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Major Uses of Land in the United States: 1987. By Arthur B. Daugherty. Resources and Technology Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 643.

Abstract

Major uses of the Nation's nearly 2.3 billion acres of land in 1987 were: cropland, 464 million acres (20 percent); grassland pasture and range, 591 million acres (26 percent); forest land (exclusive of areas in parks and some other special uses), 648 million acres (29 percent); special uses, 279 million acres (12 percent); and miscellaneous other land, 282 million acres (13 percent). During 1982–87, changes in U.S. cropland, grassland pasture and range, and forest land acreages were quite small, but land in these uses declined. By contrast, special uses (which include parks, wilderness, wildlife, and related uses) and miscellaneous other land (which includes urban land) increased by a combined 3 percent.

Keywords: Land use, land-use trends, cropland, pasture, rangeland, forest land, agricultural land, nonagricultural land.

Preface

The Economic Research Service has regularly inventoried the major uses of land in the United States at intervals coinciding with the periodic censuses of agriculture since 1945. Data from the census, public land management and conservation agencies, and other sources are assembled, analyzed, and synthesized to calculate State estimates of the use of several broad classes and subclasses of agricultural and nonagricultural land. This publication presents the results of the latest inventory of U.S. major land uses in 1987. It also includes a brief analysis of changes and trends in land use based on comparisons with estimates from the earlier major land use inventories.

Estimates of land use were developed to maintain as close comparability with earlier estimates in the series as possible. Even so, comparability was sometimes hindered by changes in the characteristics of data available over time. In some instances, data more recent than those of 1987 are available on cropland and were incorporated in appropriate sections of the report.

For more information on how the data are assembled, see *Major Statistical Series of the U.S. Department of Agriculture: Land Values and Land Use,* AH-671, Vol. 6, by Charles H. Barnard and Roger Hexem, U.S. Dept. Agr., Econ. Res. Serv., 1988.

Washington, DC 20005-4788 January 1991

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I thank the many individuals in the numerous Federal agencies who manage or otherwise account for Federal lands and who provide information about a wide variety of land uses.

I thank Roger Hexem who co-authored *Major Uses of Land in the United States: 1982* and provided helpful information during the preparation of this report. Many thanks are due Thomas H. Frey for the insights provided by the historical materials in the files from his earlier work on five previous "Major Uses" reports (*4, 5, 6, 7, 8*).

Thanks to Nelson Bills, Douglas G. Lewis, Dwight Gadsby, Ralph Heimlich, William D. Anderson, and Robert F. Boxley for their comments and suggestions on earlier drafts of this report.

Summary

The United States has a land area of nearly 2.3 billion acres. In 1987, about 20 percent of that area was cropland, 26 percent grassland pasture and range (excluding cropland pasture), 29 percent forested (exclusive of forest land in parks and similar special uses), and 25 percent used for a variety of nonagricultural and miscellaneous other purposes.

Total acreage of U.S. cropland has been relatively stable since 1969. It fell by 5 million acres to 464 million between 1982 and 1987.

Cropland used for crops—the sum of cropland harvested, crop failure, and cultivated summer fallow—declined from 383 million acres in 1982 (after having peaked at 387 million in 1981) to 331 million acres in 1987. Responding chiefly to the annual and long-term Federal acreage diversion programs, cropland used for crops dropped further in 1988 to 327 million acres, but rebounded to 341 million acres in 1989, with a reduction in acreage diverted by Federal programs.

All grassland pasture and range accounted for about 656 million acres, 29 percent of total land in 1987, consisting of about 65 million acres of cropland pasture and 591 million acres of grassland pasture and (nonforested) range used primarily for livestock grazing. The combined acreage of cropland pasture and other grassland pasture and range fell from 662 million acres to 656 million during 1982–87. Another 155 million acres of forest land were grazed in 1987.

Nearly a third of the area of the United States, 731 million acres, is forested, including an estimated 83 million acres in parks and related special uses. Total forest land increased 10 million acres during 1982–87, almost all of the increase due to adjustment in the estimated forest land in the interior of Alaska. Forest-use land—total forest land minus areas used primarily for parks and other special uses—declined 7 million acres to 648 million.

Land in special uses increased from 270 million acres in 1982 to 279 million acres in 1987. The total includes transportation areas, 26 million; Federal and State parks, wilderness, and wildlife areas, 225 million; national defense and related areas, 21 million; and farmsteads and farm roads, 7 million. More than half of the total acreage for this category, including about 11 percent of the 1982–87 increase, is in Alaska, where large acreages of Federal land have been set aside for parks and wildlife refuges. Approximately 83 million acres of the 1987 total were forested and overlapped with the 731 million acres classed as total forest land.

Urban areas were not inventoried in 1987. They are grouped with other miscellaneous unclassified areas. However, land in urban areas, as measured by the decennial censuses of population, totaled 47 million acres in 1980. The census of population measure of urban area includes substantial acreage of open land within places classified as urban but excludes acreage in places with fewer than 2,500 inhabitants. Between 1970 and 1980, urban area reported by the census of population increased an average of 1.3 million acres per year. Estimated 1987 U.S. urban land reached nearly 57 million acres, based on the trend in historic use of land per capita in urban areas (based on 1960, 1970, and 1980 data) and the 1987 population. This estimate implies an increase in urban area, averaging 1.3 million acres per year since 1980.

Other estimates of the rate of urbanization based directly on changes in developed land are smaller, as little as 740,000 acres per year. Subsequent estimates of land in urban areas from the 1990 census may also be lower than estimated in this report.

Major Uses of Land in the United States: 1987

Arthur B. Daugherty

How the Land Is Used

The United States has a land area of about 2.3 billion acres (figs. 1 and 2). About 20 percent of the land area was cropland in 1987, 26 percent was permanent grassland pasture and range, 29 percent was forest-use land (32 percent is defined as total forest land when land in parks and other land used for similar purposes are included), and the final 25 percent constituted land used for a variety of special purposes and unclassified land, including urban land (table 1). These proportions are significantly affected by the land area of Alaska, which has very little cropland and pasture but large areas of forest-use, special-use, and miscellaneous other land (app. table 1).

Land used for agricultural purposes in 1987 totaled more than 1.2 billion acres, 54 percent of total U.S. land area (table 2). Cropland and grassland pasture and range accounted for most of the land used for agricultural purposes, but the total also included forest land used for grazing, and land in farmsteads, farm roads, and farm lanes. By contrast, the Bureau of the Census estimated 964 million acres of land in farms in 1987 (*18*).[1] The difference between land used for agricultural purposes, as defined in this report, and Census's land in farms is mostly accounted for by grazing lands, both forested and nonforested, that are not defined as being in farms and by adjustments to cropland to account for underenumeration by the Census (*1*).

Land classed as cropland totaled 464 million acres (table 1). This total represents all land in crop rotation, including cropland used only for pasture. Cropland used for crops—harvested, failed, and summer fallowed—totaled 331 million acres, 71 percent of the acreage classed as cropland (table 2).

Livestock grazing was the primary use of an estimated 591 million acres of permanent grassland pasture and range. (Forest land grazed is counted as forest land.) Some grazing land also has other uses. When cropland pasture (65 million acres) and forested grazing land (155 million acres) are added to the permanent grassland acreage, total grazing land totaled about 811 million acres, 36 percent of the total U.S. land area.

Daugherty is an agricultural economist with the Resources and Technology Division, Economic Research Service, U.S. Department of Agriculture.

[1] Italicized numbers in parentheses cite sources listed in the References section.

Figure 1
Major uses of land, 1987

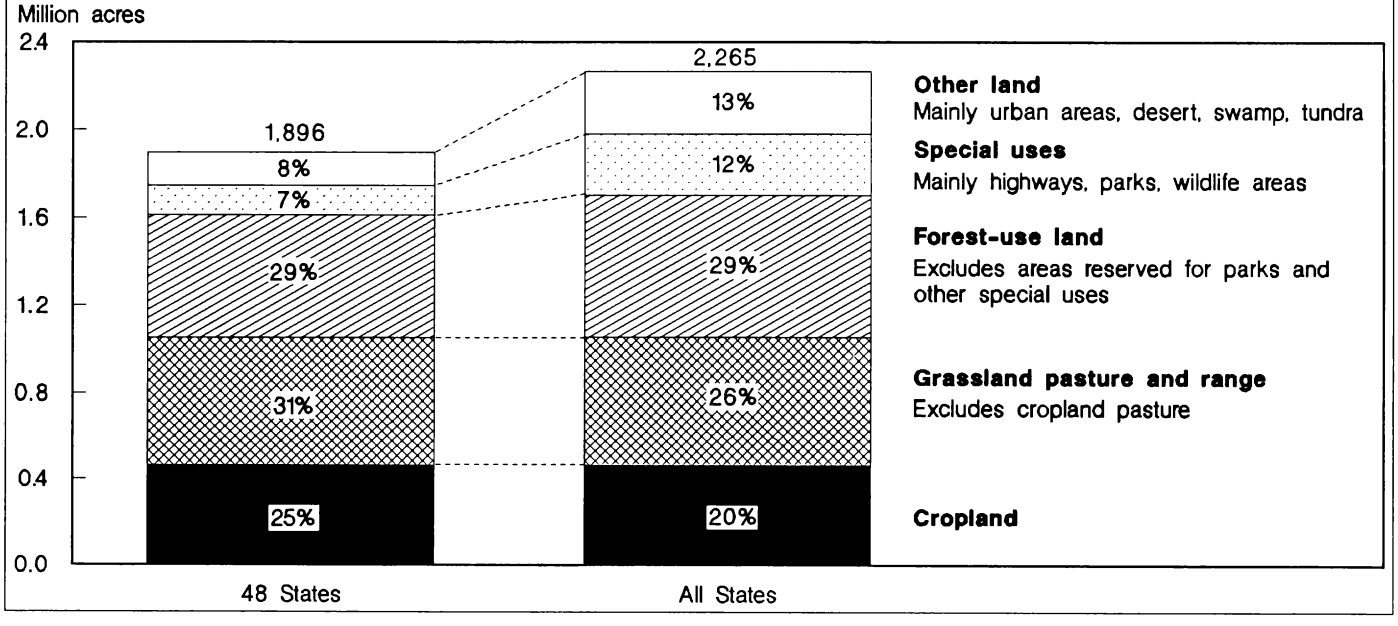
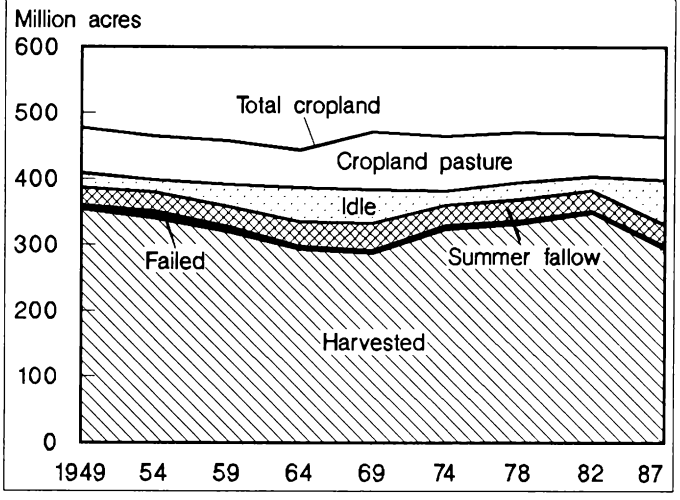


Figure 2
Major uses of cropland



Forest-use land not grazed (total forest land minus land grazed and in special uses, such as in national and State parks) amounted to 493 million acres and was the predominant nonagricultural category of land (table 2).

Nonagricultural special-use areas (except 7 million acres in farmsteads and farm roads) were estimated to account for 272 million acres, 12 percent of the Nation's land area. Transportation uses accounted for 26 million acres. Federal and State parks, wildlife refuges, and related areas occupied 225 million acres. Defense and other public installations and facilities totaled 21 million acres.

The remaining 282 million acres of the Nation's land area included urban areas and minor acreages in various special uses not inventoried, but consisting mainly of Alaska tundra, deserts, bare rock areas, swamps, marshes, and other unclassified areas.

Trends in Major Uses of Land

Table 3 shows estimates of the major uses of land since 1950. During 1982–87, cropland (excluding cropland pasture) fell from 404 million acres to 399 million. This change reversed the 1969–82 trend, when total cropland, excluding cropland pasture, increased 20 million acres. The decline was largely due to land idled by Federal crop programs and by the long-term Conservation Reserve Program (CRP).

