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Cattle And Calves Predator Death Loss in the United States, 2005



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A handwritten signature in black ink, appearing to read "L. Granger".

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Introduction

Each January, the U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service (NASS) collects cattle data on inventory, calf crop, and total death losses for State and national estimating programs. Inventory and calf crop estimates (number of head) are published in January, while cattle and calves death losses (number of head) are published annually in April via the "Meat Animals: Production, Disposition and Income" report. For the January 1992, 1996, 2001, and 2006 surveys, USDA's Animal and Plant Health Inspection Service (APHIS) provided funding for a detailed breakdown of total losses for producer-attributed cause of loss occurring the previous year. Death losses (number of head) by cause for predator and nonpredator losses were estimated and subsequently published by NASS (Cattle Death Loss, May 5, 2006).

This report provides additional analysis of cattle and calves losses in 2005 from all causes. Death losses by size group and region are also provided, with special emphasis on predator causes of loss. When possible the 1991, 1995, and 2000 death losses are provided for comparison.

Terms Used In This Report

Beef operation: If an operation had more beef cows than milk cows and milk cows were fewer than five head, the operation was classified as a beef cattle operation.

Cattle: All cows, bulls, steers, and heifers 500 lb or more.

Calves: All bulls, steers, and heifers less than 500 lb.

Dairy operation: If an operation had more milk cows than beef cows and beef cows were fewer than five head, the operation was classified as a dairy cattle operation.

Mixed operation: If an operation had more than five beef cows and more than five milk cows, or if the number of beef cows equaled the number of milk cows, the operation was classified as a mixed operation.

Other operation: Operation that did not meet the criteria to be classified as beef, dairy, or mixed operation.

N/A: Not available.

Regions: The United States was divided into six regions for the purposes of providing data on smaller geographic areas. Alaska is not included because cause-of-loss estimates are not generated for the State.

North Central: Iowa, Minnesota, Nebraska, North Dakota, South Dakota

Northeast: Connecticut, Delaware, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, Wisconsin

Northwest: Idaho, Montana, Oregon, Washington, Wyoming

South Central: Arkansas, Kansas, Missouri, Oklahoma, Texas

Southeast: Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee

Southwest: Arizona, California, Colorado, Hawaii, Nevada, New Mexico, Utah

Operation size: Total number of cows for beef, dairy, and mixed operations.

- **Beef operation** size groups are: 1-49, 50-99, 100-499, and 500 or more head.
- **Dairy operation** size groups are: 1-29, 30-49, 50-99, 100-199, 200-499, and 500 or more head.
- **Mixed operation** size groups are: 1-99, 100-499, and 500 or more head.
- **Other operation** (total number of cattle and calves) size groups are: 1-99 head, 100-499 head, 500-999 and 1,000 or more head.

Section I: Population Estimates—Number of Head

A. U.S. Demographics

1. Inventory—January 1, 1996-2006¹

Number of cattle and calves by year:

Class	January 1 Number (x 1,000)										
	Year										
	1996*	1997	1998	1999*	2000	2001*	2002	2003	2004	2005	2006
All cattle and calves	103,548	101,656	99,744	99,115	98,199	97,298	96,723	96,100	94,888	95,438	96,702
Cattle 500 lb or more	85,164	83,830	82,343	81,825	81,383	81,082	80,971	80,555	79,679	80,188	81,237
Beef cows	35,319	34,458	33,885	33,750	33,575	33,398	33,134	32,983	32,861	32,915	32,994
Dairy cows	9,420	9,318	9,199	9,128	9,183	9,172	9,106	9,142	8,990	9,005	9,063
Heifers, steers, and bulls	40,426	40,054	39,259	38,946	38,625	38,511	38,731	38,430	37,828	38,268	39,180
Calves	18,384	17,826	17,401	17,290	16,816	16,216	15,753	15,545	15,210	15,250	15,465

*Numbers may not add up due to rounding

2. Operations—1995-2005²

a. Number of operations with cattle and calves, beef cows, and milk cows, by year:

	Number Operations										
	Year										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cattle and calves	1,190,630	1,176,700	1,148,050	1,114,650	1,095,560	1,076,370	1,049,170	1,036,430	1,013,570	989,460	982,510
Beef cows	897,660	885,980	872,840	855,460	844,170	831,270	814,520	808,110	792,050	774,930	770,170
Milk cows	139,670	130,980	123,700	117,145	110,855	105,055	97,460	91,240	86,360	81,520	78,300

¹Cattle, NASS, annual January/February report.

²Farms, Land in Farms and Livestock Operations, NASS annual February report.

b. Percentage of operations with beef cows, by size of operation and by year:

Percent Operations													
Size of Operation (Number of Beef Cows)	Year												
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1 to 49	80.7	80.3	79.8	79.4	79.3	79.3	79.0	78.8	78.5	78.4	78.3	77.7	77.5
50 to 99	11.3	11.5	11.8	12.0	12.0	11.9	12.0	12.0	12.1	12.2	12.1	12.3	12.3
100 to 499	7.4	7.6	7.8	8.0	8.1	8.2	8.4	8.5	8.7	8.7	8.9	9.3	9.5
500 or more	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

c. Percentage of operations with dairy cows, by size of operation and by year:

Percent Operations													
Size of Operation (Number of Dairy Cows)	Year												
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1 to 29	37.3	36.1	34.5	32.9	31.6	30.8	29.7	29.3	29.0	28.9	29.0	29.2	28.7
30 to 49	22.2	22.0	22.2	22.3	22.1	21.8	21.7	21.1	20.4	19.8	19.5	19.0	19.0
50 to 99	26.8	27.4	28.1	28.7	29.0	29.1	29.6	29.7	29.8	30.0	29.9	29.5	29.6
100 to 199	9.3	9.8	10.2	10.7	11.3	11.8	11.9	12.2	12.6	12.7	12.7	12.8	12.8
200 or more	4.4	4.7	5.0	5.4	6.0	6.5	7.1	7.7	8.2	8.6	8.9	9.5	9.9
200 to 499	N/A	N/A	N/A	N/A	4.1	4.4	4.8	5.1	5.3	5.4	5.5	5.8	6.0
500 or more	N/A	N/A	N/A	N/A	1.9	2.1	2.3	2.6	2.9	3.2	3.4	3.7	3.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

d. Percentage of beef cow inventory, by size of operation and by year:

Percent Inventory													
Year													
Size of Operation (Number of Beef Cows)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1 to 49	31.7	31.5	31.2	30.8	30.4	30.5	29.9	29.5	29.0	29.0	29.1	28.1	28.0
50 to 99	19.8	19.4	19.2	19.6	19.4	18.8	19.1	19.1	19.1	19.2	19.0	19.1	18.9
100 to 499	33.9	34.6	35.3	35.4	35.9	36.1	36.6	36.7	37.0	37.3	37.5	38.3	38.5
500 or more	14.6	14.5	14.3	14.2	14.3	14.6	14.4	14.7	14.9	14.5	14.4	14.5	14.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

e. Percentage of dairy cow inventory, by size of operation and by year:

Percent Inventory													
Year													
Size of Operation (Number of Dairy Cows)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1 to 29	5.0	4.6	4.0	4.0	3.5	3.6	3.2	2.9	2.7	2.4	2.3	2.1	2.0
30 to 49	14.8	14.0	13.0	12.0	11.5	10.5	10.2	9.1	8.0	7.4	6.9	6.6	6.4
50 to 99	29.2	28.7	28.0	27.0	26.0	24.3	23.3	22.0	20.8	19.6	18.8	17.8	17.1
100 to 199	19.2	19.3	20.0	20.0	20.0	19.3	18.4	18.1	17.2	16.4	15.7	15.1	14.6
200 or more	31.8	33.4	35.0	37.0	39.0	42.3	44.9	47.9	51.3	54.2	56.3	58.4	59.9
200 to 499	N/A	N/A	N/A	N/A	14.6	15.5	16.3	16.6	16.3	15.9	15.4	15.5	15.4
500 or more	N/A	N/A	N/A	N/A	24.4	26.8	28.6	31.3	35.0	38.3	40.9	42.9	44.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

3. Calf crop—1995–2005

a. Calf crop and calf crop per 100 cows on hand, by year:

	Year										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Calf crop (1,000 Head)	40,264	39,823	38,961	38,812	38,796	38,631	38,300	38,224	37,903	37,505	37,575
Calf crop per 100 cows on hand (January 1)	90.1	89.0	89.0	90.1	90.5	90.3	90.0	90.5	90.0	89.6	89.6

B. Regional Demographics

1. Cattle and calves inventory—January 1, 1992, 1996, 2001, and 2006

NASS does not conduct a cause-of-loss survey in Alaska; therefore Alaska is excluded from regional demographics tables and nonpredator loss estimates. Overall, the national inventory of cattle and calves remained relatively stable from 1992 to 2006, with 96.7 million head present on January 1, 2006.

