

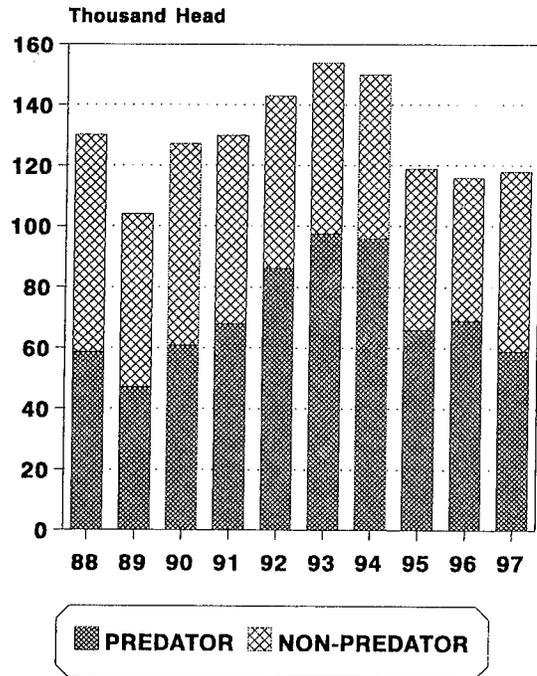
SHEEP LOSSES TO ALL CAUSES - 1997

This annual report is funded by the Wyoming Department of Agriculture. A survey of producers is conducted in early January and is used to estimate total sheep and lamb inventory on hand January 1 and to estimate sheep and lamb losses to all causes during the previous year. The survey for 1997 also included information on the prevalence of use of government trappers and on non-lethal predator control measures.

Our thanks go to all the Wyoming ranchers and farmers whose voluntary cooperation made this report possible.

The report for 1997 indicates a decline in sheep and lambs lost to predators but more losses to weather and disease. When measured as a percentage of supply, lamb predator losses also decreased slightly. Losses were 10.9 percent of total supply (lambs lost before docking plus lambs docked or branded), down from 11.8 percent the previous year. The value of sheep and lamb losses to all causes in 1997 is estimated at \$7.73 million.

ALL SHEEP & LAMB LOSSES
Predator, Non-Predator, and All Causes



HIGHLIGHTS

PREDATOR LOSSES DOWN: Wyoming sheep producers lost 59,000 sheep and lambs to predators in 1997, down 14 percent from 1996. Coyotes were again the main predator taking 69 percent of the total predator losses and 35 percent of all losses. Eagles were the second most common predator taking 7,000 head.

ALL LAMB LOSSES UP 2 PERCENT: Sheep producers lost 94,000 lambs before or after docking in 1997, 2 percent more than in 1996. Losses to predators accounted for 57 percent of the total. Losses of lambs to weather related causes rose 28 percent from the previous year and losses to diseases jumped 62 percent.

SHEEP LOSSES STEADY: Sheep losses in Wyoming during 1997 totaled 24,000 head, unchanged from 1996. However, predator

losses decreased 4,000 head while non-predator losses jumped 27 percent to 19,000 head. Weather related causes accounted for half of all sheep deaths.

VALUE OF LOSSES UP 8 PERCENT: Sheep producers in Wyoming lost an estimated \$7.73 million from sheep and lamb deaths in 1997, up 8 percent from the previous year. Predation accounted for \$3.56 million. Higher prices and more total losses resulted in the higher total value.

USE OF PREDATOR CONTROL: Thirty-five percent of survey respondents with sheep in 1997 reported using a government trapper in 1997. A little over half, 52 percent, reported using some non-lethal predator control measure. Guard animals was the most common method, used by 34 percent of producers. Of those, 57 percent rated it "very effective".

