



## VERTEBRATE RODENT INFESTATION SURVEY

P. O. Box 150969  
Lakewood, CO 80215  
Phone (303)236-2300

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Colorado farm and ranch operators suffered an estimated loss of nearly \$17 million due to infestations of prairie dogs, pocket gophers and ground squirrels during 1989 according to a survey recently completed by the Colorado Agricultural Statistics Service for the Colorado Department of Agriculture.

The survey based on nearly 3,000 completed questionnaires from 9,046 Colorado farmers and ranchers surveyed indicated the following levels of rodent infestation: an estimated 1.6 million acres of farm and ranch land were infested with prairie dogs; over 2.4 million acres were infested with pocket gophers; and 1.7 million acres were reported to be infested with ground squirrels. However, the largest economic loss, \$10.3 million, was reportedly caused by prairie dogs. Pocket gopher damage was estimated at \$4.4 million, while losses caused by ground squirrels were estimated at \$2.2 million.

The survey was designed to provide estimates of acres of land infested and economic loss for farm and ranch land in each county. The estimates include infestations and losses on public and private lands leased on a per acre basis but exclude infestations on public lands leased on an AUM basis and non-agricultural lands. Producers were asked to include the following in economic losses for their own operations:

- \* Loss in yields and productivity of crops, hay, pasture and rangeland due to rodent infestation.
- \* Loss as a result of injury or death to livestock (including horses).
- \* Expenditures to repair damage (ditches, dams, etc.) due to rodent infestation.
- \* Expenditures to control rodent pests.

Of the Colorado producers responding to the survey, 31 percent reported prairie dogs to be a serious problem, 11 percent felt they were a moderate problem, while 58 percent reported them to be minor to no problem. Twelve percent of the producers described pocket gophers as a serious problem, 20 percent indicated they were a moderate problem and 68 percent said they were minor to no problem. Only 8 percent of the producers reported ground squirrels to be a major problem, 10 percent felt they posed a moderate problem, and the remaining 82 percent reported them to be minor to no problem.

Of the nearly 1.6 million acres in the state infested by prairie dogs, 1,424,000 acres (nearly 92 percent) were classified as pasture and rangeland; 73,000 acres of the infestation were in cropland; and 56,000 acres were classified as hayland. A breakdown of the 2.4 million acres infested by pocket gophers showed 1,843,000 acres (76 percent) of pasture and rangeland infested; 346,000 acres of the infestation were in hayland; and 229,000 acres of cropland were infested. Ground squirrel problems on nearly 1.7 million acres included 1,337,000 acres (81 percent) of pasture and rangeland; 245,000 acres of cropland; and 73,000 acres of hayland.

**Table 1: Total Acres Infested And Economic Loss By Rodent Type, By District, Colorado, 1990 <sup>1/</sup>**

Agricultural Statistics District	Total Acres <sup>2/</sup>	Total Land Infested By:			Economic Loss From Infestation Of:			Total Economic Loss
		Prairie Dogs	Pocket Gophers	Ground Squirrels	Prairie Dogs	Pocket Gophers	Ground Squirrels	
	(000)	Thousand Acres			Thousand Dollars			\$1,000
Northwest . . . . .	4,035	95	331	486	348	394	665	1,407
Northeast . . . . .	5,077	219	484	340	2,593	1,176	268	4,037
East Central . . . . .	11,362	230	546	594	1,988	1,199	677	3,864
Southwest . . . . .	3,741	438	445	158	3,360	568	456	4,384
San Luis Valley . . .	1,509	56	150	14	205	376	13	594
Southeast . . . . .	8,324	515	462	63	1,767	697	132	2,596
State . . . . .	34,048	1,553	2,418	1,655	10,261	4,410	2,211	16,882

<sup>1/</sup> Economic loss during 1989.

<sup>2/</sup> Total land in farms and ranches from 1987 Federal Census of Agriculture.