Number of cattle and calves and number of cattle over 500 lb, by region and by year:

January 1—Number (x 1,000)								
Region	Cattle and Calves				Cattle Over 500 lb			
	1992	1996	2001	2006	1992	1996	2001	2006
North Central	18,000	19,110	18,830	18,120	15,248	16,555	16,884	16,390
Northeast	18,638	18,184	16,111	16,185	14,598	14,259	12,903	12,852
Northwest	8,300	8,920	8,600	8,460	7,320	8,018	7,796	7,734
South Central	30,480	33,610	31,500	32,410	24,565	27,390	25,650	26,920
Southeast	10,760	11,710	9,925	9,460	8,152	8,845	7,506	7,194
Southwest	11,270	12,004	12,320	12,051	9,331	10,089	10,334	10,134
Total*	97,548	103,538	97,286	96,686	79,214	85,156	81,073	81,224

*Excludes Alaska, so total of regions does not match published United States total.

2. Beef and dairy cow inventory—January 1, 1992, 1996, 2001, and 2006

From 1992 to 2006, U.S. inventory of beef cows fluctuated between 33 million and 35 million head, while dairy cow inventory decreased from 9.7 million to 9.0 million head. In 2006, the South Central region had more beef cows than any other region (12.2 million head), while the Northeast region had more dairy cows than any other region (3.8 million).

Number of beef and dairy cows that had calved, by region and by year:

January 1—Number (x 1,000)								
Region	Beef Cows				Dairy Cows			
	1992	1996	2001	2006	1992	1996	2001	2006
North Central	5,618.0	6,072.0	6,151.0	6,029.0	12,320.0	1,078.0	949.0	806.0
Northeast	3,832.3	3,926.6	3,510.5	3,695.0	4,787.4	4,417.1	4,017.6	3,831.5
Northwest	3,641.0	3,874.0	3,721.0	3,543.0	549.0	626.0	714.0	857.0
South Central	11,484.0	12,520.0	11,895.0	12,185.0	856.0	820.0	715.0	645.0
Southeast	5,262.0	5,760.0	5,077.0	4,885.0	763.0	640.0	543.0	421.0
Southwest	3,167.0	3,153.0	3,040.0	2,650.4	1,540.0	838.0	2,178.0	2,501.6
Total*	33,004.3	35,315.6	33,394.5	32,987.0	9,727.4	9,419.1	9,170.6	9,062.1

*Excludes Alaska, so total of regions does not match published United States total.

3. Calf crop—1991, 1995, 2000, and 2005

About 30 percent of the 37.6 million calves born in 2005 were born in the South Central region.

Calendar year calf crop, by region and by year:

Calf Crop (x 1,000)				
Year				
Region	1991	1995	2000	2005
North Central	6,570	6,770	6,730	6,420
Northeast	7,823	7,576	6,813	6,569
Northwest	3,945	4,280	4,410	4,410
South Central	11,070	11,910	11,330	11,450
Southeast	5,205	5,475	4,880	4,560
Southwest	3,968	4,249	4,464	4,361
Total*	38,581	40,261	38,627	37,570

*Excludes Alaska, so total of regions does not match published United States total.

**C. U.S. Annual
Death Loss**

1. Loss from all causes—1991-2005

A total of 1.7 million cattle and 2.3 million calves were lost to all causes during 2005. These totals represent 2.1 and 6.2 percent of cattle inventory and calf crop, respectively. While the percentage of cattle inventory lost remained stable, the percentage of calf crop lost declined from 7.0 percent in 1991 to 6.2 percent in 2005.

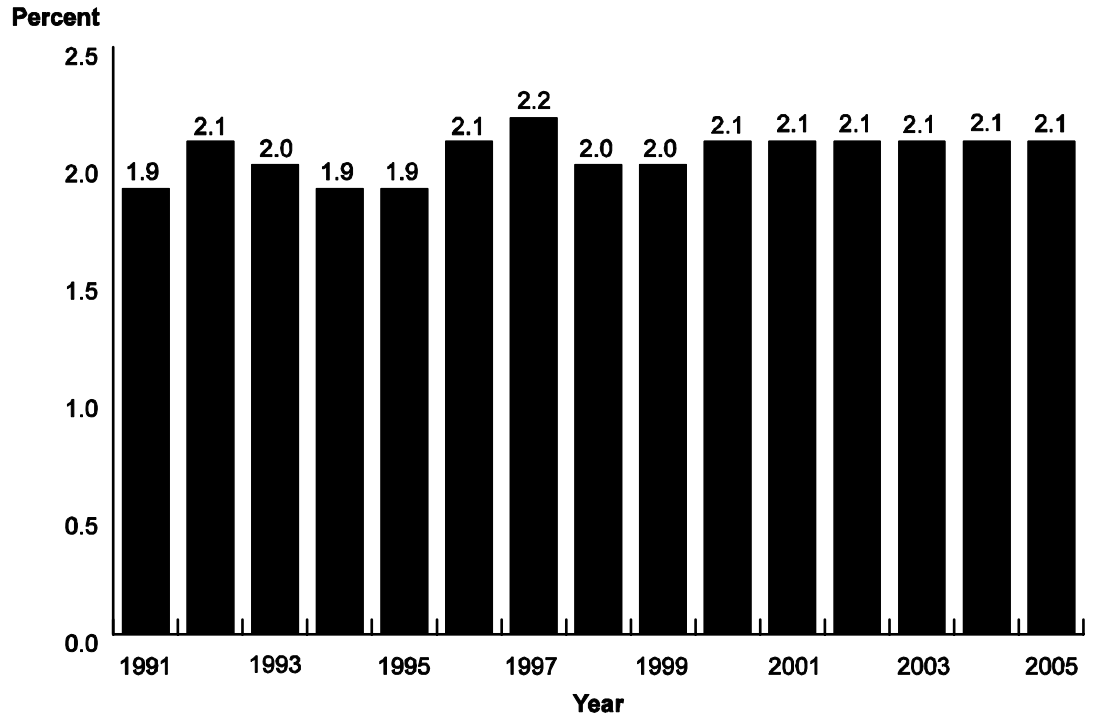
a. Number of cattle and calf death losses due to all causes, by year:

		Number (x 1,000)														
		Year														
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cattle		1,540	1,677	1,702	1,589	1,645	1,761	1,847	1,668	1,658	1,711	1,722	1,710	1,710	1,711	1,718
Calves		2,707	2,689	2,921	2,681	2,739	2,811	2,829	2,541	2,455	2,387	2,487	2,366	2,320	2,292	2,335
Total		4,247	4,366	4,623	4,270	4,384	4,572	4,676	4,209	4,113	4,098	4,209	4,076	4,030	4,003	4,053

b. Cattle death loss as a percentage of January 1 inventory of cattle over 500 lb on January 1 of the following year, by year:

		Percent Inventory														
		Year														
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
		1.9	2.1	2.0	1.9	1.9	2.1	2.2	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1

Cattle Death Losses as a Percentage of January 1 Inventory of Cattle Over 500 lb on January 1 of the Following Year, by Year



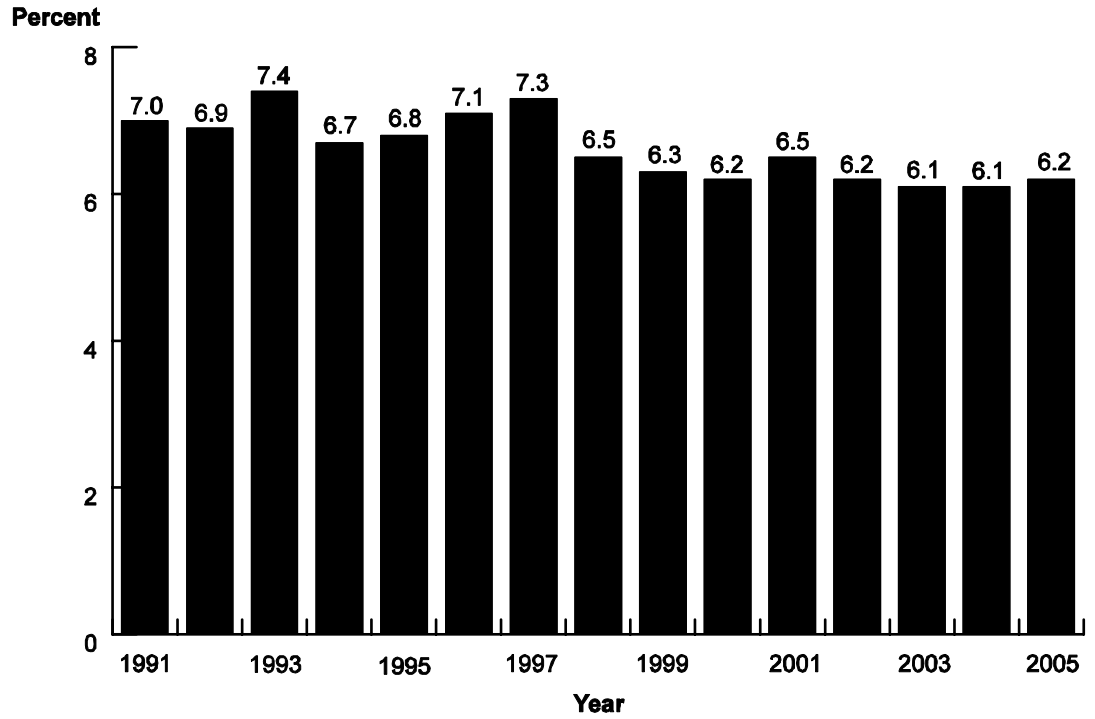
c. Calf death loss as a percentage of calf crop, by year:

