Lake States was rent a larger percentage of value than in the Corn Belt. The reported rent in the Southern Plains represents only a little over 1 percent of value, while Lake States rents averaged 4 percent of value. Therefore, rented pasture seemed to be providing an extremely low return to value of the resource throughout the United States.

Appendix table 16 shows average grazing land values and annual rents, by States, for census years 1950-82. Regional or national estimates are not presented because data on acreage of pasture rented, needed to weight State estimates properly, are not available. Pasture rent as a percentage of land value generally declined during 1950-82 in most States (app. table 17). For a majority of the States, 1982 rents constituted a smaller percentage of grazing land value than in any other census year during 1950-82, possibly reflecting the generally unfavorable economic situation in agriculture in the early 1980's.

Table 17--Weighted average pastureland value, annual rent, and rent as a proportion of value, by farm production region, 1982 1/

Region	Value per acre 2/	Rent per acre per year 3/	Rent as a proportion of value
	Dollars	Dollars	Percent
Northeast 4/	589	11.22	1.9
Lake States	459	18.44	4.0
Corn Belt	623	24.10	3.9
Northern Plains	226	8.37	3.7
Appalachian	710	18.13	2.6
Southeast	1,164	14.25	1.2
Delta States	841	12.90	1.5
Southern Plains	495	5.43	1.1
Mountain	226	6.21	2.8
Pacific	517	15.85	3.1
Total	372	8.42	2.3

1/ Conterminous United States.
2/ Computed from 1982 ASCS survey of land values and 1982 Census of Agriculture acreages of grazing land.
3/ From 1982 ASCS survey of land values.
4/ Average value per acre for the Northeast excluding Rhode Island and Delaware.

LIVESTOCK USE

A number of species of domestic and wild animals use the Nation's grazing lands for much or all of their forage. This report focuses only on domestic cattle and sheep. To facilitate the presentation of statistics over the period for which grazing land data were presented, data on aggregate classes of livestock were used. These included the annual inventories of all cattle and calves (including dairy cattle) and of stock sheep and lambs.

Livestock Numbers

The National Agricultural Statistics Service (NASS) inventory of all cattle and calves for each of the Census years 1950-82 is summarized by region in table 18. Cattle numbers increased nationally each period through 1974, then decreased almost 9 percent from 1974 to 1978 with an additional slight decrease from 1978 to 1982. Cattle numbers have continued to decline since 1982 and as of January 1, 1988, were 99 million, less than any Census year since 1959 (12). Although the trend in cattle numbers in most regions was similar to the national totals, a few regions differed noticeably. Cattle numbers in the Pacific region, for example, increased between most Census years except 1974-78. Several other regions experienced generally upward trends or nearly constant cattle numbers during 1950-82: the Northeast, Lake States, Appalachian, Southeast, and Delta regions. The number of dairy cattle in some of these regions may have offset the changes in beef cattle numbers. Appendix table 18 shows the number of all cattle and calves, by State, for 1950-82.

Stock sheep and lamb (stock sheep replacements) numbers have generally declined since 1959 (table 19). In 1982, stock sheep and lambs totaled 11.4 million,

Table 18--Number of cattle and calves, by farm production region, 1950-82 1/

Region	Year							
	1950	1954	1959	1964	1969	1974	1978	1982
	Thousands							
Northeast	5,896	6,426	5,880	5,646	5,067	4,953	4,954	5,392
Lake States	8,994	10,198	9,972	10,739	9,473	10,232	9,270	9,780
Corn Belt	15,135	18,327	19,089	19,885	19,490	21,490	20,800	18,700
Northern Plains	11,528	14,136	14,704	17,785	18,396	22,035	18,475	19,150
Appalachian	5,436	6,704	6,491	7,441	7,941	9,092	9,090	8,730
Southeast	4,302	5,494	5,839	5,670	6,198	7,503	7,145	6,950
Delta States	4,322	5,461	5,633	5,524	5,856	6,495	5,675	5,500
Southern Plains	11,204	11,902	11,823	14,371	16,289	22,270	20,400	19,500
Mountain	8,568	10,267	10,500	11,794	13,163	15,251	13,129	13,285
Pacific	4,667	5,872	6,719	7,660	7,765	8,100	7,195	8,380
Total	80,052	94,787	96,650	106,515	109,638	127,421	116,133	115,367

1/ Conterminous United States

Source: National Agricultural Statistics Service.

only 40 percent of their 1959 number. Although the number of stock sheep and lambs was 6 percent greater in 1982 than in 1978 (10.7 million), the numbers declined to about 8.5 million in 1986 before increasing to about 9 million on January 1, 1988 (13).

The change in numbers of sheep in each farm production region followed a very similar pattern during 1950-82. Most noticeable, perhaps, are those regions which did not have greater numbers of sheep in 1982 than in 1978, the Appalachian, Southeast, Delta, and Southern Plains regions. Of these, only the Southern Plains reported more than a half million sheep. The Southern Plains and Mountain regions had nearly 57 percent of the Nation's stock sheep and lambs in 1982. Including the Northern Plains and the Pacific regions, the four western farm production regions accounted for 81 percent of the Nation's sheep. The Corn Belt accounted for more than 9 percent leaving about 10 percent for the other five eastern and southern regions. Appendix table 19 shows the number of stock sheep and lambs, by State, for census years 1950-82.

To estimate the physical demand for forage, I converted the numbers of all types of cattle and sheep to a common forage consuming unit. An animal unit is a mature (1,000 lb.) cow or the equivalent based on average daily forage consumption of 26 lb. of dry matter per day (11, p. viii). The Glossary contains a table of animal unit conversion factors for various types and sizes of livestock.

Applying the conversion factors to the various types of cattle and sheep, and summing, produces the estimates of animal units for the Nation's cattle and sheep for census years 1950-82 (table 20). The animal units of cattle are a weighted mix of cows, bulls, heifers, and calves (feeder cattle were

Table 19--Number of stock sheep and lambs, by farm production region, 1950-82 1/

Region	Year							
	1950	1954	1959	1964	1969	1974	1978	1982
	Thousands							
Northeast	490	524	588	461	335	287	209	272
Lake States	1,112	1,317	1,337	1,068	765	580	384	491
Corn Belt	3,373	3,767	3,984	2,864	2,108	1,487	1,054	1,079
Northern Plains	1,580	2,030	2,796	2,612	1,869	1,526	1,127	1,210
Appalachian	1,589	1,652	1,600	852	548	394	347	323
Southeast	50	49	140	40	20	14	12	0
Delta States	299	257	245	139	53	32	23	10
Southern Plains	6,743	5,313	5,439	5,175	3,896	2,780	2,378	2,290
Mountain	9,235	9,432	9,622	8,648	6,864	5,173	3,904	4,191
Pacific	2,628	2,760	2,746	2,471	1,847	1,457	1,281	1,533
Total	27,099	27,101	28,497	24,330	18,305	13,730	10,719	11,399

1/ Conterminous United States.

Source: National Agricultural Statistics Service.

deducted), averaging 0.75 animal unit per total count of animals for 1950-82. Due to a variation in the mix of type and size of cattle and calves in various years, this ratio varied from a high of 0.80 in 1950 to a low of 0.72 in 1969 and 1978. The ratio in 1964 and 1982, 0.75, was the same as the period average.

An ordinary-least-squares regression of the number of cattle and calves against the animal units for each census year (computed without an intercept) produced a regression coefficient of 0.7459 animal unit per head of all cattle and calves with a standard error of 0.0097. The R-squared value was 0.9023. The animal units of all cattle, therefore, can be reasonably estimated by multiplying the aggregate number of animals by 0.7459.

A similar computation that used the number of stock sheep and lambs produced a regression estimate of 0.2555 animal unit per head of stock sheep and lambs, with a standard error of 0.0012. The R-squared value was 0.9984. The animal units of stock sheep, replacement lambs, and new-crop lambs can be reasonably estimated by multiplying the number of stock sheep and lambs by 0.2555.

The above factors help estimate the animal units of all cattle or sheep (not on feed) for regions or States from the numbers of cattle and calves or stock sheep and lambs (tables 18 and 19 and app. tables 18 and 19).

Acres per Animal Unit

To determine the demands on the Nation's grazing lands, I divided the number of acres of all types of grazing lands for 1982 (app. tables 1-3) by the estimated animal units of cattle and sheep discussed above. Grazing does not provide all of the forage requirements of all the animals included and not all of the animals are on the grazing lands year around, if at all. I included dairy cattle in the animal unit computation, yet in some cases, dairy cattle may not ever be turned out to graze. Lambs are counted as 0.1 animal unit each but may graze for only a portion of the grazing season. Cattle and sheep constitute by far the largest component of grazing animals and were used in the aggregate to illustrate the relative demand on the grazing land resource.

Table 20--Animal units of cattle and sheep and total animal units, 1950-82 1/

Year	Animal units of cattle	Animal units of sheep	Total animal units
		Thousands	
1950	61,512	6,525	68,037
1954	75,401	7,003	82,404
1959	74,415	7,214	81,629
1964	79,535	6,010	85,545
1969	79,380	4,746	84,126
1974	92,812	3,572	96,383
1978	84,044	2,769	86,812
1982	86,383	2,916	89,299

1/ Conterminous United States.

The acres of grazing land per animal unit declined during 1950-74 (table 21). The area of grazing land per animal unit of cattle and sheep in 1978 was nearly 8 percent larger than in 1974. The average area of grazing land used per animal unit had dropped to 9.1 acres by 1982, about 1 percent more than in 1974. (See app. table 20 for 1982 State and regional data comparable to data in tables 20 and 21.) I computed the animal units shown in app. table 20, by type of cattle and sheep, using the conversion factors indicated in the Glossary. The area of grazing land in the conterminous United States per animal unit ranged from a low of 1.1 acres in Delaware to a high of 84.8 acres in Nevada. Alaska had the overall high with 146.4 acres per animal unit. The most noticeable relationship in types of grazing land and acres per animal unit was whether the State contained range and how much range. This relationship can be observed by comparing the acres per animal unit (app. table 20) with the acres of non-Federal grazing lands, by type (app. table 4). Including Federal grazing lands would only strengthen the general relationship: the higher the percentage of range, the more area required to support an animal unit.

I found no evidence that the United States is short of, or in danger of becoming short of, grazing land. Large supplies of milk and beef have resulted in prices too low for profitable production by many producers. Because of the recent dairy buyout program and the acreage planted to grass under the conservation reserve and conservation compliance programs, the Nation should have even more grazing land available for livestock production in the future. Many areas grazed a few years ago are no longer grazed, but lie idle, growing up in brush in a natural reforestation process.

Table 21--Animal units of cattle and sheep, area of grazing land, and area of grazing land per animal unit, 1950-82 1/

Year	Animal units of cattle and sheep	Total area of grazing land	Area of grazing land per animal unit
	Thousands	1,000 acres	Acres
1950	68,037	1,019,860	15.0
1954	82,404	999,740	12.1
1959	81,629	939,126	11.5
1964	85,545	917,649	10.7
1969	84,126	886,666	10.5
1974	96,383	856,738	8.9
1978	86,812	831,675	9.6
1982	89,299	816,740	9.1

1/ Conterminous United States.

REFERENCES

1. Frey, H. Thomas. 1982. Major Uses of Land in the United States: 1978. AER-487. U.S. Dept. Agr., Econ. Res Serv.

2. _____. 1979. Major Uses of Land in the United States: 1974. AER-440. U.S. Dept. Agr., Econ. Stat. Coop. Serv.

3. _____. 1973. Major Uses of Land in the United States: Summary for 1969. AER-247. U.S. Dept. Agr., Econ. Res. Serv.

4. _____, and Roger Hexem. 1985. Major Uses of Land in the United States: 1982. AER-535. U.S. Dept. Agr., Econ. Res. Serv.

5. _____, Orville E. Krause, and Clifford Dickason. 1968. Major Uses of Land in the United States, Summary for 1964. AER-149. U.S. Dept. Agr., Econ. Res. Serv.

6. Gilliam, Henry C., Jr. 1984. The U.S. Beef Cow-Calf Industry. AER-515. U.S. Dept. Agr., Econ. Res. Serv.

7. Greene, Catherine, and Charles Barnard. 1985. U.S. Farmland Values, 1982-84: A Comparison of Experimental and Traditional Data. ERS Staff Report No. AGES850304. U.S. Dept. Agr., Econ. Res. Serv.

8. Schuster, J. L. 1984. "The Importance of Rangeland and Range Conservation," Rangelands. Vol. 6, No. 5.

9. U.S. Department of Agriculture, Bureau of Agricultural Economics. 1953. Supplement to Major Uses of Land in the United States (USDA Technical Bulletin 1082): Basic Land Use Statistics, 1950.

10. _____, Extension Service. 1986. Grazing Lands and People, A National Program Statement and Guidelines for the Cooperative Extension Service.

11. _____, Forest Service. 1984. Grazing Statistical Summary, FY 1983.

12. _____, National Agricultural Statistics Service. 1988. Cattle.

13. _____, National Agricultural Statistics Service. 1988. Sheep and Goats.

14. _____, Soil Conservation Service. 1980. SCS-National Resources Inventory, 1981-82.

15. _____, Soil Conservation Service. 1961. Land Capability Classification. AH-210.

16. _____, Soil Conservation Service and Iowa State University Statistical Laboratory. 1987. Basic Statistics, 1982 National Resources Inventory. SB-756.

17. _____, Soil Conservation Service and Iowa State University,

Statistical Laboratory. 1982. Basic Statistics, 1977 National Resources Inventory. SB-686.

18. U.S. Department of Commerce, Bureau of the Census. 1973. 1969 Census of Agriculture. Vol. II. General report, chap. 1.

19. Wooten, H. H. 1953. Major Uses of Land in the United States. TB-1082. U.S. Dept. Agr., Bur. Agr. Econ.

20. _____, and James R. Anderson. 1957. Major Uses of Land in the United States, Summary for 1954. AIB-168. U.S. Dept. Agr., Agr. Res. Serv.

