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An Overview of the South Dakota Animal Damage Control Program¹

Alvin L. Miller²

Animal Damage Control in South Dakota is a very comprehensive program. The program's objective is to reduce agricultural loss caused by predators, nuisance animals, rodents, migratory birds and waterfowl. It involves the cooperation of several federal, state and county agencies as well as landowners and in turn requires very close coordination of these various entities in order to successfully achieve our objective. Operational control, extension services, research and educational programs are all important facets of such a comprehensive program.

Animal Damage Control is a vital program in South Dakota because of its direct relationship to agriculture and the agricultural economy. Agriculture is the number one industry in the State of South Dakota. According to a nationwide agricultural census, South Dakota ranked 5th in number of beef cattle and 5th in sheep. South Dakota also ranks among the top ten states in the production of corn for grain, oats, wheat, barley, rye, flax seed, sunflower seed, hay and alfalfa (see table 1). The vast topographical difference from one end of the state to the other accounts for a wide diversity in agricultural practices. These same topographical differences provide a wide variety of habitat conditions that become food and shelter for our wildlife populations. When wildlife is forced to coexist with man in his environment, problems often arise. These problems can be caused by a variety of things like a disease such as rabies, the destruction of crops or the predation of livestock. Resolving these wildlife/agricultural conflicts is the responsibility of the Animal Damage Control Program in South Dakota.

The Animal Damage Control responsibilities are shared by a number of different agencies and organizations. Each plays an important role in making up one of the most comprehensive

¹Paper presented at the Eighth Great Plains Wildlife Damage Control Workshop (Howard Johnson's, Rapid City, South Dakota, April 28-30, 1987).

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Animal Damage Control programs in the nation. The South Dakota Department of Game, Fish and Parks has the largest role in this Animal Damage Control responsibility. This agency is responsible for the management of all game animals, birds, fish and furbearers within the state. Much of the animal damage problems that occur are caused by a wildlife species that comes under this management responsibility.

The Game, Fish and Parks Department has a special unit known as the Animal Damage Control section. This unit consists of a supervisor and one assistant supervisor, one secretary, sixteen full time extension trapper specialists, two pilots and four part time trappers. The primary responsibility of this unit is to reduce or eliminate agricultural losses caused by predators, nuisance animals and rodents.

The field staff are all stationed in strategic locations so as to best serve the needs for Animal Damage Control. Workloads have changed in recent years causing an increased need for manpower in the eastern part of the state. This need was addressed by adding one full time and two part time trappers (April - October) east of the Missouri River. Currently we have eleven full time and two part time trappers stationed in the western half of the state and five full time and two part time trappers stationed in the eastern half of the state. The one west river part time works from April - October. The second one serves a dual role. This person works two months during denning season (April - May) then serves as rodent control specialist August - November.

Table 1.--State rankings, South Dakota and ten leading states--1984.