Percent Calf Crop

Year

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
7.0	6.9	7.4	6.7	6.8	7.1	7.3	6.5	6.3	6.2	6.5	6.2	6.1	6.1	6.2

Calf Death Losses as a Percentage of Calf Crop, by Year



2. U.S. nonpredator and predator death loss (excluding Alaska)—1991*, 1995*, 2000*, and 2005

Since 1991, nonpredator causes accounted for the majority of cattle and calf losses. In 2005, nonpredator causes accounted for 95.3 percent of losses. As expected, predators accounted for a larger percentage of calf losses than cattle losses (6.7 and 2.0 percent, respectively).

a. Number and percentage of cattle and calf death losses, by cause and by year:

Cause	Year							
	1991		1995		2000		2005	
	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.
Nonpredator	4,143.4	97.6	4,263.6	97.3	3,952.0	96.4	3,861.0	95.3
Predator	102.0	2.4	118.8	2.7	144.6	3.6	190.0	4.7
Total	4,245.4	100.0	4,382.4	100.0	4,096.6	100.0	4,051.0	100.0

b. Number and percentage of cattle death losses, by cause and by year:

Cause	Year							
	1991		1995		2000		2005	
	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.
Nonpredator	1523.7	99.0	1,622.7	98.7	1,689.6	98.8	1,683.0	98.0
Predator	15.4	1.0	21.4	1.3	20.5	1.2	34.0	2.0
Total	1,539.1	100.0	1,644.1	100.0	1,710.1	100.0	1,717.0	100.0

*NASS estimates of total death loss were revised in subsequent publications. However, estimates of predator and nonpredator death loss were not revised. The ratio of predator to nonpredator losses in the initial publication was maintained and applied to the revised total loss estimate to generate the losses due to predators and nonpredators in tables a, b, and c. For the 1991 estimates, cattle losses were revised from 1,583,800 to 1,539,100, and calf losses were revised from 2,786,300 to 2,706,300. For the 1995 estimates, cattle losses were revised from 1,635,100 to 1,644,100, and calf losses were revised from 2,745,300 to 2,738,300. For the 2000 estimates, cattle losses were revised from 1,721,100 to 1,710,100, and calf losses were revised from 2,409,500 to 2,386,500.

c. Number and percentage of calf death losses, by cause and by year:

Cause	Year							
	1991		1995		2000		2005	
	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.	Number (x 1,000)	Pct.
Nonpredator	2,619.7	96.8	2,640.9	96.5	2,262.4	94.8	2,178.0	93.3
Predator	86.6	3.2	97.4	3.5	124.1	5.2	156.0	6.7
Total	2,706.3	100.0	2,738.3	100.0	2,386.5	100.0	2,334.0	100.0

3. Regional predator and nonpredator death loss—1991, 1995, 2000, and 2005

a. Number of cattle death losses from all causes, by region and by year:

Region	Number Losses (x 1,000)			
	Year			
	1991	1995	2000	2005
North Central	264.0	277.0	281.0	267.0
Northeast	312.1	311.1	291.1	300.0
Northwest	103.0	115.0	124.0	117.0
South Central	498.0	522.0	625.0	635.0
Southeast	183.0	201.0	174.0	174.0
Southwest	179.0	218.0	215.0	224.0
Total*	1,539.1	1,644.1	1,710.1	1,717.0

*Excludes Alaska, so total of regions does not match published United States total.

In 2005, the Northwest and North Central regions lost a smaller percentage of cattle (1.5 and 1.6 percent, respectively) than the other regions.

b. Cattle death loss as a percentage of January 1 inventory of cattle over 500 lb on January 1 of the following year, by year:

Region	Percent Inventory			
	1991	1995	2000	2005
North Central	1.7	1.7	1.7	1.6
Northeast	2.1	2.2	2.3	2.3
Northwest	1.4	1.4	1.6	1.5
South Central	2.0	1.9	2.4	2.4
Southeast	2.2	2.3	2.3	2.4
Southwest	1.9	2.2	2.1	2.4
Total	1.9	1.9	2.1	2.1

c. Number of calf death losses from all causes, by region and by year:

Number Losses (x 1,000)				
Year				
Region	1991	1995	2000	2005
North Central	493.0	553.0	425.0	392.0
Northeast	717.3	673.3	538.5	543.0
Northwest	204.0	216.0	225.0	205.0
South Central	689.0	675.0	620.0	638.0
Southeast	297.0	313.0	266.0	238.0
Southwest	306.0	308.0	312.0	318.0
Total*	2,706.3	2,738.3	2,386.5	2,334.0

*Excludes Alaska, so total of regions does not match published United States total.

The Northeast region lost the largest percentage of calf inventory (8.2 percent) in 2005, compared to the other regions.

d. Calf death loss as a percentage of calf crop, by region and by year:

Percent Calf Crop				
Year				
Region	1991	1995	2000	2005
North Central	7.5	8.2	6.3	6.1
Northeast	9.2	8.9	7.9	8.2
Northwest	5.2	5.0	5.1	4.8
South Central	6.2	5.7	5.5	5.5
Southeast	5.7	5.7	5.5	5.2
Southwest	7.7	7.2	7.0	7.2
Total	7.0	6.8	6.2	6.2

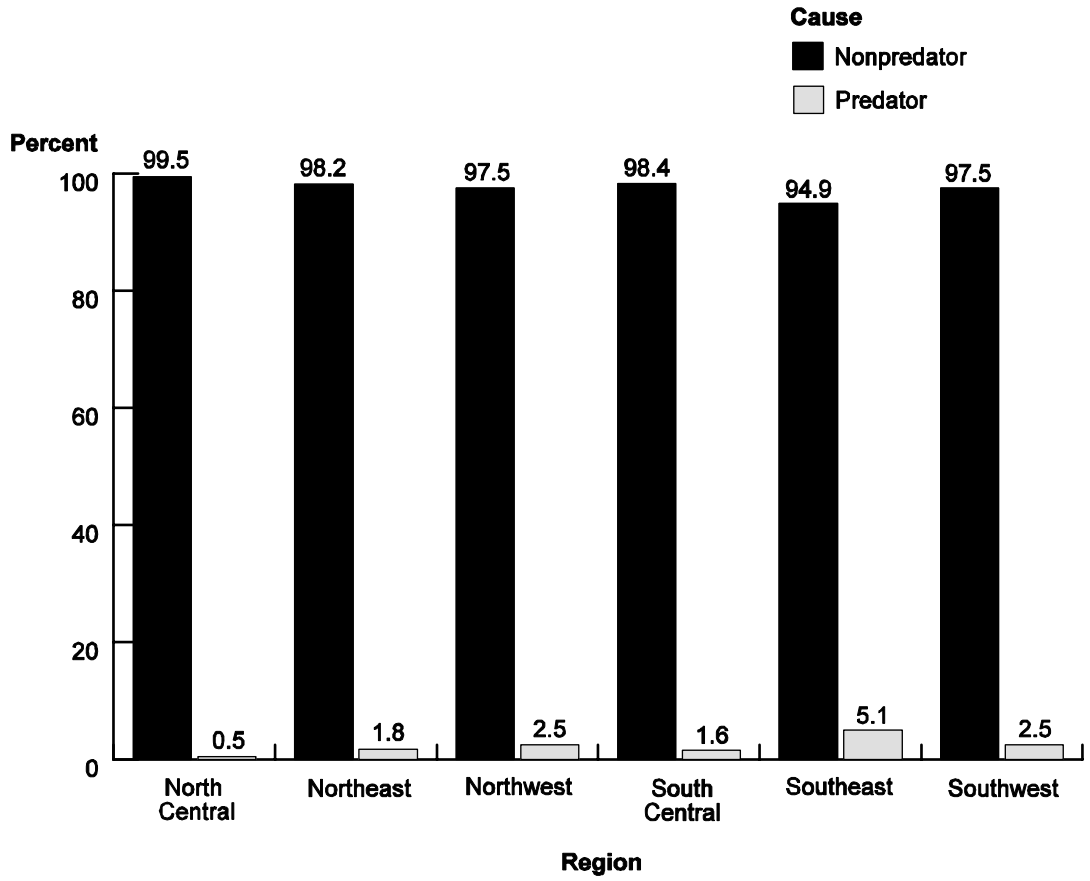
4. Regional predator and nonpredator death loss—1995, 2000, and 2005

In all regions, nonpredator causes accounted for the majority of cattle losses. With the exception of the North Central and South Central regions, the percentages of losses due to nonpredator causes decreased in all regions from 1995 to 2005. In the Southeast region, the percentage of losses due to nonpredator causes decreased from 98.5 percent in 1995 to 94.9 percent in 2005.

a. Number and percentage of cattle death losses by cause—by region and by year:

Region	Cause	Year					
		1995		2000		2005	
		Number (x1,000)	Pct.	Number (x1,000)	Pct.	Number (x1,000)	Pct.
North Central	Nonpredator	274.8	99.2	280.2	99.7	265.6	99.5
	Predator	2.2	0.8	0.8	0.3	1.4	0.5
	Total	277.0	100.0	281.0	100.0	267.0	100.0
Northeast	Nonpredator	308.3	99.1	288.2	99.0	294.7	98.2
	Predator	2.8	0.9	2.9	1.0	5.3	1.8
	Total	311.1	100.0	291.1	100.0	300.0	100.0
Northwest	Nonpredator	113.5	98.7	121.9	98.3	114.1	97.5
	Predator	1.5	1.3	2.1	1.7	2.9	2.5
	Total	115.0	100.0	124.0	100.0	117.0	100.0
South Central	Nonpredator	514.2	98.5	619.7	99.2	625.0	98.4
	Predator	7.8	1.5	5.3	0.8	10.0	1.6
	Total	522.0	100.0	625.0	100.0	635.0	100.0
Southeast	Nonpredator	198.0	98.5	170.5	98.0	165.1	94.9
	Predator	3.0	1.5	3.5	2.0	8.9	5.1
	Total	201.0	100.0	174.0	100.0	174.0	100.0
Southwest	Nonpredator	214.1	98.2	208.8	97.1	218.5	97.5
	Predator	3.9	1.8	6.2	2.9	5.5	2.5
	Total	218.0	100.0	215.0	100.0	224.0	100.0

Percentage of 2005 Cattle Death Losses, by Cause and by Region

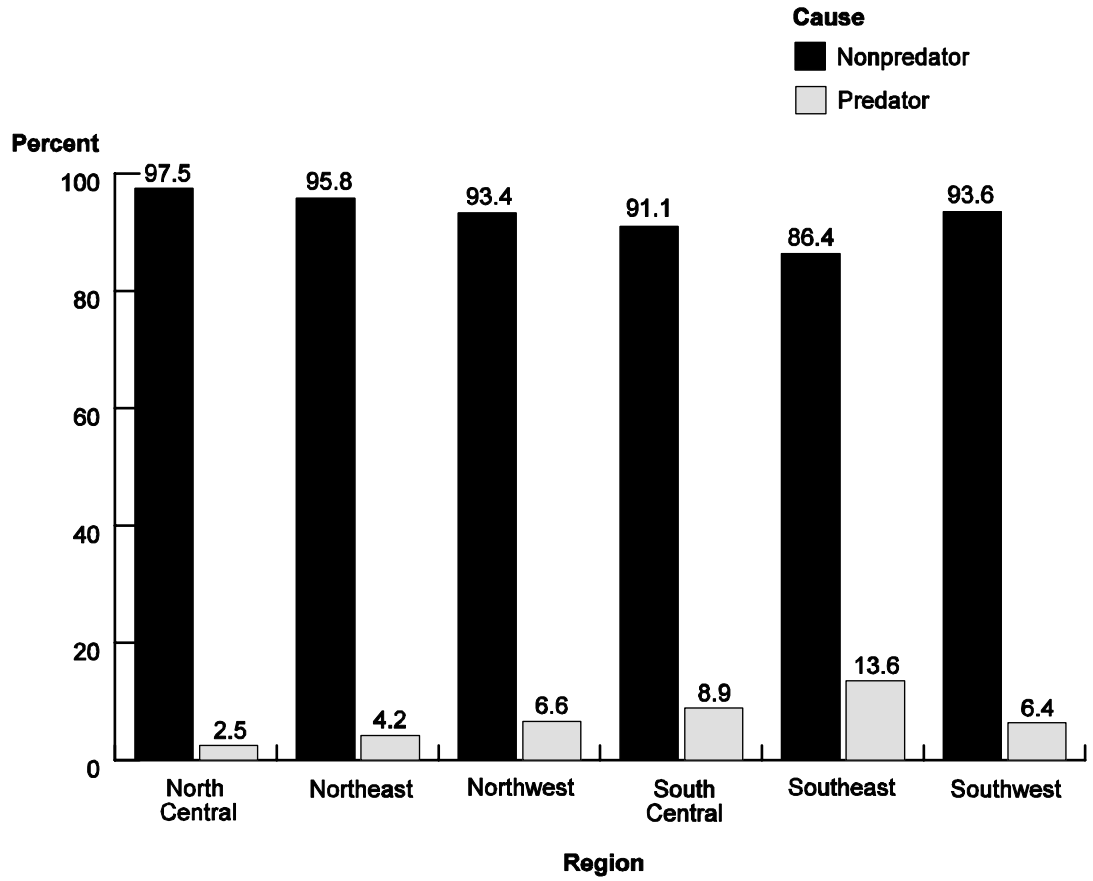


In all regions in 2005, nonpredator causes accounted for the majority of calf losses. However, the percentage of total losses due to nonpredator causes ranged from 86.4 percent in the Southeast region to 97.5 percent in the North Central region.

b. Number and percentage of calf death losses by cause—by region and by year:

Region	Cause	Year					
		1995		2000		2005	
		Number (x1,000)	Pct.	Number (x1,000)	Pct.	Number (x1,000)	Pct.
North Central	Nonpredator	545.3	98.6	416.9	98.1	382.1	97.5
	Predator	7.7	1.4	8.1	1.9	9.9	2.5
	Total	553.0	100.0	425.0	100.0	392.0	100.0
Northeast	Nonpredator	662.5	98.4	526.1	97.7	520.3	95.8
	Predator	10.8	1.6	12.4	2.3	22.7	4.2
	Total	673.3	100.0	538.5	100.0	543.0	100.0
Northwest	Nonpredator	206.1	95.4	210.1	93.3	191.4	93.4
	Predator	9.9	4.6	14.9	6.7	13.6	6.6
	Total	216.0	100.0	225.0	100.0	205.0	100.0
South Central	Nonpredator	636.5	94.3	581.6	93.8	581.0	91.1
	Predator	38.5	5.7	38.4	6.2	57.0	8.9
	Total	675.0	100.0	620.0	100.0	638.0	100.0
Southeast	Nonpredator	299.5	95.7	242.4	91.1	205.6	86.4
	Predator	13.5	4.3	23.6	8.9	32.4	13.6
	Total	313.0	100.0	266.0	100.0	238.0	100.0
Southwest	Nonpredator	292.3	94.9	284.5	91.2	297.6	93.6
	Predator	15.7	5.1	27.5	8.8	20.4	6.4
	Total	308.0	100.0	312.0	100.0	317.0	100.0

Percentage of 2005 Calf Death Losses, by Cause and by Region



Section II: Population Estimates—Losses Due to Predators

A. Operation Classification

1. Operation classification process

This section reports inventory and death loss on four operation types with cows: beef, dairy, mixed, and other operations (see Terms Used In This Report, p 2 for definition of operation types). NASS collects inventory numbers of beef cows, milk cows, and heifers on each operation. However, animal breed is not specified in death-loss numbers. To estimate death loss, operations were classified based on inventory numbers of beef and dairy cows.

2. Operation characteristics

Nearly two-thirds (65.6 percent) of the January 1, 2006, inventory of cattle and calves was on beef operations. Over 98 percent of beef cows were on beef operations, and 1.4 percent were on mixed operations. Ninety percent of the dairy cow inventory was on dairy operations, and 9.9 percent was on mixed operations.

a. Percentage of January 1, 2006, inventory for all cattle and calves, beef cows, and dairy cows, by operation type:

Operation Type	Percent Inventory							
	All Cattle and Calves		Beef Cows		Dairy Cows		Calves Born	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Beef	65.6	(0.8)	98.6	(0.1)	0.1	(0.0)	78.2	(0.4)
Dairy	15.6	(0.4)	0.0	(0.0)	90.0	(1.7)	17.2	(0.3)
Mixed	2.6	(0.4)	1.4	(0.1)	9.9	(1.7)	2.4	(0.0)
Other	16.2	(0.8)	0.0	(--)	0.0	(--)	2.2	(0.2)
Total	100.0		100.0		100.0		100.0	

Across all operation types, nonpredator causes accounted for the majority of cattle losses in 2005. On beef operations, 96.6 percent of losses were due to nonpredator causes, compared to over 99 percent of losses on the other operation types.

b. Percentage of 2005 cattle death loss, by cause and by operation type:

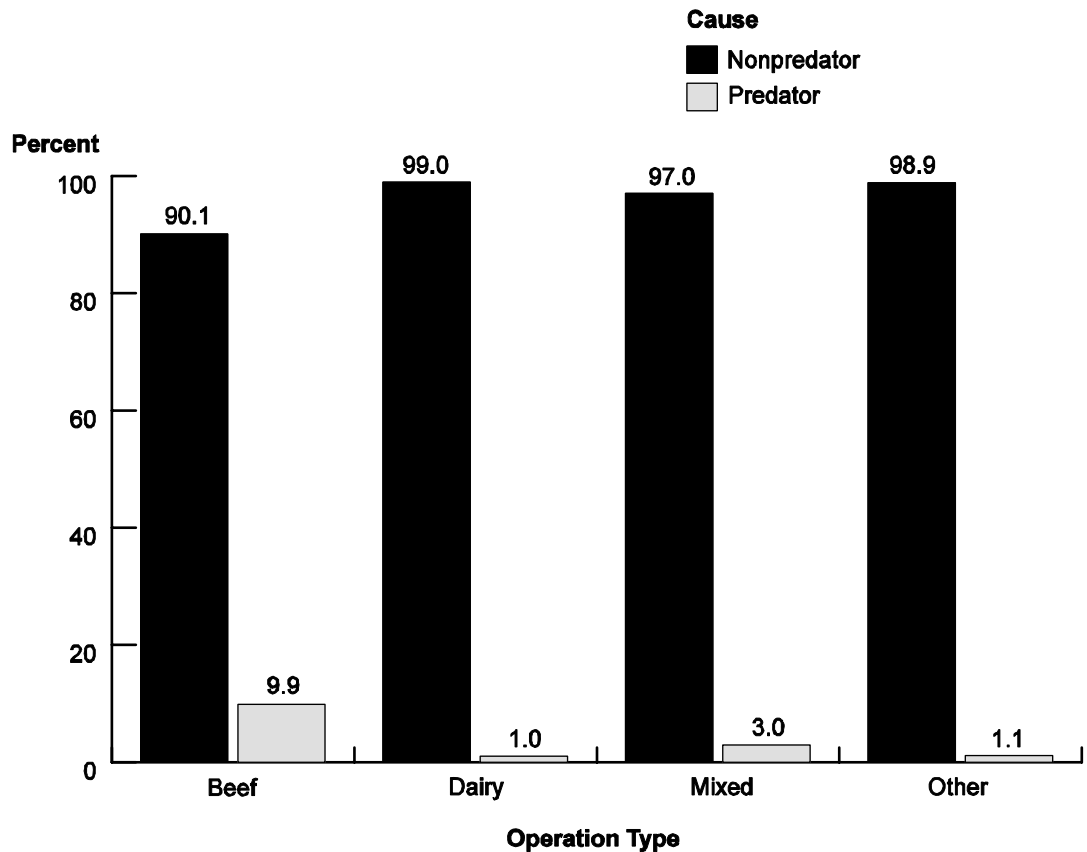
Cause	Percent Loss							
	Operation Type							
	Beef		Dairy		Mixed		Other	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Nonpredator	96.6	(0.3)	99.7	(0.1)	99.6	(0.1)	99.3	(0.2)
Predator	3.4	(0.3)	0.3	(0.1)	0.4	(0.1)	0.7	(0.2)
Total	100.0		100.0		100.0		100.0	

Just over 90 percent of calf losses on beef operations were due to nonpredator causes, compared to at least 97 percent of losses on dairy, mixed, and other operations (99.0, 97.0, and 98.9 percent of losses, respectively).

c. Percentage of 2005 calf death loss, by cause and operation type:

Cause	Percent Loss							
	Operation Type							
	Beef		Dairy		Mixed		Other	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Nonpredator	90.1	(0.4)	99.0	(0.1)	97.0	(0.9)	98.9	(0.3)
Predator	9.9	(0.4)	1.0	(0.1)	3.0	(0.9)	1.1	(0.3)
Total	100.0		100.0		100.0		100.0	

Percentage of 2005 Calf Death Loss, by Cause and by Operation Type



Just fewer than 9 of 10 cattle predator losses (87.9 percent) and over 9 of 10 calf predator losses (93.4 percent) in the United States occurred on beef operations.

d. Percentage of 2005 cattle and calves **predator** death losses, by type of operation:

Operation Type	Percent Cattle	Std. Error	Percent Calves	Std. Error
Beef	87.9	(2.0)	93.4	(0.8)
Dairy	3.9	(0.7)	2.9	(0.3)
Mixed	0.7	(0.2)	1.6	(0.4)
Other	7.5	(1.9)	2.1	(0.6)
Total	100.0		100.0	

B. Cattle Death Loss on Beef Operations Due to Predators

Note: Estimates in this section (B) are exclusively for beef operations due to the small number of losses on other operation types.

1. Losses as a proportion of inventory—2005

The proportion of cattle inventory lost to predator causes by region ranged from 0.9 per 10,000 head of cattle 500 lb or more in the North Central region to 12.6 per 10,000 in the Southeast region. Larger operations (100 or more head) generally lost a smaller proportion of inventory to predators than smaller operations (fewer than 100 head), although individual differences were not statistically significant.

Cattle predator death loss on beef operations per 10,000 head of cattle 500 lb or more (January 1 following year inventory), by region and by size of operation:

Region	Number Lost (Per 10,000 Head*)									
	Size of Operation (Number of Cows)									
	1-49		50-99		100-499		500 or More		All Operations	
	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.
North Central	0.8	(0.6)	0.9	(0.4)	0.9	(0.2)	0.9	(0.4)	0.9	(0.2)
Northeast	7.8	(1.9)	13.2	(3.8)	4.6	(2.0)	4.6	(1.5)	8.1	(1.4)
Northwest	9.0	(5.8)	5.9	(2.9)	4.7	(1.0)	2.1	(0.5)	4.3	(0.8)
South Central	6.1	(1.3)	7.5	(2.4)	4.5	(1.0)	2.9	(1.2)	5.3	(0.8)
Southeast	19.0	(4.5)	9.4	(2.3)	7.8	(1.8)	7.0	(1.5)	12.6	(2.0)
Southwest	18.3	(7.1)	21.5	(8.2)	4.3	(1.3)	13.9	(5.7)	11.1	(2.3)

*Cattle 500 lb or more.

2. Cause of loss—1991, 1995, 2000, and 2005

From 1991 to 2005, coyotes, dogs, and mountain lions accounted for the highest percentages of predator death loss for cattle on all operations, respectively.

Coyotes, dogs, and mountain lions also accounted for the highest percentages of predator death losses for cattle on beef operations from 2000 to 2005. In 2005, coyotes were responsible for about one-third of predator losses (32.4 percent on all operations and 31.8 percent on beef operations).

a. Percentage of cattle predator death loss by cause and by year:

Predator Cause	Percent Loss					
	All Operations—for Comparison				Beef Operations	
	1991	1995	2000	2005	2000	2005
Coyotes	37.1	36.1	38.1	32.4	29.7	31.8
Dogs	17.6	16.3	23.8	12.9	17.1	13.4
Mountain lions ¹	10.1	8.2 ²	14.3	9.4	10.1	9.1
All other predators ³	35.2	39.4	23.8	45.3	43.1	45.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

¹Also known as cougars, pumas, and panthers.

²Differs slightly from NASS published data due to rounding.

³Bears, bobcats or lynx, foxes, wolves, ravens, eagles, vultures, other predators, and unknown predators.

In 2005, losses due to predators for all operations increased from 1.9 per 10,000 head of cattle 500 lb or more in 1991 to 4.2 per 10,000. For beef operations, cattle losses due to predators increased from 3.6 per 10,000 head in 2000 to 5.9 per 10,000 head in 2005.

b. Cattle predator death loss per 10,000 head of cattle over 500 lb (January 1 following year inventory), by cause and by year:

Predator Cause	Number Lost (Per 10,000 Head ¹)					
	All Operations—for Comparison				Beef Operations	
	1991	1995	2000	2005	2000 ²	2005
Coyotes	0.7	0.9	1.0	1.4	1.1	1.9
Dogs	0.3	0.4	0.6	0.5	0.6	0.8
Mountain lions	0.2	0.2	0.4	0.4	0.4	0.5
All other predators	0.7	1.0	0.6	1.9	1.5	2.7
Total	1.9	2.5	2.6	4.2	3.6	5.9

¹Cattle 500 lb or more.

²Estimates adapted to NASS published numbers.

3. Cause of loss by size of operation—2005

Coyotes accounted for the highest percentages of cattle death losses due to predators across operation sizes. The percentage of losses due to mountain lions ranged from 3.7 percent on operations with 1 to 49 cows to 21.5 percent of losses on operations with 500 or more cows.

a. Percentage of cattle predator death loss on beef operations, by cause and by size of operation:

Predator Cause	Percent Loss							
	Size of Operation (Number of Cows)							
	1-49		50-99		100-499		500 or More	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Coyotes	37.4	(6.7)	19.5	(4.6)	28.6	(5.6)	43.8	(5.3)
Dogs	12.2	(4.1)	16.8	(6.5)	16.1	(5.3)	5.2	(2.0)
Mountain lions	3.7	(1.8)	12.9	(5.5)	8.3	(2.6)	21.5	(6.8)
Other predators*	14.6	(4.2)	14.2	(4.3)	23.8	(4.4)	8.1	(2.5)
Unknown predators	32.1	(5.6)	36.6	(8.0)	23.2	(4.1)	21.4	(5.7)
Total	100.0		100.0		100.0		100.0	

*Bears, bobcats or lynx, foxes, wolves, ravens, eagles, vultures, and other predators.

Operations with 1 to 49 cows had 9.0 losses per 10,000 head of cattle 500 lb or more due to all predator causes compared with 4.3 losses per 10,000 on operations with 500 or more head.

b. Cattle predator death loss on beef operations per 10,000 head of cattle 500 lb or more (January 1 following year inventory), by cause and by size of operation:

Predator Cause	Number Lost (Per 10,000 Head*)							
	Size of Operation (Number of Cows)							
	1-49		50-99		100-499		500 or More	
	No.	Std. Error	No.	Std. Error	No.	Std. Error	No.	Std. Error
Coyotes	3.4	(0.8)	1.5	(0.4)	1.1	(0.3)	1.9	(0.6)
Dogs	1.1	(0.4)	1.3	(0.6)	0.6	(0.2)	0.2	(0.1)
Mountain lions	0.3	(0.2)	1.0	(0.5)	0.3	(0.1)	0.9	(0.5)
Other predators	1.3	(0.4)	1.1	(0.3)	0.9	(0.2)	0.4	(0.1)
Unknown predators	2.9	(0.5)	2.9	(0.8)	0.8	(0.2)	0.9	(0.2)
All predator causes	9.0	(1.2)	7.8	(1.2)	3.7	(0.4)	4.3	(1.0)

*Cattle 500 lb or more.