21. _____, Karl Gertel, and William C. Pendleton. 1962. Major Uses of Land and Water in the United States, Summary for 1959. AER-13. U.S. Dept. Agr., Econ. Res. Serv.

22. Wischmeier, W. H., and D. D. Smith. 1978. Predicting Rainfall Erosion Losses - A Guide to Conservation Planning. AH-537. U.S. Dept. Agr., Sci. Ed. Admin.

Animal unit is a measure of forage consumed by one mature (1,000 lb.) cow or the equivalent based on the daily forage consumption of 26 pounds of dry matter per day.

Animal unit month is one animal unit for 1 month.

Animal unit conversion factors are the standard factors for converting an animal month of grazing to an animal unit month of forage consumption. Commonly used values of these factors are (11):

Class of animal	Factor
Mature cow	1.00
Mature cow with nursing calf	1.32
Yearling (9-18 months)	.70
Weaner calf	.50
Bull	1.50
Mature sheep or goat	.20
Ewe with lamb or nanny with kid	.30
Horse or mule	1.20
Swine	.50
Bison	1.00
Burro	.60

Conservation treatment needs (16, pp. 145-146):

Adequately protected (all land uses)--Soil erosion and other factors that influence sustained productive use of the resource are within acceptable limits. (Some Class I land may not be adequately protected.)

Brush management and re-establishment (rangeland)--Both practices (see separate definitions below) are needed for satisfactory growth of forage.

Drainage (cropland, minor land cover/uses, and pastureland)--A drainage system is needed to control erosion or remove excess water on or in the soil.

Erosion control (all land uses)--For sustained use of the resource, erosion control practices are needed to dispose of excess surface water runoff at a nonerosive velocity or to reduce average annual soil loss to the soil loss tolerance (T-value) established for each soil.

Forage protection (grazed forest land)--See "Protection."

Improvement (pastureland and grazed forest land)--This category refers to improvement of pastureland with or without brush management (see definitions below) and improvement of grazed forest land without brush management.

Improvement with brush management (pastureland and rangeland)--The encroachment of woody plants has eliminated or threatens to eliminate

the herbaceous cover. Chemical or mechanical measures are needed to control brush to permit satisfactory forage growth.

Improvement without brush management (pastureland, rangeland, and grazed forest land)--An inadequate forage cover can be improved or restored by applying recommended management practices and following recommended grazing systems.

Irrigation management (cropland, pastureland, and minor land cover/use)--An irrigation water management system is needed to control soil erosion, to conserve water, to time water applications according to cropland or pastureland needs, or to correct problems caused by alkali or saline soil.

Protection (pastureland, rangeland, and grazed forest land)--The desired vegetation exists, but has been damaged by and needs protection from overgrazing. Proper management and distribution of livestock will enable the vegetation to recover and reseed naturally. On grazed forest land, management aims primarily to increase forage rather than wood production.

Re-establishment (pastureland, rangeland, and grazed forest land)--Vegetation is in such poor condition that it needs complete re-establishment, not just brush control measures.

Timber crop improvement (grazed forest land)--Grazing should be reduced or eliminated to improve wood potential.

Timber establishment and reinforcement (forest land)--Tree planting or natural or artificial seeding will reduce conservation problems and increase timber supplies. Site preparation may be needed.

Timber stand improvement (forest land)--Cutting some trees will increase growth or quality of the stand.

Treatment not feasible (pastureland, rangeland, minor cover/uses, and forest land)--Treatment of conservation problems is not feasible because a reasonable economic return is unlikely.

Cropland pasture is cropland that has been seeded to pasture, usually as one use in a long-term crop rotation. However, some land classed as cropland pasture is marginal for crop production and may remain in pasture indefinitely. This category also includes crops that are grazed for a period before they reach maturity and some land used for pasture that could have been cropped without additional improvement. Cropland pasture and permanent grassland pasture have not always been clearly distinguished in agricultural surveys (4, p. 16).

Grassland pasture and range is open land used primarily for grazing. It includes shrub and brushland types of grazing land such as sagebrush and scattered mesquite, as well as all tame and native grasses, legumes, and other forage used for grazing. Because of the diversity in vegetative composition, "grassland pasture and range" are not always clearly distinguishable from other types of grazing land. At one extreme, permanent grassland may merge with cropland pasture. At the other extreme, grassland often intermingles or forms transitional areas with forested grazing land (4, p. 17).

Grazed forest land is mainly brushgrown pasture, arid woodlands, and other areas within forests that have grass or other forage growth. The total acreage of grazed forest land includes woodland pasture in farms plus rough estimates of grazed forest land not in farms. For many States, the estimates include significant areas grazed only lightly or sporadically (4, p. 17).

Native pasture is unimproved or nonintensively managed open (nonforested) pastureland. Native pasture is comprised of plant materials from predominately native or escaped (introduced but unintentionally spread) species, grazed from nonintensively managed pastureland (6, p. vi).

Pasture condition ratings indicate the level of management applied and the quality and quantity of the forage produced. These ratings are as follows (16, p. 149):

> Good--Best-suited plants are being used; fertilization levels are moderate to high, and grazing management is good to excellent.
>
> Fair--Plants adapted to climate and soils are being used, fertilization is irregular, and grazing management is moderate.
>
> Poor--Plants are not well suited to climate and soils, fertilization level is low, and grazing management is improper or inadequate.
>
> Other--Native species make up the forage, which is not routinely fertilized, overseeded, or irrigated.

Pastureland is used primarily for production of introduced or native forage plants for livestock grazing. Pastureland may consist of a single species in a pure stand, a grass mixture, or a grass-legume mixture. Management usually consists of cultural treatments--fertilization, weed control, reseeding, or renovation--and control of grazing (16, p. 149).

Permanent pasture is land used only for pasture and may vary from native pasture (as defined above) to improved perennial pasture. Improved perennial pasture is defined as pastureland covered with predominately perennial grasses and/or legumes, managed relatively intensively through recurring application of such agronomic practices as reseeding, fertilization, and/or mechanical or chemical weed control (6, p. vi).

Rangeland is land on which the climax vegetation (potential natural plant community) is predominately grasses, grasslike plants, forbs, or shrubs suitable for grazing and browsing. Rangeland includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain forb and shrub communities. It also includes areas seeded to native or adapted introduced species that are managed like native vegetation (16, p. 150).

Rangeland condition is the relative degree, sometimes expressed as a percentage, to which the kinds, proportions, and amounts of plants in the present plant community resemble those of the climax vegetation (potential natural plant community) for the site. The five rangeland condition ratings are excellent, more than 75-percent resemblance to the climax community; good, 51 to 75 percent; fair, 26 to 50 percent; poor, 0 to 25 percent; and other, which is not applicable to natural range conditions (annual range) (16, p. 150).

T-value represents "soil loss tolerance" which, for a specific soil, is the maximum average annual soil loss, expressed as tons per acre per year, that will permit a high level of economical production indefinitely (16, p. 151). T-values for U.S. soils generally range from 2 to 5 tons per acre per year (22, p. 2).

Understory forage value is a forage rating system for the undergrowth of grazed forest based on the percentage of understory forage production by preferred species:

1 - Very high (51-100 percent from preferred species);
2 - High (31-50 percent);
3 - Moderate (11-30 percent); and
4 - Low (0-10 percent).

Appendix table 1--Forest land grazed, by farm production region and State

Region and State	1950 1/	1954 1/	1959 2/	1964 2/	1969 3/	1974 3/	1978 4/	1982 3/
				1,000 acres				
Northeast:								
Maine	783	580	201	159	165	114	115	95
New Hampshire	745	348	127	145	75	74	73	45
Vermont	1,233	1,096	602	452	280	242	385	280
Massachusetts	495	248	90	128	85	49	49	45
Rhode Island	14	11	10	7	6	6	6	5
Connecticut	164	135	95	73	56	46	51	40
New York	1,862	1,614	1,850	1,481	823	720	719	600
New Jersey	44	39	21	19	29	34	35	20
Pennsylvania	1,433	1,300	295	942	547	489	561	460
Delaware	11	23	13	15	21	14	14	10
Maryland	313	194	184	152	151	114	139	100
Total	7,097	5,588	3,488	3,573	2,238	1,902	2,147	1,700
Lake States:								
Michigan	3,945	2,653	1,252	1,111	653	463	466	400
Wisconsin	6,624	4,600	2,905	3,036	2,210	1,844	1,748	1,500
Minnesota	5,549	3,917	1,874	2,790	1,872	1,456	1,505	1,300
Total	16,118	11,170	6,031	6,937	4,735	3,763	3,719	3,200
Corn Belt:								
Ohio	2,106	1,911	1,543	1,396	1,096	873	753	650
Indiana	1,660	1,568	1,488	1,313	945	762	743	600
Illinois	2,041	1,950	1,908	1,816	1,251	1,001	1,199	950
Iowa	1,902	1,784	1,555	1,550	1,602	1,395	993	1,100
Missouri	10,605	11,294	6,427	6,100	7,081	5,907	3,996	3,400
Total	18,314	18,507	12,921	12,179	11,975	9,938	7,684	6,700
Northern Plains:								
North Dakota	483	346	329	237	264	205	174	350
South Dakota	1,238	1,183	863	731	926	944	855	750
Nebraska	603	764	780	517	631	620	617	500
Kansas	743	755	1,057	815	537	459	459	400
Total	3,067	3,048	3,029	2,300	2,358	2,228	2,105	2,000
Appalachian:								
Virginia	2,856	3,072	1,378	1,362	1,245	1,021	1,109	1,050
West Virginia	3,556	3,335	1,841	1,739	880	696	793	800
North Carolina	5,223	3,170	1,356	1,318	1,241	1,084	893	700
Kentucky	4,259	3,743	2,074	2,064	1,522	1,400	1,442	1,250
Tennessee	3,402	3,865	1,868	1,873	1,781	1,642	1,626	1,400
Total	19,296	17,185	8,517	8,356	6,669	5,843	5,863	5,200
Southeast:								
South Carolina	3,707	3,074	2,628	2,455	918	832	711	550
Georgia	10,221	10,211	4,227	4,025	2,256	1,987	1,987	1,400
Florida	17,753	16,510	8,078	7,785	8,134	7,325	6,586	6,300
Alabama	10,512	9,981	4,771	4,508	2,311	1,889	1,881	1,700
Total	42,193	39,776	19,704	18,773	13,619	12,033	11,165	9,950

Footnotes at end of table.

continued--

Appendix table 1--Forest land grazed, by farm production region and State--continued

Region and State	1950 1/	1954 1/	1959 2/	1964 3/	1969 4/	1974 4/	1978 4/	1982 4/
				1,000 acres				
Delta States:								
Mississippi	10,603	10,734	6,699	6,758	6,754	5,619	5,619	5,500
Arkansas	13,745	12,810	13,644	12,527	6,056	5,222	5,222	5,100
Louisiana	12,304	11,754	8,153	8,143	8,581	6,336	6,336	6,200
Total	36,652	35,298	28,496	27,428	21,391	17,177	17,177	16,800
Southern Plains:								
Oklahoma	8,869	7,550	7,723	7,093	7,306	6,519	6,519	5,900
Texas	33,440	26,656	22,795	19,288	19,035	16,783	14,246	6,900
Total	42,309	34,206	30,518	26,381	26,341	23,302	20,765	12,800
Mountain:								
Montana	10,955	9,753	11,900	9,491	8,313	8,520	7,433	7,200
Idaho	9,943	7,643	8,070	7,596	5,344	5,253	5,179	5,000
Wyoming	5,775	3,917	3,844	3,390	2,897	2,943	3,846	3,700
Colorado	14,618	11,280	13,371	12,624	10,210	9,745	12,745	12,200
New Mexico	16,389	18,219	17,005	15,483	14,929	14,461	11,044	10,900
Arizona	16,436	18,160	15,668	15,130	16,290	13,022	13,812	13,400
Utah	6,354	14,792	14,855	12,768	13,975	14,333	11,295	11,000
Nevada	2,393	11,139	11,424	8,845	7,113	7,094	6,347	6,200
Total	82,863	94,903	96,137	85,327	79,071	75,371	71,701	69,600
Pacific:								
Washington	9,333	8,732	5,100	4,628	4,614	3,543	3,598	3,900
Oregon	20,118	15,050	12,706	12,377	11,645	11,302	11,921	12,650
California	22,090	17,790	16,907	15,563	12,825	12,449	13,400	13,000
Total	51,541	41,572	34,713	32,568	29,084	27,294	28,919	29,550
48 States	319,450	301,253	243,554	223,822	197,481	178,851	171,245	157,500
Alaska	364	NA	640	367	111	108	66	60
Hawaii	412	NA	441	331	451	460	460	440
United States	320,226	301,253	244,635	224,520	198,043	179,419	171,771	158,000

NA = Not available.

1/ Included woodland or forest pastured or grazed on farms and not on farms.

2/ Adjustments were made for 3,249,000 acres included in the published national totals but not included in the totals of the 31 Eastern States or the totals of the 6 eastern farm production regions.

3/ Adjustments were made in the State estimates of the 6 eastern farm production regions to account for a total of 3,039,000 acres shown in the 6 regional totals published, but not distributed among the States of each region.

4/ Included woodland grazed on farms and an approximation of forested grazing land not on farms.

Sources: (1, 2, 3, 4, 5, 9, 19, 20, 21).