ITEM	UNIT	1	2	3	4	5	6	7	8	9	10	S.D. Rank
CROP PRODUCTION - 1984												
CORN FOR GRAIN	MIL.	IOWA 1,444.8	ILL. 1,247.2	NEBR. 799.3	IND. 705.5	MINN. 689.1	OHIO 460.2	WISC. 344.5	MICH. 220.1	S.D. 186.3	MO. 154.4	9
	BU.	S.D. 86.8	MINN. 78.0	WISC. 53.8	N.D. 50.0	IOWA 47.4	MICH. 21.7	PA. 16.0	NEBR. 15.0	OHIO 13.2	ILL. 10.7	1
OATS	MIL.	KANS. 431.2	N.D. 284.2	OKLA. 190.8	WASH. 160.4	TEXAS 150.0	S.D. 126.0	MINN. 120.7	COLO. 115.3	MONT. 104.7	MO. 84.1	6
	BU.	KANS. 431.2	OKLA. 284.2	TEXAS 190.8	WASH. 160.4	TEXAS 150.0	COLO. 126.0	MO. 120.7	NEBR. 115.3	ILL. 104.7	OREG. 84.1	12
WINTER WHEAT	MIL.	N.D. 78.6	CALIF. 9.4	ARIZ. 7.2	MONT. 3.6	S.D. 3.1	MINN. 1.6					5
	BU.	N.D. 78.6	CALIF. 9.4	ARIZ. 7.2	MONT. 3.6	S.D. 3.1	MINN. 1.6					5
DURUM WHEAT	MIL.	N.D. 183.6	MINN. 103.7	S.D. 61.7	MONT. 34.1	IDAHO 24.7	WASH. 11.6	COLO. 4.9	OREG. 2.8	UTAH 1.8	NEV. 1.2	3
	BU.	N.D. 183.6	MINN. 103.7	S.D. 61.7	MONT. 34.1	IDAHO 24.7	WASH. 11.6	COLO. 4.9	OREG. 2.8	UTAH 1.8	NEV. 1.2	3
OTHER SPRING WHT.	MIL.	N.D. 153.7	IDAHO 88.4	WASH. 63.7	MINN. 61.8	MONT. 59.1	S.D. 30.3	CALIF. 29.0	COLO. 20.2	OREG. 17.4	UTAH 11.6	6
	BU.	N.D. 153.7	IDAHO 88.4	WASH. 63.7	MINN. 61.8	MONT. 59.1	S.D. 30.3	CALIF. 29.0	COLO. 20.2	OREG. 17.4	UTAH 11.6	6
BARLEY	MIL.	S.D. 10.8	MINN. 6.7	N.D. 5.4	GA. 1.8	NEBR. 1.3	OKLA. .7	MICH. .6	PA. .6	N.C. .6	S.C. .5	1
	BU.	S.D. 10.8	MINN. 6.7	N.D. 5.4	GA. 1.8	NEBR. 1.3	OKLA. .7	MICH. .6	PA. .6	N.C. .6	S.C. .5	1
RYE	MIL.	N.D. 4.9	S.D. 1.5	MINN. .7								2
	BU.	N.D. 4.9	S.D. 1.5	MINN. .7								2
FLAXSEED	MIL.	KANS. 216.8	TEXAS 209.4	NEBR. 121.6	MO. 91.8	ARK. 42.5	MISS. 23.7	TENN. 20.8	ILL. 19.7	S.D. 18.6	OKLA. 18.0	9
	BU.	KANS. 216.8	TEXAS 209.4	NEBR. 121.6	MO. 91.8	ARK. 42.5	MISS. 23.7	TENN. 20.8	ILL. 19.7	S.D. 18.6	OKLA. 18.0	9
SORGHUM FOR GRAIN	MIL.	ILL. 288.6	IOWA 264.6	MINN. 172.9	IND. 150.1	OHIO 137.6	MO. 108.7	ARK. 101.4	MISS. 76.8	LA. 64.3	NEBR. 63.8	16
	BU.	ILL. 288.6	IOWA 264.6	MINN. 172.9	IND. 150.1	OHIO 137.6	MO. 108.7	ARK. 101.4	MISS. 76.8	LA. 64.3	NEBR. 63.8	16
SOYBEANS FOR BEANS	MIL.	N.D. 2,749.9	S.D. 633.5	MINN. 313.1	TEXAS 48.1							2
	LBS.	N.D. 2,749.9	S.D. 633.5	MINN. 313.1	TEXAS 48.1							2
SUNFLOWER SEED	MIL.	WISC. 12.8	MINN. 8.4	S.D. 8.1	CALIF. 7.9	IOWA 7.9	NEBR. 7.5	MO. 6.3	KANS. 6.1	TEXAS 5.4	N.C. 5.4	3
	TONS	WISC. 12.8	MINN. 8.4	S.D. 8.1	CALIF. 7.9	IOWA 7.9	NEBR. 7.5	MO. 6.3	KANS. 6.1	TEXAS 5.4	N.C. 5.4	3
ALL HAY	MIL.	WISC. 11.3	CALIF. 6.6	TOWA 6.6	MINN. 6.5	S.D. 5.7	NEBR. 5.1	MICH. 4.6	IDAHO 3.9	KANS. 3.3	ILL. 3.0	5
	TONS	WISC. 11.3	CALIF. 6.6	TOWA 6.6	MINN. 6.5	S.D. 5.7	NEBR. 5.1	MICH. 4.6	IDAHO 3.9	KANS. 3.3	ILL. 3.0	5
ALFALFA HAY	MIL.	MO. 5.1	TEXAS 4.6	KANS. 2.9	N.Y. 2.6	KY. 2.6	S.D. 2.4	OKLA. 2.4	PA. 2.4	NEBR. 2.4	TENN. 2.2	6-9
	TONS	MO. 5.1	TEXAS 4.6	KANS. 2.9	N.Y. 2.6	KY. 2.6	S.D. 2.4	OKLA. 2.4	PA. 2.4	NEBR. 2.4	TENN. 2.2	6-9
ALL OTHER HAY 1/	MIL.	IDAHO 86.6	WASH. 56.9	CALIF. 22.8	OREG. 22.7	MAINE 21.4	WISC. 21.4	N.D. 20.6	COLO. 19.2	MINN. 15.5	MICH. 15.1	21
	CWT.	IDAHO 86.6	WASH. 56.9	CALIF. 22.8	OREG. 22.7	MAINE 21.4	WISC. 21.4	N.D. 20.6	COLO. 19.2	MINN. 15.5	MICH. 15.1	21