4. Cause of loss by region—2005

Mountain lions accounted for 35.5 percent of losses in the Southwest region. Coyotes and/or unknown predators accounted for the highest percentages of losses in other regions.

a. Percentage of cattle predator death loss on beef operations by cause and by region:

Predator Cause	Percent Loss											
	Region											
	North Central		Northeast		Northwest		South Central		Southeast		Southwest	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	
Coyotes	31.1	(9.2)	24.7	(5.8)	6.8	(2.5)	30.0	(5.9)	45.1	(8.4)	31.7	(5.9)
Dogs	3.5	(3.4)	14.2	(4.6)	5.1	(4.1)	17.1	(6.2)	16.6	(5.5)	6.0	(2.5)
Mountain lions	23.6	(9.8)	0.0	(--)	18.5	(6.1)	4.6	(2.8)	0.0	(0.0)	35.5	(6.7)
Other predators	8.0	(4.2)	17.7	(6.1)	32.5	(8.0)	23.3	(5.4)	8.0	(2.8)	7.0	(2.6)
Unknown predators	33.8	(9.4)	43.4	(8.4)	37.1	(10.0)	25.0	(6.0)	30.3	(6.5)	19.8	(6.3)
Total	100.0		100.0		100.0		100.0		100.0		100.0	

Losses due to all predator causes ranged from 0.9 per 10,000 head of cattle 500 lb or more in the North Central region to 12.6 per 10,000 in the Southeast region. Interestingly, the Northwest region was the only region in which coyotes were not among the leading causes of predator loss.

b. Cattle predator death loss on beef operations per 10,000 head of cattle 500 lb or more (January 1 following year inventory), by cause and by region:

Predator	Number Lost (Per 10,000 Head*)											
	Region											
	North Central		Northeast		Northwest		South Central		Southeast		Southwest	
	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.
Coyotes	0.3	(0.1)	2.0	(0.6)	0.3	(0.1)	1.6	(0.4)	5.7	(1.7)	3.5	(1.1)
Dogs	0.0	(0.0)	1.1	(0.4)	0.2	(0.2)	0.9	(0.4)	2.1	(0.7)	0.7	(0.3)
Mountain lions	0.2	(0.1)	0.0	(0.0)	0.8	(0.3)	0.3	(0.2)	0.0	(0.0)	3.9	(1.3)
Other predators	0.1	(0.0)	1.4	(0.5)	1.4	(0.4)	1.2	(0.3)	1.0	(0.3)	0.8	(0.3)
Unknown predators	0.3	(0.1)	3.6	(0.9)	1.6	(0.6)	1.3	(0.4)	3.8	(0.8)	2.2	(0.7)
All predator causes	0.9	(0.2)	8.1	(1.4)	4.3	(0.8)	5.3	(0.8)	12.6	(2.0)	11.1	(2.3)

*Cattle 500 lb or more.

C. Calf Death Loss on Beef Operations Due to Predators

Note: Estimates in this section (C) are exclusively for beef operations due to the small number of losses on other operation types.

1. Losses as a proportion of calves born—2005

Regional calf predator losses ranged from 16.7 per 10,000 calves born in the North Central region to 85.7 per 10,000 calves born in the Southwest region. The North Central region had the lowest calf predator loss in most size categories.

a. Calf predator death loss on beef operations per 10,000 calves born*, by region and by size of operation:

Number Lost (Per 10,000 Calves Born)										
Size of Operation (Number of Cows)										
Region	1-49		50-99		100-499		500 or More		All Operations	
	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.	No.	Std. Err.
North Central	19.9	(5.3)	19.4	(4.9)	17.0	(2.6)	7.7	(1.5)	16.7	(1.9)
Northeast	60.2	(7.1)	63.9	(11.0)	62.5	(11.2)	14.2	(3.5)	60.7	(5.2)
Northwest	50.1	(12.2)	49.6	(12.8)	38.1	(4.4)	29.5	(4.4)	37.3	(3.2)
South Central	78.2	(10.9)	47.6	(7.5)	38.9	(5.6)	31.5	(5.7)	51.8	(4.3)
Southeast	89.6	(11.5)	46.9	(7.0)	72.0	(8.8)	45.7	(5.5)	70.8	(5.4)
Southwest	108.4	(23.1)	122.1	(46.2)	77.0	(11.0)	71.2	(10.1)	85.7	(9.4)

*All calves born on beef operation.

2. Cause of loss—1991, 1995, 2000, and 2005

Coyotes were the single largest cause of predator losses in calves on all operations from 1991 to 2005. However, the percentage of losses attributable to coyotes decreased from 66.3 percent in 1991 to 55.1 percent in 2005. The percentage of calves lost because of “other” predators increased from 9.9 to 26.3 percent on all operations and from 19.5 to 27.4 percent on beef operations between 2000 and 2005.

a. Percentage of calf predator death loss by cause and by year:

Predator Cause	Percent Loss					
	All Operations—for Comparison				Beef Operations	
	1991	1995	2000	2005	2000	2005
Coyotes	66.3	64.1	69.1 ¹	55.1	60.8	53.7
Dogs	18.6	19.1	16.7	11.2	14.3	11.2
Mountain lions	5.2	6.6 ¹	6.3	7.4	5.4	7.7
All other predators ²	9.9	10.2	7.9	26.3	19.5	27.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

¹Differs slightly from NASS published numbers due to rounding.

²Bears, bobcats or lynx, foxes, wolves, ravens, eagles, vultures, other predators, and unknown predators.

Predator losses in calves on all operations increased from 23.4 per 10,000 calves born in 1991 to 41.5 per 10,000 in 2005. For beef operations, calf losses increased from 37.8 per 10,000 calves born in 2000 to 49.6 per 10,000 in 2005.

b. Calf predator death loss per 10,000 calves born, by cause:

Predator Cause	Number Lost (Per 10,000 Calves Born ¹)					
	All Operations—for Comparison				Beef Operations	
	1991	1995	2000	2005	2000 ²	2005
Coyotes	15.5	15.3	22.5	22.9	23.1	26.6
Dogs	4.4	4.6	5.4	4.6	5.3	5.5
Mountain lions	1.2	1.6	2.1	3.1	2.1	3.8
All other predators	2.3	2.4	2.6	10.9	7.3	13.7
Total	23.4	23.9	32.6	41.5	37.8	49.6

¹All calves born on beef operation.

²Estimates adapted to NASS published numbers.

3. Cause of loss by size of operation—2005

The percentages of calf death losses due to each of the listed causes were relatively consistent across operation sizes.

a. Percentage of calf predator death loss on beef operations, by cause and by size of operation:

Predator Cause	Percent Loss							
	Size of Operation (Number of Cows)							
	1-49		50-99		100-499		500 or More	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Coyotes	56.0	(3.6)	48.2	(3.8)	53.3	(2.8)	56.5	(2.7)
Dogs	11.0	(1.8)	13.5	(3.1)	10.9	(1.7)	8.4	(1.9)
Mountain lions	5.2	(1.4)	5.7	(1.5)	10.6	(1.8)	11.1	(2.0)
Other predators	11.2	(2.1)	17.3	(3.7)	13.0	(1.7)	16.1	(2.5)
Unknown predators*	16.6	(2.3)	15.3	(2.9)	12.2	(1.6)	7.9	(1.8)
Total	100.0		100.0		100.0		100.0	

*Bears, bobcats or lynx, foxes, wolves, ravens, eagles, vultures, and other predators.

Losses due to all predator causes showed a clear trend across herd sizes. Operations with 1 to 49 cows had the highest losses, with 70.3 losses per 10,000 calves born, and operations with 500 or more cows had the lowest losses, with 34.0 losses per 10,000 calves born.

b. Calf predator death loss on beef operations per 10,000 calves born, by cause and by size of operation:

Predator Cause	Number Lost (Per 10,000 Calves Born*)							
	Size of Operation (Number of Cows)							
	1-49		50-99		100-499		500 or More	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Coyotes	39.3	(4.5)	23.4	(2.9)	21.9	(1.9)	19.2	(1.5)
Dogs	7.7	(1.3)	6.6	(1.6)	4.5	(0.8)	2.9	(0.7)
Mountain lions	3.7	(1.0)	2.8	(0.7)	4.4	(0.8)	3.7	(0.8)
Other predators	7.9	(1.5)	8.4	(2.2)	5.3	(0.8)	5.5	(1.0)
Unknown predators	11.7	(1.6)	7.5	(1.5)	5.0	(0.7)	2.7	(0.7)
All predator causes	70.3	(5.3)	48.7	(4.8)	41.1	(2.6)	34.0	(2.7)

*All calves born on beef operation.