Appendix table 2--Cropland pasture, by farm production region and State

Region and State	1950	1954	1959	1964	1969	1974	1978	1992
				1,000 acres				
Northeast:								
Maine	221	236	171	143	119	101	98	87
New Hampshire	102	88	72	62	56	43	46	31
Vermont	219	196	196	183	279	233	254	205
Massachusetts	151	143	103	80	72	55	77	52
Rhode Island	25	22	15	12	9	5	8	5
Connecticut	129	126	79	56	69	56	55	43
New York	1,579	1,409	1,281	991	1,492	1,228	1,195	891
New Jersey	160	184	125	88	96	83	83	64
Pennsylvania	1,111	946	845	686	1,154	1,023	1,037	862
Delaware	72	64	43	32	27	21	18	12
Maryland	448	363	287	226	296	258	246	197
Total	4,217	3,777	3,217	2,559	3,669	3,106	3,117	2,449
Lake States:								
Michigan	1,983	1,912	1,398	1,147	1,091	909	760	566
Wisconsin	2,187	2,255	1,987	1,765	2,101	1,762	1,479	1,229
Minnesota	1,560	1,536	1,272	1,307	2,101	1,993	1,647	1,206
Total	5,730	5,703	4,657	4,219	5,293	4,664	3,886	3,001
Corn Belt:								
Ohio	2,049	1,710	1,505	1,164	1,726	1,515	1,266	982
Indiana	2,050	1,967	1,687	1,335	1,572	1,423	1,103	798
Illinois	2,592	2,493	2,076	1,669	2,179	1,856	1,517	1,070
Iowa	3,144	3,161	2,850	2,632	4,008	3,630	3,174	2,500
Missouri	5,104	4,385	4,704	4,428	7,401	6,692	6,937	5,587
Total	14,939	13,716	12,822	11,228	16,886	15,116	13,997	10,937
Northern Plains:								
North Dakota	935	754	756	848	1,889	2,270	1,605	1,575
South Dakota	816	722	1,184	934	2,998	2,770	2,307	2,309
Nebraska	1,400	1,117	1,309	1,031	2,461	3,274	2,363	2,397
Kansas	1,521	1,359	1,446	1,346	3,925	3,895	3,150	3,232
Total	4,672	3,952	4,695	4,159	11,273	12,209	9,425	9,513
Appalachian:								
Virginia	1,564	1,116	1,018	865	1,732	1,690	1,722	1,523
West Virginia	787	513	520	360	886	739	814	676
North Carolina	733	702	674	601	1,113	1,099	990	806
Kentucky	5,265	4,880	4,069	4,572	4,916	4,487	4,134	3,453
Tennessee	2,856	3,095	3,217	3,059	3,781	3,501	2,988	2,608
Total	11,205	10,306	9,498	9,457	12,428	11,516	10,648	9,066
Southeast:								
South Carolina	495	688	641	592	694	704	625	484
Georgia	1,273	1,407	1,304	1,017	1,838	1,828	1,551	1,290
Florida	937	878	939	741	1,002	1,086	1,300	1,077
Alabama	1,598	1,654	1,413	1,243	2,100	2,135	1,798	1,474
Total	4,303	4,627	4,297	3,593	5,634	5,753	5,274	4,325

continued--

Appendix table 2--Cropland pasture, by farm production region and State--continued

Region and State	1950	1954	1959	1964	1969	1974	1978	1982
				1,000 acres				
Delta States:								
Mississippi	1,604	1,513	1,630	1,294	2,423	2,478	1,960	1,441
Arkansas	2,472	2,419	2,270	1,840	2,613	2,469	2,448	2,055
Louisiana	1,804	1,959	2,032	1,739	1,648	1,427	1,175	916
Total	5,880	5,891	5,932	4,873	6,684	6,374	5,583	4,412
Southern Plains:								
Oklahoma	2,318	2,325	2,586	1,951	4,904	4,651	4,200	3,860
Texas	6,642	7,398	8,200	6,986	11,929	11,280	12,127	10,029
Total	8,960	9,723	10,786	8,937	16,833	15,931	16,327	13,889
Mountain:								
Montana	1,272	738	945	1,031	1,441	1,145	1,189	1,123
Idaho	485	545	666	696	967	874	767	763
Wyoming	405	445	588	567	601	560	473	461
Colorado	970	1,008	1,235	1,120	1,389	1,292	1,078	1,000
New Mexico	446	464	429	385	513	542	481	450
Arizona	184	201	204	142	146	117	144	129
Utah	305	275	409	442	507	438	491	470
Nevada	145	253	362	191	162	153	191	190
Total	4,212	3,929	4,838	4,574	5,726	5,121	4,814	4,586
Pacific:								
Washington	715	621	724	784	834	688	614	612
Oregon	969	807	942	927	1,077	815	815	858
California	3,530	3,018	3,033	2,053	1,844	1,404	1,628	1,345
Total	5,214	4,446	4,699	3,764	3,755	2,907	3,057	2,815
48 States	69,332	66,070	65,441	57,363	88,181	82,697	76,128	64,993
Alaska	2	2	4	4	3	2	4	6
Hawaii	154	NA	167	52	36	37	27	34
United States	69,332	66,070	65,612	57,419	88,220	82,736	76,159	65,033

NA = Not available.

Sources: (1, 2, 3, 4, 5, 9, 19, 20, 21).

Appendix table 3--Other grassland pasture and range, by farm production region and State

Region and State	1950	1954	1959	1964	1969	1974	1978	1982
				1,000 acres				
Northeast:								
Maine	273	254	291	283	174	142	118	94
New Hampshire	148	157	86	47	57	34	32	46
Vermont	752	744	692	406	290	234	188	260
Massachusetts	145	153	192	135	49	52	43	48
Rhode Island	13	12	21	7	5	5	3	3
Connecticut	157	168	194	192	54	46	47	48
New York	3,126	3,222	3,543	3,447	1,295	1,580	1,394	904
New Jersey	125	94	203	148	61	54	52	26
Pennsylvania	1,811	1,939	2,169	1,868	849	1,026	901	949
Delaware	28	26	30	18	34	8	11	12
Maryland	350	417	578	559	294	209	174	222
Total	6,928	7,186	7,999	7,110	3,162	3,390	2,963	2,612
Lake States:								
Michigan	1,101	1,045	1,763	2,045	1,338	1,241	1,211	1,881
Wisconsin	2,432	2,520	3,182	3,086	2,526	2,095	1,914	2,009
Minnesota	2,618	2,722	3,321	3,354	2,311	1,954	1,590	1,689
Total	6,151	6,287	8,266	8,485	6,175	5,290	4,715	5,579
Corn Belt:								
Ohio	3,063	3,009	3,364	3,708	2,374	1,610	1,545	1,430
Indiana	1,468	1,314	1,868	2,286	2,038	1,487	1,347	1,352
Illinois	2,265	2,083	3,321	3,375	2,614	1,834	1,551	1,773
Iowa	3,731	3,799	5,153	3,248	2,089	2,152	1,755	2,065
Missouri	6,036	6,625	8,100	7,718	4,833	6,610	5,812	6,540
Total	16,563	16,830	21,806	20,335	13,948	13,693	12,010	13,160
Northern Plains:								
North Dakota	13,121	13,300	13,457	12,988	11,278	10,528	10,888	11,028
South Dakota	24,402	24,764	26,113	25,432	24,030	24,670	24,192	23,529
Nebraska	22,154	22,542	22,266	23,731	22,179	22,137	22,133	21,232
Kansas	17,378	17,796	17,907	18,524	15,453	15,950	15,995	13,907
Total	77,055	78,402	79,743	80,675	72,940	73,285	73,208	69,696
Appalachian:								
Virginia	2,379	2,771	3,592	3,211	2,282	1,819	1,556	1,717
West Virginia	2,326	2,277	2,575	1,706	863	717	653	557
North Carolina	1,057	1,534	1,556	1,715	1,216	1,050	852	1,010
Kentucky	1,696	1,759	2,871	2,032	1,871	2,013	1,301	1,669
Tennessee	1,657	1,808	2,390	2,114	2,195	1,899	1,402	1,370
Total	9,115	10,149	12,984	10,778	8,427	7,498	5,764	6,323
Southeast:								
South Carolina	489	781	941	1,202	979	667	550	443
Georgia	1,185	1,851	2,498	1,802	1,275	1,731	1,317	1,850
Florida	3,395	4,881	7,425	6,731	5,834	6,026	5,469	6,229
Alabama	1,707	2,454	3,075	2,829	2,410	2,917	1,949	1,865
Total	6,766	9,967	13,939	12,564	10,498	11,341	9,285	10,387

continued--

Appendix table 3--Other grassland pasture and range, by farm production region and State--continued

Region and State	1950	1954	1959	1964	1969	1974	1978	1982
				1,000 acres				
Delta States:								
Mississippi	2,280	3,482	3,135	3,717	2,864	2,620	1,856	2,369
Arkansas	1,585	2,298	3,463	2,373	2,895	2,559	2,055	2,948
Louisiana	2,152	2,721	2,760	3,343	2,674	2,270	1,866	2,073
Total	6,017	8,501	9,358	9,433	8,433	7,449	5,777	7,390
Southern Plains:								
Oklahoma	13,744	16,203	15,022	18,449	16,599	16,235	17,549	18,396
Texas	80,318	88,150	94,217	99,929	94,750	95,803	93,928	103,890
Total	94,062	104,353	109,239	118,378	111,349	112,038	111,477	122,286
Mountain:								
Montana	53,296	54,742	50,641	50,558	49,873	49,465	48,869	48,395
Idaho	24,505	25,766	22,289	22,352	22,073	20,840	21,004	20,407
Wyoming	48,355	48,484	46,390	45,826	45,911	46,016	45,537	45,594
Colorado	32,073	33,237	29,436	29,017	29,711	29,274	28,731	28,198
New Mexico	51,801	50,178	48,446	51,471	51,025	50,525	51,382	51,217
Arizona	46,763	44,838	42,455	41,169	41,354	40,941	41,506	41,565
Utah	34,850	27,577	24,665	25,775	24,893	23,711	23,503	23,238
Nevada	56,218	46,070	48,510	48,231	48,638	46,673	45,976	45,909
Total	347,861	330,892	312,832	314,399	313,478	307,445	306,508	304,523
Pacific:								
Washington	8,666	7,628	8,127	8,318	6,982	6,679	6,586	7,705
Oregon	24,340	25,561	23,217	22,709	22,756	23,172	23,119	22,011
California	27,544	26,661	22,621	23,280	22,856	23,910	22,890	22,580
Total	60,550	59,850	53,965	54,307	52,594	53,761	52,595	52,296
48 States	631,078	632,417	630,131	636,464	601,004	595,190	584,302	594,252
Alaska	NA	NA	2,350	2,772	1,624	1,625	1,276	1,281
Hawaii	1,361	1,384	646	1,203	987	1,018	1,143	1,131
United States	632,439	633,801	633,127	640,439	603,615	597,833	586,721	596,664

NA = Not available.

Sources: (1, 2, 3, 4, 5, 9, 19, 20, 21).

Appendix table 4--Area of non-Federal grazing land, by farm production region and State, 1982

Region and State	Pasture	Range	Grazed forest	Total grazing land
			1,000 acres	
Northeast:				
Maine	569	0	24	593
New Hampshire	125	0	33	157
Vermont	501	0	88	589
Massachusetts	202	0	10	212
Rhode Island	36	0	1	37
Connecticut	114	0	19	133
New York	3,871	0	232	4,103
New Jersey	240	0	6	245
Pennsylvania	2,593	0	280	2,872
Delaware	35	0	1	36
Maryland	534	0	37	571
Lake States:				
Michigan	2,911	0	235	3,146
Wisconsin	3,394	0	848	4,242
Minnesota	3,590	199	882	4,671
Corn Belt:				
Ohio	2,714	0	527	3,240
Indiana	2,212	0	358	2,570
Illinois	3,157	0	638	3,795
Iowa	4,536	0	770	5,307
Missouri	12,573	168	3,000	15,740
Northern Plains:				
North Dakota	1,272	10,948	212	12,433
South Dakota	2,703	22,786	427	25,916
Nebraska	2,125	23,096	428	25,649
Kansas	2,241	16,909	258	19,408
Appalachian:				
Virginia	3,392	0	905	4,297
West Virginia	1,869	0	798	2,667
North Carolina	1,980	0	474	2,454
Kentucky	5,880	0	1,009	6,889
Tennessee	5,356	0	1,247	6,603
Southeast:				
South Carolina	1,208	0	386	1,594
Georgia	2,977	0	535	3,512
Florida	4,273	3,804	2,506	10,583
Alabama	3,817	0	1,404	5,220

continued--

Appendix table 4--Area of non-Federal grazing land, by farm production region and State, 1982--continued

Region and State	Pasture	Range	Grazed forest	Total grazing land
		1,000 acres		
Delta States:				
Mississippi	3,975	0	1,964	5,939
Arkansas	5,794	164	2,046	8,004
Louisiana	2,369	241	2,902	5,511
Southern Plains:				
Oklahoma	7,138	15,060	4,601	26,799
Texas	17,043	95,353	2,953	115,349
Mountain:				
Montana	3,035	37,838	3,233	44,105
Idaho	1,274	6,733	1,476	9,484
Wyoming	755	26,915	859	28,529
Colorado	1,260	24,223	2,735	28,217
New Mexico	163	40,982	3,893	45,038
Arizona	79	30,948	4,507	35,534
Utah	490	8,489	2,898	11,877
Nevada	304	7,908	265	8,477
Pacific:				
Washington	1,345	5,637	2,916	9,898
Oregon	1,966	9,392	3,839	15,197
California	1,393	18,125	6,210	25,727
48 States	131,380	405,917	65,873	603,170
Alaska	NA	NA	NA	NA
Hawaii	974	0	143	1,117
United States	132,354	405,917	66,016	604,287

NA = Not available.

Source: (16).