Estimates of the combined acreage of cropland pasture and grassland pasture and range dropped an estimated 6 million acres during 1982–87. The combined acreage of cropland pasture and grassland pasture and range has declined since 1950, continuing a long-term trend (*2*). During 1950–69, conversions of cropland and forest to pasture were more than offset by shifts of semiarid

Table 1—Major uses of land, United States, 1987

Land use	Acreage		Proportion of total	
	48 States	United States	48 States	United States
	-Million acres-		*---Percent---*	
Cropland[1]	464	464	24.5	20.5
Grassland pasture and range[2]	589	591	31.1	26.1
Forest-use land[3]	558	648	29.4	28.6
Special uses[4]	135	279	7.1	12.3
Miscellaneous other land[5]	150	283	7.9	12.5
Total land area[6]	1,896	2,265	100.0	100.0

[1] All land in the crop rotation, including cropland used for crops, idle cropland, and cropland used only for pasture.
[2] Permanent grassland and other nonforested pasture and range.
[3] Total forest land as classified by USDA's Forest Service, excluding an estimated 83 million acres used primarily for parks, wildlife areas, and other uses.
[4] Rural transportation areas, areas used primarily for recreation and wildlife purposes, various public installations and facilities, farmsteads, and farm roads, including approximately 83 million acres that overlap with forest land.
[5] Includes urban areas, areas in miscellaneous uses not inventoried, and marshes, open swamps, bare rock areas, desert, tundra, and other land generally having low value for agricultural purposes.
[6] Includes streams and canals less than one-eighth mile wide, and ponds, lakes, and reservoirs covering less than 40 acres.

Sources: Estimates are based primarily on reports and records of the Bureau of the Census and Federal and State land management and conservation agencies.

Federal range to various special uses or other nongrazed status. The 1969–78 decrease in pasture accelerated due to conversion of pasture to cropland.

Land classed as forest use, forest land exclusive of the area duplicated in various special-purpose uses, declined from 655 million acres in 1982 to 648 million in 1987, mainly because of losses of forest land to cropland, pasture, urban, and other uses. The estimated 648 million acres of forest-use land (excluding duplication of forest land in special uses such as parks) differs from the total of 731 million acres currently classified as forest land by USDA's Forest Service (app. table 5) because the latter includes multiple-use areas. Total forest land, including multiple-use areas, declined from colonial times until about 1920, increased from 1920 to 1960, and has trended downward again since the 1960's (*11*).

Areas used primarily for transportation, recreation, and other special uses totaled 279 million acres in 1987, compared with 270 million in 1982 and 158 million in 1978. The large increase between 1978 and 1982 mainly came from establishing national parks, wilderness areas, and wildlife refuges in Alaska in what was once inventoried as forest or other unclassified land use. Alaska now has more than 50 percent of the acreage for special uses and accounts for 90 percent of the U.S. increase in acreage for special uses since 1978.

Table 2—Agricultural and nonagricultural uses of land, United States, 1987

Land use	Acreage		Proportion of total	
	48 States	United States	48 States	United States
	-----Million acres-----		*-------Percent-------*	
Agricultural:				
Cropland—				
Cropland used for crops[1]	331	331	17.5	14.6
Idle cropland	68	68	3.6	3.0
Grazing land—				
Cropland used only for pasture	65	65	3.4	2.9
Grassland pasture and range	589	591	31.0	26.1
Forest-use land grazed	155	155	8.2	6.8
Special uses—				
Farmsteads, farm roads	7	7	.4	.3
Total agricultural land	1,215	1,217	64.1	53.7
Nonagricultural:				
Forest-use land—				
Forest-use land not grazed[2]	403	493	21.3	21.8
Special uses—				
Transportation uses[3]	25	26	1.3	1.2
Recreation and wildlife areas[4]	84	225	4.4	9.9
National defense areas[5]	19	21	1.0	.9
Miscellaneous other land[6]	150	283	7.9	12.5
Total nonagricultural land	681	1,048	35.9	46.3
Total land area	1,896	2,265	100.0	100.0

[1] Cropland harvested, crop failure, and cultivated summer fallow.
[2] Excludes approximately 83 million acres of forest land in parks and land in other special uses (see app. table 1). It was not feasible to eliminate all overlap in acreage that exists because of multiple use.
[3] Rural highway, road, and railroad rights-of-way, and rural airports.
[4] National and State parks and related recreational areas, national and State wildlife refuges, and national wilderness and primitive areas.
[5] Federal land administered by the Department of Defense for military purposes and land administered by the Energy Research and Development Administration.
[6] Includes urban areas, miscellaneous uses not inventoried, and areas of little surface use, such as marshes, open swamps, bare rock areas, desert, and tundra.

Sources: Estimates are based primarily on reports and records of the Bureau of the Census and Federal and State land management and conservation agencies.

Land in urban areas, as measured by the Bureau of the Census in conjunction with the decennial censuses of population, totaled 47.3 million acres in 1980, and absorbed an average of 1.3 million acres of all kinds of land each year during 1970–80 (*3*). Both the total and annual changes are liberally measured because they include substantial acreages of open land. Appendix table 7 estimates urban land, based on the historic use of land per capita in urban areas and the 1987 population. The U.S. total implies an increase averaging 1.3 million acres per year since 1980. Other estimates of the rate of urbanization based directly on changes in land use have ranged as low as 740,000 acres (*21*). Subsequent estimates of land in urban areas from the 1990 census may also be lower than the estimate in this report.

Basic Regional Land Use Patterns

Land used primarily for agricultural production (cropland and nonforested grazing land) accounted for nearly half of the Nation's total land area, forest land for about a third, and other land for about a quarter. But, these proportions vary greatly by region, reflecting differences in soils, climate, topography, and patterns of population settlement (table 4). For example, proportions of cropland are vastly different in the Northeast (14 percent) and the Corn Belt (60 percent). Limited precipitation in semiarid areas, the Southern Plains and Mountain regions, for example, means that a large proportion of the land is most suitable for grazing. Forest land is most prevalent in regions such as the Northeast and Southeast, where the topography is often rolling and precipitation is ample. States also vary within a region. Figures 3–6 show the classified proportions of cropland, grassland pasture, forest-use land, and other land uses in each State.

Cropland

Cropland includes five components. The sum of three of these components, cropland harvested, crop failure, and

Table 3—Major uses of land, United States

Land use	1950	1959	1969	1978	1982	1987
			Million acres			
Cropland	478	458	472	471	469	464
Cropland used for crops	383	359	333	369	383	331
Idle cropland	26	34	51	26	21	68
Cropland pasture	69	65	88	76	65	65
Grassland pasture and range[1]	701	633	604	587	597	591
Forest-use land[2]	652	728	723	703	655	648
Grazed forest-use land	320	245	198	172	158	155
Other forest-use land	332	483	525	531	497	493
Special use areas[3]	118	123	141	158	270	279
Miscellaneous other land[4]	324	329	324	345	274	283
Total land area[5]	2,273	2,271	2,264	2,264	2,265	2,265

[1] Other grassland pasture and nonforested range (excludes cropland used only for pasture and grazed forest land).
[2] Excludes forest land in parks and other special uses of land.
[3] Includes land specified in app. table 4.
[4] Includes urban areas, areas in miscellaneous uses not inventoried, and areas of little surface use such as marshes, open swamps, bare rock areas, desert, and tundra.
[5] Totals differ over time due to remeasurement of the land area.

Sources: Estimates prior to 1987 are based on (*4, 5, 6, 7, 8, 23, 24, 25*). The estimates are not strictly comparable.

Table 4—Major uses of land, by region, 1987

Region	Cropland[1]		Grassland pasture and range[2]		Forest-use land[3]		Special uses and miscellaneous other land		Total land area[4]	
	Mil. acres	*Pct.*	*Mil. acres*	*Pct.*	*Mil. acres*	*Pct.*	*Mil. acres*	*Pct.*	*Mil. acres*	*Pct.*
Northeast	15.7	14	2.8	3	69.0	62	24.2	22	111.7	100
Lake States	42.4	35	5.5	5	46.2	38	28.1	23	122.2	100
Corn Belt	99.6	60	12.9	8	29.1	18	23.2	14	164.8	100
Northern Plains	109.6	56	67.1	35	3.9	2	13.7	7	194.3	100
Appalachian	29.5	24	6.5	5	70.5	57	17.3	14	123.8	100
Southeast	18.3	15	10.0	8	73.5	59	21.8	18	123.6	100
Delta States	23.9	26	7.3	8	47.5	52	13.4	15	92.1	100
Southern Plains	52.3	25	122.4	58	20.5	10	16.4	8	211.6	100
Mountain	47.0	9	302.3	55	117.4	21	80.6	15	547.3	100
Pacific	25.3	12	52.0	25	80.6	39	46.4	23	204.3	100
48 States	463.6	24	588.8	31	558.2	29	285.1	15	1,895.7	100
Alaska	.1	0	1.2	0	88.6	24	275.4	75	365.3	100
Hawaii	.3	7	1.1	27	1.3	32	1.4	34	4.1	100
United States	464.0	20	591.1	26	648.1	29	561.9	25	2,265.1	100

[1] Total cropland, including cropland used for crops, cropland used only for pasture, and idle cropland.
[2] Open permanent pasture and range, both in farms and not in farms, excluding cropland pasture.
[3] Total forest land, including areas used for parks, wildlife refuges, livestock grazing, and other multiple purposes.
[4] Percentage distributions may not add due to rounding.

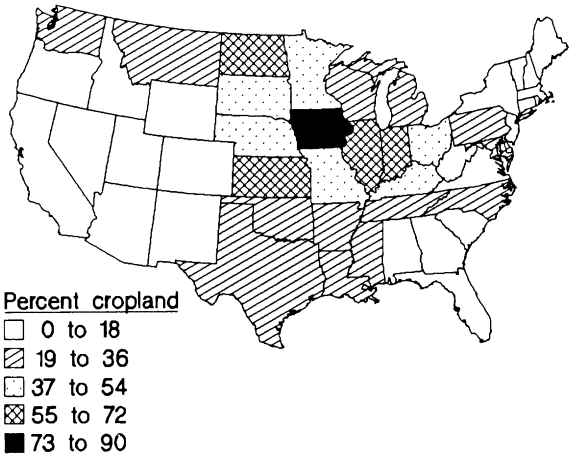
cultivated summer fallow, is termed "cropland used for crops." This acreage is devoted to crop production. The other two components, cropland pastured and idle cropland, are not directly involved in crop production in a given year.

Cropland Used for Crops

In 1987, the last year in which all cropland was inventoried, about 331 million acres, 71 percent of the Nation's cropland base, was used for crops (table 5). Acreages used for crops were largest in the Northern Plains and Corn Belt, followed by the Mountain region, Lake States, and Southern Plains. As a proportion of total cropland, cropland used for crops was above the national average in the Northern Plains, Lake States, Pacific region, Northeast, Mountain region, and Corn Belt, and below average in the four southernmost regions from the Southern Plains east. Proportions ranged from a high of 80 percent in the Northern Plains to 56 percent in the Southern Plains, Southeast, and Appalachian region. These regional relationships were evident in a year in which planted acreages of principal crops were at their lowest level since 1972, and cropland idled by Federal programs reached 76 million acres. Some regions substantially change each year in cropland used for crops, depending mainly on producer enrollment in Federal acreage diversion programs.

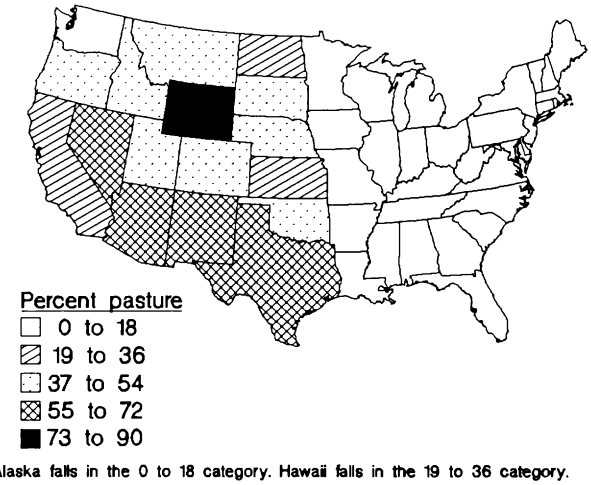
Cropland harvested, the dominant component of the acreage used for crops, includes row, sod, and closely sown crops, tree fruits and nuts, small fruits, and wild hay. Cropland harvested totaled 293 million acres in 1987 (table 5). The regional distribution of harvested acreage was quite similar to that of cropland used for crops except in the Northern Plains, Mountain region, and Southern Plains, which had a substantial area in cultivated summer fallow. Harvested acreage was highest in the Corn Belt, Northern Plains, Lake States, Mountain region, and Southern Plains.

Figure 3
Proportion of State land area in cropland, 1987



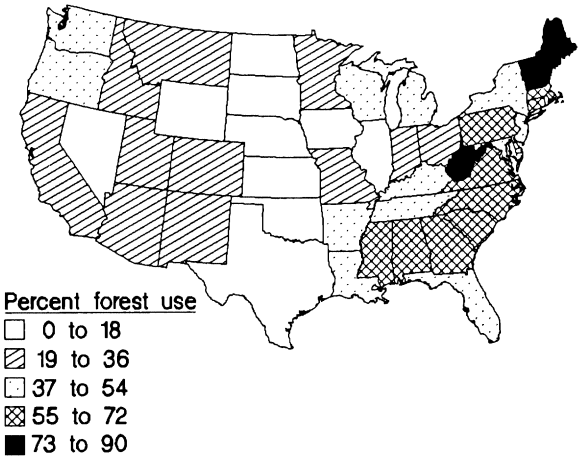
Alaska and Hawaii fall in the 0 to 18 category.