LOSSES OF SHEEP AND LAMBS BY CAUSE: WYOMING 1992-97 1/

Cause of Loss	1992	1993	1994	1995	1996	1997
Number of Head						
Coyotes	67,300	72,000	69,000	48,000	49,000	41,000
Bobcats	300	700	600	300	400	500
Dogs	1,000	900	800	1,100	1,200	800
Bears	800	1,100	2,600	1,500	900	900
Eagles	5,400	9,500	11,100	7,800	8,500	7,000
Fox	9,200	11,400	9,000	5,600	6,800	6,300
Mountain Lions	2,000	1,800	2,000	1,100	1,800	2,100
Other Predators	300	100	900	600	400	400
Total Predators	86,300	97,500	96,000	66,000	69,000	59,000
Weather	11,600	17,800	11,900	23,700	17,100	30,000
Disease	12,600	9,800	16,100	8,200	9,000	12,300
Lambing	13,200	9,800	9,400	6,900	8,500	6,200
Poison	6,400	7,500	5,200	3,500	3,100	3,300
Old Age	4,400	3,800	4,200	3,700	3,400	1,900
On Back	1,800	1,900	1,200	1,200	1,000	700
Theft	2,600	2,700	3,000	1,400	1,400	1,300
Other Known Causes	4,100	3,200	3,000	4,400	3,500	3,300
Total Loss From All Causes	143,000	154,000	150,000	119,000	116,000	118,000
Percent of Total by Cause						
Coyotes	47.1	46.7	46.0	40.3	42.2	34.7
Bobcats	0.2	0.4	0.4	0.3	0.3	0.4
Dogs	0.7	0.6	0.5	0.9	1.0	0.7
Bears	0.6	0.7	1.7	1.3	0.8	0.8
Eagles	3.8	6.2	7.4	6.6	7.3	5.9
Fox	6.4	7.4	6.0	4.7	5.9	5.3
Mountain Lions	1.4	1.2	1.3	0.9	1.6	1.8
Other Predators	0.2	0.1	0.6	0.5	0.3	0.3
Total Predators	60.3	63.3	64.0	55.5	59.5	50.0
Weather	8.1	11.5	7.9	19.9	14.7	25.4
Disease	8.8	6.4	10.7	6.9	7.8	10.4
Lambing	9.2	6.4	6.3	5.8	7.3	5.3
Poison	4.5	4.9	3.5	2.9	2.7	2.8
Old Age	3.1	2.5	2.8	3.1	2.9	1.6
On Back	1.3	1.2	0.8	1.0	0.9	0.6
Theft	1.8	1.7	2.0	1.2	1.2	1.1
Other Known Causes	2.9	2.1	2.0	3.7	3.0	2.8
Total Loss From All Causes	100.0	100.0	100.0	100.0	100.0	100.0
Dollar Value of Losses by Cause						
Coyotes	2,597,500	3,128,500	3,087,800	2,556,000	2,916,200	2,496,200
Bobcats	13,300	28,200	29,700	17,520	25,430	32,690
Dogs	40,500	44,300	43,400	68,360	83,870	49,670
Bears	36,200	60,300	132,500	90,690	60,060	59,720
Eagles	194,500	388,200	472,500	387,540	478,800	400,590
Fox	324,800	464,800	362,800	272,450	371,670	360,970
Mountain Lions	83,700	91,200	94,200	62,180	116,330	132,030
Other Predators	13,300	4,000	44,600	28,860	21,640	27,030
Total Predators	3,303,800	4,209,500	4,267,500	3,483,600	4,074,000	3,558,900
Weather	444,500	808,100	570,100	1,195,590	1,038,810	2,224,800
Disease	542,700	461,700	732,400	437,680	566,490	744,470
Lambing	552,700	475,000	438,700	396,780	543,230	407,990
Poison	309,300	414,400	276,400	245,600	232,140	243,850
Old Age	275,000	254,600	287,700	292,300	312,800	190,950
On Back	107,000	119,300	76,500	91,710	88,210	61,570
Theft	135,000	164,900	191,300	98,240	106,060	95,530
Other Known Causes	187,500	153,000	157,100	254,900	223,460	204,340
Total Loss From All Causes	5,857,500	7,060,600	6,997,500	6,496,400	7,185,200	7,732,400

1/Includes all lamb losses from birth both before and after docking.