Appendix table 5--Proportion of non-Federal pasture, by pastureland condition and by farm production region and State, 1982

Region and State	Pastureland condition 1/			
	Good	Fair	Poor	Other
	Percent			
Northeast:				
Maine	12.5	27.1	52.1	8.4
New Hampshire	18.2	42.2	33.3	6.3
Vermont	26.0	36.3	35.9	1.8
Massachusetts	20.0	38.7	34.5	6.7
Rhode Island	9.2	22.6	16.7	51.5
Connecticut	31.3	44.5	22.5	1.8
New York	11.8	23.7	13.2	51.3
New Jersey	29.9	18.9	8.2	43.0
Pennsylvania	16.4	41.9	31.2	10.5
Delaware	36.6	32.1	10.2	21.0
Maryland	33.7	40.0	17.4	9.0
Lake States:				
Michigan	10.0	21.8	41.9	26.4
Wisconsin	.4	1.5	.4	97.6
Minnesota	10.7	43.2	15.7	30.4
Corn Belt:				
Ohio	25.5	51.2	20.0	3.4
Indiana	27.1	45.6	23.8	3.5
Illinois	24.2	39.6	22.7	13.6
Iowa	24.3	54.6	18.7	2.3
Missouri	30.4	45.2	24.0	.4
Northern Plains:				
North Dakota	48.1	43.0	8.7	.2
South Dakota	51.5	40.8	7.5	.2
Nebraska	35.2	51.0	13.5	.3
Kansas	37.9	42.8	19.1	.3
Appalachian:				
Virginia	32.3	46.0	20.2	1.6
West Virginia	19.9	45.2	32.4	2.5
North Carolina	36.3	43.7	18.7	1.3
Kentucky	32.5	43.2	23.2	1.1
Tennessee	28.5	42.1	27.8	1.7
Southeast:				
South Carolina	43.1	39.4	15.8	1.6
Georgia	61.0	30.8	8.1	.1
Florida	37.9	49.5	11.9	.7
Alabama	40.1	37.6	22.3	0

Footnote at end of table.

continued--

Appendix table 5--Proportion of non-Federal pasture, by pastureland condition and by farm production region and State, 1982--continued

Region and State	Pastureland condition 1/			
	Good	Fair	Poor	Other
	Percent			
Delta States:				
Mississippi	41.4	39.8	17.4	1.4
Arkansas	40.6	34.8	20.8	3.8
Louisiana	41.9	41.3	10.4	6.4
Southern Plains:				
Oklahoma	42.7	39.4	16.8	1.0
Texas	36.4	40.5	14.4	8.7
Mountain:				
Montana	44.6	37.5	16.8	1.1
Idaho	31.2	47.4	17.6	3.9
Wyoming	43.6	48.6	7.9	0
Colorado	34.2	51.4	13.3	1.0
New Mexico	36.8	49.1	12.0	2.1
Arizona	21.2	54.7	18.7	5.4
Utah	22.6	58.6	18.7	0
Nevada	31.2	54.7	13.2	1.0
Pacific:				
Washington	25.0	46.4	22.7	6.0
Oregon	17.9	51.1	25.7	5.4
California	40.0	38.6	8.4	12.9
48 States	32.0	40.6	18.8	8.6
Alaska	NA	NA	NA	NA
Hawaii	24.9	55.9	11.8	7.4
United States	32.0	40.7	18.7	8.6

NA = Not available.

1/ Distribution of condition ratings may not add to 100 percent due to rounding.

Source: (16).

Appendix table 6--Proportion of non-Federal range, by rangeland condition and by farm production region and State, 1982

Region and State	Rangeland condition 1/				
	Excellent	Good	Fair	Poor	Other
	Percent				
Lake States:					
Minnesota	10.2	24.3	50.4	13.9	1.2
Corn Belt:					
Missouri	.8	33.5	29.6	33.1	3.0
Northern Plains:					
North Dakota	13.9	57.5	25.2	3.4	0
South Dakota	8.2	60.2	28.5	3.1	0
Nebraska	9.5	54.7	30.8	4.6	.4
Kansas	5.7	47.9	36.2	9.9	.4
Southeast:					
Florida	.6	7.2	48.1	43.1	.9
Delta States:					
Arkansas	3.0	13.0	42.7	41.3	0
Louisiana	5.2	61.5	22.4	10.9	0
Southern Plains:					
Oklahoma	6.0	23.9	50.7	19.3	.1
Texas	.5	14.2	56.2	26.9	2.2
Mountain:					
Montana	13.3	45.7	33.3	7.3	.5
Idaho	4.8	32.5	38.1	18.6	6.0
Wyoming	1.2	43.1	52.0	3.6	0
Colorado	1.4	24.0	57.8	16.7	.2
New Mexico	1.6	29.9	55.2	13.2	.1
Arizona	1.7	15.9	53.6	28.5	.3
Utah	1.8	20.3	47.4	28.9	1.6
Nevada	3.0	33.8	50.9	8.3	3.9
Pacific:					
Washington	11.2	20.7	32.2	34.3	1.6
Oregon	2.4	19.3	37.1	39.7	1.4
California	.2	2.6	3.4	2.4	91.5
United States 2/	4.1	29.6	44.9	16.4	5.0

1/ Distribution of condition ratings may not add to 100 percent due to rounding.

2/ Not including Alaska which was not inventoried in the 1982 NRI.

Source: (16).

Appendix table 7--Proportion of non-Federal grazed forest land, by understory forage value rating and by farm production region and State, 1982

Region and State	Forage value rating 1/				
	Very high	High	Moderate	Low	Other
			Percent		
Northeast:					
Maine	0	0	37.8	62.2	0
New Hampshire	0	0	0	58.2	41.8
Vermont	1.3	1.3	11.6	51.0	34.9
Massachusetts	0	0	0	83.3	16.7
Rhode Island	0	0	0	0	100.0
Connecticut	0	0	0	66.7	33.3
New York	0	2.1	15.0	42.3	40.7
New Jersey	0	0	17.5	61.4	21.1
Pennsylvania	0	1.2	13.8	63.3	21.7
Delaware	0	0	0	0	100.0
Maryland	0	11.8	24.9	35.3	27.9
Lake States:					
Michigan	.9	0	0	2.2	96.9
Wisconsin	0	0	0	1.6	98.4
Minnesota	.3	2.4	21.1	47.5	28.7
Corn Belt:					
Ohio	0	0	.1	2.5	97.4
Indiana	0	.8	.5	8.8	89.9
Illinois	0	0	.4	1.7	97.8
Iowa	0	2.9	18.6	71.8	6.7
Missouri	0	.3	1.9	6.2	91.7
Northern Plains:					
North Dakota	1.9	6.6	52.5	37.9	1.1
South Dakota	11.4	9.1	45.5	30.0	4.0
Nebraska	11.4	14.1	21.8	19.6	33.1
Kansas	.6	6.1	30.0	60.7	2.6
Appalachian:					
Virginia	.4	1.9	15.8	61.4	20.5
West Virginia	0	0	.3	1.5	97.9
North Carolina	0	2.0	9.9	52.2	36.2
Kentucky	.3	.9	11.5	68.0	19.3
Tennessee	0	.3	3.1	11.0	85.6
Southeast:					
South Carolina	1.1	3.2	8.7	15.2	71.8
Georgia	.9	4.9	33.1	35.1	26.1
Florida	.7	2.5	19.6	75.2	2.0
Alabama	2.8	4.9	23.2	68.0	1.1

Footnote at end of table.

continued--

Appendix table 7--Proportion of non-Federal grazed forest land, by understory forage value rating and by farm production region and State, 1982--continued

Region and State	Forage value rating 1/				
	Very high	High	Moderate	Low	Other
			Percent		
Delta States:					
Mississippi	1.0	1.5	15.6	71.9	10.1
Arkansas	0	4.2	24.0	71.5	.2
Louisiana	.8	7.2	41.9	48.2	1.9
Southern Plains:					
Oklahoma	.4	3.8	28.4	66.8	.6
Texas	.6	4.5	37.3	56.5	1.0
Mountain:					
Montana	28.0	29.1	21.5	20.6	.7
Idaho	3.5	7.4	40.9	47.7	.5
Wyoming	4.6	14.1	46.1	31.5	3.8
Colorado	2.1	11.8	40.9	42.5	2.7
New Mexico	3.6	16.6	52.5	27.0	.3
Arizona	1.6	8.3	48.5	40.9	.8
Utah	2.6	10.2	48.9	38.1	.2
Nevada	2.5	11.9	43.6	42.0	0
Pacific:					
Washington	3.5	13.2	40.0	41.4	2.0
Oregon	3.5	19.6	39.7	36.2	1.1
California	2.7	14.0	29.1	29.2	25.0
48 States	3.1	8.9	30.1	41.2	16.7
Alaska	NA	NA	NA	NA	NA
Hawaii	37.1	12.9	18.1	17.8	14.1
United States	3.1	8.9	30.1	41.1	16.7

NA = Not available.
1/ Distribution of ratings may not add to 100 percent due to rounding.

Source: (16).

Appendix table 8--Average erosion rates, by type of non-Federal grazing land and by type of erosion, by farm production region and State, 1982

Region and State	Erosion of--								
	Pasture			Range			Grazed forest		
	Wind	Water	Total	Wind	Water	Total	Wind	Water	Total
	Tons per acre								
Northeast:									
Maine	0	0.2	0.2	--	--	--	0	0.1	0.1
New Hampshire	0	.6	.6	--	--	--	0	.1	.1
Vermont	0	.3	.3	--	--	--	0	.4	.4
Massachusetts	0	.2	.2	--	--	--	0	.1	.1
Rhode Island	0	.2	.2	--	--	--	0	.1	.1
Connecticut	0	.2	.2	--	--	--	0	.1	.1
New York	0	.4	.4	--	--	--	0	.7	.7
New Jersey	1/	.4	.4	--	--	--	0	3.2	3.2
Pennsylvania	0	1.3	.3	--	--	--	0	6.1	6.1
Delaware	1/	.6	.6	--	--	--	0	.2	.2
Maryland	0	1.2	1.2	--	--	--	0	6.5	6.5
Lake States:									
Michigan	1/	.4	.4	--	--	--	0	.6	.6
Wisconsin	0	1.0	1.0	--	--	--	0	3.1	3.1
Minnesota	1/	.4	.4	0	.5	.5	0	.9	.9
Corn Belt:									
Ohio	0	2.9	2.9	--	--	--	0	5.2	5.2
Indiana	0	2.5	2.5	--	--	--	0	6.1	6.1
Illinois	0	3.0	3.0	--	--	--	0	13.1	13.1
Iowa	0	2.0	2.0	--	--	--	0	3.5	3.5
Missouri	0	2.2	2.2	0	3.0	3.0	0	4.4	4.4
Northern Plains:									
North Dakota	1/	.3	.3	1/	.5	.6	0	.3	.3
South Dakota	0	.3	.3	0	1.0	1.0	0	1.1	1.1
Nebraska	.1	1.7	.7	.6	1.2	1.7	0	2.1	2.1
Kansas	0	1.3	1.3	.4	1.4	1.8	0	2.3	2.3
Appalachian:									
Virginia	0	3.5	3.5	--	--	--	0	3.0	3.0
West Virginia	0	4.2	4.2	--	--	--	0	9.2	9.2
North Carolina	0	2.0	2.0	--	--	--	0	1.3	1.3
Kentucky	0	2.9	2.9	--	--	--	0	8.5	8.5
Tennessee	0	1.3	1.3	--	--	--	0	2.2	2.2
Southeast:									
South Carolina	0	.4	.4	--	--	--	0	.4	.4
Georgia	0	.6	.6	--	--	--	0	.7	.7
Florida	0	.1	.1	0	.1	.1	0	.1	.1
Alabama	0	.7	.7	--	--	--	0	.9	.9

Footnote at end of table.

continued--

Appendix table 8--Average erosion rates, by type of non-Federal grazing land and by type of erosion, by farm production region and State, 1982--continued

Region and State	Erosion of--								
	Pasture			Range			Grazed forest		
	Wind	Water	Total	Wind	Water	Total	Wind	Water	Total
	Tons per acre								
Delta States:									
Mississippi	0	1.8	1.8	--	--	--	0	4.4	4.4
Arkansas	0	.6	.6	0	1.7	1.7	0	.6	.6
Louisiana	0	.3	.3	0	.1	.1	0	.2	.2
Southern Plains:									
Oklahoma	0	1.0	1.0	1/	1.9	2.0	0	1.1	1.1
Texas	.1	.8	.9	.7	1.2	1.9	0	1.4	1.4
Mountain:									
Montana	1/	.3	.3	1/	1.0	1.0	0	1.6	1.6
Idaho	1/	.6	.6	1/	.6	.6	0	.4	.4
Wyoming	0	.4	.4	.3	2.4	2.6	1/	2.0	2.0
Colorado	.6	.3	.9	.5	2.6	3.1	.3	4.8	5.1
New Mexico	.5	.3	.8	3.3	1.0	4.3	.2	1.9	2.1
Arizona	.7	.2	.9	4.4	.5	4.9	.1	.6	.7
Utah	.8	.2	1.0	6.0	2.1	8.1	.7	3.5	4.2
Nevada	1/	1/	.1	4.2	.8	5.2	0	1.6	1.6
Pacific:									
Washington	.1	.2	.3	.1	1.0	1.1	0	9.2	9.2
Oregon	.2	1.3	1.3	.4	1.7	2.1	0	2.0	2.0
California	.1	.8	.9	8.2	3.7	11.9	0	4.7	4.7
48 States	1/	1.3	1.3	1.5	1.4	2.9	.1	2.3	2.4
Alaska	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hawaii	0	3.5	3.5	--	--	--	0	5.4	5.4
United States	1/	1.3	1.3	1.5	1.4	2.9	.1	2.3	2.4

NA = Not available.
-- = No range.
1/ Less than 0.05 tons per acre.

Source: (16).