4. Cause of loss by region—2005

Coyotes accounted for the highest percentages of calf predator losses across all regions. Mountain lions accounted for more losses in the Northwest and Southwest regions than in the other regions.

a. Percentage of calf predator death loss on beef operations by cause and by region:

Predator Cause	Percent Loss											
	Region											
	North Central		Northeast		Northwest		South Central		Southeast		Southwest	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	
Coyotes	67.8	(5.3)	55.4	(4.2)	44.9	(3.6)	51.7	(3.8)	58.4	(3.7)	49.2	(4.0)
Dogs	7.0	(3.7)	11.3	(3.0)	2.3	(0.8)	13.4	(2.2)	15.6	(2.4)	5.6	(1.5)
Mountain lions	9.3	(2.1)	0.1	(0.1)	18.5	(2.6)	5.3	(1.6)	0.3	(0.2)	25.6	(4.2)
Other predators	6.7	(2.9)	10.4	(2.2)	18.6	(2.5)	18.6	(2.7)	8.1	(1.4)	9.9	(3.9)
Unknown predators	9.2	(2.8)	22.8	(3.7)	15.7	(2.5)	11.0	(1.7)	17.6	(3.2)	9.7	(2.7)
Total	100.0		100.0		100.0		100.0		100.0		100.0	

Calf losses due to coyotes ranged from 11.3 per 10,000 calves born in the North Central region to 42.2 in the Southwest region. Mountain lions accounted for 21.9 losses per 10,000 calves born in the Southwest region.

b. Calf predator death loss on beef operations per 10,000 calves born, by cause and by region:

Predator Cause	Number Lost (Per 10,000 Calves Born*)											
	Region											
	North Central		Northeast		Northwest		South Central		Southeast		Southwest	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Coyotes	11.3	(1.5)	33.4	(3.7)	16.7	(2.1)	26.8	(3.4)	41.3	(4.5)	42.2	(5.9)
Dogs	1.2	(0.7)	6.8	(2.0)	0.9	(0.3)	6.9	(1.2)	11.0	(1.8)	4.8	(1.3)
Mountain lions	1.6	(0.4)	0.1	(0.0)	6.9	(1.2)	2.7	(0.8)	0.2	(0.1)	21.9	(3.7)
Other predators	1.1	(0.5)	6.3	(1.4)	7.0	(1.0)	9.7	(1.6)	5.8	(1.0)	8.5	(3.9)
Unknown predators	1.5	(0.5)	14.0	(2.6)	5.8	(1.0)	5.7	(0.9)	12.5	(2.4)	8.3	(2.3)
All predator causes	16.7	(1.9)	60.6	(5.2)	37.3	(3.2)	51.8	(4.3)	70.8	(5.4)	85.7	(9.4)

*All calves born on beef operation.

D. Nonlethal Predator Control

Note: Estimates in this section (D) are exclusively for beef operations.

1. Frequency of use

The percentage of all operations that used any nonlethal predator control methods increased from 3.1 percent in 2000 to 7.5 percent in 2005. Beef operations were slightly more likely than all operations to use nonlethal methods in 2000, although the difference diminished in 2005. The methods used most frequently were guard animals and fencing.

a. Percentage of operations that used a nonlethal predator control method, by method used:

Nonlethal Control Method	Percent Operations							
	All Operations— for Comparison*				Beef Operations			
	2000		2005		2000		2005	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Guard animals	1.1	(0.1)	2.9	(0.2)	2.1	(0.2)	3.2	(0.2)
Fencing	1.1	(0.1)	2.5	(0.2)	2.0	(0.2)	2.8	(0.2)
Herding	0.2	(0.0)	0.3	(0.1)	0.3	(0.1)	0.3	(0.1)
Night penning	0.3	(0.0)	0.5	(0.1)	0.4	(0.1)	0.6	(0.1)
Fright tactics	0.2	(0.2)	0.2	(0.0)	0.4	(0.1)	0.2	(0.0)
Carcass removal	0.8	(0.1)	1.3	(0.1)	1.1	(0.1)	1.5	(0.1)
Culling	--	(--)	1.6	(0.1)	--	(--)	2.0	(0.1)
Frequent checks	--	(--)	1.8	(0.1)	--	(--)	2.1	(0.1)
Other	0.3	(0.1)	0.5	(0.1)	0.6	(0.1)	0.6	(0.1)
Any method	3.1	(0.2)	7.5	(0.3)	5.4	(0.3)	8.6	(0.3)

*Data on nonlethal predator control methods were not collected in 1991 and 1995.

About 1 of 10 operations (8.6 percent) used some type of nonlethal predator control method. The most common nonlethal method was guard animals, followed by fencing, frequent checks, and culling. Large operations (500 head or more) were more likely to use any nonlethal predator control method than smaller operations.

b. Percentage of beef operations by nonlethal predator control method used, and by size of operation:

Control Method	Percent Operations									
	Size of Operation (Number of Cows)									
	1-49		50-99		100-499		500 or More		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Guard animals	3.4	(0.3)	2.5	(0.4)	3.1	(0.4)	4.0	(1.2)	3.2	(0.2)
Fencing	2.9	(0.2)	2.2	(0.4)	1.8	(0.3)	3.3	(1.2)	2.8	(0.2)
Herding	0.3	(0.1)	0.6	(0.2)	0.5	(0.1)	0.9	(0.2)	0.3	(0.1)
Night penning	0.6	(0.1)	0.2	(0.1)	0.7	(0.2)	1.1	(0.3)	0.6	(0.1)
Fright tactics	0.2	(0.1)	0.3	(0.1)	0.3	(0.1)	1.7	(0.6)	0.2	(0.0)
Carcass removal	1.1	(0.1)	2.6	(0.4)	3.0	(0.3)	5.0	(0.8)	1.5	(0.1)
Culling	1.6	(0.2)	2.5	(0.3)	3.9	(0.4)	7.9	(1.0)	2.0	(0.1)
Frequent checks	1.8	(0.2)	2.9	(0.5)	3.8	(0.4)	8.3	(1.0)	2.1	(0.1)
Other	0.5	(0.1)	0.6	(0.2)	0.9	(0.2)	2.0	(0.6)	0.6	(0.1)
Any method	8.3	(0.4)	8.6	(0.7)	10.3	(0.7)	16.6	(1.7)	8.6	(0.3)

c. Percentage of beef operations by nonlethal predator control method used, and by region:

Control Method	Percent Operations											
	Region											
	North Central		Northeast		Northwest		South Central		Southeast		Southwest	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Guard animals	1.8	(0.4)	2.8	(0.4)	2.6	(0.7)	3.4	(0.4)	4.1	(0.6)	3.7	(0.9)
Fencing	1.5	(0.3)	3.1	(0.5)	3.6	(0.7)	1.6	(0.3)	4.3	(0.5)	4.7	(1.0)
Herding	0.2	(0.1)	0.3	(0.1)	0.4	(0.2)	0.2	(0.1)	0.6	(0.2)	0.9	(0.4)
Night penning	0.6	(0.2)	1.1	(0.4)	0.7	(0.3)	0.4	(0.2)	0.3	(0.1)	0.9	(0.4)
Fright tactics	0.2	(0.1)	0.2	(0.1)	0.5	(0.2)	0.1	(0.1)	0.2	(0.1)	1.4	(0.6)
Carcass removal	1.8	(0.3)	1.2	(0.2)	3.2	(0.6)	0.7	(0.2)	2.4	(0.4)	2.5	(0.8)
Culling	1.9	(0.3)	1.9	(0.3)	4.2	(0.7)	1.1	(0.2)	2.6	(0.4)	3.6	(0.9)
Frequent checks	2.6	(0.4)	2.2	(0.3)	4.3	(0.6)	1.1	(0.2)	2.5	(0.4)	5.0	(1.2)
Other	0.5	(0.2)	0.7	(0.2)	0.8	(0.3)	0.6	(0.1)	0.4	(0.1)	0.7	(0.4)

2. Operations that used nonlethal predator control methods

For beef operations that used nonlethal predator control methods, about one-third used guard animals and about one-third used fencing in 2005 (37.6 and 32.0 percent, respectively).

a. For the 7.5 percent of all operations and the 8.6 percent of beef operations that used a nonlethal predator control method in 2005, percentage of operations by control method used:

Nonlethal Control Method	Percent Operations			
	All Operations— for Comparison*		Beef Operations	
	2000	2005	2000	2005
Guard animals	27.7	38.0	37.9	37.6
Fencing	29.9	34.0	36.4	32.0
Herding	7.4	3.8	5.3	4.0
Night penning	10.8	9.7	8.0	6.7
Fright tactics	6.8	3.0	7.3	2.9
Carcass removal	40.4	16.5	20.6	17.5
Culling	NA	19.6	NA	22.8
Frequent checks	NA	21.8	NA	24.9
Other	11.3	6.2	10.7	6.6

*NASS Cattle Predator Loss—2000, May 4, 2001; NASS Cattle Predator Loss—2005, May 5, 2006.