Figure 4
Proportion of State land area in grassland pasture, 1987



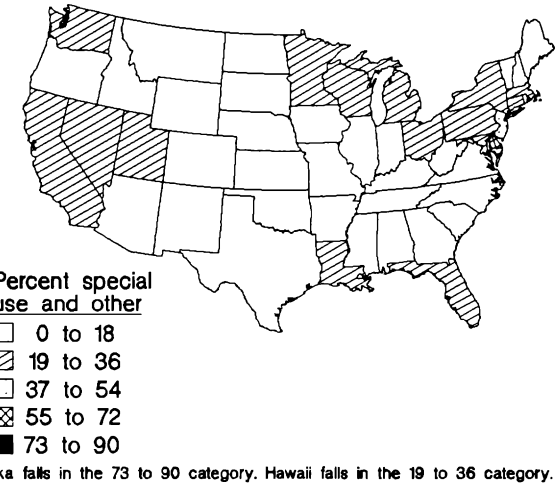
Alaska falls in the 0 to 18 category. Hawaii falls in the 19 to 36 category.

Figure 5
Proportion of State land area in forest-use land, 1987



Alaska and Hawaii fall in the 19 to 36 category.

Figure 6
Proportion of State land area in special uses and miscellaneous other land, 1987



Alaska falls in the 73 to 90 category. Hawaii falls in the 19 to 36 category.

As with proportions of total cropland, harvested acreages were above the national average (63 percent) in the Northeast, Lake States, Corn Belt, and Delta States; about average in the Northern Plains and Pacific regions; and generally below average in the Appalachian region, Southeast, Southern Plains, and Mountain region. The proportion of cropland harvested ranged from 48 percent in the Southern Plains, which had substantial crop failure in 1987, to 75 percent in the Northeast and Lake States.

Crop failure occurred on about 6 million acres, or less than 2 percent of the acreage planted for harvest in 1987. This failure rate may be below average for recent years (app. table 6). About 70 percent of the failure occurred in the Northern Plains, Southern Plains, and Mountain region where annual precipitation is more uncertain. These arid and semiarid regions usually have the greatest percentage of crop failure, but the incidence varies each year depending on climatic conditions.

Cultivated summer fallow, which totaled 32 million acres in 1987, refers to cropland in subhumid regions that is cultivated for a season or more to control weeds and accumulate moisture before small grains are planted. Summer fallow is necessary for dryland small-grain production in large areas of the semiarid West. Nearly 54 percent of the fallow acreage was in the Northern Plains, 30 percent was in the Mountain region, and the remainder was in the Southern Plains and the Pacific region.

Other Cropland

The rest of the cropland acreage was used only for pasture (65 million acres) or was idle (68 million acres) in 1987. Much of the 65 million acres of cropland used only for pasture is routinely rotated between crop and pasture use, although the rotation period varies. Part of the acreage, however, is marginal for crop use and may remain in pasture indefinitely.

Cropland used only for pasture accounted for 14 percent of all cropland in 1987, but was more than double that rate in the Appalachian region and well above average throughout the South and Southwest. Just 7 percent of the cropland in the Lake States was pastured. The largest acreages were in such agriculturally diverse regions as the Southern Plains and the Corn Belt but were pastured for different reasons. Cropland pasture acreages in the Corn Belt and adjacent areas reflect the high proportion of land classed as cropland. On many farms, the only land available for pasture may be of cropland quality. In contrast, the large acreages of cropland pasture in the Southern Plains and much of the South are associated with higher proportions of marginal cropland.

Idle cropland includes both land completely idled and land seeded to soil improvement crops but not harvested or pastured. Idle cropland totaled 68 million acres in 1987, nearly 15 percent of U.S. cropland. This is the largest idled area ever reported in the major land

Table 5—Cropland by major components and region, 1987

Region	Cropland used for crops				Idle	Pasture[2]	Total cropland
	Harvested	Failed	Fallowed[1]	Total			
	Million acres						
Northeast	11.7	0.1	0	11.8	1.6	2.3	15.7
Lake States	31.9	.3	0	32.2	7.4	2.8	42.4
Corn Belt	73.3	.3	0	73.6	15.7	10.4	99.7
Northern Plains	68.8	1.2	17.2	87.2	12.4	10.0	109.6
Appalachian	16.1	.3	0	16.4	4.3	8.8	29.5
Southeast	10.1	.2	0	10.3	3.9	4.1	18.3
Delta States	15.4	.2	0	15.6	4.3	4.0	23.9
Southern Plains	24.8	2.2	2.1	29.1	8.6	14.6	52.3
Mountain	24.9	.8	9.7	35.4	6.4	5.2	47.0
Pacific	15.7	.4	3.0	19.1	3.4	2.7	25.2
48 States	292.7	6.0	32.0	330.7	68.0	64.9	463.6
Alaska	—	—	0	—	—	—	.1
Hawaii	.2	—	0	.2	.1	—	.3
United States	292.9	6.0	32.0	330.9	68.1	65.0	464.0

— = Less than 50,000 acres.
[1] Cultivated summer fallow.
[2] Cropland used only for pasture.
Sources: Estimates based on data from (*13*, *18*).

use series, which began in 1945. The regional range was from 1 percent in the Northeast to 18 percent in the Delta States. Some cropland is idle each year because of adverse weather and soil conditions at planting time, lack of economic incentives, and other reasons. The 1987 total included several million acres idled under Federal farm programs.

Land idled under annual commodity acreage reserve programs (ARP) and the Conservation Reserve Program (CRP) in 1987 exceeded the land inventoried in this report by about 8 million acres, mostly because some ARP lands could be pastured, except for a 5-month period between April 1 and October 31. When pastured, the census called for these lands to be reported as cropland used only for pasture. The CRP lands could not be grazed.

Trends in Cropland Uses

Cropland acreage has undergone little net change since World War II. The acreage steadily declined from 478 million acres in 1949 to 444 million in 1964 but has been above 460 million acres in each census year since 1964 (table 6 and app. table 6). Excluding cropland pasture (which has been inconsistently enumerated in some of the censuses of agriculture) changes the trend slightly to show a generally declining acreage during 1949–74, an increase each census during 1974–82, and a decline during 1982–87. The early period of decline was associated with surplus production and acreage control programs. The 1974–82 increase was in response to expanding exports and limited use of Federal acreage control programs. However, 76 million acres were enrolled in annual and long-term Federal programs in 1987, compared with just 11 million acres in Federal programs in 1982.

Although the total acreage classified as cropland has not changed greatly for several decades, important changes have occurred in component acreages. Cropland used for crops ranged from a record 387 million acres in 1949 to 330–335 million in the 1960's, returned to 387 million in 1981, dropped again to 333 million in 1983, rose to 373 million in 1984, declined during 1984–88, but increased rather sharply in 1989 (app. table 6). These changes reflected the absence, presence, and extent of set-aside requirements of Federal crop programs. Federal program enrollments, in turn, reflected the status of supply and demand relationships for agricultural products.

Changes in cropland harvested parallel changes in cropland used for crops, except when the latter is affected by normally small changes in crop failure and cultivated summer fallow. Thus, the 1949–87 total ranged between 286 million acres and 352 million, slightly more than the average of cropland used for crops.

Estimates of cultivated summer fallow in recent decades have ranged from 30 million acres or less, when planted acres were high, to 41 million acres when planted acres were low. When demand for commodities is high (and land idled by Federal programs low), less land is fallowed. Conversely, when demand is low (and land idled by Federal programs high), more land is fallowed. The CRP, however, seems to have idled considerable acreage that would normally have been fallowed when total cropland idling was high as in 1987–88.

Land marked by crop failure has ranged between 5 million acres and 12 million since 1957 (app. table 6). Crops failed on 64 million acres in 1934, the highest of any year since 1910, when this data series began. Though more recent ranges and probabilities of crop failure are likely lower, the possibility of a large acreage failure is always

Table 6—Major uses of cropland, selected years

Year	Cropland used for crops				Idle	Pasture[2]	Total cropland
	Harvested	Failed	Fallowed[1]	Total			
				Million acres			
1949	352	9	26	387	22	69	478
1954	339	13	28	380	19	66	465
1959	318	10	31	359	33	66	458
1964	292	6	37	335	52	57	444
1969	286	6	41	333	51	88	472
1974	322	8	31	361	21	83	465
1978	330	7	32	369	26	76	471
1982	347	5	31	383	21	65	469
1987	293	6	32	331	68	65	464

[1] Cultivated summer fallow.
[2] Cropland used only for pasture.

Sources: Estimates of cropland used during 1949–82 are from (*7*); those for 1987 are based on data from (*13, 14, 18*). Estimates of idle cropland are based largely on data from the periodic censuses of agriculture (*18*).

present. Crop failure was 10 million acres in 1988, considered a year of severe drought. Except for 1980, 1988 was the year of largest crop failure since the mid-1960's.

Acreages of idle cropland generally vary inversely with those used for crops. Idle cropland increased during the 1950's and 1960's as large acreages shifted from crop production and declined after 1972 as acreage returned to production. Since 1982, idled acreage has increased in response to increased enrollments in Federal crop programs and as a result of acreage retired under 10-year contracts for the CRP.

Cropland used only for pasture totaled 65 million acres in 1987, compared with a high of 88 million in 1969 and a low of 57 million in 1964 (table 6). These acreages may not be strictly comparable, primarily because of inconsistent classifications between cropland pasture and permanent grassland pasture.

Regional Changes in Cropland Used for Crops

The acreage used in crop production is subject to sharp annual variation, as exemplified by the large drop in 1987 when 76 million acres were idled under Federal programs, and by the partial rebound in 1989 when 60 million acres were idled (app. table 6). Since adjustments to attain a better balance between supply and demand for cropland continue through Federal programs, I focused on the regional comparisons from 1962 and 1987 when acreage diversion was at a high level and 1981 when there was no acreage diversion by Federal programs (table 7).

In 1962, with some 65 million acres diverted by Federal programs, cropland used for crops at the national level fell to a near-record low of 331 million acres. In 1981, the most recent year without diversion programs, the acreage used for crops peaked at 387 million acres, the same as in 1949. Between 1962 and 1981, acreage used for crops increased to the 360- to 380-million-acre range for an extended period (app. table 6). These changes were accompanied by important regional shifts that further concentrated the acreage used for crops in the major crop-producing regions (table 7).

The near-zero net change in cropland used for crops at the national level during 1962–87 resulted from a collective decline of more than 10 million acres in the Northeast, Lake States, Southeast, and Southern Plains; practically no net change in the Pacific region; and a collective increase of more than 10 million acres in the other farm production regions. About 57 percent of the increase occurred in the Corn Belt and Delta States, and was attributable to gradual but persistent drainage of wetlands and transfers from the cropland pasture acreage in the Corn Belt and to large-scale drainage and clearing in the Delta States. Relatively large increases also occurred in the Northern Plains and Mountain region where cropland expanded on semiarid rangeland. Irrigation also enabled cropland to increase in some localities in the West.

Net declines in the acreage of cropland used for crops during 1962–87 ranged from 300,000 acres in the Pacific region to 5.3 million acres in the Southern Plains and, proportionally, from 3 percent in the Lake States to 17 percent in the Northeast. Although cropland acreage increased significantly in all regions except the Northeast during 1962–81, these increases were not sufficient to offset the large declines experienced since 1981.

Changes in Principal Crops Harvested

Changes in total acreage of principal crops harvested are closely associated with levels of cropland diverted through Federal programs. In 1962, 65 million acres of

Table 7—Cropland used for crops, by region

Region	1962	1981	1987	Change		
				1962–81	1981–87	1962–87
			Million acres			
Northeast	14.2	13.6	11.8	−0.6	−1.8	−2.4
Lake States	33.3	40.3	32.2	7.0	−8.1	−1.1
Corn Belt	70.7	87.5	73.6	16.8	−13.9	2.9
Northern Plains	85.3	93.5	87.2	8.2	−6.3	1.9
Appalachian	15.4	19.4	16.4	4.0	−3.0	1.0
Southeast	11.9	14.8	10.3	2.9	−4.5	−1.6
Delta States	12.7	19.6	15.6	6.9	−4.0	2.9
Southern Plains	34.4	38.0	29.1	3.6	−8.9	−5.3
Mountain	33.9	38.1	35.4	4.2	−2.7	1.5
Pacific	19.4	22.2	19.1	2.8	−3.1	−.3
48 States	331.2	387.0	330.7	55.8	−56.3	−.5

Sources: Estimates for the 48 contiguous States based on data from (*10, 13, 18*).

cropland were diverted, but in 1981 no cropland was diverted by Federal programs. Strong growth occurred in the export market, and rapid expansions through double-cropping soybeans and small grains marked the 1970's and early 1980's. The acreage of principal crops harvested increased by 72 million acres during 1962-81, then decreased by nearly as much (65 million acres) from 1981 to 1987. About 76 million acres were diverted from production by Federal programs in 1987 (table 8). Harvested acreage peaked at 354 million in 1981 when no cropland was diverted.