LOSSES OF SHEEP BY CAUSE: WYOMING 1992-97 1/

Cause of Loss	1992	1993	1994	1995	1996	1997
Number of Head						
Coyotes	8,800	8,500	11,500	8,000	7,000	4,000
Bobcats	—	—	200	100	100	100
Dogs	200	300	400	500	500	100
Bears	300	600	1,000	600	300	200
Eagles	200	200	1,000	400	500	100
Fox	100	200	100	100	100	100
Mountain Lions	500	700	500	300	500	300
Other Predators	100	—	300	—	—	100
Total Predators	10,300	10,500	15,000	10,000	9,000	5,000
Weather	1,400	3,400	3,300	1,800	3,000	12,000
Disease	3,700	2,500	3,100	1,400	2,100	1,100
Lambing	3,300	3,000	2,200	2,100	2,200	1,300
Poison	3,100	4,200	2,400	2,500	1,700	1,300
Old Age	4,400	3,800	4,200	3,700	3,400	1,900
On Back	1,600	1,600	1,000	1,100	900	500
Theft	1,600	2,100	2,500	1,000	800	500
Other Known Causes	1,600	900	1,300	1,400	900	400
Total Loss From All Causes	31,000	32,000	35,000	25,000	24,000	24,000
Percent of Total by Cause						
Coyotes	28.4	26.6	32.9	32.0	29.2	16.7
Bobcats	0.3	—	0.6	0.4	0.4	0.4
Dogs	0.6	0.9	1.1	2.0	2.1	0.4
Bears	1.0	1.9	2.9	2.4	1.3	0.8
Eagles	0.6	0.6	2.9	1.6	2.1	0.4
Fox	0.3	0.6	0.3	0.4	0.4	0.4
Mountain Lions	1.6	2.2	1.4	1.2	2.1	1.3
Other Predators	0.3	—	0.9	—	—	0.4
Total Predators	33.2	32.8	42.9	40.0	37.5	20.8
Weather	4.5	10.6	9.4	7.2	12.5	50.0
Disease	11.9	7.8	8.9	5.6	8.8	4.6
Lambing	10.6	9.4	6.3	8.4	9.2	5.4
Poison	10.0	13.1	6.9	10.0	7.1	5.4
Old Age	14.2	11.9	12.0	14.8	14.2	7.9
On Back	5.2	5.0	2.9	4.4	3.8	2.1
Theft	5.2	6.6	7.1	4.0	3.3	2.1
Other Known Causes	5.2	2.8	3.7	5.6	3.8	1.7
Total Loss From All Causes	100.0	100.0	100.0	100.0	100.0	100.0
Dollar Value of Losses by Cause 1/						
Coyotes	550,000	569,500	787,800	632,000	644,000	402,000
Bobcats	6,300	—	13,700	7,900	9,200	10,050
Dogs	12,500	20,100	27,400	39,500	46,000	10,050
Bears	18,700	40,200	68,500	47,400	27,600	20,100
Eagles	12,500	13,400	68,500	31,600	46,000	10,050
Fox	6,300	13,400	6,800	7,900	9,200	10,050
Mountain Lions	31,200	46,900	34,200	23,700	46,000	30,150
Other Predators	6,300	—	20,600	—	—	10,050
Total Predators	643,800	703,500	1,027,500	790,000	828,000	502,500
Weather	87,500	227,800	226,100	142,200	276,000	1,206,000
Disease	231,200	167,500	212,400	110,600	193,200	110,550
Lambing	206,200	201,000	150,700	165,900	202,400	130,650
Poison	193,800	281,400	164,400	197,500	156,400	130,650
Old Age	275,000	254,600	287,700	292,300	312,800	190,950
On Back	100,000	107,200	68,500	86,900	82,800	50,250
Theft	100,000	140,700	171,300	79,000	73,600	50,250
Other Known Causes	100,000	60,300	89,100	110,600	82,800	40,200
Total Loss From All Causes	1,937,500	2,144,000	2,397,500	1,975,000	2,208,000	2,412,000

1/Sheep value per head based on a two-year average value per head of ewes 1+ years.