1/ INCLUDES WILD HAY.

LIVESTOCK ON HAND - JANUARY 1, 1985

ALL CATTLE AND CALVES	000 HEAD	TEXAS 14,100	NEBR. 6,100	KANS. 5,860	IOWA 5,600	OKLA. 5,300	CALIF. 4,960	MO. 4,850	WISC. 4,440	S.D. 4,160	MINN. 3,550	9
BEEF COWS THAT HAVE CALVED	000 HEAD	TEXAS 5,586	MO. 2,000	OKLA. 1,993	NEBR. 1,808	S.D. 1,627	MONT. 1,513	KANS. 1,512	IOWA 1,305	FLA. 1,161	TENN. 1,050	5
	000 HEAD	TEXAS 5,586	MO. 2,000	OKLA. 1,993	NEBR. 1,808	S.D. 1,627	MONT. 1,513	KANS. 1,512	IOWA 1,305	FLA. 1,161	TENN. 1,050	5
CATTLE ON FEED	000 HEAD	TEXAS 2,310	NEBR. 1,880	KANS. 1,530	COLO. 1,000	IOWA 880	CALIF. 598	ILL. 540	ARIZ. 419	MINN. 370	S.D. 355	10
	000 HEAD	TEXAS 2,310	NEBR. 1,880	KANS. 1,530	COLO. 1,000	IOWA 880	CALIF. 598	ILL. 540	ARIZ. 419	MINN. 370	S.D. 355	10
ALL SHEEP AND LAMBS	000 HEAD	TEXAS 1,810	CALIF. 1,065	WYO. 860	COLO. 690	S.D. 639	N.M. 538	UTAH 515	MONT. 515	OREG. 430	IOWA 360	5
	000 HEAD	TEXAS 1,810	CALIF. 1,065	WYO. 860	COLO. 690	S.D. 639	N.M. 538	UTAH 515	MONT. 515	OREG. 430	IOWA 360	5
ALL HOGS AND PIGS DEC. 1, 1984	000 HEAD	IOWA 14,200	ILL. 5,400	MINN. 4,300	IND. 4,300	NEBR. 3,700	MO. 3,450	N.C. 2,300	OHIO 1,970	S.D. 1,600	KANS. 1,600	9-10
	000 HEAD	IOWA 14,200	ILL. 5,400	MINN. 4,300	IND. 4,300	NEBR. 3,700	MO. 3,450	N.C. 2,300	OHIO 1,970	S.D. 1,600	KANS. 1,600	9-10
CALF CROP - 1984	000 HEAD	TEXAS 5,050	MO. 2,200	WISC. 2,020	OKLA. 2,000	S.D. 1,800	NEBR. 1,800	CALIF. 1,740	IOWA 1,640	MONT. 1,610	KANS. 1,575	5-6
	000 HEAD	TEXAS 5,050	MO. 2,200	WISC. 2,020	OKLA. 2,000	S.D. 1,800	NEBR. 1,800	CALIF. 1,740	IOWA 1,640	MONT. 1,610	KANS. 1,575	5-6

Table 2.--Breakdown of program activity and expenditure levels for FY '86.