The area of cropland diverted increased to 78 million acres in 1988 with increases in participation in the long-term CRP. Harvested acreage of principal crops consequently dropped to 289 million in 1987, 290 million in 1988, and rebounded to 306 million in 1989, when cropland diverted by all Federal programs declined to about 60 million acres.

Although aggregate changes during 1962-81 and 1981-87 were nearly offsetting, major changes in the mix of crops occurred. Food crops, led by increases in soybean and wheat acreage, some of which was double-cropped, increased by nearly 81 million acres between 1962 and 1981. Feed crops, on the other hand, declined by nearly 5 million acres. Other crops—cotton, flaxseed, and tobacco—declined by more than 4 million acres. During 1981-87, the acreage of food crops declined, but by less than half of their gain from 1962-81. Two-thirds of the decline was in wheat acreage. Feed crops declined sharply during 1981-87, with more than three-quarters of the decline in corn acreage. The "other crops" also continued to drop, with 88 percent of the 1981-87 decline accounted for by reduced cotton acreage.

Pasture and Range

All pasture and range accounted for about 811 million acres in 1987, 36 percent of the land area of the country. The total includes three major types—cropland pasture, other grassland pasture and range, and forest land on which grazing occurs as a multiple use—but

Table 8—Principal crops harvested, 48 contiguous States

Crop[1]	1962	1981	1987	1988	1989[2]	Change 1962-81	Change 1981-87
				Million acres			
Food crops:							
Wheat	43.7	80.6	55.9	53.2	62.1	36.9	-24.7
Soybeans	27.6	66.2	57.2	57.4	59.4	38.6	-9.0
Rice	1.8	3.8	2.3	2.9	2.7	2.0	-1.5
Rye	2.0	.7	.7	.6	.5	-1.3	0
Peanuts	1.4	1.5	1.5	1.6	1.6	.1	0
Sunflowers	NR	3.8	1.8	1.9	1.8	3.8	-2.0
Dry edible beans	1.4	2.2	1.7	1.4	1.7	.8	-.5
Dry edible peas	.3	.1	.2	.2	.2	-.2	.1
Potatoes	1.4	1.2	1.3	1.3	1.3	-.2	.1
Sweetpotatoes	.2	.1	.1	.1	.1	-.1	0
Sugar beets	1.1	1.2	1.3	1.3	1.3	.1	.1
Sugarcane	.4	.7	.7	.8	.8	.3	0
Total	81.3	162.1	124.7	122.7	133.5	80.8	-37.4
Feed crops:							
Corn, all	64.5	83.2	65.5	66.6	71.4	18.7	-17.7
Sorghum, all	14.8	15.5	11.0	9.6	11.7	.7	-4.5
Oats	22.4	9.4	6.9	5.5	6.9	-13.0	-2.5
Barley	12.2	9.0	10.0	7.6	8.3	-3.2	1.0
Hay	67.6	59.6	60.1	65.1	63.4	-8.0	.5
Total	181.5	176.7	153.5	154.4	161.7	-4.8	-23.2
Other crops:							
Cotton	15.6	13.8	10.0	11.9	9.5	-1.8	-3.8
Flaxseed	2.8	.6	.5	.2	.2	-2.2	-.1
Tobacco	1.2	1.0	.6	.6	.7	-.2	-.4
Total	19.6	15.4	11.1	12.7	10.4	-4.2	-4.3
Grand total	282.4	354.2	289.3	289.8	305.6	71.8	-64.9

NR = Not reported.
[1] Principal crops harvested as classified and reported in (*13, 14, 16, 17*).
[2] Preliminary.

excludes land grazed before or after crops were harvested (table 9). Examples of the latter include fall and winter pasturage of small grains and after-harvest pasturage of hayland. Excluded were areas that totaled about 60 million acres in Federal grazing districts and range allotments that have little value for grazing but which are intermingled and managed with productive Federal range. The three types of grazing land differed greatly in terms of acreage, distribution, productivity, and other characteristics. (See (*2*) for a summary of U.S. grazing lands during 1950–82.)

Cropland Pasture

Cropland pasture, the smallest but generally most productive component of grazing acreage, occupied 3 percent of total U.S. land area and accounted for 8 percent of total pasture and range acreage in 1987. Cropland pasture is considered part of the cropland base, but part is marginal for crop use and may remain in pasture indefinitely. Two-thirds of the 65 million acres in this category were concentrated in the Northern Plains, Southern Plains, Corn Belt, and Appalachian region. Cropland pasture made up a relatively high percentage of total pasture and range in the Appalachian region (43 percent), Corn Belt (35 percent), Northeast (34 percent), and Lake States (25 percent). Other regions, too, have substantial acreages of cropland pasture, but the relative importance of this acreage is smaller due to large acreages of permanent grassland and grazed forest land.

The large acreages of cropland pasture in the Corn Belt and Northern Plains serve different purposes from those in the Appalachian region and Southern Plains. In the better agricultural areas, cropland pasture acreage tends to be land of relatively high quality. It expands when demand for crop production is low and contracts when demand is high. In regions east and south of the Corn Belt, cropland pasture constitutes a higher proportion of total cropland and is less affected by changes in demand for crop products. Here, cropland pasture is associated with small, irregularly shaped, and scattered fields unsuitable for crops now typically worked with large machinery.

Grassland Pasture and Range

Grassland pasture and (nonforested) range is the dominant use of land in the Mountain region and Southern Plains and the dominant agricultural use in the Northern Plains and Pacific region, Alaska, and Hawaii. Among the major types of grazing land, grassland pasture and range dominates in all regions except the Appalachian and Delta regions. This type of land accounted for more than half of all land in the Mountain region and the Southern Plains; 34 percent of the area in the Northern Plains, where a relatively larger propor-

Table 9—Pasture and range, by type and region, 1987

Region	Nonforested pasture and range			Forest land grazed[3]	Total pasture and range	
	Cropland pasture[1]	Grassland pasture and range[2]	Total		Acreage	Portion of land area
	Million acres					*Percent*
Northeast	2.3	2.8	5.1	1.7	6.8	6
Lake States	2.8	5.5	8.3	3.0	11.3	9
Corn Belt	10.4	12.8	23.2	6.6	29.8	18
Northern Plains	9.9	67.1	77.0	1.9	78.9	41
Appalachian	8.7	6.6	15.3	5.0	20.3	16
Southeast	4.1	10.0	14.1	9.7	23.8	19
Delta States	4.0	7.3	11.3	16.5	27.8	30
Southern Plains	14.6	122.4	137.0	13.4	150.4	71
Mountain	5.3	302.3	307.6	68.6	376.2	69
Pacific	2.8	52.0	54.8	28.2	83.0	41
48 States	64.9	588.8	653.7	154.6	808.3	43
Alaska	—	1.2	1.2	.1	1.3	*
Hawaii	—	1.1	1.1	.4	1.5	36
United States	65.0	591.1	656.1	155.1	811.2	36

— = Less than 500,000 acres.
* = Less than 0.5 percent.
[1] Cropland used only for pasture as reported in (*18*).
[2] Grassland and other nonforested pasture and range in farms (*18*) plus estimates of open or nonforested grazing land not in farms.
[3] Woodland grazed in farms (*18*) plus an approximation of forested grazing land not in farms.

tion of the land area was used for crops; and 25 percent in the Pacific region, where forest-use land predominated. These four regions have about 542 million acres (92 percent) of U.S. grassland pasture and range. In other regions, except Hawaii, the proportion of area in grassland pasture and range varied from 8 percent in the Corn Belt, Delta States, and Southeast to less than 1 percent in Alaska. More than a third of the land in Hawaii is grazed, but because of the State's small size, grassland pasture there contributes little to the national acreage sum.

Grazed Forest Land

The 155 million acres of grazed forest land include the acreage in open forest, land reverting to forest, and similar areas that have grass or other forage growth pastured to some extent. Regional acreages of grazed forest land ranged from about 2 million acres in the Northeast and Northern Plains to 69 million acres in the Mountain region. Acreages of this type are relatively high throughout the West, Southwest, and South, but represent the dominant pasture type only in the Delta States. The regional variation in the amount of grazed forest land reflects economic circumstances, the amount of forest land, and such factors as species composition and stand density.

Forage values are relatively high on open stands of pine in the South where climatic conditions permit grazing throughout the year. Upland hardwoods, however, allow little production of forage, although substantial acreages are grazed because they are on farms. High proportions of ponderosa pine and other open-forest types in the West have value for seasonal grazing, but thick growing trees, such as fir, offer little grazing value.

Trends in Pasture and Range Acreages

Grazing lands are less economically competitive for crop production than other land. Pasture and range acreages have been converted to cropland when demand for crop products was high. Substantial acreages of land previously used for grazing have been shifted to recreational, wildlife, and environmental purposes. Under favorable growing conditions, particularly in southern regions, pasture land reverts to forest. Some acreages are lost to urbanization. These forces have combined to cause a long-term net decline in pasture and range acreage, from just over 1 billion acres in 1949 to 811 million in 1987 (table 10).

The total acreage of all grazing land continued to decline between 1982 and 1987. Net cropland pasture was unchanged from 1982. Grassland pasture and range shrank by 6 million acres, and grazed forest land contracted by 3 million acres as 1982–87 changes followed long-term trends.

The combined acreage of cropland pasture and grassland pasture and range declined during 1969–87 in 9 of the 10 farm production regions (table 11). An exception was the Southern Plains, where the indicated increase reflected substantial reclassification of noncommercial forest to open rangeland. A part of the general decline in pasture acreage since 1969 coincided with an increase in planted cropland.

During 1949–69, a substantial increase in pasture and range in the Southern Plains and smaller increases in the Northern Plains and the South were more than offset by declines in the Mountain and Pacific regions. The increases in regions east of the Rocky Mountains were associated with declines in acreages used for crops

Table 10—Total pasture and range, by type

Year	Cropland pasture	Grassland pasture and range	Subtotal	Forest land grazed	Total
			Million acres		
1949	69	632	701	319	1,020
1954	66	634	700	301	1,001
1959	66	633	699	245	944
1964	57	640	697	225	922
1969	88	604	692	198	890
1974	83	598	681	179	860
1978	76	587	663	172	835
1982	65	597	662	158	820
1987	65	591	656	155	811

Sources: Estimates based on reports and records of the Bureau of the Census and Federal and State land management and conservation agencies. Estimates for years prior to 1987 from (*3, 4, 5, 6, 7, 8, 23, 24, 25*).

and with clearing and reclassification of forest land, especially in the Southeast and Southern Plains. A part of this increased acreage had been classed as forested grazing land, mitigating the net increase in nonforested grazing land. The large decreases in the Western States mainly involved Federal range that was withdrawn for parks, wilderness, and similar areas, or that was reclassified as unsuitable for grazing.

Among reasons for the decline in forested grazing land were fewer farms and less land in farms, changes in forest species, increases in stand density, and improvements in both livestock feeding and forest management practices. All of these factors have been especially important in the South, where woodland grazing acreage has been high.

Forest Land

Forest land totaled 731 million acres in 1987 (table 12). About two-thirds of the total was classified as timberland (commercially productive forest land) and the remainder as a combination of reserved timberland (timberland that is withdrawn from timber utilization by statute or administrative regulation) and other forest land (unproductive due to inherently low timber-producing capacity) (*22*).

Table 11—Trends in nonforested pasture and range acreage[1]

Region	1949	1954	1959	1964	1969	1974	1978	1982	1987
					Million acres				
Northeast	11	11	11	10	7	6	6	5	5
Lake States	12	12	13	13	12	10	8	9	8
Corn Belt	31	31	35	32	31	29	26	24	23
Northern Plains	82	82	84	85	84	85	83	79	77
Appalachian	20	20	22	20	21	19	17	15	15
Southeast	11	15	18	16	16	17	15	15	14
Delta States	12	14	15	14	15	14	11	12	11
Southern Plains	103	114	120	127	128	128	128	136	137
Mountain	352	335	318	319	319	313	311	309	308
Pacific	66	64	59	58	56	57	56	55	55
48 States	700	698	695	694	689	678	661	659	653

[1] Includes cropland pasture and grassland pasture and range.

Sources: Estimates for the 48 contiguous States based on reports and records of the Bureau of the Census and Federal and State land management and conservation agencies. Estimates for years prior to 1987 are from (*3, 4, 5, 6, 7, 8, 23, 24, 25*).