Only 8.6 percent of beef operations used a nonlethal control method during 2005. Of these operations, the percentage that used guard animals decreased as operation size increased. Conversely, the percentage of operations that used culling or frequent checks increased as operations size increased.

b. For the 8.6 percent of beef operations that used a nonlethal predator control method in 2005, percentage of operations by control method used and by size of operation:

Percent Operations										
Size of Operation (Number of Cows)										
Control Method	1-49		50-99		100-499		500 or More		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Guard animals	40.5	(2.5)	28.9	(3.9)	30.2	(3.4)	23.9	(5.9)	37.6	(0.2)
Fencing	35.5	(2.4)	25.5	(3.6)	17.7	(2.4)	20.1	(5.9)	32.0	(1.9)
Herding	3.4	(0.8)	6.8	(2.3)	4.8	(1.2)	5.3	(1.4)	4.0	(0.7)
Night penning	7.5	(1.6)	2.3	(0.9)	6.3	(1.4)	6.4	(1.9)	6.7	(1.2)
Fright tactics	2.5	(0.6)	3.8	(1.5)	3.3	(1.0)	10.1	(3.6)	2.9	(0.5)
Carcass removal	13.3	(1.5)	30.0	(3.8)	29.4	(2.8)	30.4	(4.3)	17.5	(1.3)
Culling	18.8	(1.7)	29.2	(3.6)	38.1	(3.1)	47.4	(5.2)	22.8	(1.4)
Frequent checks	21.2	(1.9)	33.4	(4.5)	36.3	(3.0)	50.2	(5.3)	24.9	(1.6)
Other	5.9	(1.0)	7.5	(1.8)	9.2	(2.1)	12.0	(3.5)	6.6	(0.8)

Of the 8.6 percent of beef operations that used a nonlethal predator control method, 50.9 percent in the South Central region used guard animals compared with about one-quarter of operations in the Northwest and Southwest regions (24.7 and 24.9 percent, respectively).

c. For the 8.6 percent of beef operations that used a nonlethal predator control method in 2005,, percentage of operations by control method used and by region:

Percent Operations												
Region												
Control Method	North Central		Northeast		Northwest		South Central		Southeast		Southwest	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Guard animals	28.7	(4.7)	33.8	(4.2)	24.7	(5.3)	50.9	(3.9)	36.1	(4.1)	24.9	(5.3)
Fencing	23.2	(4.3)	37.0	(4.6)	34.6	(5.5)	24.5	(3.4)	38.1	(3.7)	31.7	(5.6)
Herding	3.5	(1.6)	3.2	(1.3)	3.8	(1.4)	3.2	(1.2)	5.1	(1.6)	5.8	(2.7)
Night penning	9.2	(2.7)	12.9	(4.4)	6.9	(2.4)	6.2	(2.2)	2.2	(1.1)	6.3	(2.6)
Fright tactics	2.9	(1.5)	2.5	(1.2)	4.6	(1.8)	1.9	(0.8)	1.9	(0.7)	9.1	(3.8)
Carcass removal	28.2	(4.2)	14.5	(2.5)	31.0	(4.9)	10.2	(2.1)	20.9	(2.9)	16.8	(4.7)
Culling	30.4	(4.4)	22.9	(3.2)	40.2	(5.3)	15.7	(2.4)	23.0	(2.9)	24.3	(5.2)
Frequent checks	40.7	(5.1)	26.5	(3.5)	41.0	(5.2)	15.8	(2.7)	22.2	(2.9)	33.3	(6.5)
Other	8.2	(2.4)	7.8	(2.1)	7.8	(2.9)	8.3	(1.9)	3.7	(1.1)	4.4	(2.5)

Of beef operations that used a nonlethal predator control method, 80.8 percent used one nonlethal predator control method in 2000. In 2005, 67.9 percent of operations used one nonlethal method.

d. For the 7.5 percent of all operations and the 8.6 percent of beef operations that used a nonlethal predator control method in 2005, percentage of operations by number of methods used:

Number of Control Methods Used	Percent Operations							
	All Operations— for Comparison				Beef Operations			
	2000		2005		2000		2005	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
1	80.6	(2.1)	68.3	(1.7)	80.8	(2.6)	67.9	(1.7)
2	13.4	(2.0)	15.9	(1.2)	13.9	(2.4)	16.0	(1.3)
3	4.3	(0.8)	11.2	(1.2)	4.0	(1.0)	11.3	(1.1)
4	1.2	(0.4)	3.0	(0.5)	1.1	(0.5)	3.3	(0.5)
More than 5	0.5	(0.2)	1.6	(0.4)	0.2	(0.1)	1.5	(0.4)
Total	100.0		100.0		100.0		100.0	

Section III: Methodology

A. Cattle and Calf Death Loss Estimates

1. Survey procedures

A random sample of U.S. cattle producers was surveyed to provide data for these estimates. Survey procedures ensured that all producers (except those in Alaska) had an opportunity to participate in the survey, regardless of operation size. Large operations were sampled more heavily than small operations. Data were collected from about 77,000 producers in 1991, 50,000 in 1996, 50,000 in 2001, and 50,000 in 2006, during the first half of January by mail, telephone, and face-to-face interviews. Regardless of when producers responded, they were asked to report death losses for cattle and calves for the 1991, 1995, 2000, and 2005 calendar years and the January 1, 1992, 1996, 2001, and 2006 cattle and calf inventories by class.

Based on the original data collected during January, the NASS “Cattle and Calves Death Loss” report was issued in May 1992, May 1996, and May 2006. The NASS “Cattle Predator Loss” report was published in May 2001. These reports contained data for death loss by cause, including predator losses and losses from other causes. These estimates were on State and regional levels. The NASS “Cattle” report was issued in February 1992, February 1996, January 2001, and January 2006 and contained January 1 inventory estimates.

Data in the reports mentioned above, as well as additional summaries from the original data, provided estimates for this report. The original data were resummarized to break-out the losses by class of operation and by size group based on reported inventory. The operation classes included beef cattle, dairy cattle, mixed, and “other” cattle operations. These classes and size groups are further defined in Terms Used In This Report (p 2).

2. Estimation procedures

Estimates of total death loss and death loss by cause were prepared by the Livestock, Dairy and Poultry Branch, NASS, and the National Animal Health Monitoring System, APHIS. Total cattle and calf death losses from all causes were published in NASS’s 1991, 1995, 2000, and 2005 “Meat Animal Production, Disposition, and Income” reports, released in April 1992, April 1996, April 2001, and April 2006. Breakdowns by cause of loss and value of loss were published in the NASS “Cattle and Calves Death Loss” reports issued in May 1992, May 1996, and May 2006. Only the NASS “Cattle Predator Loss” report was issued in May 2001.

3. Reliability

Since all cattle producers are not included in the sample, survey estimates are subject to sampling variability. Survey results also are subject to nonsampling errors such as omissions, duplications, and mistakes in reporting, recording, and processing data. The effects of these nonsampling errors cannot be measured directly. They are minimized through rigid quality controls in the data collection process and through a careful review of all reported data for consistency and reasonableness.

4. Revision

Revisions to previous estimates of total death losses are made to improve the current estimates. Previous-year estimates are subject to revision when current estimates are made. Estimates for losses from all causes are subject to revision in the following year's "Meat Animals, Production, Disposition, and Income" report.

Appendix I: U.S. Populations and Operations*

Number of Cattle and Calves on January 1, 2006, and Number of Operations in 2005

	State	Number Cattle and Calves (1,000 Head)	Number Operations
North Central	Iowa	3,800	31,000
	Minnesota	2,350	26,000
	Nebraska	6,500	24,000
	North Dakota	1,720	11,700
	South Dakota	3,750	17,000
	Total	18,120	109,700
Northeast	Connecticut	52	1,100
	Delaware	23	420
	Illinois	1,330	19,800
	Indiana	900	19,000
	Kentucky	2,380	45,000
	Maine	92	1,700
	Maryland	230	4,000
	Massachusetts	47	1,100
	Michigan	1,030	14,400
	New Hampshire	39	850
	New Jersey	42	1,500
	New York	1,400	14,700
	Ohio	1,280	27,000
	Pennsylvania	1,590	28,000
	Rhode Island	5	220
	Vermont	275	2,500
	Virginia	1,660	25,000
	West Virginia	410	12,500
Wisconsin	3,400	36,000	
Total	16,185	254,790	
Northwest	Idaho	2,110	10,400
	Montana	2,400	12,600
	Oregon	1,420	15,300
	Washington	1,100	13,000
	Wyoming	1,430	5,800
	Total	8,460	57,100
South Central	Arkansas	1,710	30,000
	Kansas	6,650	32,000
	Missouri	4,500	64,000
	Oklahoma	5,450	56,000
	Texas	14,100	150,000
	Total	32,410	332,000
Southeast	Alabama	1,280	25,000
	Florida	1,680	18,800
	Georgia	1,180	21,000
	Louisiana	820	14,500
	Mississippi	990	21,000
	North Carolina	860	21,000
	South Carolina	410	10,000
	Tennessee	2,240	48,000
	Total	9,460	179,300
Southwest	Arizona	940	2,600
	California	5,450	17,000
	Colorado	2,650	12,900
	Hawaii	161	800
	Nevada	500	1,600
	New Mexico	1,550	7,600
	Utah	800	7,000
	Total	12,1051	49,500
Total (49 States)		96,686	982,390
Total U.S. (50 States)		96,701.5	982,510

*Source: NASS Cattle 2007; NASS Farms, Land in Farms and Livestock Operations, 2007.

