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This Sheep and Lamb Predator Loss Report is the first of a two-stage report on sheep and lamb losses. The full report which will include losses from all causes (predator and non-predator) will be released in late April.

Special funding from the Colorado Wool Growers Association enabled the Colorado sample of cattle and sheep operations for the regularly scheduled January 1 survey to be expanded to obtain additional responses from sheep and lamb operations on predator and non-predator losses. From a total sample of 1,976 cattle and sheep operations, there were 303 responses that reported having sheep and/or lambs. The numbers in the following tables reflect the total estimated number of sheep and lambs lost to predators based on the survey responses. The 1994 data is not completely comparable with the 1990 data in at least two ways: (1) the sample size for the 1990 survey was not as large as the 1994 survey, and (2) the 1990 survey did not ask for lamb losses before docking.

The total inventory of all sheep and lambs in Colorado as of January 1, 1994 was 647,000 head. The beginning year inventory consisted of 320,000 breeding sheep and lambs of which 279,000 were one year old and older and 41,000 were breeding replacement lambs. The January 1, 1994 inventory also included 327,000 market sheep and lambs consisting of just 3,000 head of market sheep and 324,000 head of market lambs, many of which are shipped into Colorado for further feeding before being sent to slaughter.

The total loss of sheep and lambs to predators during 1994 in Colorado totaled 35,500 head. Of that total, 6,500 were mature sheep and 29,000 were lambs. Lamb losses prior to docking totaled 9,000 head and losses after docking totaled 20,000. The value of all sheep and lambs lost to predators during 1994 was estimated at just under \$2.20 million compared with \$2.27 million in 1990. The value loss on sheep was \$484 thousand in 1994, down from \$783 thousand in 1990 as a result of fewer head lost and a lower value per head. Lamb losses to predators were valued at \$1.71 million in 1994 compared with \$1.49 million in 1990 as the higher value per head more than offset a fewer number being lost.

Coyotes were by far the leading cause of loss to predators for both sheep and lambs. Coyotes accounted for 41.5 percent of the mature sheep losses by predators and 55.9 percent of the lamb losses. Bears, mountain lions, and dogs accounted for 20.0 percent, 18.5 percent, and 15.4 percent of the sheep losses to predators, respectively. Other predators accounted for the remaining 4.6 percent of the sheep losses. Mountain lions were the second leading cause of lamb losses to predators, accounting for 13.5 percent of the total. Eagles were responsible for 11.0 percent of the lamb losses, bears accounted for 7.2 percent, dogs claimed 5.5 percent, and fox accounted for 4.8 percent. Bobcats and other predators made up the remaining 2.1 percent of the lambs lost to predators.

Coyotes were responsible for the majority of sheep and lamb losses in each area of the state, ranging from a low of 44.1 percent of the total in the Northwest and Mountains to a high of 79.5 percent of the total in the Southeast. Losses caused by dogs were also reported by each area with the highest percentages occurring in the Northeast where lambs are concentrated in feedlots and in the San Luis Valley where sheep and lambs are also more concentrated and subject to attack by dogs. Predator losses were heavily concentrated in the Northwest and Mountains and the Southwest where the majority of the stock sheep are located and where young lambs are born.

Table 1: Loss of Mature Sheep to Predators, Colorado, 1990 and 1994

Cause of Loss	1990		1994	
	Number Lost	% of Total	Number Lost	% of Total
	Head	Percent	Head	Percent
Bears	1,500	16.7	1,300	20.0
Bobcats .....	...	...	...	...
Coyotes	5,900	65.6	2,700	41.5
Dogs	400	4.4	1,000	15.4
Eagles .....	...	...	...	...
Fox .....	...	...	...	...
Mountain Lions	1,000	11.1	1,200	18.5
Other Predators <u>1/</u>	200	2.2	300	4.6
TOTAL PREDATORS	9,000	100.0	6,500	100.0

1/ Includes unknown predators.



Table 2: Loss of Lambs to Predators, Colorado, 1990 and 1994

Cause of Loss	1990				1994			
	Before Docking	After Docking	Total	% of Total	Before Docking	After Docking	Total	% of Total
	Head	Head	Head	Percent	Head	Head	Head	Percent
Bears	*	1,100	*	...	100	2,000	2,100	7.2
Bobcats	*	100	*	...	...	100	100	.4
Coyotes	*	26,300	*	...	3,700	12,500	16,200	55.9
Dogs	*	300	*	...	300	1,300	1,600	5.5
Eagles	*	600	*	...	2,600	600	3,200	11.0
Fox	*	100	*	...	1,300	100	1,400	4.8
Mountain Lions	*	1,500	*	...	1,000	2,900	3,900	13.5
Other <u>1/</u>	*	400	*	...	...	500	500	1.7
TOTAL PREDATORS	*	30,400	*	...	9,000	20,000	29,000	100.0

1/ Includes unknown predators.