Table 12—Total forest land, by major class and region, 1987

Region	Timberland			Reserved timberland and other forest land[1]	Total forest land		
	Federal	Non-Federal	Total		Federal	Non-Federal	Total
				1,000 acres			
Northeast	1,866	66,437	68,303	5,008	2,137	71,174	73,311
Lake States	5,765	39,897	45,662	4,460	7,257	42,865	50,122
Corn Belt	2,225	26,697	28,922	1,176	2,439	27,659	30,098
Northern Plains	993	2,536	3,529	698	1,101	3,126	4,227
Appalachian	5,956	64,385	70,341	1,974	7,575	64,740	72,315
Southeast	4,862	67,598	72,460	2,150	6,261	68,349	74,610
Delta States	4,980	42,239	47,219	344	5,107	42,456	47,563
Southern Plains	1,172	15,991	17,163	3,776	1,303	19,636	20,939
Mountain	37,709	19,902	57,611	80,493	94,470	43,634	138,104
Pacific	26,539	29,106	55,645	33,647	46,513	42,779	89,292
48 States	92,067	374,788	466,855	133,726	174,163	426,418	600,581
Alaska	4,936	10,827	15,763	113,282	38,195	90,850	129,045
Hawaii	0	700	700	1,048	12	1,736	1,748
United States	97,003	386,315	483,318	248,056	212,370	519,004	731,374

[1] Includes 83 million acres of forest land in parks, wildlife areas, and other special land uses.

Sources: (*12, 22*) and unpublished material furnished by the Forest Service.

Much of the forest area serves multiple purposes. For example, more than a fifth of the acreage is grazed by livestock, and large acreages are available for recreational use. Forest land provides watershed protection and wildlife habitat, and, excluding the area grazed, the part used primarily for parks and various other special purposes totaled about 493 million acres.

Total forest land acreage is about equally divided between the humid eastern half of the country and the western half, including Alaska. Acreages are particularly large in the Northeast, Appalachian region, and Southeast, where they account for 60–65 percent of all land. Acreages are also relatively large in the Lake States, Delta States, and Pacific region, accounting for 40–50 percent of all land. Acreages in the Mountain region and Alaska are large but make up a smaller proportion of total land area.

About 50 percent of the reserved timberland and other (unproductive) forest land is in the western half of the country, where it accounts for nearly half of all forest land. Much of the remainder is in Alaska, where it accounts for 90 percent of all forest land. In contrast, acreages of reserved timberland and other forest land in the Eastern States are small (*22*).

Estimates of total forest land increased from 721 million acres in 1982 to 731 million in 1987. Practically all of that increase was due to a 10-million-acre increase in the estimated forest land in the interior of Alaska. However, when areas in parks or other special uses were subtracted, the remaining forest-use land continued to decline. A Forest Service analysis of changes during 1962–77 noted a sizable decline in the timberland acreage (*11*). The decrease, attributable to clearing for crops and pasture, urbanization, and highway and reservoir construction, occurred when little open land was reverting to forest. The 1987 estimate of total forest land was down less than 1 percent from the 1977 estimate.

Special and Miscellaneous Other Uses

Land for special uses, including rural highway, road, and railroad rights-of-way, and parks and related recreational areas, comprised 271 million acres in 1987 (table 13). Rural transportation areas accounted for 26 million acres, about 10 percent of the total. National and State parks and related areas totaled 128 million acres. An additional 96 million acres were administered by Federal and State wildlife agencies, and about 21 million acres have been set aside for defense and atomic energy purposes.

Acreage used for transportation, recreation, wildlife, and other special uses increased from 113 million acres in 1959 to 271 million in 1987. This net increase resulted from an increase of less than 1 million acres in transportation uses, a collective increase of nearly 164 million acres in recreation and wildlife areas, and a decrease of more than 5 million acres in national defense and related areas. Transportation areas increased somewhat more than indicated, but some land in this category was reclassified from rural to urban as urban areas expanded.

Table 13—Changes in special uses of land

Special-use areas	1959[1]	1978[2]	1987[3]	Change, 1978–87
	Million acres			
Nonagricultural:				
Intensive uses	25.0	26.7	25.7	−1.0
Highways and roads	20.2	21.5	21.2	−.3
Railroads	3.4	3.0	2.3	−.7
Airports	1.4	2.2	2.2	0
Extensive uses	87.7	122.8	245.8	123.0
National and State parks	29.7	38.5	96.0	57.5
Wilderness and primitive areas	14.5	18.1	32.5	14.4
Federal and State wildlife areas	17.2	41.3	96.4	55.1
National defense and industrial areas	26.3	24.9	20.9	−4.0
Agricultural:				
Farmsteads, farm roads, and lanes	10.1	8.4	7.1	−1.3
Total	122.8	157.9	278.6	120.7

[1] Based on (*25*).
[2] Based on (*4*).
[3] Definitions and procedures are given in footnotes to app. table 4, showing special-use areas by State.

Land for special uses, like that used for agricultural purposes and forestry, is distributed very unevenly. Rural transportation areas reflect the influence of both population densities and historical land settlement patterns. Acreages in parks, wildlife areas, and, to a lesser extent, national defense areas are concentrated in the Western States and Alaska, where large public domain holdings have been set aside, and in the less productive areas of the East.

Many areas, particularly in the national park and wilderness systems, were selected because of specific or unique site characteristics. Some State parks and wildlife areas entered State ownership almost by chance and then were designated to a specific use. National defense areas differ mainly in that location counted most in the selection process, and much of the land is characterized by high value and intensive use.

Neither the 121-million-acre increase during 1978–87 nor the 156-million-acre increase during 1959–87 included much land of cropland quality, although some

rangeland was involved. Relatively little of the land used primarily for recreation and wildlife purposes was previously used for intensive agriculture (app. table 4). Of the 225 million acres used for recreation and wildlife purposes in 1987, 23 percent was in the Mountain and Pacific regions and 62 percent was in Alaska. Much of this land was withdrawn from the public domain (that is, it was reserved for specific uses) and included such rugged areas as the Mt. McKinley, Grand Canyon, Yellowstone, and Yosemite National Parks. An additional 10 percent spans forested or wetland areas east of the Rockies, including New York, Pennsylvania, Minnesota, Tennessee, and Florida.

The above totals exclude acreage in urban use, the most important special use of land in terms of impact on cropland supplies. Appendix table 7 contains estimates of acreage in urban areas developed by the Bureau of the Census in conjunction with the 1960, 1970, and 1980 decennial censuses of population. Urban area is not incorporated as a mutually exclusive category in this land use inventory, but is considered a major portion of miscellaneous other uses. The census data show a total of 47 million acres of urban land in 1980 as defined by the Bureau of the Census (urbanized areas plus places of 2,500 or more inhabitants outside urbanized areas) and an average annual increase of 1.3 million acres during 1970–80. Both are generous measures because they include substantial acreages of essentially rural land.

A second measure of urban area is available from the 1982 National Resources Inventory (NRI) conducted by USDA's Soil Conservation Service. Under a somewhat different definition, the area classified as urban and built-up in this survey totaled 47 million acres (*15*). Urban area statistics are not yet available from the 1987 NRI, which separate urban and built-up areas from other "developed" land uses or from the 1990 Census of Population.

Appendix table 7 shows estimates of urban land, by State and region, taking into account the historic use of land per capita in urban areas and the 1987 population. The estimated total of more than 57 million acres of urban land points to an increase averaging 1.3 million acres per year since 1980. However, Vesterby and Brooks published a more detailed study of land use change which estimated that 740,000 acres per year were converted to urban uses during the 1970's (*21*). This estimate did not include land in nonurban uses encompassed in urban areas. Therefore, the land encompassed in Census urban areas may significantly overestimate the land in urban uses.

Except for land in urban places, the remaining 282 million acres of the Nation's land area consist largely of marshes, open swamps, desert, tundra, and minor acreages in special uses that were not inventoried. Acreages of this unclassified land are relatively large in arid portions of the West and several Atlantic and gulf coastal areas, and are particularly large in Alaska, which has 134 million acres, 48 percent of the total.

Major Uses of Land, by Class of Ownership

Due to recent and ongoing shifts in ownership and classification of land in Alaska, data and information conflict, especially among Federal, State, and private ownership. So, the analysis of major uses of land by class of ownership was limited to the conterminous 48 States. More than 20 percent of the land area of the conterminous States is federally owned, nearly 70 percent is privately owned, and the remainder is owned by State and local governments or is Indian trust land (table 14). These proportions change only gradually over time.

Federal land, totaling 405 million acres in the 48 States, includes 344 million acres of the originally much larger public domain and 61 million acquired by purchase and other means. Nearly 66 percent of the total is in the Mountain region and another 22 percent is in the Pacific region.

An estimated 144 million acres of Federal grassland and 20–25 percent of Federal forest land are used for grazing. Livestock can graze about 60 million additional acres, mainly forest land, which has little value as pasture but is intermingled and managed with the productive Federal range. Federal land also includes

Table 14—Ownership and use of land, by major categories, 1987

Ownership	Cropland	Grassland pasture and range	Forest land[1]	Special uses and miscellaneous land[2]	Total land area[3]
	Million acres				
Federal	—	144	174	87	405
State and other public	2	41	34	35	112
Indian[4]	3	33	13	4	53
Private	459	371	380	116	1,326
Total[3]	464	589	601	242	1,896

— = Less than 500,000 acres.
[1] Includes reserved forest land in parks and other special uses.
[2] Excludes an estimated 43 million acres in special uses that have forest cover and, therefore, are included with forest land in this report.
[3] Conterminous 48 States.
[4] Managed in trust by the Bureau of Indian Affairs.

Sources: Federal, State, and local government and Indian land acreages are approximations based on public records and reports. Private land is the remainder of the land in each use category.

forest land (excluding forest land grazed), land for various special uses, and miscellaneous other land, such as marshes, open swamps, bare rock areas, desert, and special uses not inventoried.

State and local governments have accumulated landholdings of various sizes by means of grants from the Federal Government, tax reversions, purchases, gifts, and escheats. These publicly administered areas are distributed throughout the Nation somewhat more evenly than is Federal land but are still highly concentrated in the Western States. State and local governments hold land for forests, parks, wildlife refuges, highways and roads, institutional uses, and other specific purposes. Most Western States also own relatively large acreages for income-producing purposes. About 43 million acres in this category, including 41 million acres of grassland or other nonforested range, are used for grazing.

The Bureau of Indian Affairs manages 53 million acres in trust for Indian tribes and individuals. Like Federal and State land, most Indian land is concentrated in the Western States and about 33 million acres is grazed forest land. A small acreage is used for crop production.

Private land, except that in Indian ownership, totaled more than 1.3 billion acres, about 70 percent of the land in the 48 States. Included in the privately owned total is 99 percent of the Nation's cropland, 63 percent of the grassland pasture and range, 63 percent of the forest land, and 48 percent of the miscellaneous land. These proportions reflect the selective transfer of the better agricultural lands from Federal ownership under historic Federal land-disposal practices.

Acreages in table 14 do not reflect multiple or alternative uses of land. In addition to the 589 million acres of grassland pasture and range, 65 million acres of cropland and approximately 155 million acres of forest land are used for grazing. Substantial acreages of forest land are used for recreation, wildlife, and similar purposes.

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Appendix: Definitions and Explanation of the Data

I have used the most current estimates of major land uses from a series of land use inventories based on available statistics compiled by ERS and its predecessor agencies. This series extends back more than 50 years and, since 1945, has been generally comparable in categories and area coverage. These periodic inventories are useful because numerous public agencies develop land use data, but no single agency accounts for the use of all land in the country. The inventories provide a framework within which changes in the supply and demand for land for agricultural and other purposes can be measured and analyzed.

The estimates, with few exceptions, were synthesized or otherwise adapted, modified, or adjusted from available data, rather than used exactly as developed by source agencies. This process is necessary because land use data, regardless of origin or utility for specific purposes, have limitations for comprehensive inventory purposes. The data are typically obtained from surveys differing greatly in scope, methods, definitions, and other characteristics. The individual sources account for only one or a few uses and for only a limited part of the total land area. The available data contain conflicts and overlap that must be reconciled or removed.

Definitions and explanations of the various land use categories are:

Cropland—Total cropland includes five components: cropland harvested, crop failure, cultivated summer fallow, cropland used only for pasture, and idle cropland. The estimate of total cropland in 1987 includes total cropland as reported by the *1987 Census of Agriculture* (*18*) plus an upward adjustment of about 4 percent (except for the cropland pasture component) to conform with data on principal crops harvested reported by the National Agricultural Statistics Service (NASS).

Cropland harvested includes intertilled and closely sown crops; tree fruits, small fruits, and planted tree nuts; and wild hay. Farmers double-cropped about 3 percent of this acreage.

Crop failure consists mainly of the acreage on which crops failed because of weather, insects, and diseases, but includes some land not harvested due to lack of labor, low market prices, or other factors. The acreage planted to cover and soil improvement crops not intended for harvest is excluded. In recent years, crops have failed on about 2–3 percent of the acreage planted for harvest.