Appendix table 9--Proportion of non-Federal grazing lands with erosion rates exceeding "T" and average erosion rates, by type of grazing land and by farm production region and State, 1982

Region and State	Pasture		Range		Grazed forest	
	Erosion > T	Average erosion rate	Erosion > T	Average erosion rate	Erosion > T	Average erosion rate
	Percentage of acres	Tons per acre	Percentage of acres	Tons per acre	Percentage of acres	Tons per acre
Northeast:						
Maine	1.5	3.8	--	--	0	0
New Hampshire	5.4	7.6	--	--	0	0
Vermont	1.9	5.4	--	--	2.0	3.4
Massachusetts	.6	3.9	--	--	0	0
Rhode Island	0	0	--	--	0	0
Connecticut	0	0	--	--	0	0
New York	2.5	7.6	--	--	4.6	5.6
New Jersey	3.4	5.4	--	--	28.1	10.2
Pennsylvania	8.6	10.2	--	--	18.5	30.5
Delaware	3.7	5.2	--	--	0	0
Maryland	7.9	10.2	--	--	14.0	44.2
Lake States:						
Michigan	1.4	11.9	--	--	1.6	25.7
Wisconsin	5.5	10.3	--	--	16.6	14.9
Minnesota	1.8	9.9	2.1	12.0	7.1	7.5
Corn Belt:						
Ohio	20.5	11.2	--	--	39.5	11.5
Indiana	15.7	11 7	--	--	29.6	18.9
Illinois	14.9	15.8	--	--	39.0	31.6
Iowa	8.7	14.5	--	--	26.0	10.3
Missouri	18.1	8.4	25.3	9.7	33.7	11.3
Northern Plains:						
North Dakota	1.8	5.2	4.1	7.6	1.2	2.3
South Dakota	.7	6.2	9.1	6.7	9.5	5.7
Nebraska	9.6	10.9	5.9	18.7	18.9	8.4
Kansas	9.0	7.3	10.3	10.5	23.0	7.7
Appalachian:						
Virginia	21.4	13.5	--	--	19.9	10.8
West Virginia	30.5	11.7	--	--	53.2	16.2
North Carolina	10.2	14.1	--	--	6.4	11.7
Kentucky	18.0	12.5	--	--	46.0	17.2
Tennessee	8.7	9.0	--	--	16.1	7.1
Southeast:						
South Carolina	.9	6.5	--	--	.5	3.2
Georgia	3.2	6.2	--	--	4.2	4.2
Florida	0	NA	.3	3.2	.1	5.4
Alabama	4.5	6.0	--	--	5.6	8.3

continued--

Appendix table 9--Proportion of non-Federal grazing lands with erosion rates exceeding "T" and average erosion rates, by type of grazing land and by farm production region and State, 1982--continued

Region and State	Pasture		Range		Grazed forest	
	Erosion > T	Average erosion rate	Erosion > T	Average erosion rate	Erosion > T	Average erosion rate
	Percentage of acres	Tons per acre	Percentage of acres	Tons per acre	Percentage of acres	Tons per acre
Delta States:						
Mississippi	11.0	11.3	--	--	12.0	13.6
Arkansas	4.3	7.2	20.5	5.9	3.8	6.0
Louisiana	.6	7.3	--	--	.9	8.9
Southern Plains:						
Oklahoma	6.9	7.1	16.8	8.1	11.0	5.4
Texas	3.9	9.6	14.5	9.9	7.7	11.8
Mountain:						
Montana	1.4	9.8	9.1	7.2	9.8	8.3
Idaho	3.3	10.5	3.7	5.8	.6	7.2
Wyoming	48.8	15.8	23.8	8.8	25.4	6.3
Colorado	5.5	11.6	18.0	13.3	34.7	13.6
New Mexico	2.9	8.3	30.2	11.8	29.5	5.7
Arizona	13.1	5.4	15.6	28.5	6.4	3.2
Utah	5.3	14.3	53.9	14.4	51.0	7.5
Nevada	.3	10.1	16.3	29.0	42.3	3.0
Pacific:						
Washington	1.8	7.4	8.7	9.1	.9	4.2
Oregon	8.2	9.4	31.7	5.1	20.6	7.3
California	3.5	23.1	35.5	32.6	33.0	13.0
48 States	8.2	10.5	17.1	14.0	18.4	10.6
Alaska	NA	NA	NA	NA	NA	NA
Hawaii	26.2	10.9	--	--	19.9	25.6
United States	8.3	10.5	17.1	14.0	18.4	10.7

-- = No range inventoried in these States.
NA = Not available.

Source: (16).

Appendix table 10--Conservation treatment needs on non-Federal pastureland, by farm production region and State, 1982 1/

Region and State	Adequately protected	Treatment not feasible	Treatment needed						
			Erosion control	Drainage	Irrigation management	Protection only	Improvement	Re-establishment	Total
					Percent				
Northeast:									
Maine	37.3	1.1	1.3	6.0	0	1.3	25.6	27.5	61.7
New Hampshire	15.3	0	19.3	2.5	0	2.8	41.3	18.8	84.7
Vermont	39.6	1.5	1.4	4.7	0	1.2	37.2	14.4	58.9
Massachusetts	46.6	3.4	2.0	3.0	0	5.4	22.0	17.7	50.0
Rhode Island	41.2	3.6	1.1	.8	0	4.5	25.3	23.4	55.2
Connecticut	46.8	.7	1.4	0	0	3.1	31.0	17.1	52.5
New York	58.1	1.5	3.0	7.2	.3	.6	18.8	10.5	40.4
New Jersey	74.7	3.2	11.5	1.5	.4	3.5	4.2	1.0	22.1
Pennsylvania	36.1	.8	8.2	5.4	0	1.7	32.2	15.7	63.2
Delaware	64.2	0	7.7	8.5	0	0	15.3	4.3	35.8
Maryland	46.3	.5	12.2	4.3	0	2.5	27.2	7.1	53.2
Lake States:									
Michigan	66.7	1.5	4.7	8.1	.1	1.1	9.0	8.9	31.9
Wisconsin	52.6	1.5	5.8	2.8	0	2.9	26.8	7.6	45.9
Minnesota	52.9	1.7	1.8	7.4	0	7.5	22.0	6.7	45.4
Corn Belt:									
Ohio	32.8	1.4	8.7	3.1	0	3.8	39.0	11.1	65.8
Indiana	32.2	1.3	9.7	3.1	0	6.1	32.5	15.1	66.6
Illinois	50.3	1.0	15.4	1.3	0	3.6	20.2	8.1	48.6
Iowa	37.9	1.1	7.8	1.9	0	10.2	32.7	8.5	61.0
Missouri	36.5	.1	7.6	.3	0	9.9	32.5	13.0	63.4

Footnote at end of table.

continued--

Appendix table 10--Conservation treatment needs on non-Federal pastureland, by farm production region and State, 1982 1/--continued

Region and State	Adequately protected	Treatment not feasible	Treatment needed						
			Erosion control	Drainage	Irrigation management	Protection only	Improvement	Re-establishment	Total
					Percent				
Northern Plains:									
North Dakota	69.4	0.1	3.1	1.4	0	14.7	9.9	1.4	30.5
South Dakota	68.7	0	.8	0	.1	18.4	8.4	3.7	31.3
Nebraska	54.4	.3	3.7	.5	.4	20.8	17.1	2.6	45.2
Kansas	42.5	.2	4.0	.5	0	12.0	32.9	7.8	57.3
Appalachian:									
Virginia	35.1	.5	4.9	.8	0	3.8	45.4	9.5	64.4
West Virginia	33.2	.6	17.6	1.4	.1	4.9	36.7	5.5	66.2
North Carolina	42.6	.5	5.8	.8	.1	7.6	32.5	10.2	57.0
Kentucky	41.5	.6	4.2	.8	0	4.2	37.7	11.1	57.9
Tennessee	39.6	.4	4.5	.9	0	3.4	36.5	14.6	59.9
Southeast:									
South Carolina	50.8	.3	.3	1.1	0	5.9	34.5	7.2	49.0
Georgia	61.7	.1	3.1	.9	.2	7.8	21.9	4.4	38.2
Florida	39.8	.2	1.4	1.3	1.9	16.7	36.7	2.0	60.0
Alabama	49.3	.1	3.2	1.1	0	5.8	28.4	12.1	50.6
Delta States:									
Mississippi	35.0	.2	7.1	.8	0	8.2	37.9	10.7	64.8
Arkansas	44.1	.4	1.6	.8	0	3.3	31.9	17.9	55.5
Louisiana	59.5	.5	2.2	2.9	.1	6.7	20.9	7.1	40.0
Southern Plains:									
Oklahoma	48.3	.1	2.3	.2	0	9.8	33.0	6.3	51.6
Texas	52.8	.3	2.1	.7	.2	9.2	27.4	7.3	46.9

Footnote at end of table.

continued--

Appendix table 10--Conservation treatment needs on non-Federal pastureland, by farm production region and State, 1982 1/--continued

Region and State	Adequately protected	Treatment not feasible	Treatment needed: Erosion control	Drainage	Irrigation management	Protection only	Improvement	Re-establishment	Total
					Percent				
Mountain:									
Montana	54.2	0.3	0.5	0.8	7.0	15.4	9.8	12.0	45.6
Idaho	32.0	1.2	5.3	1.9	18.9	15.9	16.3	8.6	66.8
Wyoming	49.8	.2	4.3	3.7	20.6	8.6	9.9	2.9	50.0
Colorado	48.1	.6	5.3	1.4	6.7	8.8	19.3	9.7	51.3
New Mexico	34.4	.4	8.3	.1	34.2	8.5	11.4	2.8	65.3
Arizona	62.3	0	13.4	0	16.4	1.0	6.1	.9	37.7
Utah	20.6	1.0	3.6	5.9	37.4	12.1	16.7	2.7	78.4
Nevada	48.1	0	.7	.8	20.8	7.8	19.0	2.8	51.9
Pacific:									
Washington	39.3	.7	1.2	4.1	4.9	7.6	26.1	16.1	60.0
Oregon	21.4	1.8	4.9	5.2	14.8	9.6	26.3	16.0	76.8
California	58.4	4.1	4.3	1.8	15.8	5.9	8.2	1.4	37.5
48 States	46.0	.6	4.6	1.8	1.3	7.8	28.3	9.5	53.4
Alaska	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hawaii	17.6	14.1	4.6	0	0	9.6	52.1	1.9	68.3
United States	45.8	.7	4.6	1.8	1.3	7.8	28.5	9.5	53.5

NA = Not available.

1/ Distributions may not add to 100 percent due to rounding.

Source: (16).

Appendix table 11--Conservation treatment needs on non-Federal rangeland, by farm production region and State, 1982 1/

Region and State	Treatment	Treatment needed						
	Adequately protected	not feasible	Erosion control	Drainage	Protection only	Improve-ment only	Improve with brush mgt.	Re-establishment	Total
	Percent								
Lake States:									
Minnesota	58.4	3.1	0.5	1.2	19.1	14.7	3.0	0	38.6
Corn Belt:									
Missouri	20.7	0	5.8	0	11.7	6.8	38.4	16.6	79.3
Northern Plains:									
North Dakota	69.3	1.3	2.6	.6	18.8	5.4	1.4	.6	29.4
South Dakota	59.1	1.1	2.1	0	26.1	10.5	.5	.6	39.8
Nebraska	68.8	.3	1.5	.1	14.0	10.7	2.5	2.1	30.9
Kansas	47.0	.5	3.0	0	18.4	14.6	13.4	3.2	52.5
Southeast:									
Florida	17.3	2.1	.4	2.2	4.2	23.4	46.9	3.5	80.6
Delta States:									
Arkansas	17.9	15.2	4.0	0	4.0	3.2	10.3	45.4	66.9
Louisiana	13.8	2.9	.1	3.4	40.3	8.0	31.5	0	83.3
Southern Plains:									
Oklahoma	37.4	1.6	4.9	.1	12.2	17.5	19.8	6.6	61.0
Texas	22.8	2.7	1.4	0	7.8	18.7	32.8	13.6	74.5

Footnotes at end of table.

continued--

Appendix table 11--Conservation treatment needs on non-Federal rangeland, by farm production region and State, 1982 1/--continued

Region and State	Adequately protected	Treatment not feasible	Treatment needed: Erosion control	Drainage	Protection only	Improvement only	Improve with brush mgt.	Re-establishment	Total
				Percent					
Mountain:									
Montana	44.9	4.2	1.5	0	30.0	13.2	4.6	1.6	50.9
Idaho	22.4	5.8	3.4	.1	17.4	10.6	29.0	11.4	71.8
Wyoming	30.6	8.5	9.4	0	19.0	16.8	14.3	1.4	60.9
Colorado	26.3	5.2	12.2	0	23.7	15.9	10.0	6.8	68.5
New Mexico	27.7	2.9	19.9	0	17.1	16.4	12.9	3.1	69.4
Arizona	20.0	5.6	4.5	0	26.6	27.2	6.5	9.5	74.4
Utah	13.4	3.2	22.6	.1	30.9	7.5	12.1	10.3	83.4
Nevada	29.2	17.2	3.2	0	9.3	7.7	24.9	8.4	53.6
Pacific:									
Washington	27.3	5.5	5.4	.1	14.6	14.5	11.9	20.7	67.2
Oregon	12.2	7.1	9.6	.3	7.3	21.0	23.5	19.1	80.7
California	34.9	22.1	12.4	.2	18.0	5.1	4.2	3.2	43.0
United States 2/	33.6	4.6	6.2	.1	17.4	15.6	15.6	6.9	61.9

NA = Not available.

1/ Distribution may not add to 100 percent due to rounding.

2/ Not including Alaska which was not inventoried in the 1982 NRI.

Source: (16).