Species	Number of Complaints	Animals Taken
Coyote	729	2,750
Beaver	245	551
Fox	68	624
Badger	29	39
Raccoon	52	163
Skunk	84	76
TOTAL	1,226	4,203

EXPENDITURE/ACTIVITY

Wildlife	Residential/Industrial	Livestock
\$13,789	\$7,870	\$453,546
Ag. Crops	Forest/Range	Health/Safety
\$197,103	\$59,123	\$10,989

The control of coyote, fox and beaver account for about 72% of our program expenditures (see table 2). Control of these three species is usually handled directly by our Animal Damage Control staff. The nature of these animals' habits and the serious problems they cause farmers and ranchers require us to utilize our professional staff in order to bring about a quick solution to the problem. A large proportion of what we consider nuisance animal problems are handled by an extension approach. These problems are caused by animals such as raccoon, skunk, mink and badger. With the exception of skunk rabies, the nature of these types of complaints are not considered as serious. Agricultural or property losses are usually not of any large amount. The nature or habits of these types of animals are such that with some minor instruction and minimal assistance, landowners can usually solve the problems themselves.

The state supervised Animal Damage Control Program receives funding from three sources. In 1983 the state legislature passed a law which established two sources of state revenue. A livestock census for each county in the state is taken every four years. Based on this census, each county appropriates, from its general fund, a sum equal to 4 cents on each head of cattle and 12 cents on each head of sheep within that county. This is deposited semiannually (June, November) into an Animal Damage Control fund. This is matched equally dollar for dollar by the Department of Game, Fish and Parks. The department's contributions are made from wildlife funds generated through the sale of hunting licenses. The third source of revenue is contributed by the U.S. Department of Agriculture, APHIS ADC. In 1976, Game, Fish and Parks entered into a cooperative agreement with U.S. Fish and Wildlife Service. In this agreement Game, Fish and Parks would supervise the Animal Damage Control Program within the framework of federal guidelines. The service would provide for 60% of the program costs up to a maximum of three hundred thousand dollars (\$300,000). On December 19, 1985 the federal Animal Damage Control duties were transferred from the Department of Interior, U.S. Fish and Wildlife Service to the U.S. Department of Agriculture, Animal Plant Health Inspection Service. The agreement was renegotiated with APHIS in 1986 and we continue operations under this current agreement.

This past fiscal year (July 1, 1985 - June 30, 1986), revenue sources were as follows; county general funds, \$247,000, wildlife funds \$247,000 and federal funds \$300,000. Our current funding structure allows us to provide services to every tax paying citizen in South Dakota. Each taxpayer and each sportsman who purchases a hunting license has a part in supporting the state Animal Damage Control program. We feel this funding arrangement is not only unique but probably the most appropriately distributed of any Animal Damage Control program currently conducted.

On July 1, 1986, we began to computerize all field reports. This is the first step in the development of a cost accountability program for each county within the state. We currently have the capability to provide information, within minutes, as to man-hours spent, agriculture resource loss, species causing the loss, landowners name and dates of service provided for each county or trapper district. This information, when fully developed, will be essential in justification of continued county participation in funding the program.

Sheep growers have organized themselves in an effort to assist in the state's predator control program. They have formed eight predator control districts. Seven of these districts are west of the Missouri River and one east river. They have set an assessment on sheep ranging from 5 cents to 25 cents per head. Funds collected from this assessment are used to supplement the program in several ways. Private aerial hunters are hired to hunt fox and coyotes in problem areas. Special types of equipment are purchased for state extension trappers to use in their programs. During denning season private trappers are often hired by the districts to assist in denning operations. All funds collected through the assessed surtax are under the control of the district board of directors to be spent within the district in which they were collected.

Big game animals such as elk and deer can cause extensive damage to livestock feed supplies during a long harsh winter. Once snow covers range forage, these animals will bunch and move in on hay stacks and corn piles. Much of the hay supply is spoiled by deer defecating and urinating on the feed. When situations such as this occur, Game, Fish and Parks conservation officers respond by providing feed for the deer or elk, materials for fencing livestock feed supplies or livestock feed to short stop these animals.