**Table 2: Total Acres Infested and Economic Loss By Rodent Type, By County, Colorado, 1990 <sup>1/</sup>**

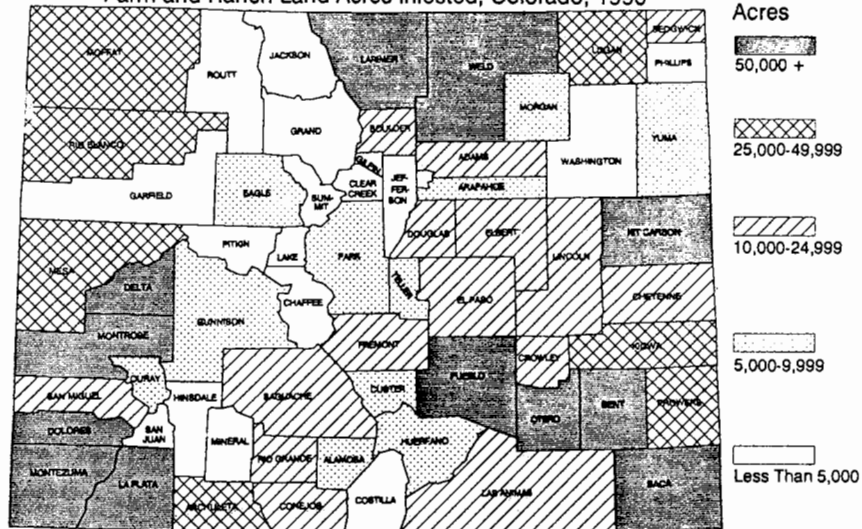
County	Total Acres <sup>2/</sup>	Total Acres Infested By:			Economic Loss From Infestation Of:			Total Economic Loss
		Prairie Dogs	Pocket Gophers	Ground Squirrels	Prairie Dogs	Pocket Gophers	Ground Squirrels	
	(000)	Acres			Dollars			Dollars
Adams . . . . .	712,000	22,700	7,300	200	320,000	40,000	8,000	368,000
Alamosa . . . . .	210,000	6,200	40,500	2,200	28,000	73,000	1,000	102,000
Arapahoe . . . . .	295,000	5,100	5,900	3,900	175,000	44,000	5,000	224,000
Archuleta . . . . .	161,000	48,900	61,800	1,300	18,000	15,000	8,000	41,000
Baca . . . . .	1,305,000	92,200	114,100	2,700	356,000	18,000	3,000	377,000
Bent . . . . .	856,000	115,500	61,500	8,000	275,000	43,000	22,000	340,000
Boulder . . . . .	156,000	11,800	1,100	300	218,000	22,000	8,000	248,000
Chaffee . . . . .	105,000	3,200	12,600	6,700	17,000	49,000	16,000	82,000
Cheyenne . . . . .	863,000	22,800	31,400	10,500	172,000	39,000	11,000	222,000
Clear Creek . . . . .	8,000	-	1,100	-	-	2,000	-	2,000
Conejos . . . . .	302,000	20,500	34,900	600	17,000	32,000	-	49,000
Costilla . . . . .	292,000	1,600	5,800	-	49,000	45,000	-	94,000
Crowley . . . . .	409,000	20,700	8,800	12,300	151,000	5,000	2,000	158,000
Custer . . . . .	150,000	5,900	30,100	3,500	38,000	48,000	5,000	91,000
Delta . . . . .	269,000	52,500	40,100	10,400	495,000	54,000	173,000	722,000
Denver . . . . .	-	-	-	-	-	-	-	-
Dolores . . . . .	160,000	56,000	3,500	1,400	21,000	6,000	1,000	28,000
Douglas . . . . .	212,000	12,600	11,500	10,400	92,000	54,000	11,000	157,000
Eagle . . . . .	213,000	8,900	14,100	34,100	78,000	3,000	8,000	89,000
Elbert . . . . .	1,015,000	17,300	25,600	96,000	20,000	248,000	8,000	276,000
El Paso . . . . .	918,000	16,700	32,200	35,200	399,000	8,000	175,000	582,000
Fremont . . . . .	305,000	15,300	68,000	8,800	23,000	26,000	27,000	76,000
Garfield . . . . .	484,000	1,000	48,400	2,800	5,000	40,000	15,000	60,000
Gilpin . . . . .	16,000	900	900	800	1,000	2,000	1,000	4,000
Grand . . . . .	320,000	100	50,400	6,700	4,000	54,000	31,000	89,000
Gunnison . . . . .	225,000	5,800	9,600	9,100	33,000	32,000	8,000	73,000
Hinsdale . . . . .	10,000	300	2,600	-	5,000	1,000	-	6,000
Huerfano . . . . .	643,000	6,400	8,700	1,700	16,000	20,000	1,000	37,000
Jackson . . . . .	460,000	3,000	82,800	59,700	16,000	85,000	53,000	154,000
Jefferson . . . . .	92,000	1,700	7,000	3,400	18,000	15,000	14,000	47,000
Kiowa . . . . .	997,000	39,800	7,200	2,000	389,000	1,000	1,000	391,000