Appendix table 12--Conservation treatment needs on non-Federal grazed forest land, by farm production region and State, 1982 1/

Region and State	Adequately protected	Treatment not feasible	Treatment needed						
			Erosion control	Timber establishment and reinforcement	Timber stand improvement	Treatment to improve timber crops	Forage needs protection only	Improvement or re-establishment of forage	Total needing treatment
	Percent								
Northeast:									
Maine	19.3	0	0	18.5	22.7	32.8	0	6.7	80.7
New Hampshire	0	11.6	13.4	9.8	57.3	7.9	0	0	88.4
Vermont	27.5	3.8	.5	0	42.6	25.1	.6	0	68.8
Massachusetts	0	0	0	0	79.4	10.8	0	9.8	100.0
Rhode Island	0	0	0	0	0	100.0	0	0	100.0
Connecticut	15.3	0	20.6	0	55.6	4.2	0	4.2	84.7
New York	22.8	0	3.8	.3	17.4	46.7	1.0	8.0	77.2
New Jersey	17.5	24.6	0	0	43.9	14.0	0	0	57.9
Pennsylvania	18.3	2.8	8.1	3.7	22.1	18.8	2.0	24.3	78.9
Delaware	0	0	0	100.0	0	0	0	0	100.0
Maryland	11.8	0	9.9	8.2	18.9	39.5	0	11.8	88.2
Lake States:									
Michigan	39.9	2.0	2.7	4.6	14.8	19.5	5.0	11.3	58.0
Wisconsin	12.1	1.3	8.9	6.2	23.7	47.9	0	0	86.7
Minnesota	30.7	1.0	4.9	6.6	14.2	17.0	3.4	22.2	68.3
Corn Belt:									
Ohio	1.3	0	75.1	1.6	12.5	9.4	0	.1	98.7
Indiana	7.2	2.6	8.4	11.9	27.6	36.6	.7	4.8	90.1
Illinois	6.6	0	38.2	2.0	4.8	47.0	.2	1.2	93.4
Iowa	6.6	4.6	8.8	8.1	20.5	48.0	.7	2.6	88.8
Missouri	13.9	.1	26.2	6.9	39.2	13.8	0	0	86.1

Footnote at end of table.

continued--

Appendix table 12--Conservation treatment needs on non-Federal grazed forest land, by farm production region and State, 1982 1/--continued

Region and State	Adequately protected	Treatment not feasible	Treatment needed						
			Erosion control	Timber establishment and reinforcement	Timber stand improvement	Treatment to improve timber crops	Forage needs protection only	Improvement or re-establishment of forage	Total needing treatment
	Percent								
Northern Plains:									
North Dakota	74.9	0	7.4	0	6.5	0	7.6	3.6	25.1
South Dakota	52.2	3.6	1.0	0	32.0	0	5.9	5.3	44.2
Nebraska	38.0	11.2	8.1	0	9.6	16.3	8.8	8.1	50.8
Kansas	15.8	7.8	2.9	1.7	29.4	10.8	2.3	29.2	76.4
Appalachian:									
Virginia	18.4	2.7	3.9	9.1	42.2	21.2	.6	1.9	78.9
West Virginia	15.4	.8	67.2	1.5	4.0	10.0	.3	.9	83.8
North Carolina	29.2	2.1	2.0	18.8	29.8	11.9	1.4	4.8	68.7
Kentucky	9.9	4.1	5.2	4.7	23.6	44.4	2.0	6.2	86.1
Tennessee	16.1	1.2	12.8	6.7	40.1	22.7	.1	.4	82.8
Southeast:									
South Carolina	18.2	0	.7	20.4	45.1	5.5	1.6	8.6	81.8
Georgia	45.0	.7	5.8	12.2	26.8	2.0	1.8	5.7	54.3
Florida	52.3	4.0	.3	5.5	19.8	3.6	1.0	13.4	43.7
Alabama	31.1	1.0	1.8	20.5	40.8	3.7	.9	.1	68.0
Delta States:									
Mississippi	42.7	.8	6.4	11.3	35.2	2.4	.2	.9	56.5
Arkansas	27.1	5.3	1.6	6.2	47.5	6.1	3.6	2.8	67.7
Louisiana	62.1	1.0	.7	5.6	19.7	4.1	1.7	5.2	37.0
Southern Plains:									
Oklahoma	31.1	2.4	3.2	3.4	15.7	4.0	4.8	35.2	66.5
Texas	23.9	1.4	1.9	19.7	47.3	3.1	.7	1.9	74.7

Footnote at end of table.

continued--

Appendix table 12--Conservation treatment needs on non-Federal grazed forest land, by farm production region and State, 1982 1/--continued

Region and State	Adequately protected	Treatment not feasible	Treatment needed						
			Erosion control	Timber establishment and reinforcement	Timber stand improvement	Treatment to improve timber crops	Forage needs protection only	Improvement or re-establishment of forage	Total needing treatment
					Percent				
Mountain:									
Montana	54.6	7.4	2.3	3.0	10.9	2.1	11.9	7.8	37.9
Idaho	32.7	4.6	.6	7.6	32.6	2.5	5.7	13.7	62.8
Wyoming	24.0	17.0	12.8	0	30.6	2.1	8.0	5.5	59.0
Colorado	30.5	6.2	10.9	2.2	16.6	3.4	17.4	12.8	63.3
New Mexico	17.9	4.6	24.4	.9	35.8	0	4.6	11.8	77.5
Arizona	51.7	7.8	.8	0	1.8	0	8.8	29.1	40.5
Utah	10.2	2.4	34.7	0	3.5	0	32.9	16.2	87.4
Nevada	34.0	18.7	22.0	0	4.0	0	2.9	18.4	47.3
Pacific:									
Washington	40.6	1.4	.9	5.0	40.8	4.2	.7	6.5	58.0
Oregon	19.0	2.8	10.0	6.4	19.3	.8	6.8	34.9	78.1
California	29.8	15.2	9.6	6.0	12.9	.3	7.8	18.4	55.0
48 States	30.9	4.6	9.9	5.6	23.2	6.6	6.0	13.3	64.5
Alaska	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hawaii	33.8	20.1	3.6	0	0	9.2	19.9	13.4	46.1
United States	30.9	4.7	9.9	5.6	23.1	6.6	6.0	13.3	64.5

NA = Not available.

1/ Distribution may not add to 100 percent due to rounding.

Source: (16).

Appendix table 13--Non-Federal pasture, by land capability class and by farm production region and State, 1982 1/

Region and State	Land capability class							
	I	II	III	IV	V	VI	VII	VIII
	Percentage of acres							
Northeast:								
Maine	1.3	38.6	25.7	20.0	0	11.0	2.7	0.7
New Hampshire	.8	19.8	35.3	10.4	0	19.6	14.2	0
Vermont	.6	17.4	27.2	18.9	1.5	15.2	19.0	.2
Massachusetts	.9	30.9	22.3	7.3	3.1	19.5	15.7	.2
Rhode Island	12.5	25.1	19.8	8.4	4.7	18.7	10.9	0
Connecticut	3.6	26.3	16.4	10.2	1.3	26.5	15.7	0
New York	1.4	23.1	43.3	16.1	3.8	7.5	4.8	0
New Jersey	1.3	39.6	29.5	11.5	3.2	7.0	7.9	0
Pennsylvania	1.7	23.8	35.4	20.6	.3	7.1	11.2	0
Delaware	8.5	38.4	35.8	10.2	1.7	2.0	3.4	0
Maryland	3.5	33.7	24.0	16.3	1.9	13.5	7.2	0
Lake States:								
Michigan	.3	23.8	35.8	17.9	5.3	14.0	2.7	.3
Wisconsin	.5	25.7	17.9	19.7	3.1	23.9	8.4	.7
Minnesota	1.1	31.5	22.7	18.4	5.2	14.0	6.6	.4
Corn Belt:								
Ohio	1.1	28.1	26.2	21.8	.3	16.0	6.5	0
Indiana	2.1	41.7	18.4	17.7	.5	14.2	5.1	.2
Illinois	4.5	36.7	21.3	13.4	.8	17.7	5.5	.1
Iowa	2.3	27.9	27.6	17.9	2.6	11.9	9.9	0
Missouri	1.4	24.2	36.8	17.7	.3	11.6	8.0	0
Northern Plains:								
North Dakota	0	27.8	24.4	19.4	5.8	20.7	1.9	0
South Dakota	4.9	38.0	22.1	17.9	2.2	13.6	1.2	0
Nebraska	2.9	18.9	27.2	26.3	.9	21.5	2.2	.2
Kansas	2.1	27.1	40.5	11.7	2.3	13.3	2.8	.1
Appalachian:								
Virginia	1.0	22.3	24.5	23.3	.7	14.7	13.5	0
West Virginia	.5	11.4	13.0	17.6	.5	26.8	29.8	.4
North Carolina	.3	25.4	25.4	21.5	.8	15.9	10.5	.1
Kentucky	5.0	20.7	23.3	15.9	.1	21.8	13.2	0
Tennessee	4.4	22.9	22.0	19.2	.1	19.4	12.0	.1
Southeast:								
South Carolina	1.6	37.3	38.1	14.0	.3	6.0	2.6	0
Georgia	1.6	36.3	25.3	22.8	3.3	6.7	4.0	0
Florida	.3	5.3	35.5	49.9	1.5	3.5	3.4	.5
Alabama	1.4	32.4	26.3	21.5	3.1	8.9	6.5	0

Footnote at end of table.

continued--

Appendix table 13--Non-Federal pasture, by land capability class and by farm production region and State, 1982 1/--continued

Region and State	Land capability class							
	I	II	III	IV	V	VI	VII	VIII
	Percentage of acres							
Delta States:								
Mississippi	2.0	40.3	22.1	10.4	2.2	11.5	11.3	0.1
Arkansas	1.3	19.4	41.8	15.8	2.0	11.6	8.1	0
Louisiana	3.1	28.6	50.3	8.8	6.8	2.1	.3	0
Southern Plains:								
Oklahoma	2.8	30.9	21.6	15.0	5.2	18.5	5.9	0
Texas	1.9	24.3	39.1	14.9	10.4	8.7	.8	0
Mountain:								
Montana	0	3.0	39.9	26.8	2.5	24.5	3.0	.4
Idaho	.6	11.9	24.0	32.0	10.5	13.2	7.2	.4
Wyoming	0	3.7	24.8	45.8	2.8	19.6	2.7	.5
Colorado	.1	4.4	19.2	35.5	9.2	28.6	3.1	0
New Mexico	3.9	15.7	22.6	21.4	2.8	29.3	4.3	0
Arizona	23.0	9.1	12.7	16.8	27.9	7.6	3.0	0
Utah	0	15.2	25.1	23.1	3.8	8.3	24.2	.4
Nevada	0	18.0	34.4	19.3	4.5	10.2	13.5	0
Pacific:								
Washington	.7	18.7	33.8	26.7	2.2	15.6	2.3	0
Oregon	1.0	21.1	25.8	23.0	5.0	18.0	6.0	.1
California	4.9	10.6	35.2	31.4	2.2	7.6	7.2	.9
48 States	1.9	24.7	30.4	19.3	3.4	13.5	6.6	.1
Alaska	NA	NA	NA	NA	NA	NA	NA	NA
Hawaii	0	2.1	16.1	14.2	0	14.7	47.0	5.8
United States	1.9	24.5	30.3	19.2	3.4	13.6	6.9	.2

NA = Not available.

1/ Distribution may not add to 100 percent due to rounding.

Source: (16).

Appendix table 14--Non-Federal range, by land capability class and by farm production region and State, 1982 1/

Region and State	Land capability class							
	I	II	III	IV	V	VI	VII	VIII
	Percentage of acres							
Lake States:								
Minnesota	1.3	36.4	9.4	10.4	1.2	29.1	12.2	0
Corn Belt:								
Missouri	0	41.4	12.9	7.3	3.7	8.7	26.1	0
Northern Plains:								
North Dakota	0	15.7	17.2	13.0	4.6	33.7	15.4	.4
South Dakota	.3	11.4	13.7	16.3	1.4	41.0	16.0	0
Nebraska	.2	3.0	5.3	11.7	2.4	59.6	17.6	.2
Kansas	.8	14.5	22.4	10.0	2.6	42.7	6.8	.2
Southeast:								
Florida	0	.2	26.3	56.9	2.2	3.7	10.5	.2
Delta States:								
Arkansas	0	1.5	9.3	12.2	0	21.7	55.2	0
Louisiana	.4	.3	10.0	6.7	.8	0	66.5	15.2
Southern Plains:								
Oklahoma	.8	8.7	15.5	17.8	3.3	38.1	15.7	.1
Texas	.2	7.7	18.4	12.5	2.8	21.7	36.6	.2
Mountain:								
Montana	0	0	23.1	20.5	.4	32.3	22.7	.9
Idaho	0	.2	7.5	15.2	1.5	34.3	40.2	1.0
Wyoming	0	0	6.3	16.7	.5	41.9	32.7	1.8
Colorado	0	.8	6.0	22.9	.8	46.6	21.2	1.7
New Mexico	0	0	1.5	6.3	0	40.1	51.4	.7
Arizona	0	0	0	.2	0	39.4	59.7	.7
Utah	0	.1	1.2	3.4	.4	25.5	68.3	1.1
Nevada	0	.1	0	.1	.4	25.0	74.0	.3
Pacific:								
Washington	0	.5	12.2	17.4	.1	24.0	44.8	1.1
Oregon	0	.9	5.2	8.3	1.5	30.1	53.5	.4
California	0	.6	5.9	17.6	.1	24.4	46.2	5.2
United States 2/	.1	4.1	11.4	13.1	1.5	34.3	34.7	.8

1/ Distributions may not add to 100 percent due to rounding.
2/ Does not include Alaska where the 1982 NRI was not conducted.

Source: (16).