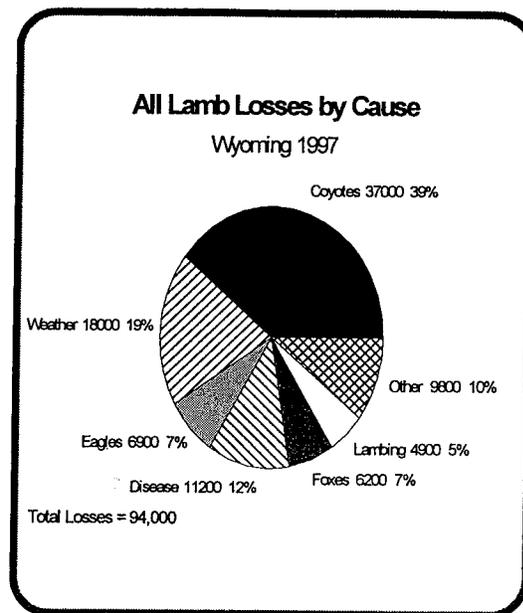
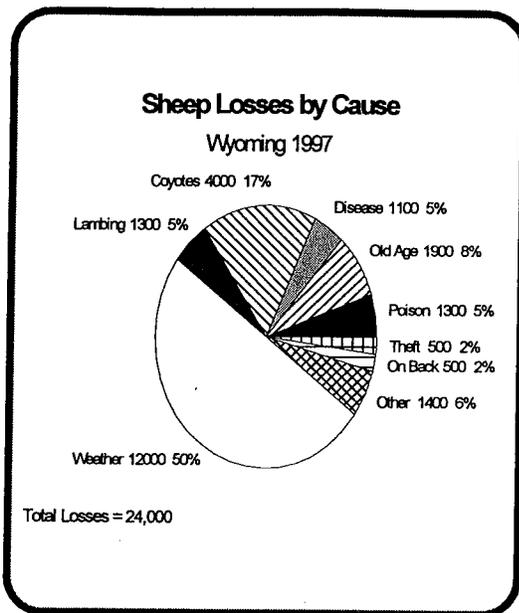
Sheep value: 1992-\$62.50; 1993-\$67.00; 1994-\$68.50; 1995-\$79.00; 1996-\$92.00; 1997-\$100.50.