Kit Carson . . . . .	1,416,000	56,700	147,200	148,700	111,000	315,000	34,000	460,000
Lake . . . . .	11,000	900	-	2,200	2,000	-	1,000	3,000
La Plata . . . . .	614,000	80,000	31,900	54,500	448,000	130,000	13,000	591,000
Larimer . . . . .	575,000	88,100	52,800	30,000	771,000	191,000	189,000	1,151,000
Las Animas . . . . .	2,150,000	18,500	77,000	4,800	90,000	164,000	4,000	258,000
Lincoln . . . . .	1,615,000	23,600	80,400	37,000	118,000	30,000	40,000	188,000
Logan . . . . .	1,082,000	40,000	151,100	86,600	518,000	357,000	18,000	893,000
Mesa . . . . .	437,000	34,400	40,300	42,300	327,000	68,000	126,000	521,000
Mineral . . . . .	12,000	200	3,100	1,500	1,000	4,000	-	5,000
Moffat . . . . .	1,033,000	26,300	23,300	64,000	20,000	16,000	195,000	231,000
Montezuma . . . . .	844,000	92,000	171,700	2,600	802,000	218,000	18,000	1,038,000
Montrose . . . . .	431,000	52,100	26,000	32,300	999,000	25,000	96,000	1,120,000
Morgan . . . . .	743,000	8,200	92,300	35,100	154,000	190,000	5,000	349,000
Otero . . . . .	732,000	133,500	9,300	6,300	267,000	55,000	35,000	357,000
Ouray . . . . .	162,000	7,400	18,400	10,200	50,000	9,000	3,000	62,000
Park . . . . .	400,000	5,100	16,500	100,000	60,000	7,000	41,000	108,000
Phillips . . . . .	450,000	3,000	24,000	18,500	11,000	28,000	62,000	101,000
Pitkin . . . . .	33,000	2,400	1,300	1,900	50,000	13,000	5,000	68,000
Prowers . . . . .	882,000	36,500	27,700	9,300	253,000	76,000	9,000	338,000
Pueblo . . . . .	892,000	70,500	56,800	5,600	298,000	242,000	24,000	564,000
Rio Blanco . . . . .	505,000	29,500	67,300	102,700	26,000	52,000	152,000	230,000
Rio Grande . . . . .	221,000	14,300	10,900	-	73,000	119,000	-	192,000
Routt . . . . .	589,000	3,600	44,000	89,500	9,000	62,000	144,000	215,000
Saguache . . . . .	472,000	13,200	54,800	9,700	37,000	103,000	12,000	152,000
San Juan . . . . .	-	-	-	-	-	-	-	-
San Miguel . . . . .	169,000	13,400	300	200	190,000	2,000	3,000	195,000
Sedgwick . . . . .	324,000	10,400	11,700	21,400	44,000	28,000	1,000	73,000
Summit . . . . .	34,000	100	1,200	2,300	4,000	3,000	1,000	8,000
Teller . . . . .	83,000	5,200	5,900	6,300	28,000	14,000	9,000	51,000
Washington . . . . .	1,391,000	2,600	57,000	193,600	42,000	186,000	204,000	432,000
Weld . . . . .	2,105,000	58,800	168,000	163,200	870,000	373,000	33,000	1,276,000
Yuma . . . . .	1,478,000	7,100	116,300	38,000	139,000	206,000	118,000	463,000
State . . . . .	34,048,000	1,553,000	2,418,000	1,655,000	10,261,000	4,410,000	2,211,000	16,882,000

<sup>1/</sup> Economic loss during 1989.