Appendix table 15--Non-Federal grazed forest, by land capability class and by farm production region and State, 1982 1/

Region and State	Land capability class							
	I	II	III	IV	V	VI	VII	VIII
	Percentage of acres							
Northeast:								
Maine	0	0	6.7	20.6	0	42.0	30.7	0
New Hampshire	0	10.4	15.2	8.5	0	51.5	9.1	5.2
Vermont	0	3.5	15.5	8.8	4.4	37.3	29.9	0.7
Massachusetts	0	0	22.5	0	0	31.4	46.1	0
Rhode Island	0	55.6	0	0	0	44.4	0	0
Connecticut	8.5	3.2	0	3.7	0	30.2	54.5	0
New York	1.4	13.1	28.4	14.8	4.9	21.5	15.9	0
New Jersey	0	0	29.8	10.5	17.5	0	42.1	0
Pennsylvania	1.4	16.5	28.2	16.2	.3	14.9	22.5	0
Delaware	100.0	0	0	0	0	0	0	0
Maryland	0	16.7	23.6	11.5	9.9	19.2	17.3	1.9
Lake States:								
Michigan	0	20.9	28.4	8.2	17.8	20.0	4.7	0
Wisconsin	.1	15.4	9.5	17.0	3.8	29.0	24.2	1.0
Minnesota	.1	33.0	14.2	18.7	2.4	11.6	19.7	.3
Corn Belt:								
Ohio	.4	12.5	15.1	23.9	0	28.1	20.1	0
Indiana	1.9	24.6	11.0	17.6	0	22.2	22.6	0
Illinois	1.1	18.9	12.9	11.7	.7	30.6	23.6	.5
Iowa	1.4	10.8	15.3	9.9	5.3	15.0	42.3	0
Missouri	.8	7.9	18.3	14.9	.2	18.8	39.1	0
Northern Plains:								
North Dakota	0	19.3	24.1	7.1	0	26.5	21.8	1.2
South Dakota	.3	3.1	5.2	2.6	0	38.9	49.9	0
Nebraska	.8	9.0	4.8	2.3	.9	31.7	49.8	.8
Kansas	2.3	16.7	11.2	3.9	13.0	30.6	20.3	2.0
Appalachian:								
Virginia	.3	10.3	14.4	17.5	.5	23.6	33.3	.1
West Virginia	0	1.4	4.6	7.6	0	19.5	66.9	.1
North Carolina	.2	15.9	21.0	18.5	3.0	21.8	19.5	.2
Kentucky	.9	3.2	7.4	10.2	0	30.6	47.7	0
Tennessee	1.2	7.2	13.1	12.4	.4	21.1	44.7	0
Southeast:								
South Carolina	.3	10.5	29.9	16.1	.2	20.0	22.9	0
Georgia	0	12.5	17.2	30.8	10.1	19.2	10.1	.1
Florida	0	1.7	29.8	41.9	7.7	6.6	11.9	.4
Alabama	.2	10.9	18.0	18.2	9.6	17.4	25.8	0

Footnote at end of table.

continued--

Appendix table 15--Non-Federal grazed forest, by land capability class and by farm production region and State, 1982 1/--continued

Region and State	Land capability class							
	I	II	III	IV	V	VI	VII	VIII
	Percentage of acres							
Delta States:								
Mississippi	0.8	19.9	12.2	8.6	5.6	21.5	31.4	0
Arkansas	.5	8.1	16.6	13.9	1.2	22.6	37.2	0
Louisiana	.3	26.3	40.3	12.0	15.0	5.9	.2	0
Southern Plains:								
Oklahoma	.5	5.9	6.1	9.8	5.9	21.5	50.3	0
Texas	.2	17.9	29.9	15.2	16.0	19.6	1.4	0
Mountain:								
Montana	0	.2	2.0	7.6	.7	48.2	40.4	0.9
Idaho	0	.4	2.7	21.0	.3	26.1	48.8	.7
Wyoming	0	0	.3	3.9	.7	44.3	48.4	2.5
Colorado	0	.1	.2	2.8	.6	33.1	61.3	2.0
New Mexico	0	0	0	.3	0	33.6	66.1	0
Arizona	0	0	0	2.5	0	53.2	44.3	0
Utah	0	0	.3	.3	0	21.9	76.8	.7
Nevada	0	0	0	0	0	8.1	91.9	0
Pacific:								
Washington	0	3.5	11.2	21.2	.1	34.5	29.0	.5
Oregon	0	.6	3.0	4.0	0	56.5	35.3	.6
California	.1	.2	2.4	15.5	0	40.9	38.7	2.2
48 States	.3	6.3	10.3	11.5	3.0	29.9	38.2	.5
Alaska	NA	NA	NA	NA	NA	NA	NA	NA
Hawaii	0	0	7.3	19.2	0	15.2	57.1	1.3
United States	.3	6.3	10.3	11.5	3.0	29.8	38.3	.5

NA = Not available.

1/ Distribution may not add to 100 percent due to rounding.

Source: (16).

Appendix table 16--Cash rent and land value of grazing lands, by farm production region and State, 1950-82

Region and State	1950		1954		1959		1964		1969		1974		1978		1982	
	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value
	Dollars per acre															
Northeast:																
Maine	2.63	24	2.72	22	NA	NA	3.27	26	7.30	67	10.50	149	10.80	279	7.52	338
New Hampshire	1.50	6	.75	8	2.00	17	3.00	47	4.80	118	7.11	294	12.50	300	7.86	1,097
Vermont	1.63	19	1.53	31	2.57	23	2.79	32	5.58	95	7.69	227	10.92	248	8.85	786
Massachusetts	2.55	52	2.94	56	4.60	65	4.72	67	9.40	127	12.00	469	11.88	476	14.18	1,239
Rhode Island	6.00	115	10.00	175	8.33	150	NA	NA	7.00	300	NA	NA	NA	NA	20.05	NA
Connecticut	5.39	71	3.15	48	5.42	93	8.29	189	7.90	275	8.78	669	15.31	900	10.96	1,671
New York	2.45	29	2.69	34	4.23	48	5.36	54	6.61	79	9.20	132	11.02	172	9.43	243
New Jersey	5.41	92	7.24	143	11.47	241	13.17	251	14.21	544	15.48	1,020	20.32	1,099	25.62	1,533
Pennsylvania	2.42	41	3.93	74	5.53	82	5.72	103	7.36	188	9.86	332	13.49	619	11.85	717
Delaware	3.20	82	2.67	90	6.67	129	10.61	111	10.40	350	21.67	767	NA	NA	NA	NA
Maryland	4.20	71	6.07	133	9.71	137	8.42	159	13.08	393	18.30	738	19.50	1,076	22.70	1,224
Lake States:																
Michigan	2.49	52	3.37	60	4.64	78	5.32	93	7.77	172	10.63	355	14.30	363	11.50	459
Wisconsin	3.30	44	4.53	53	5.28	61	6.45	74	8.15	110	12.38	179	18.43	329	23.76	484
Minnesota	4.12	61	5.09	77	5.82	88	7.04	96	9.31	133	12.35	182	17.50	332	14.95	435
Corn Belt:																
Ohio	4.87	102	6.48	128	6.82	136	8.38	162	12.26	262	12.02	339	18.22	610	18.32	531
Indiana	5.17	111	6.95	153	8.46	172	8.80	171	14.09	273	19.71	349	26.50	699	27.45	774
Illinois	6.13	166	7.65	225	8.27	225	9.24	255	12.46	290	18.16	380	29.10	829	30.59	733
Iowa	6.87	128	8.05	150	9.36	181	10.13	184	14.42	251	23.79	345	30.09	652	34.11	758
Missouri	3.45	57	4.21	70	5.67	89	6.51	117	9.61	184	15.64	320	21.88	425	19.55	540

continued--

Appendix table 16--Cash rent and land value of grazing lands, by farm production region and State, 1950-82--continued

Region and State	1950		1954		1959		1964		1969		1974		1978		1982	
	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value
	Dollars per acre															
Northern Plains:																
North Dakota	0.95	17	1.20	22	1.69	27	2.07	40	3.28	54	5.89	94	7.43	154	7.47	187
South Dakota	1.22	25	1.80	33	2.16	41	2.97	52	4.23	69	5.56	89	7.90	151	5.94	146
Nebraska	2.67	47	3.64	64	4.05	69	4.56	82	4.17	79	5.95	111	9.10	173	9.09	246
Kansas	2.01	41	3.22	55	3.46	68	4.19	84	5.96	122	8.02	175	9.62	266	12.07	360
Appalachian:																
Virginia	3.04	63	6.04	71	6.21	95	7.18	119	7.15	178	12.06	346	15.58	531	14.53	743
West Virginia	1.96	38	2.34	43	3.49	57	3.44	48	4.85	89	6.98	211	8.01	313	9.98	569
North Carolina	5.63	65	7.32	92	7.92	121	10.43	147	11.72	214	13.51	434	15.20	513	22.17	925
Kentucky	4.53	103	7.16	143	6.90	144	8.86	176	9.25	236	14.67	329	17.29	489	22.09	697
Tennessee	5.85	84	6.48	91	7.62	107	8.44	140	10.33	223	14.47	345	19.99	574	19.99	663
Southeast:																
South Carolina	2.71	34	2.65	43	5.12	70	6.33	92	8.42	180	10.93	310	13.42	491	15.41	671
Georgia	2.28	22	3.47	40	4.48	67	6.98	104	9.28	171	13.33	396	17.77	542	17.81	713
Florida	0.86	32	6.47	65	5.41	102	3.83	179	6.93	224	23.26	925	14.29	600	13.57	1,553
Alabama	2.05	36	3.06	48	3.73	66	4.73	88	7.02	150	10.30	262	12.08	351	13.03	544
Delta States:																
Mississippi	3.01	34	3.94	56	5.21	70	5.99	90	7.84	207	10.50	219	11.75	347	11.96	623
Arkansas	4.37	54	4.79	72	4.73	64	6.25	114	7.05	164	9.57	240	12.82	347	14.74	557
Louisiana	2.64	46	4.41	64	4.88	101	6.55	155	7.98	234	12.93	336	16.09	508	11.03	1,706
Southern Plains:																
Oklahoma	1.43	30	2.03	43	2.32	54	2.99	84	4.31	128	6.78	205	8.40	323	8.73	482
Texas	1.83	40	1.73	55	2.16	68	2.28	84	3.00	113	4.80	205	5.40	306	4.77	498

continued--

Appendix table 16--Cash rent and land value of grazing lands, by farm production region and State, 1950-82--continued

Region and State	1950		1954		1959		1964		1969		1974		1978		1982	
	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value	Rent	Value
	Dollars per acre															
Mountain:																
Montana	0.84	7	0.50	11	0.55	17	0.77	21	1.37	35	3.41	67	5.38	131	3.37	137
Idaho	1.05	12	1.99	21	1.76	29	3.32	43	9.21	113	12.41	152	NA	NA	29.94	340
Wyoming	.32	7	.72	12	1.07	18	.98	26	1.16	31	2.15	56	2.51	69	4.33	163
Colorado	.69	16	.89	21	1.24	23	1.37	32	NA	NA	2.44	73	3.95	113	3.98	257
New Mexico	1.07	13	.75	35	.85	21	1.38	38	.87	56	2.31	78	2.24	97	3.17	171
Arizona	.40	5	.80	10	NA	NA	.50	50	.46	44	2.50	38	NA	175	5.69	210
Utah	1.54	10	3.15	31	1.77	28	3.57	34	9.29	171	16.50	325	73.00	366	13.12	672
Nevada	NA	NA	NA	NA	.73	8	.52	9	NA	NA	25.00	NA	20.00	500	33.81	876
Pacific:																
Washington	1.32	22	1.43	24	3.28	65	3.26	62	5.54	134	8.82	120	14.19	757	6.23	244
Oregon	1.53	17	1.45	22	1.70	21	1.27	36	3.08	63	10.40	167	22.63	564	19.43	293
California	2.79	43	4.45	69	4.40	89	4.78	149	6.56	273	12.57	682	11.29	452	17.49	770

NA = Not available.

Sources: 1950-78 data are from annual SRS surveys. 1982 data are from the ASCS land value survey.

Appendix table 17--Percentage of grazing land value represented by annual rent, by farm production region and State, 1950-82

Region and State	Ratio of annual rent from grazing land to value							
	1950	1954	1959	1964	1969	1974	1978	1982
	Percent							
Northeast:								
Maine	11.0	12.5	NA	12.4	10.9	7.0	3.9	2.2
New Hampshire	25.0	9.4	12.1	6.4	4.1	2.4	4.2	.7
Vermont	8.7	5.0	11.4	8.7	5.9	3.4	4.4	1.1
Massachusetts	4.9	5.3	7.1	7.0	7.4	2.6	2.5	1.1
Rhode Island	5.2	5.7	5.6	NA	2.3	NA	NA	NA
Connecticut	7.5	6.6	5.8	4.4	2.9	1.3	1.7	.7
New York	8.4	8.0	8.9	9.9	8.4	7.0	6.4	3.9
New Jersey	5.9	5.1	4.8	5.3	2.6	1.5	1.8	1.7
Pennsylvania	5.8	5.3	6.8	5.6	3.9	3.0	2.2	1.7
Delaware	3.9	3.0	5.2	9.5	3.0	2.8	NA	NA
Maryland	5.9	4.6	7.1	5.3	3.3	2.5	1.8	1.9
Lake States:								
Michigan	4.8	5.6	6.0	5.7	4.5	3.0	3.9	2.5
Wisconsin	7.6	8.6	8.6	8.8	7.4	6.9	5.6	4.9
Minnesota	6.8	6.6	6.6	7.3	7.0	6.8	5.3	3.4
Corn Belt:								
Ohio	4.8	5.1	5.0	5.2	4.7	3.5	3.0	3.5
Indiana	4.6	4.5	4.9	5.2	5.2	5.6	3.8	3.5
Illinois	3.7	3.4	3.7	3.6	4.3	4.8	3.5	4.2
Iowa	5.4	5.4	5.2	5.5	5.7	6.9	4.6	4.5
Missouri	6.0	6.0	6.4	5.5	5.2	4.9	5.1	3.6
Northern Plains:								
North Dakota	5.6	5.5	6.2	5.2	6.1	6.2	4.8	4.0
South Dakota	4.8	5.5	5.3	5.7	6.1	6.3	5.2	4.1
Nebraska	5.7	5.7	5.8	5.5	5.3	5.3	5.3	3.7
Kansas	4.9	5.8	5.1	5.0	4.9	4.6	3.6	3.4
Appalachian:								
Virginia	4.9	8.5	6.6	6.0	4.0	3.5	2.9	2.0
West Virginia	5.1	5.4	6.1	7.2	5.5	3.3	2.6	1.8
North Carolina	8.6	8.0	6.5	7.1	5.5	3.1	3.0	2.4
Kentucky	4.4	5.0	4.8	5.0	3.9	4.5	3.5	3.2
Tennessee	7.0	7.1	7.1	6.0	4.6	4.2	3.5	3.0
Southeast:								
South Carolina	7.9	6.2	7.4	6.9	4.7	3.5	2.7	2.3
Georgia	10.3	8.6	6.7	6.7	5.4	3.4	3.3	2.5
Florida	2.7	10.0	5.3	2.1	3.1	2.5	2.4	.9
Alabama	5.7	6.4	5.7	5.4	4.7	3.9	3.4	2.4

continued--

Appendix table 17--Percentage of grazing land value represented, by annual rent and by farm production region and State, 1950-82--continued

Region and State	Ratio of annual rent from grazing land to value							
	1950	1954	1959	1964	1969	1974	1978	1982
	Percent							
Delta States:								
Mississippi	8.8	7.1	7.5	6.6	3.8	4.8	3.4	1.9
Arkansas	8.1	6.6	7.4	5.5	4.3	4.0	3.7	2.6
Louisiana	5.7	6.9	4.9	4.2	3.4	3.8	3.2	.6
Southern Plains:								
Oklahoma	4.7	4.8	4.3	3.6	3.4	3.3	2.6	1.8
Texas	4.5	3.1	3.2	2.7	2.6	2.3	1.8	1.0
Mountain:								
Montana	12.4	4.4	3.3	3.7	3.9	5.1	4.1	2.5
Idaho	8.6	9.7	6.1	7.8	8.2	8.2	NA	8.8
Wyoming	4.4	5.9	6.1	3.8	3.7	3.8	3.6	2.7
Colorado	4.3	4.2	5.4	4.3	NA	3.4	3.5	1.5
New Mexico	7.9	2.1	4.1	3.7	1.6	3.0	2.3	1.9
Arizona	8.0	8.0	NA	1.0	1.0	6.7	NA	2.7
Utah	15.7	10.2	6.4	10.5	5.4	5.1	19.9	2.0
Nevada	NA	NA	8.9	6.1	NA	NA	4.0	3.9
Pacific:								
Washington	6.0	6.0	5.0	5.2	4.1	7.4	1.9	2.6
Oregon	9.2	6.7	8.0	3.5	4.9	6.2	4.0	6.6
California	6.6	6.5	4.9	3.2	2.4	1.8	2.5	2.3

NA = Not available.