LOSSES OF LAMBS BY CAUSE: WYOMING 1992-97 1/

Cause of Loss	1992	1993	1994	1995	1996	1997
Number of Head						
Coyotes	58,500	63,500	57,500	40,000	42,000	37,000
Bobcats	200	700	400	200	300	400
Dogs	800	600	400	600	700	700
Bears	500	500	1,600	900	600	700
Eagles	5,200	9,300	10,100	7,400	8,000	6,900
Fox	9,100	11,200	8,900	5,500	6,700	6,200
Mountain Lions	1,500	1,100	1,500	800	1,300	1,800
Other Predators	200	100	600	600	400	300
Total Predators	76,000	87,000	81,000	56,000	60,000	54,000
Weather	10,200	14,400	8,600	21,900	14,100	18,000
Disease	8,900	7,300	13,000	6,800	6,900	11,200
Lambing	9,900	6,800	7,200	4,800	6,300	4,900
Poison	3,300	3,300	2,800	1,000	1,400	2,000
On Back	200	300	200	100	100	200
Theft	1,000	600	500	400	600	800
Other Known Causes	2,500	2,300	1,700	3,000	2,600	2,900
Total Loss From All Causes	112,000	122,000	115,000	94,000	92,000	94,000
Percent of Total by Cause						
Coyotes	52.2	52.0	50.0	42.6	45.7	39.4
Bobcats	0.2	0.6	0.3	0.2	0.3	0.4
Dogs	0.7	0.5	0.3	0.6	0.8	0.7
Bears	0.4	0.4	1.4	1.0	0.7	0.7
Eagles	4.6	7.6	8.8	7.9	8.7	7.3
Fox	8.1	9.2	7.7	5.9	7.3	6.6
Mountain Lions	1.3	0.9	1.3	0.9	1.4	1.9
Other Predators	0.2	0.1	0.5	0.6	0.4	0.3
Total Predators	67.9	71.3	70.4	59.6	65.2	57.4
Weather	9.1	11.8	7.5	23.3	15.3	19.1
Disease	7.9	6.0	11.3	7.2	7.5	11.9
Lambing	8.8	5.6	6.3	5.1	6.8	5.2
Poison	2.9	2.7	2.4	1.1	1.5	2.1
On Back	0.2	0.2	0.2	0.1	0.1	0.2
Theft	0.9	0.5	0.4	0.4	0.7	0.9
Other Known Causes	2.2	1.9	1.5	3.2	2.8	3.1
Total Loss From All Causes	100.0	100.0	100.0	100.0	100.0	100.0
Dollar Value of Losses by Cause 2/						
Coyotes	2,047,500	2,559,000	2,300,000	1,924,000	2,272,200	2,094,200
Bobcats	7,000	28,200	16,000	9,620	16,230	22,640
Dogs	28,000	24,200	16,000	28,860	37,870	39,620
Bears	17,500	20,100	64,000	43,290	32,460	39,620
Eagles	182,000	374,800	404,000	355,940	432,800	390,540
Fox	318,500	451,400	356,000	264,550	362,470	350,920
Mountain Lions	52,500	44,300	60,000	38,480	70,330	101,880
Other Predators	7,000	4,000	24,000	28,860	21,640	16,980
Total Predators	2,660,000	3,506,000	3,240,000	2,693,600	3,246,000	3,056,400
Weather	357,000	580,300	344,000	1,053,390	762,810	1,018,800
Disease	311,500	294,200	520,000	327,080	373,290	633,920
Lambing	346,500	274,000	288,000	230,880	340,830	277,340
Poison	115,500	133,000	112,000	48,100	75,740	113,200
On Back	7,000	12,100	8,000	4,810	5,410	11,320
Theft	35,000	24,200	20,000	19,240	32,460	45,280
Other Known Causes	87,500	92,700	68,000	144,300	140,660	164,140
Total Loss From All Causes	3,920,000	4,916,600	4,600,000	4,521,400	4,977,200	5,320,400

1/Includes all lamb losses both before and after docking.

2/Lamb value per head based on the annual hundredweight prices received by farmers and ranchers for a 60 pound lamb.
Lamb value: 1992-\$35.00; 1993-\$40.30; 1994-\$40.00; 1995-\$48.10; 1996-\$54.10; 1997-\$56.60.



LOSSES OF LAMBS BEFORE DOCKING: WYOMING 1992-97

Cause of Loss	1992	1993	1994	1995	1996	1997
Number of Head						
Coyotes	23,500	22,500	20,000	13,000	14,000	13,000
Bobcats	100	300	200	100	100	300
Dogs	300	200	200	200	300	300
Bears	100	—	200	100	—	100
Eagles	3,300	6,200	7,200	4,400	5,400	4,700
Fox	5,900	8,600	6,500	3,600	4,700	5,200
Mountain Lions	—	200	400	100	200	200
Other Predators	100	—	300	500	300	200
Total Predators	34,000	38,000	35,000	22,000	25,000	24,000
Weather	8,900	13,000	7,100	21,000	12,000	13,200
Disease	3,600	3,000	5,000	1,800	2,800	3,400
Lambing	9,900	6,800	7,200	4,800	6,300	4,900
Poison	700	400	200	400	100	500
On Back	100	200	—	—	—	—
Theft	200	100	—	—	300	—
Other Known Causes	600	500	500	1,000	500	1,000
Total Loss From All Causes	58,000	62,000	55,000	51,000	47,000	47,000