U.S. Department of Agriculture, APHIS ADC has a very important role in the State Animal Damage Control Program. In addition to providing cooperative funding for the Game, Fish and Parks state program, this agency is responsible for controlling damage caused by migratory birds and waterfowl. The agency oversees all prairie dog control operations that are conducted on the various Indian reservations, including coordination of ferret surveys, monitoring bait quality and application rates and making various procedural recommendations to improve control success. Technical assistance is provided other state and federal agencies in resolving animal damage problems.

The South Dakota Department of Agriculture has a variety of responsibilities that contribute to the Animal Damage Control Program. The agency has the regulatory authority over the registration, distribution and use of restricted use pesticides. The department coordinates the activities of all county weed and pest boards and is the state enforcement agency for all weed and pest control laws. Another function of the State Agriculture Department is the operation of the state bait plant. This facility formulates and distributes a variety of toxic grain baits used in controlling rodent populations within the

state. To provide for the availability of good quality bait at a competitive price is the goal of this facility. Approximately 1,250,000 pounds of bait has been formulated and distributed from this plant between 1980 and 1986.

The secretary of Agriculture and another designee from that agency and the secretary of Game, Fish and Parks and his designee form an Animal Damage Control Review Committee. Their responsibility is to establish goals and program priorities for the Animal Damage Control Section.

The U.S. Forest Service manages a major portion of public use land in South Dakota. The Nebraska National Forest unit manages most of the forest lands outside of the Black Hills National Forest. These lands are managed for multiple use, however, livestock grazing is the primary use. Regulated grazing is allowed under a permit system. In the mid 1970's prairie dog populations began to erupt on some of the Nebraska National Forest lands. The prairie dog population was beginning to destroy grasses necessary for livestock grazing. This enlarging prairie dog population soon spread to adjoining private land. The decision to address the problem was made in late 1977 and early 1978. A state law was passed during the 1978 legislative session which made Game, Fish and Parks responsible for controlling the prairie dogs on private land adjacent to public land. This addressed the encroachment problem of prairie dogs coming off adjoining Forest Service land. A joint control program was initiated by the Forest Service and Game, Fish and Parks Animal Damage Control Unit in 1978. By the end of the control season in the fall of 1983, the prairie dog problem had been reduced to a maintenance level. In all 42,340 acres of forest land and 14,250 acres of private land had been controlled. Because of excellent coordination the program was not only successful but much less costly than it may have been. Coordination assured complete control and eliminated the possibility of continued prairie dog migration from uncontrolled areas to areas having been treated.

During this same time, a massive program was being planned and initiated on the Pine Ridge Indian Reservation. Preliminary estimates indicated that prairie dogs covered an area of more than 300,000 acres on the reservation. It was by far the most serious problem in the state. Since the reservation bordered a large portion of the area that was being controlled by the Forest Service and Game, Fish and Parks, it became apparent that coordination with the Pine Ridge program was necessary. Annual coordination meetings were established at which time plans for the upcoming year were formulated. Participants of these meetings included, Bureau of Indian Affairs, Pine Ridge Reservation, Rosebud Reservation, Cheyenne River Reservation, U.S. Department of Agriculture, U.S. Forest Service, Bureau of Land Management, South Dakota Department of Agriculture and Department of Game, Fish and Parks.

In 1983, Pine Ridge embarked on what was called "The Five Year Plan". This plan called for the complete control of prairie dogs on the reservation and implementation of range renovation measures. The program was a massive undertaking but turned out to be a tremendous success. With the treatment of about 11,000 acres in 1987, along with some mop-up efforts, the prairie dogs on the reservation should be at a management level. Range renovation is underway through such measures as deferred grazing, fencing and livestock water distribution. Grazing land that produced nothing more than cactus just a few years ago is now responding with grass. With renewed emphasis on range management this land will once again produce as it once did.

What we have learned in South Dakota is that coordination and cooperation between governmental units, professional agricultural and wildlife organizations and landowners results in a very successful Animal Damage Control program. However, this success doesn't come easy. It takes a lot of time and effort from all cooperators to cause a program like this to enjoy the staunch support of the beneficiaries. This support from these people, even in the face of adversity, makes the effort worthwhile and makes you feel good about yourself and the people you work with.