Cultivated summer fallow refers to cropland in subhumid regions of the West cultivated for a season or more to control weeds and accumulate moisture before small grains are planted. This practice is optional in some areas, but it is a requirement for crop production in the drier cropland areas of the West. Other types of fallow, such as cropland planted to soil improvement crops but not harvested and cropland left idle all year, are not included in cultivated summer fallow.

Cropland used only for pasture generally is considered to be in long-term crop rotation. However, some land classed as cropland pasture is marginal for crop uses and may remain in pasture indefinitely. This category also includes land that was used for pasture before crops reached 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.

Land idled under annual Federal crop programs could have been pastured except during a 5-month period between April 1 and October 31 designated by the State Agricultural Stabilization and Conservation (ASC) Committee. If such acreage conservation reserve or conservation use acres were pastured, the Census requested that they be reported as cropland pasture. Land in the CRP could not be pastured.

Idle cropland includes land in cover and soil improvement crops and completely idle cropland. Some cropland is idle each year for various physical and economic reasons. Acreages diverted from crops to soil-conserving uses (if not eligible for and used as cropland pasture) under Federal farm programs are included in this component.

Cropland used for crops—Three of the cropland acreage components—cropland harvested, crop failure, and cultivated summer fallow—are collectively termed cropland used for crops, or the land input to crop production. Regional acreages in these components are developed annually in separate but coordinated series (*10*). The annual estimates of cropland harvested are based on both census data and the series on principal crops harvested maintained by NASS. Annual estimates of crop failure are based on differences in planted and harvested acreages of principal crops from the NASS series. Annual estimates of cultivated summer fallow historically have been based on fragmentary data from a variety of sources. More recently, they have been based on data from the Census of Agriculture and unpublished NASS data.

Grassland pasture and range—Grassland pasture and range comprise all open land used primarily for pasture and grazing, including shrub and brushland types of pasture and grazing land like sagebrush and scattered mesquite, and all tame and native grasses, legumes, and other forage used for pasture or grazing. Because of the diversity in vegetative composition, grassland pasture and range are not always clearly distinguishable from other types of pasture and range. At one extreme, permanent grassland may merge with cropland pasture, or grassland may often intermingle or form transitional areas with forested grazing land.

No single agency accounts for all land used for pasture and range. The estimates in this report are composites of data from the Census of Agriculture, Bureau of Land Management, Forest Service, Soil Conservation Service, and several other Federal agencies. The 591 million acres classed as grassland pasture and range in 1987 included 410 million acres in farms, made up of about 395 million acres of non-Federal land and 15 million acres of Federal land, plus 178 million acres not in farms, comprised of 134 million acres of Federal and 42 million acres of non-Federal land. All of these acreages except the 410 million acres in farms are estimates or approximations.

Forest land grazed—Forested pasture and range consist mainly of forest, brushgrown pasture, arid woodlands, and other areas within forested areas that have grass or other forage growth. The total acreage of forested grazing land includes woodland pasture in farms plus rough estimates of forested grazing land not in farms. For many States, the estimates include significant areas grazed only lightly or sporadically.

The Census of Agriculture and the Forest Service are the principal sources of data. Historical data from these and other sources were useful in developing the approximations.

Forest land—As defined by the Forest Service, forest land includes land at least 10 percent stocked by trees of any size, including land that formerly had such tree cover and that will be naturally or artificially regenerated. Forest land includes transition zones, such as areas between heavily forested and nonforested lands that are at least 10 percent stocked with forest trees and forest areas adjacent to urban and built-up lands. Also included are pinyon-juniper and chaparral areas in the West and afforested areas (*22*, p. 3). There are a number of components to total forest land, a few of which are described below.

Forest-use land—A modified total used in this inventory of 648 million acres of forest land that excludes an estimated 83 million acres in parks, wildlife areas, and similar special-purpose uses. To eliminate all overlap with other uses that exist because of multiple use is not feasible, but this reduced area is a more realistic approximation of the land that may be expected to serve normal forest uses as opposed to having forest cover. Forest-use land includes forested grazing land in this report.

Timberland—Forest land that is producing or is capable of producing crops (in excess of 20 cubic feet per acre per year) of industrial wood and not withdrawn from timber utilization by statute or administrative regulation (*22*, p. 9).

Reserved timberland—Forest land that would otherwise be classified as timberland except that it is withdrawn from timber utilization by statute or administrative regulation (*22*, p. 8).

Other forest land—Forest land other than timberland and reserved timberland. It includes available and reserved unproductive forest land, which is incapable of producing annually 20 cubic feet per acre of industrial wood under natural conditions because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness (*22*, p. 7).

The Forest Service conducts a continuous, rather than periodic, survey of forest resources. At any time, the forest area data for individual States may vary in age by several years. This characteristic hampers estimates of other areas, especially pasture and range. However, these forest area data provide a good overall measure of forest area and are very useful in explaining changes and trends in land use. Forest land is given less emphasis than cropland and pasture in this report because the Forest Service periodically analyzes the Nation's forest resources in considerable detail.

Special-use areas—Special uses in this report include areas in highway, road, and railroad rights-of-way and airports; Federal and State parks, wilderness areas, and wildlife refuges; and national defense and industrial areas. Estimates of the area in special uses were made because some of these uses affect the supply of agricultural land and all help account for changes in land use. The sources and procedures used in developing these estimates are outlined in footnotes to appendix table 4.

Miscellaneous other land—Includes urban areas; miscellaneous special uses such as industrial and commercial sites in rural areas, cemeteries, golf courses, mining areas, and quarry sites; and marshes, swamps, sand dunes, bare rocks, deserts, tundra, and other unclassified land.

Appendix table 1—Major uses of land, by region and State, 1987

Region and State	Cropland[1]	Grassland pasture & range[2]	Forest-use land[3]	Special uses[4]	Other land[5]	Total land area[6]
			1,000 acres			
Northeast	15,707	2,777	69,020	9,827	14,399	111,730
Maine	577	72	17,437	429	1,322	19,837
New Hampshire	147	50	4,803	263	493	5,756
Vermont	655	200	4,424	422	234	5,935
Massachusetts	271	45	3,010	557	1,125	5,008
Rhode Island	29	3	391	59	193	675
Connecticut	207	47	1,776	311	777	3,118
New York	5,254	1,005	16,226	3,898	3,938	30,321
New Jersey	652	35	1,914	712	1,466	4,779
Pennsylvania	5,552	1,093	16,189	2,409	3,485	28,728
Delaware	549	12	388	113	175	1,237
Maryland	1,814	215	2,462	654	1,151	6,296
District of Columbia	0	0	0	0	40	40
Lake States	42,393	5,471	46,227	12,203	15,901	122,195
Michigan	8,381	1,731	17,597	2,488	6,254	36,451
Wisconsin	10,590	2,079	15,058	2,150	4,956	34,833
Minnesota	23,422	1,661	13,572	7,565	4,691	50,911
Corn Belt	99,636	12,843	29,119	7,338	15,859	164,795
Ohio	12,373	1,502	7,141	1,184	4,043	26,243
Indiana	13,641	1,326	4,296	966	2,767	22,996
Illinois	25,197	1,668	4,030	1,881	2,837	35,613
Iowa	27,981	1,882	1,460	1,564	2,931	35,818
Missouri	20,444	6,465	12,192	1,743	3,281	44,125
Northern Plains	109,613	67,138	3,918	6,339	7,343	194,351
North Dakota	29,427	11,187	460	1,601	1,677	44,352
South Dakota	21,618	22,261	1,552	1,521	1,657	48,609
Nebraska	24,225	20,435	699	1,514	2,179	49,052
Kansas	34,343	13,255	1,207	1,703	1,830	52,338
Appalachian	29,451	6,558	70,469	7,410	9,945	123,833
Virginia	4,613	1,773	15,497	1,449	2,078	25,410
West Virginia	1,419	476	11,799	683	1,059	15,436
North Carolina	6,001	1,210	18,401	2,118	3,530	31,260
Kentucky	9,625	1,653	11,909	1,006	1,195	25,388
Tennessee	7,793	1,446	12,863	2,154	2,083	26,339
Southeast	18,290	10,044	73,500	8,630	13,171	123,635
South Carolina	3,192	422	12,179	1,124	2,413	19,330
Georgia	6,431	1,895	23,402	1,625	3,803	37,156
Florida	3,864	5,792	16,260	4,505	4,237	34,658
Alabama	4,803	1,935	21,659	1,376	2,718	32,491
Delta States	23,888	7,307	47,443	3,566	9,849	92,053
Mississippi	7,792	2,287	16,674	880	2,596	30,229
Arkansas	10,188	2,950	16,896	1,368	1,928	33,330
Louisiana	5,908	2,070	13,873	1,318	5,325	28,494
Southern Plains	52,337	122,410	20,506	6,011	10,366	211,630
Oklahoma	15,874	17,754	6,970	1,330	2,011	43,939
Texas	36,463	104,656	13,536	4,681	8,355	167,691

See footnotes at end of table.

continued—

Appendix table 1—Major uses of land, by region and State, 1987—Continued

Region and State	Cropland[1]	Grassland pasture & range[2]	Forest-use land[3]	Special uses[4]	Other land[5]	Total land area[6]
			1,000 acres			
Mountain	47,029	302,263	117,425	48,975	31,632	547,324
Montana	18,264	47,139	18,709	6,145	2,791	93,048
Idaho	6,963	19,943	17,767	5,278	2,793	52,744
Wyoming	2,948	45,146	5,552	6,293	2,134	62,073
Colorado	11,912	27,898	18,837	4,795	2,859	66,301
New Mexico	2,439	51,818	17,127	3,647	2,623	77,654
Arizona	1,547	41,504	17,257	9,849	2,488	72,645
Utah	2,104	23,080	14,793	5,451	7,099	52,527
Nevada	852	45,735	7,383	7,517	8,845	70,332
Pacific	25,236	51,981	80,576	24,974	21,389	204,156
Washington	8,365	7,235	17,857	6,637	2,473	42,567
Oregon	5,384	22,913	26,278	3,568	3,415	61,558
California	11,487	21,833	36,441	14,769	15,501	100,031
48 States	463,580	588,792	558,203	135,273	149,854	1,895,702
Alaska	77	1,209	88,643	142,520	132,884	365,333
Hawaii	344	1,082	1,318	806	562	4,112
United States	464,001	591,083	648,164	278,599	283,300	2,265,147

[1] Total acreage in the crop rotation.
[2] Grassland and other nonforested pasture and range in farms excluding cropland used only for pasture, plus estimates of open or nonforested grazing land not in farms.
[3] Excludes an estimated 83 million acres of forest land in parks and other special uses of land.
[4] Transportation, recreation, and other special uses of land specified in app. table 4.
[5] Miscellaneous areas such as marshes, open swamps, bare rock areas, deserts, and urban and other special uses not inventoried.
[6] Approximate land area as established by the Bureau of the Census in conjunction with the 1980 Census of Population (*19*). Includes all dryland and land temporarily or partially covered with water, such as marshland, swamps, and river floodplains; streams, sloughs, estuaries, and canals less than one-eighth mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

Appendix table 2—Major uses of cropland, by region and State, 1987

Region and State	Crops[1]	Idle[2]	Pasture[3]	Total
		1,000 acres		
Northeast	11,765	1,641	2,301	15,707
Maine	390	100	87	577
New Hampshire	107	9	31	147
Vermont	438	29	188	655
Massachusetts	196	22	53	271
Rhode Island	21	3	5	29
Connecticut	152	15	40	207
New York	3,802	630	822	5,254
New Jersey	499	80	73	652
Pennsylvania	4,240	509	803	5,552
Delaware	493	46	10	549
Maryland	1,427	198	189	1,814
Lake States	32,164	7,426	2,803	42,393
Michigan	6,403	1,459	519	8,381
Wisconsin	8,251	1,177	1,162	10,590
Minnesota	17,510	4,790	1,122	23,422
Corn Belt	73,546	15,700	10,390	99,636
Ohio	9,689	1,742	942	12,373
Indiana	10,711	2,183	747	13,641
Illinois	20,167	4,009	1,021	25,197
Iowa	20,656	5,041	2,284	27,981
Missouri	12,323	2,725	5,396	20,444
Northern Plains	87,266	12,386	9,961	109,613
North Dakota	25,464	2,441	1,522	29,427
South Dakota	17,022	2,207	2,389	21,618
Nebraska	18,000	3,660	2,565	24,225
Kansas	26,780	4,078	3,485	34,343
Appalachian	16,448	4,255	8,748	29,451
Virginia	2,671	493	1,449	4,613
West Virginia	678	99	642	1,419
North Carolina	4,070	1,148	783	6,001
Kentucky	4,751	1,472	3,402	9,625
Tennessee	4,278	1,043	2,472	7,793
Southeast	10,359	3,862	4,069	18,290
South Carolina	1,942	786	464	3,192
Georgia	3,747	1,539	1,145	6,431
Florida	2,300	560	1,004	3,864
Alabama	2,370	977	1,456	4,803
Delta States	15,573	4,304	4,011	23,888
Mississippi	4,941	1,607	1,244	7,792
Arkansas	6,698	1,552	1,938	10,188
Louisiana	3,934	1,145	829	5,908
Southern Plains	29,113	8,610	14,614	52,337
Oklahoma	9,565	1,876	4,433	15,874
Texas	19,548	6,734	10,181	36,463

See footnotes at end of table.

continued—

Appendix table 2—Major uses of cropland, by region and State, 1987—Continued

Region and State	Crops[1]	Idle[2]	Pasture[3]	Total
		1,000 acres		
Mountain	35,391	6,376	5,262	47,029
Montana	15,321	1,651	1,292	18,264
Idaho	5,102	1,045	816	6,963
Wyoming	2,150	248	550	2,948
Colorado	8,684	2,058	1,170	11,912
New Mexico	1,217	665	557	2,439
Arizona	1,056	351	140	1,547
Utah	1,278	298	528	2,104
Nevada	583	60	209	852
Pacific	19,059	3,402	2,775	25,236
Washington	6,675	1,111	579	8,365
Oregon	3,695	831	858	5,384
California	8,689	1,460	1,338	11,487
48 States	330,684	67,962	64,934	463,580
Alaska	31	40	6	77
Hawaii	162	141	41	344
United States	330,877	68,143	64,981	464,001

[1] Includes cropland harvested, crop failure, and cultivated summer fallow. Estimates based on (*13*, *18*).
[2] Estimates based on (*13*, *18*).
[3] As reported in (*18*).