<sup>2/</sup> Total land in farms and ranches from 1987 Federal Census of Agriculture.

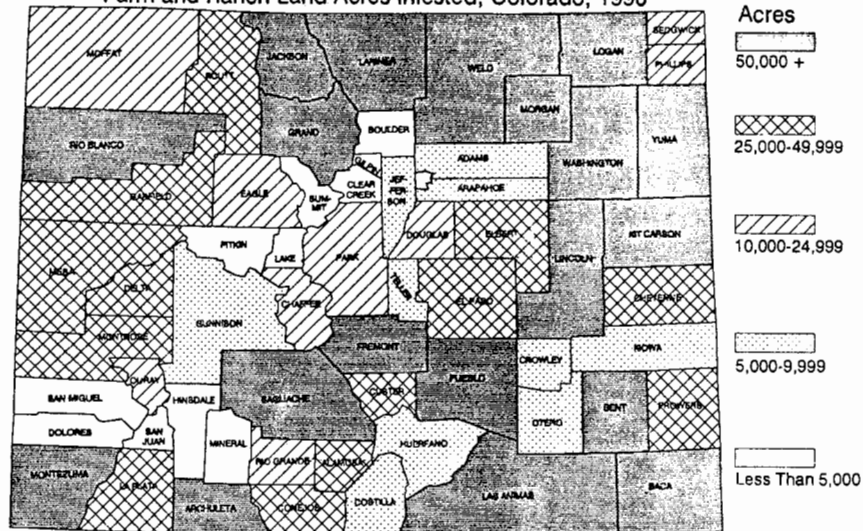
## PRAIRIE DOGS

Farm and Ranch Land Acres Infested, Colorado, 1990



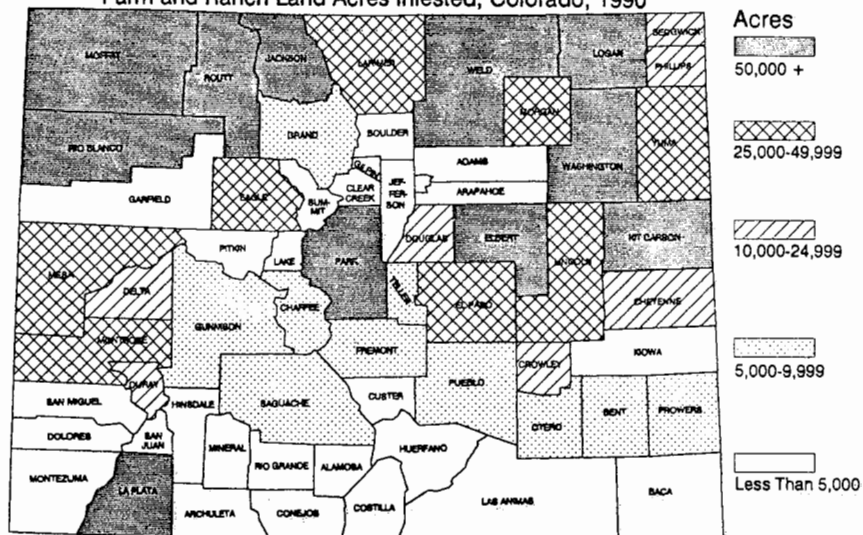
## POCKET GOPHERS

Farm and Ranch Land Acres Infested, Colorado, 1990



## GROUND SQUIRRELS

Farm and Ranch Land Acres Infested, Colorado, 1990



This brief report has been prepared to present the survey results primarily to those who requested them in their response to the survey questionnaire. Without their voluntary cooperation, data for this report would not have been available. This summary report is available to others upon request from the Colorado Agricultural Statistics Service. A more detailed report including statistical data by geographic area and comments grouped by county from more than 1,000 agricultural producers is available for \$6.00 postpaid from the Colorado Department of Agriculture; 700 Kipling St., Suite 4000; Lakewood, CO 80215.