Sources: 1950-78 data are from annual SRS surveys. 1982 data are from the ASCS land value survey.

Appendix table 18--All cattle and calves, by farm production region and State, 1950-82

Region and State	1950	1954	1959	1964	1969	1974	1978	1982
				Thousands				
Northeast:								
Maine	216	245	194	182	148	136	132	146
New Hampshire	118	122	98	90	74	69	74	74
Vermont	433	484	423	406	355	334	336	360
Massachusetts	179	196	151	139	121	105	99	98
Rhode Island	27	29	22	18	13	12	10	8
Connecticut	171	190	155	131	123	109	108	107
New York	2,226	2,356	2,153	2,067	1,849	1,788	1,760	1,959
New Jersey	226	230	213	180	135	124	114	100
Pennsylvania	1,790	1,954	1,877	1,912	1,799	1,832	1,900	2,100
Delaware	61	80	65	48	32	32	31	35
Maryland	449	540	529	473	418	412	390	405
Lake States:								
Michigan	1,914	2,023	1,829	1,752	1,439	1,592	1,470	1,450
Wisconsin	3,804	4,275	4,170	4,426	4,076	4,400	4,100	4,450
Minnesota	3,276	3,900	3,973	4,561	3,958	4,240	3,700	3,880
Corn Belt:								
Ohio	2,149	2,488	2,367	2,204	2,094	2,150	2,025	1,900
Indiana	1,760	2,075	2,107	2,188	1,899	2,100	2,025	1,750
Illinois	3,159	3,946	3,981	3,978	3,345	3,250	2,950	2,800
Iowa	4,960	5,868	6,536	7,124	7,404	7,660	7,800	6,850
Missouri	3,107	3,950	4,098	4,391	4,748	6,330	6,000	5,400
Northern Plains:								
North Dakota	1,527	1,881	1,870	2,232	2,025	2,635	2,050	2,000
South Dakota	2,454	3,205	3,359	4,074	4,366	5,000	3,925	3,900
Nebraska	3,920	4,752	4,999	6,048	6,330	7,410	6,500	7,250
Kansas	3,627	4,298	4,476	5,431	5,675	6,990	6,000	6,000
Appalachian:								
Virginia	1,108	1,410	1,340	1,363	1,404	1,612	1,620	1,850
West Virginia	548	617	541	504	461	505	550	620
North Carolina	710	952	1,014	925	1,020	1,070	1,100	1,160
Kentucky	1,608	1,880	1,843	2,495	2,748	3,215	3,120	2,600
Tennessee	1,462	1,845	1,753	2,154	2,308	2,690	2,700	2,500
Southeast:								
South Carolina	360	497	613	547	623	670	690	700
Georgia	1,220	1,439	1,515	1,571	1,870	2,103	1,975	1,950
Florida	1,392	1,679	1,895	1,777	1,809	2,490	2,350	2,350
Alabama	1,330	1,879	1,816	1,775	1,896	2,240	2,130	1,950

continued--

Appendix table 18--All cattle and calves, by farm production region and State, 1950-82--continued

Region and State	1950	1954	1959	1964	1969	1974	1978	1982
				Thousands				
Delta States:								
Mississippi	1,674	2,039	2,363	2,149	2,415	2,610	2,130	1,950
Arkansas	1,209	1,580	1,462	1,485	1,719	2,140	2,120	2,100
Louisiana	1,439	1,842	1,808	1,890	1,722	1,745	1,425	1,450
Southern Plains:								
Oklahoma	2,630	3,315	3,313	4,029	4,659	6,020	5,900	5,800
Texas	8,574	8,587	8,510	10,342	11,630	16,250	14,500	13,700
Mountain:								
Montana	1,712	2,303	2,269	2,627	2,984	3,380	2,680	2,900
Idaho	939	1,253	1,414	1,621	1,668	2,026	1,870	1,850
Wyoming	1,001	1,178	1,163	1,288	1,447	1,600	1,280	1,390
Colorado	1,800	2,096	2,204	2,616	3,119	3,744	3,180	3,025
New Mexico	1,166	1,175	1,162	1,257	1,346	1,615	1,550	1,500
Arizona	849	909	971	1,100	1,206	1,390	1,135	1,000
Utah	549	740	720	733	785	832	864	920
Nevada	552	613	597	552	608	664	570	700
Pacific:								
Washington	851	1,094	1,178	1,426	1,286	1,380	1,275	1,580
Oregon	1,107	1,429	1,497	1,552	1,577	1,470	1,490	1,800
California	2,709	3,349	4,044	4,682	4,902	5,250	4,430	5,000
48 States	80,052	94,787	96,650	106,515	109,638	127,421	116,133	115,367
Alaska	NA	NA	NA	8	9	9	8	9
Hawaii	NA	NA	NA	220	238	240	234	228
United States	80,052	94,787	96,650	106,743	109,885	127,670	116,375	115,604

NA = Not available.

Source: NASS.

Appendix table 19--Stock sheep and lambs, by farm production region and State, 1950-82

Region and State	1950	1954	1959	1964	1969	1974	1978	1982
				Thousands				
Northeast:								
Maine	21	25	43	34	17	14	12	15
New Hampshire	7	9	8	7	6	5	7	8
Vermont	12	11	14	10	7	6	8	11
Massachusetts	8	12	12	11	10	7	7	8
Rhode Island	2	2	2	2	2	3	2	0
Connecticut	6	9	10	8	5	5	5	6
New York	158	137	168	131	89	75	58	70
New Jersey	10	14	19	14	8	8	9	10
Pennsylvania	217	257	259	210	170	144	80	125
Delaware	2	3	6	5	2	2	2	0
Maryland	47	45	47	29	19	18	19	19
Lake States:								
Michigan	336	331	336	260	186	162	108	106
Wisconsin	205	236	213	173	147	98	73	110
Minnesota	571	750	788	635	432	320	203	275
Corn Belt:								
Ohio	930	1,115	1,055	654	617	491	310	260
Indiana	370	409	455	386	247	185	165	129
Illinois	396	550	587	475	304	210	167	175
Iowa	623	945	1,132	900	685	421	300	400
Missouri	1,054	748	755	449	255	180	112	115
Northern Plains:								
North Dakota	346	448	581	484	309	265	165	230
South Dakota	730	953	1,361	1,385	1,052	876	670	700
Nebraska	168	242	351	301	222	185	152	140
Kansas	336	387	503	442	286	200	140	140
Appalachian:								
Virginia	293	324	333	238	197	175	172	170
West Virginia	296	317	289	220	170	136	123	110
North Carolina	35	50	71	36	20	12	9	8
Kentucky	700	668	604	240	112	50	28	25
Tennessee	265	293	303	118	49	21	15	10
Southeast:								
South Carolina	3	4	13	8	2	1	1	0
Georgia	13	15	48	11	5	4	3	0
Florida	12	3	9	7	6	4	4	0
Alabama	22	27	70	14	7	5	4	

continued--

Appendix table 19--Stock sheep and lambs, by farm production region and State, 1950-82--continued

Region and State	1950	1954	1959	1964	1969	1974	1978	1982
				Thousands				
Delta States:								
Mississippi	104	91	100	33	19	8	5	0
Arkansas	55	44	62	35	8	6	5	0
Louisiana	140	122	83	71	26	18	13	10
Southern Plains:								
Oklahoma	105	122	222	162	109	80	68	90
Texas	6,638	5,191	5,217	5,013	3,787	2,700	2,310	2,200
Mountain:								
Montana	1,623	1,606	1,716	1,461	1,130	710	470	600
Idaho	990	1,020	1,060	926	687	625	470	470
Wyoming	1,901	2,061	2,141	2,135	1,766	1,320	1,010	1,000
Colorado	1,198	1,221	1,352	1,140	857	630	450	480
New Mexico	1,343	1,242	1,214	1,055	799	620	546	595
Arizona	405	433	433	460	428	392	378	320
Utah	1,326	1,383	1,301	1,200	988	722	470	610
Nevada	449	466	405	271	209	154	110	116
Pacific:								
Washington	305	295	265	272	130	102	56	83
Oregon	671	696	881	673	483	375	310	440
California	1,652	1,769	1,600	1,526	1,234	980	915	1,010
48 States	27,099	27,101	28,497	24,330	18,305	13,730	10,719	11,399
Alaska	NA	NA	NA	18	27	14	6	4
Hawaii	NA	NA	NA	0	0	0	0	0
United States	27,099	27,101	28,497	24,348	18,332	13,744	10,725	11,402

NA = Not available.

Source: NASS.

Appendix table 20--Animal units of cattle and calves and stock sheep and lambs, total grazing land, and total grazing land per animal unit of cattle and sheep, by farm production region and State, 1982

Region and State	Animal units of cattle and calves	Animal units of sheep and lambs	Total animal units	Total acres of all types of grazing land	Grazing land per animal unit
	Thousands				Acres
Northeast:					
Maine	122	5	127	276	2.2
New Hampshire	61	3	64	122	1.9
Vermont	304	4	308	745	2.4
Massachusetts	85	2	87	145	1.7
Rhode Island	7	0	7	13	1.9
Connecticut	90	2	91	131	1.4
New York	1,638	22	1,659	2,395	1.4
New Jersey	85	3	88	110	1.2
Pennsylvania	1,736	39	1,776	2,271	1.3
Delaware	31	0	31	34	1.1
Maryland	340	6	346	519	1.5
Total	4,498	86	4,583	6,761	1.5
Lake States:					
Michigan	1,073	35	1,108	2,847	2.6
Wisconsin	3,576	38	3,614	4,738	1.3
Minnesota	2,916	91	3,008	4,195	1.4
Total	7,565	164	7,729	11,780	1.5
Corn Belt:					
Ohio	1,463	90	1,553	3,062	2.0
Indiana	1,253	43	1,296	2,750	2.1
Illinois	1,925	56	1,981	3,793	1.9
Iowa	4,769	130	4,899	5,665	1.2
Missouri	4,436	41	4,477	15,527	3.5
Total	13,847	359	14,206	30,797	2.2
Northern Plains:					
North Dakota	1,700	75	1,775	12,953	7.3
South Dakota	2,918	247	3,165	26,588	8.4
Nebraska	4,725	47	4,772	24,129	5.1
Kansas	4,071	54	4,125	17,539	4.3
Total	13,415	422	13,837	81,209	5.9
Appalachian:					
Virginia	1,500	58	1,558	4,290	2.8
West Virginia	520	38	558	2,033	3.6
North Carolina	950	2	952	2,516	2.6
Kentucky	2,159	9	2,168	6,372	2.9
Tennessee	2,101	3	2,104	5,378	2.6
Total	7,230	110	7,340	20,589	2.8

continued--

Appendix table 20--Animal units of cattle and calves and stock sheep and lambs, total grazing land, and total grazing land per animal unit of cattle and sheep, by farm production region and State, 1982--continued

Region and State	Animal units of cattle and calves	Animal units of sheep and lambs	Total animal units	Total acres of all types of grazing land	Grazing land per animal unit
	----------	Thousands	----------		Acres
Southeast:					
South Carolina	578	0	578	1,477	2.6
Georgia	1,633	0	1,633	4,540	2.8
Florida	1,998	0	1,998	13,601	6.8
Alabama	1,615	0	1,615	5,039	3.1
Total	5,824	0	5,824	24,657	4.2
Delta States:					
Mississippi	1,633	0	1,633	9,310	5.7
Arkansas	1,772	0	1,772	10,103	5.7
Louisiana	1,256	3	1,259	9,189	7.3
Total	4,661	3	4,664	28,602	6.1
Southern Plains:					
Oklahoma	4,668	30	4,698	28,156	6.0
Texas	10,369	659	11,028	120,819	11.0
Total	15,037	689	15,726	148,975	9.5
Mountain:					
Montana	2,511	198	2,710	56,718	20.9
Idaho	1,371	173	1,544	26,170	17.0
Wyoming	1,136	318	1,454	49,755	34.2
Colorado	1,855	171	2,026	41,398	20.4
New Mexico	1,163	192	1,356	62,567	46.2
Arizona	567	96	662	55,094	83.2
Utah	731	208	939	34,708	37.0
Nevada	577	40	616	52,299	84.8
Total	9,911	1,394	11,305	378,709	33.5
Pacific:					
Washington	1,187	26	1,213	12,217	10.1
Oregon	1,463	152	1,615	35,519	22.0
California	3,714	346	4,060	36,925	9.1
Total	6,363	524	6,887	84,661	12.3
48 States	88,350	3,751	92,101	816,740	8.9
Alaska	8	1	9	1,347	146.4
Hawaii	182	0	182	1,605	8.8
United States	88,541	3,752	92,293	819,692	8.9

*U.S. GOVERNMENT PRINTING OFFICE:1999-241-852:00048/ERS