Appendix table 3—Total pasture and range, by region and State, 1987

Region and State	Grassland pasture and range			Forest land grazed[3]	Total pasture and range
	Cropland pasture[1]	Grassland and other pasture and range[2]	Total		
			1,000 acres		
Northeast	2,301	2,777	5,078	1,668	6,746
Maine	87	72	159	91	250
New Hampshire	31	50	81	45	126
Vermont	188	200	388	276	664
Massachusetts	53	45	98	44	142
Rhode Island	5	3	8	5	13
Connecticut	40	47	87	39	126
New York	822	1,005	1,827	592	2,419
New Jersey	73	35	108	19	127
Pennsylvania	803	1,093	1,896	448	2,344
Delaware	10	12	22	10	32
Maryland	189	215	404	99	503
Lake States	2,803	5,471	8,274	3,013	11,287
Michigan	519	1,731	2,250	384	2,634
Wisconsin	1,162	2,079	3,241	1,393	4,634
Minnesota	1,122	1,661	2,783	1,236	4,019
Corn Belt	10,390	12,843	23,233	6,563	29,796
Ohio	942	1,502	2,444	629	3,073
Indiana	747	1,326	2,073	596	2,669
Illinois	1,021	1,668	2,689	991	3,680
Iowa	2,284	1,882	4,166	1,180	5,346
Missouri	5,396	6,465	11,861	3,167	15,028
Northern Plains	9,961	67,138	77,099	1,850	78,949
North Dakota	1,522	11,187	12,709	284	12,993
South Dakota	2,389	22,261	24,650	682	25,332
Nebraska	2,565	20,435	23,000	469	23,469
Kansas	3,485	13,255	16,740	415	17,155
Appalachian	8,748	6,558	15,306	5,011	20,317
Virginia	1,449	1,773	3,222	1,022	4,244
West Virginia	642	476	1,118	782	1,900
North Carolina	783	1,210	1,993	679	2,672
Kentucky	3,402	1,653	5,055	1,217	6,272
Tennessee	2,472	1,446	3,918	1,311	5,229
Southeast	4,069	10,044	14,113	9,713	23,826
South Carolina	464	422	886	529	1,415
Georgia	1,145	1,895	3,040	1,303	4,343
Florida	1,004	5,792	6,796	6,187	12,983
Alabama	1,456	1,935	3,391	1,694	5,085
Delta States	4,011	7,307	11,318	16,499	27,817
Mississippi	1,244	2,287	3,531	5,494	9,025
Arkansas	1,938	2,950	4,888	4,898	9,786
Louisiana	829	2,070	2,899	6,107	9,006
Southern Plains	14,614	122,410	137,024	13,430	150,454
Oklahoma	4,433	17,754	22,187	5,995	28,182
Texas	10,181	104,656	114,837	7,435	122,272

See footnotes at end of table.

continued—

Appendix table 3—Total pasture and range, by region and State, 1987—Continued

Region and State	Grassland pasture and range			Forest land grazed[3]	Total pasture and range
	Cropland pasture[1]	Grassland and other pasture and range[2]	Total		
			1,000 acres		
Mountain	5,262	302,263	307,525	68,642	376,167
Montana	1,292	47,139	48,431	6,953	55,384
Idaho	816	19,943	20,759	4,868	25,627
Wyoming	550	45,146	45,696	3,680	49,376
Colorado	1,170	27,898	29,068	11,858	40,926
New Mexico	557	51,818	52,375	10,579	62,954
Arizona	140	41,504	41,644	13,397	55,041
Utah	528	23,080	23,608	10,962	34,570
Nevada	209	45,735	45,944	6,345	52,289
Pacific	2,775	51,981	54,756	28,163	82,919
Washington	579	7,235	7,814	3,553	11,367
Oregon	858	22,913	23,771	11,859	35,630
California	1,338	21,833	23,171	12,751	35,922
48 States	64,934	588,792	653,726	154,552	808,278
Alaska	6	1,209	1,215	57	1,272
Hawaii	41	1,082	1,123	414	1,537
United States	64,981	591,083	656,064	155,023	811,087

[1] As reported in (*18*).
[2] Grassland and other nonforested pasture and range in farms (*18*) plus estimates of open or nonforested grazing land not in farms.
[3] Woodland grazed in farms (*18*) plus an approximation of forested grazing land not in farms.

Appendix table 4—Land in special-use areas, by region and State, 1987

Region and State	Rural transportation areas[1]	Rural parks[2]	Wildlife areas[3]	Defense and industrial areas[4]	Farmsteads, farm roads, and lanes[5]	Total
			1,000 acres			
Northeast	1,944	5,120	1,995	445	323	9,827
Maine	173	158	64	18	16	429
New Hampshire	92	142	16	7	6	263
Vermont	72	238	86	12	14	422
Massachusetts	132	322	69	20	14	557
Rhode Island	15	9	30	3	2	59
Connecticut	89	189	23	2	8	311
New York	485	3,013	141	162	97	3,898
New Jersey	92	353	177	71	19	712
Pennsylvania	665	392	1,211	29	112	2,409
Delaware	37	18	47	4	7	113
Maryland	92	286	131	117	28	654
Lake States	2,997	5,825	2,614	28	739	12,203
Michigan	885	1,061	353	16	173	2,488
Wisconsin	906	285	695	8	256	2,150
Minnesota	1,206	4,479	1,566	4	310	7,565
Corn Belt	3,626	977	908	322	1,505	7,338
Ohio	529	226	132	42	255	1,184
Indiana	457	81	56	142	230	966
Illinois	1,051	363	120	53	294	1,881
Iowa	890	54	233	19	368	1,564
Missouri	699	253	367	66	358	1,743
Northern Plains	3,469	685	1,073	206	906	6,339
North Dakota	819	88	489	13	192	1,601
South Dakota	656	397	284	8	176	1,521
Nebraska	861	162	217	22	252	1,514
Kansas	1,133	38	83	163	286	1,703
Appalachian	2,042	2,114	1,719	861	674	7,410
Virginia	318	448	266	276	141	1,449
West Virginia	193	349	77	0	64	683
North Carolina	619	612	442	301	144	2,118
Kentucky	451	153	61	164	177	1,006
Tennessee	461	552	873	120	148	2,154
Southeast	2,237	3,086	1,488	1,366	453	8,630
South Carolina	455	117	182	286	84	1,124
Georgia	539	214	497	272	103	1,625
Florida	660	2,681	375	677	112	4,505
Alabama	583	74	434	131	154	1,376
Delta States	1,185	479	1,265	143	494	3,566
Mississippi	385	148	148	17	182	880
Arkansas	417	264	482	22	183	1,368
Louisiana	383	67	635	104	129	1,318
Southern Plains	2,333	1,510	677	570	921	6,011
Oklahoma	634	105	207	134	250	1,330
Texas	1,699	1,405	470	436	671	4,681

See footnotes at end of table.

continued—

Appendix table 4—Land in special-use areas, by region and State, 1987—Continued

Region and State	Rural transportation areas[1]	Rural parks[2]	Wildlife areas[3]	Defense and industrial areas[4]	Farmsteads, farm roads, and lanes[5]	Total
			1,000 acres			
Mountain	3,308	27,768	6,024	11,309	566	48,975
Montana	620	4,697	696	6	126	6,145
Idaho	279	4,094	124	683	98	5,278
Wyoming	452	5,597	186	8	50	6,293
Colorado	585	3,477	299	316	118	4,795
New Mexico	349	1,769	464	1,012	53	3,647
Arizona	393	4,180	1,586	3,649	41	9,849
Utah	282	2,967	411	1,739	52	5,451
Nevada	348	987	2,258	3,896	28	7,517
Pacific	2,018	17,322	1,418	3,692	524	24,974
Washington	480	4,757	496	785	119	6,637
Oregon	450	2,365	621	18	114	3,568
California	1,088	10,200	301	2,889	291	14,769
48 States	25,159	64,886	19,181	18,942	7,105	135,273
Alaska	493	63,272	76,937	1,816	2	142,520
Hawaii	44	295	287	159	21	806
United States	25,696	128,453	96,405	20,917	7,128	278,599

[1] Includes rural highways and roads, railroads, and airports. Estimates for highways were derived by applying average right-of-way widths to the mileage in different highway systems reported by the Federal Highway Administration. Estimates of acreage in railroad rights-of-way are based on State-by-State changes in mileage reported by the Interstate Commerce Commission. Estimates of acreage in airports based on information on active airports supplied by the Federal Aviation Administration. Excludes airports used strictly for personal or military use.

[2] Areas in national and State park systems and national forest wilderness and primitive areas plus about 2.7 million acres in New York classified as State forest preserves. Generally excludes parks in urban places and large water bodies. Based on data from reports and records of the National Park Service, Forest Service, and State agencies.

[3] Areas administered by the U.S. Fish and Wildlife Service and State wildlife agencies. Does not include Federal areas under the primary jurisdiction of another agency or areas leased for wildlife purposes. Data on Federal areas are from reports and records of the U.S. Fish and Wildlife Service. State estimates mainly are acreages compiled by the Council on Environmental Quality updated through 1986 with acreages acquired through the Dingell-Johnson and Pittman-Robertson programs of Federal assistance.

[4] As reported by the U.S. General Services Administration, 1988. Includes land administered by the U.S. Department of Defense for defense purposes (18.8 million acres) and land administered by the U.S. Department of Energy (2.1 million acres).

[5] Estimates calculated on the basis of State-by-State number of farms and acreage of unclassified land in farms.

Appendix table 5—Total forest land, by major class, by region and State, 1987

Region and State	Timberland			Reserved timberland and other forest land[1]	Total forest land		
	Federal	Non-Federal	Total		Federal	Non-Federal	Total
				1,000 acres			
Northeast	1,866	66,437	68,303	5,008	2,137	71,174	73,311
Maine	76	17,098	17,174	539	108	17,605	17,713
New Hampshire	536	4,267	4,803	218	734	4,287	5,021
Vermont	251	4,173	4,424	55	286	4,193	4,479
Massachusetts	40	2,970	3,010	87	40	3,057	3,097
Rhode Island	3	365	368	31	3	396	399
Connecticut	16	1,760	1,776	39	16	1,799	1,815
New York	123	15,675	15,798	2,977	123	18,652	18,775
New Jersey	246	1,668	1,914	71	246	1,739	1,985
Pennsylvania	553	15,633	16,186	811	556	16,441	16,997
Delaware	0	388	388	10	3	395	398
Maryland	22	2,440	2,462	170	22	2,610	2,632
Lake States	5,765	39,897	45,662	4,460	7,257	42,865	50,122
Michigan	2,520	14,844	17,364	856	2,820	15,400	18,220
Wisconsin	1,419	13,307	14,726	593	1,588	13,731	15,319
Minnesota	1,826	11,746	13,572	3,011	2,849	13,734	16,583
Corn Belt	2,225	26,697	28,922	1,176	2,439	27,659	30,098
Ohio	171	6,970	7,141	168	171	7,138	7,309
Indiana	329	3,967	4,296	143	358	4,081	4,439
Illinois	292	3,738	4,030	235	314	3,951	4,265
Iowa	43	1,417	1,460	102	77	1,485	1,562
Missouri	1,390	10,605	11,995	528	1,519	11,004	12,523
Northern Plains	993	2,536	3,529	698	1,101	3,126	4,227
North Dakota	12	326	338	122	22	438	460
South Dakota	915	532	1,447	240	986	701	1,687
Nebraska	29	508	537	185	42	680	722
Kansas	37	1,170	1,207	151	51	1,307	1,358
Appalachian	5,956	64,385	70,341	1,974	7,575	64,740	72,315
Virginia	1,707	13,728	15,435	533	2,168	13,800	15,968
West Virginia	1,070	10,729	11,799	143	1,116	10,826	11,942
North Carolina	1,365	16,993	18,358	533	1,797	17,094	18,891
Kentucky	856	11,053	11,909	347	1,141	11,115	12,256
Tennessee	958	11,882	12,840	418	1,353	11,905	13,258
Southeast	4,862	67,598	72,460	2,150	6,261	68,349	74,610
South Carolina	913	11,266	12,179	78	974	11,283	12,257
Georgia	1,421	21,963	23,384	523	1,877	22,030	23,907
Florida	1,577	13,661	15,238	1,483	2,393	14,328	16,721
Alabama	951	20,708	21,659	66	1,017	20,708	21,725
Delta States	4,980	42,239	47,219	344	5,107	42,456	47,563
Mississippi	1,488	15,186	16,674	19	1,496	15,197	16,693
Arkansas	2,659	14,014	16,673	314	2,768	14,219	16,987
Louisiana	833	13,039	13,872	11	843	13,040	13,883
Southern Plains	1,172	15,991	17,163	3,776	1,303	19,636	20,939
Oklahoma	464	4,285	4,749	2,534	488	6,795	7,283
Texas	708	11,706	12,414	1,242	815	12,841	13,656