Table 3: Acres Infested By Rodent Type, By Land Use, Colorado, 1990

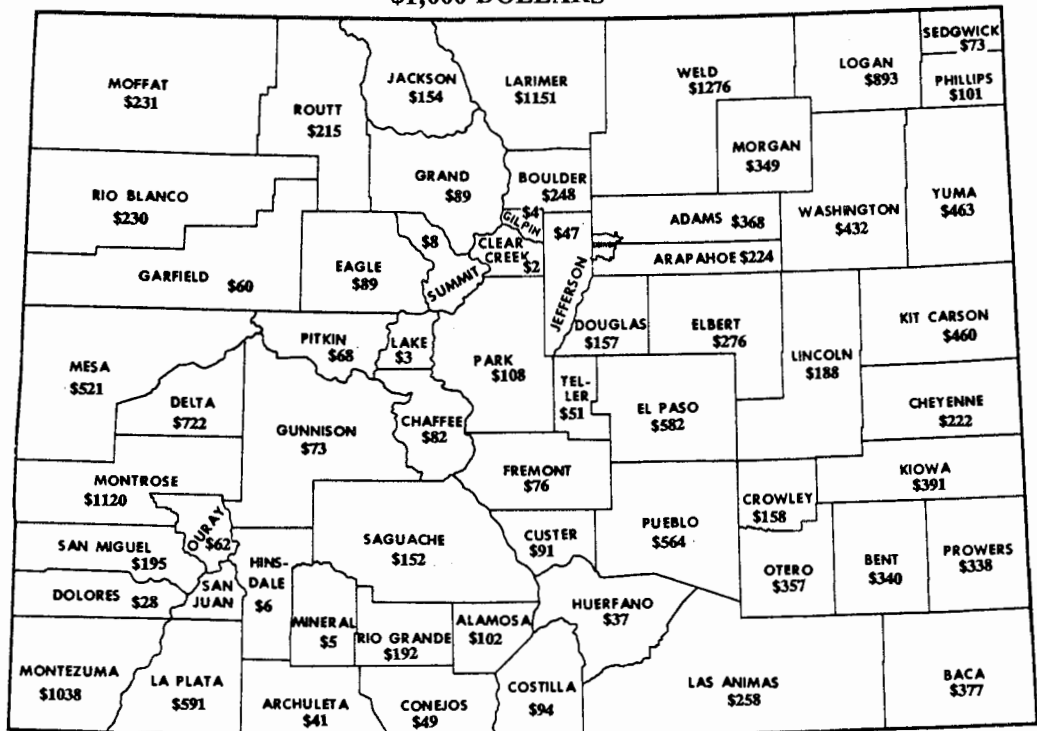
Rodent Type	Cropland			Hayland	Pasture and Rangeland	Total Acres Infested
	Irrigated	Non-Irrigated	Total			
	Acres					
Prairie Dogs . . .	28,000	45,000	73,000	56,000	1,424,000	1,553,000
Pocket Gophers .	111,000	118,000	229,000	346,000	1,843,000	2,418,000
Ground Squirrels	38,000	207,000	245,000	73,000	1,337,000	1,655,000

Table 4: Seriousness of Infestation By Rodent Type, Colorado, 1990

Rodent Type	Number of Responses Reporting:				
	No Problem	Minor	Moderate	Serious	Total <sup>1/</sup>
	Number				
Prairie Dogs . . .	1,313	239	285	826	2,663
Pocket Gophers .	1,166	544	494	310	2,514
Ground Squirrels	1,468	532	255	184	2,439

<sup>1/</sup> Total represents the number of responses received for each of these items out of a total survey response of 2,943 useable questionnaires.

ESTIMATED ECONOMIC LOSS FROM INFESTATION OF  
PRAIRIE DOGS, POCKET GOPHERS, AND GROUND SQUIRRELS  
ON COLORADO FARM AND RANCH LAND, 1989  
\$1,000 DOLLARS



STATE TOTAL: \$16.9 Million, based upon 2,943 useable responses from 9,046 producers surveyed by the Colorado Agricultural Statistics Service.