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A Chronology of Prairie Dog Control Operations and Related Developments in South Dakota¹

Rew Hanson²

The black-tailed prairie dog is a South Dakota native with a long history of controversy regarding its activities and control. The first organized efforts in prairie dog control date back to 1914 but little information was recorded until 1919 with some county operations and the passing of a rodent control law by the South Dakota Legislature. Nine west river counties reported treating a total of 398,000 acres of prairie dogs in 1920.

These early programs were organized on a county by county basis involving the board of county commissioners, the county agent and the Bureau of Biological Survey, USDA. The county had the option of purchasing strychnine oat bait at \$8 per bushel FOB Minneapolis or mixing their own strychnine oat bait according to the Bureau's formula for about \$4 per bushel. It was also their option to contract or hire crews to do the baiting or to set up cooperative or community programs where individuals did their own baiting. In either case, the Bureau provided training, direction and demonstrations on bait preparation, application procedures and other technical aspects of control. After implementation, the supervision of the project was usually delegated to the county agent who became the key figure in that control effort.

A summary of prairie dog control programs conducted in the five counties of Haakon, Fall River, Pennington, Jackson, and Butte during 1922 provides some fiscal perspective. Approximately 150,000 acres were poisoned for the first time and some 20,000 acres were re-poisoned for a total of 170,000 acres. They used 1255 bushels of strychnine oat bait at \$4.00 per bushel which amounts to \$5,020. The average applicator baited 75 acres of infested land per day and his labor was worth \$3 per day or 4¢ per acre. Labor costs for the 170,000 acres were \$6,810 plus bait at \$5,020 for a total of \$11,830 or about 7¢ per acre. Carbon bisulphide was sometimes used in cleanup and its cost was figured at 1¢ per burrow treated.

This same year, 1922, a Reservation wide survey on the Pine Ridge Indian Reservation indicated at least 140,000 acres of prairie dogs. Organized prairie dog control programs continued through the twenties on private, state, federal and Indian

lands and by 1930 the prairie dog population had been reduced to widely scattered small towns.

Also in 1930, the Bureau of Biological Survey moved its offices from Rapid City to Mitchell and established the first central bait mixing plant. Hard times and the dust bowl of the thirties saw these small prairie dog populations grow large. Organized prairie dog control programs, utilizing some of the Federal emergency work programs during the thirties, were successful in achieving control once more. This overall effort probably had prairie dog populations at the lowest level to date.

By 1940, the prairie dog population in South Dakota had again reached a stage where colonies were small and usually consisted of a few acres each. Also in 1940 the Bureau of Biological Survey was transferred from the Department of Agriculture to the Department of Interior and became the Fish and Wildlife Service. By 1945, there had been a general increase in prairie dog infestations throughout the District (North Dakota, South Dakota and Nebraska).

By 1950, operational use of 1060 oats under the direct supervision of Predator and Rodent Control personnel was the standard prairie dog control procedure, although strychnine bait was still used by many private landowners. From the late forties to the mid fifties, 20,000 to 50,000 acres per year were treated.

From 1955 to 1965, prairie dog populations were kept at management levels. In 1965 some 25,000 acres were treated and the policy on pre-control surveys for black-footed ferrets was established. From 1965 to 1971, up to 31,000 acres were treated per year and in 1968, prairie dog acreage in South Dakota was estimated at 61,000 acres.

In 1972, Executive Order #11643, in effect stopped the use of toxicants on federal lands and by federally funded programs. Prairie dog control efforts were on hold through 1975. In 1973, a questionnaire to land owners and operators on the Pine Ridge Indian Reservation indicated some 32,000 acres of prairie dogs.

In 1976, zinc phosphide oats became the prescribed prairie dog bait for use on federal lands and in federal programs, and some 30,000 acres were treated per year through 1979. The South Dakota Department of Agriculture reported 730,000 acres of prairie dogs in the state in 1980. In 1981, the prairie dog acreage on the Pine Ridge Indian Reservation peaked at near 300,000 acres.

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During the years 1980 through 1984, a total of 997,000 acres were baited in South Dakota. 464,000 of these acres were on the Pine Ridge Indian Reservation. During 1985 and 1986, 329,000 acres were baited in South Dakota and 240,000 of these acres were on the Pine Ridge Indian Reservation.

A recap of the 85 and 86 control programs on the Pine Ridge Indian Reservation show that operational costs averaged \$6.90 per acre for the two year period. Pre-control surveys for black-footed ferrets came to \$0.98 per acre which brings the total field cost to \$7.88 per acre. Except for one zone of some 5,000 acres that did not get baited properly in 1986, the degree of control achieved for the two years averaged over 92%.

Recommended criteria for efficient and consistent control of Prairie dogs: Allow at least 2 years since the last baiting. September and October is the prime time for baiting in South Dakota but can be August to November. Use good quality bait and pre-bait. Exercise proper application, 1 heaping teaspoonful splashed on firm, bare soil at each mound. Do not exceed 10 days between pre-bait and baiting. Require that 95% or more of the mounds are baited. Minimize disturbances after baiting. Keep control areas blocked together. Coordinate control efforts with adjacent areas.

Carbonbisulphide, calcium cyanide, gas cartridges, and aluminum phosphide are fumigants that have been used for cleanup. Gas cartridges and aluminum phosphide are currently registered for such use. Spring is the recommended period of use due to the desirable soil moisture level and that the prairie dogs are concentrated in the fewest burrows. The use of fumigants represent the most labor intensive and the most expensive control tool.

In the long term, range management is critical. Good to excellent range provides the best protection from prairie dogs and the best return to the owner.

We have seen elevated prairie dog populations in South Dakota about every 15 years from 1920 to 1960, separated by intervening lows. We are now approaching the ensuing low. I am sure you recognize the many social, economic, political, biological and climatic conditions that have influenced these fluctuations, but I think Noble Buell, a former District Agent here in South Dakota got to the heart of it when he said "As control succeeds, human concern diminishes, therefore, control is self limiting."