See footnote at end of table.

continued—

Appendix table 5—Total forest land, by major class, by region and State, 1987—Continued

Region and State	Timberland			Reserved timberland and other forest land[1]	Total forest land		
	Federal	Non-Federal	Total		Federal	Non-Federal	Total
				1,000 acres			
Mountain	37,709	19,902	57,611	80,493	94,470	43,634	138,104
Montana	8,742	5,995	14,737	7,173	14,852	7,058	21,910
Idaho	10,310	4,224	14,534	7,284	17,239	4,579	21,818
Wyoming	2,685	1,647	4,332	5,634	7,711	2,255	9,966
Colorado	8,144	3,596	11,740	9,598	14,609	6,729	21,338
New Mexico	2,893	2,287	5,180	13,346	8,532	9,994	18,526
Arizona	2,515	1,274	3,789	15,595	10,516	8,868	19,384
Utah	2,314	764	3,078	13,156	12,616	3,618	16,234
Nevada	106	115	221	8,707	8,395	533	8,928
Pacific	26,539	29,106	55,645	33,647	46,513	42,779	89,292
Washington	5,026	11,823	16,849	5,007	9,054	12,802	21,856
Oregon	12,462	9,622	22,084	5,971	16,251	11,804	28,055
California	9,051	7,661	16,712	22,669	21,208	18,173	39,381
48 States	92,067	374,788	466,855	133,726	174,163	426,418	600,581
Alaska	4,936	10,827	15,763	113,282	38,195	90,850	129,045
Hawaii	0	700	700	1,048	12	1,736	1,748
United States	97,003	386,315	483,318	248,056	212,370	519,004	731,374

[1] Includes 83.4 million acres of forest land in parks, wildlife areas, and other special land uses.

Sources: (*11*, *22*) and unpublished material furnished by the Forest Service.

Appendix table 6—Cropland used for crops, the 48 conterminous States

Year	Cropland harvested[1]	Crop failure	Cultivated summer fallow	Total	Index[2]
	Millon acres				*1977 = 100*
1910	317	9	4	330	87
1911	322	10	5	337	89
1912	320	12	5	337	89
1913	324	11	5	340	90
1914	326	11	5	342	90
1915	332	11	5	348	92
1916	332	11	5	348	92
1917	341	11	5	357	94
1918	353	12	5	370	98
1919	355	14	5	374	99
1920	351	12	5	368	97
1921	350	12	6	368	97
1922	346	13	6	365	97
1923	345	14	6	365	97
1924	346	13	6	365	97
1925	351	12	7	370	98
1926	350	14	8	372	98
1927	349	15	9	373	99
1928	352	14	10	376	99
1929	356	13	10	379	100
1930	360	11	11	382	101
1931	356	17	11	384	101
1932	361	11	12	384	102
1933	331	33	14	378	100
1934	296	64	15	375	99
1935	336	25	16	377	100
1936	314	43	18	375	99
1937	338	21	20	379	100
1938	340	13	19	372	98
1939	321	21	21	363	96
1940	331	16	21	368	97
1941	335	12	20	367	97
1942	339	11	20	370	98
1943	348	12	17	377	100
1944	353	10	16	379	100
1945	345	9	18	372	98
1946	343	8	18	369	98
1947	346	8	19	373	99
1948	348	9	21	378	100
1949	352	9	26	387	102
1950	336	12	29	377	100
1951	336	17	28	381	102
1952	341	11	28	380	100
1953	341	13	26	380	100
1954	339	13	28	380	100
1955	333	16	29	378	100
1956	317	22	30	369	98
1957	316	12	30	358	95
1958	316	9	30	355	94
1959	317	10	31	358	95
1960	317	6	32	355	94

See footnotes at end of table.

continued—

Appendix table 6—Cropland used for crops, the 48 conterminous States—Continued

Year	Cropland harvested[1]	Crop failure	Cultivated summer fallow	Total	Index[2]
	Million acres				*1977 = 100*
1961	296	11	33	340	90
1962	287	10	34	331	88
1963	291	10	36	337	89
1964	292	6	37	335	89
1965	292	6	38	336	89
1966	289	5	38	332	88
1967	301	7	32	340	90
1968	296	6	33	335	89
1969	286	6	41	333	88
1970	289	5	38	332	88
1971	300	6	34	340	90
1972	289	7	38	334	88
1973	316	5	31	352	93
1974	322	8	31	361	96
1975	330	6	31	367	97
1976	330	8	31	369	98
1977	338	9	31	378	100
1978	330	7	32	369	97
1979	340	6	32	378	100
1980	341	11	30	382	101
1981	351	6	30	387	102
1982	347	5	31	383	101
1983	294	5	34	333	88
1984	337	6	30	373	99
1985	333	8	31	372	98
1986	316	9	32	357	94
1987	293	6	32	331	88
1988	287	10	30	327	87
1989[3]	306	8	27	341	90
1990[3]	311	6	25	342	90

[1] Land from which one or more crops were harvested.
[2] Computed from unrounded data.
[3] Preliminary.

Sources: Estimates for 1910–84 are from (*7*), for 1985–87 from (*10*), and for 1988–90 from more recent issues of (*10*) or are unpublished revisions.

Appendix table 7—Urban area, by region and State

Region and State	1960[1]	1970[1]	1980[1]	1987 estimate[2]
		1,000 acres		
Northeast	6,573	7,445	9,438	9,945
Maine	556	471	581	612
New Hampshire	310	323	359	412
Vermont	51	41	78	93
Massachusetts	909	1,027	1,286	1,125
Rhode Island	123	172	182	190
Connecticut	574	578	745	770
New York	1,353	1,570	2,058	2,241
New Jersey	1,129	1,212	1,392	1,411
Pennsylvania	1,186	1,450	1,770	1,944
Delaware	53	79	111	134
Maryland	290	483	836	973
District of Columbia	39	39	40[3]	40
Lake States	2,340	2,957	3,741	4,081
Michigan	1,017	1,286	1,540	1,632
Wisconsin	616	766	902	983
Minnesota	707	905	1,299	1,466
Corn Belt	3,861	5,416	6,521	7,365
Ohio	1,415	1,816	2,093	2,286
Indiana	520	829	1,012	1,191
Illinois	992	1,400	1,730	1,905
Iowa	416	573	666	746
Missouri	518	798	1,020	1,237
Northern Plains	463	697	938	1,143
North Dakota	39	62	95	112
South Dakota	62	81	106	126
Nebraska	121	178	232	269
Kansas	241	376	505	636
Appalachian	1,851	2,850	4,395	5,475
Virginia	486	768	1,183	1,404
West Virginia	138	150	200	236
North Carolina	488	688	1,164	1,477
Kentucky	247	404	570	708
Tennessee	492	840	1,278	1,650
Southeast	2,463	3,953	6,311	8,373
South Carolina	267	408	757	1,005
Georgia	612	920	1,454	1,891
Florida	881	1,573	2,617	3,643
Alabama	703	1,052	1,483	1,834
Delta States	918	1,273	1,981	2,416
Mississippi	228	366	580	749
Arkansas	222	384	605	784
Louisiana	468	523	796	883
Southern Plains	2,593	3,684	5,153	6,632
Oklahoma	480	814	1,136	1,471
Texas	2,113	2,870	4,017	5,161

See footnotes at end of table.

continued—

Appendix table 7—Urban area, by region and State—Continued

Region and State	1960[1]	1970[1]	1980[1]	1987 estimate[2]
		1,000 acres		
Mountain	1,133	1,800	2,871	3,723
Montana	54	76	118	142
Idaho	74	105	154	187
Wyoming	36	49	91	111
Colorado	203	343	597	792
New Mexico	184	255	361	471
Arizona	320	463	892	1,194
Utah	190	254	420	526
Nevada	72	255	238	300
Pacific	3,013	4,268	5,503	6,755
Washington	422	607	845	1,012
Oregon	239	333	458	519
California	2,352	3,328	4,200	5,224
48 States	25,208	34,343	46,852	55,908
Alaska	14	68	285	535
Hawaii	278	146	177	199
United States	25,500	34,557	47,314	56,642

[1] Area in the urbanized areas and places of 2,500 or more population outside urbanized areas developed by the Geography Division, Bureau of the Census, and summarized in (*3*).
[2] Based on trends in urban population and land per capita in urban areas.
[3] Minor change here reported by the Bureau of the Census represents measurement and rounding error rather than any real change.

Appendix table 8—Irrigated land in farms, by region and State

Region and State	1949	1959	1969	1978	1987
			1,000 acres		
Northeast	87	206	226	247	326
Maine	3	2	6	7	6
New Hampshire	1	1	2	2	3
Vermont	—	2	—	1	2
Massachusetts	18	20	19	17	20
Rhode Island	2	—	2	3	4
Connecticut	8	5	9	7	7
New York	19	58	55	56	51
New Jersey	28	74	72	77	91
Pennsylvania	7	17	19	15	30
Delaware	—	16	20	34	61
Maryland	1	11	22	28	51
Lake States	28	87	219	732	954
Michigan	14	40	77	226	315
Wisconsin	10	32	106	234	285
Minnesota	4	15	36	272	354
Corn Belt	16	87	284	651	1,037
Ohio	6	12	22	25	32
Indiana	5	17	34	75	170
Illinois	2	10	51	130	208
Iowa	1	18	21	101	92
Missouri	2	30	156	320	535
Northern Plains	1,128	3,004	4,590	8,845	8,675
North Dakota	35	48	63	141	168
South Dakota	78	116	148	335	362
Nebraska	876	2,078	2,857	5,683	5,682
Kansas	139	762	1,522	2,686	2,463
Appalachian	6	117	131	160	296
Virginia	3	31	37	42	79
West Virginia	—	1	3	1	3
North Carolina	2	66	59	90	138
Kentucky	—	8	20	14	38
Tennessee	1	11	12	13	38
Southeast	374	490	1,470	2,533	2,428
South Carolina	6	25	15	32	81
Georgia	3	34	79	463	640
Florida	365	414	1,365	1,980	1,623
Alabama	—	17	11	58	84
Delta States	1,004	1,297	1,862	2,673	3,690
Mississippi	5	100	150	309	637
Arkansas	422	712	1,010	1,683	2,406
Louisiana	577	485	702	681	647
Southern Plains	3,166	5,854	7,412	7,549	4,749
Oklahoma	34	198	524	602	478
Texas	3,132	5,656	6,888	6,947	4,271

See notes at end of table.

continued—

Appendix table 8—Irrigated land in farms, by region and State—Continued

Region and State	1949	1959	1969	1978	1987
			1,000 acres		
Mountain	11,642	12,095	12,799	14,774	13,320
Montana	1,717	1,875	1,841	2,069	1,997
Idaho	2,137	2,577	2,761	3,475	3,219
Wyoming	1,432	1,470	1,523	1,662	1,518
Colorado	2,872	2,685	2,895	3,431	3,014
New Mexico	655	731	823	891	718
Arizona	964	1,152	1,178	1,196	914
Utah	1,138	1,062	1,025	1,169	1,161
Nevada	727	543	753	881	779
Pacific	8,334	9,787	9,983	12,026	10,763
Washington	589	1,007	1,224	1,639	1,519
Oregon	1,307	1,384	1,519	1,881	1,648
California	6,438	7,396	7,240	8,506	7,596
48 States	25,785	33,024	38,976	50,190	46,238
Alaska	—	—	1	1	2
Hawaii	117	141	146	159	149
United States	25,902	33,165	39,123	50,350	46,389

— = Less than 500 acres.

Note: Because of changes in definition and procedures, data are not strictly comparable among census years. Data represent acres actually irrigated in the census year rather than acres that had irrigation potential.

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