* Predator loss before docking not asked on 1990 survey.

Table 3: Loss of Sheep and Lambs to Predators, Colorado, 1990 and 1994

Cause of Loss	1990 ^{2/}		1994	
	Number Lost	% of Total	Number Lost	% of Total
	Head	Percent	Head	Percent
Bears	2,600	6.6	3,400	9.6
Bobcats	100	.3	100	.3
Coyotes	32,200	81.7	18,900	53.2
Dogs	700	1.8	2,600	7.3
Eagles	600	1.5	3,200	9.0
Fox	100	.3	1,400	3.9
Mountain Lions	2,500	6.3	5,100	14.4
Other Predators ^{1/}	600	1.5	800	2.3
TOTAL PREDATORS	39,400	100.0	35,500	100.0

^{1/} Includes unknown predators.

^{2/} 1990 lamb losses include only "after docking" deaths.

Table 4: Value of Loss of Sheep and Lambs to Predators, Colorado, 1990 and 1994 ^{1/}

Cause of Loss	Sheep		Lambs		Sheep and Lambs	
	1990	1994	1990 ^{3/}	1994	1990 ^{3/}	1994
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Bears	130,500	96,850	53,900	123,900	184,400	220,750
Bobcats .....	...	...	4,900	5,900	4,900	5,900
Coyotes	513,300	201,150	1,288,700	955,800	1,802,000	1,156,950
Dogs	34,800	74,500	14,700	94,400	49,500	168,900
Eagles .....	...	...	29,400	188,800	29,400	188,800
Fox .....	...	...	4,900	82,600	4,900	82,600
Mountain Lions ...	87,000	89,400	73,500	230,100	160,500	319,500
Other Predators ^{2/} .	17,400	22,350	19,600	29,500	37,000	51,850
TOTAL PREDATORS	783,000	484,250	1,489,600	1,711,000	2,272,600	2,195,250

^{1/} Sheep value is based on a two year average value per head of ewes 1 year old and older. Sheep value for 1990, \$87.00; and for 1994, \$74.50. Lamb value is based on the annual average price received by farmers and ranchers for a 90 pound lamb. Lamb value for 1990, \$49.00; and for 1994, \$59.00.

^{2/} Includes unknown predators.

^{3/} The 1990 lamb losses include only "after docking" deaths.

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Table 5: Percent Loss of Sheep and Lambs by Type of Predator Within each Agricultural Statistics District, Colorado, 1994 ^{1/}

Cause of Loss	Agricultural Statistics District						State
	NW & Mountain	Northeast	East Central	Southwest	San Luis Valley	Southeast	
	Percent						
Bears	11.3	...	...	9.8	...	...	9.6
Bobcats .....	.1	...	...	.4	.1	3.0	.3
Coyotes	44.1	68.1	78.6	74.6	57.4	79.5	53.2
Dogs .....	.4	24.4	16.3	6.9	37.1	17.5	7.3
Eagle	15.0	...	3.3	.7	...	...	9.0
Fox	6.4	...	...	.2	.8	...	3.9
Mountain Lions	20.2	1.2	...	6.9	...	...	14.4
Other Predators ^{2/} ..	2.5	6.3	1.8	.5	4.6	...	2.3
TOTAL PREDATORS	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^{1/} Includes all lamb losses both before and after docking. ^{2/} Includes unknown predators.

Table 6: Percent Loss of Sheep and Lambs Within each Agricultural Statistics District, by Type of Predator Colorado, 1994 ^{1/}

Cause of Loss	Agricultural Statistics District						State
	NW & Mountain	Northeast	East Central	Southwest	San Luis Valley	Southeast	
	Percent						
Bears	78.0	...	...	22.0	...	...	100.0
Bobcats	37.0	...	...	47.5	5.0	10.5	100.0
Coyotes	51.2	3.3	5.4	28.3	10.8	1.0	100.0
Dogs	3.8	9.5	8.9	20.7	55.3	1.8	100.0
Eagles	97.2	...	1.3	1.5	...	...	100.0
Fox	97.1	...	...	.9	2.0	...	100.0
Mountain Lions	89.8	.2	...	10.0	...	...	100.0
Other Predators ^{2/} ..	65.0	7.2	2.9	4.6	20.3	...	100.0
TOTAL PREDATORS	62.4	2.6	3.7	20.4	10.2	.7	100.0

^{1/} Includes all lamb losses both before and after docking. ^{2/} Includes unknown predators.