LOSSES OF LAMBS AFTER DOCKING: WYOMING 1992-97

Cause of Loss	1992	1993	1994	1995	1996	1997
Number of Head						
Coyotes	35,000	41,000	37,500	27,000	28,000	24,000
Bobcats	100	400	200	100	200	100
Dogs	500	400	200	400	400	400
Bears	400	500	1,400	800	600	600
Eagles	1,900	3,100	2,900	3,000	2,600	2,200
Fox	3,200	2,600	2,400	1,900	2,000	1,000
Mountain Lions	800	900	1,100	700	1,100	1,600
Other Predators	100	100	300	100	100	100
Total Predators	42,000	49,000	46,000	34,000	35,000	30,000
Weather	1,300	1,400	1,500	900	2,100	4,800
Disease	5,300	4,300	8,000	5,000	4,100	7,800
Poison	2,600	2,900	2,600	600	1,300	1,500
On Back	100	100	200	100	100	200
Theft	800	500	500	400	300	800
Other Known Causes	1,900	1,800	1,200	2,000	2,100	1,900
Total Loss From All Causes	54,000	60,000	60,000	43,000	45,000	47,000

**LOSSES OF SHEEP AND LAMBS: PERCENT BY CAUSE
WITHIN EACH AGRICULTURAL STATISTICS DISTRICT, WYOMING 1997 1/**

Cause of Loss	Northwest	Northeast	West	South Central	Southeast	State
	Percent					
Coyotes	25.0	36.4	45.8	50.6	25.3	34.7
Bobcats	—	0.2	1.7	—	0.7	0.4
Dogs	2.2	0.2	1.7	0.3	0.2	0.7
Bears	1.1	0.5	2.5	1.3	—	0.8
Eagles	2.8	5.7	5.0	9.4	6.7	5.9
Fox	3.3	4.8	6.7	5.0	7.0	5.3
Mountain Lions	4.4	1.9	0.8	2.2	0.2	1.8
Other Predators	—	0.2	2.5	—	—	0.3
Total Predators	38.9	50.0	66.7	68.8	40.0	50.0
Weather	11.7	28.6	10.8	15.0	40.7	25.4
Disease	32.2	7.1	5.0	2.5	8.3	10.4
Lambing	6.1	5.5	7.5	3.1	4.7	5.3
Poison	2.8	2.6	3.8	5.0	1.5	2.8
Old Age	1.7	1.4	2.5	1.3	1.7	1.6
On Back	0.6	1.0	0.4	0.6	0.2	0.6
Theft	1.1	1.0	—	0.6	2.0	1.1
All Other Causes	5.0	2.9	3.3	3.1	1.0	2.8
Total Loss All Causes	100.0	100.0	100.0	100.0	100.0	100.0

1/Includes all lamb losses both before and after docking.

GOVERNMENT TRAPPER ASSISTANCE, WYOMING 1997

Response	Agricultural Statistics District					
	North West	North East	West	South Central	South East	State
Number Reporting Sheep in 1997	218	211	78	92	142	741
Percent Used Government Trapper in 1997	32 %	47 %	30 %	38 %	21 %	35 %

USE AND EFFECTIVENESS OF NON-LETHAL PREDATOR CONTROL MEASURES, WYOMING, 1997

Non-Lethal Predator Control Measures	Number of Sheep Producers Using Practice	Percent of Sheep Producers Using Practice	Effectiveness Rating of Those Reporting Use of Each Practice		
			Very Effective	Somewhat Effective	Not Effective
		Percent	Percent		
One or More Practices Used	385	52			
Fencing	102	14	41	41	18
Scaring Devices (fright tactics)	34	5	35	45	20
Guard Animals	248	34	57	35	8
Husbandry Practices					
Herding, Gathering	72	10	55	41	4
Night Penning	132	18	74	23	3
Shed Lambing	185	25	84	13	3
Move Livestock	70	10	35	51	14