STATUS OF PRAIRIE DOGS AND BLACK-FOOTED FERRETS IN OKLAHOMA

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Approximately 15,000 acres of prairie dog towns still exist in Oklahoma, with the acreage increasing since 1969. Bureau of Sport Fisheries and Wildlife employees have not distributed poisoned grain since January, 1972, but landowners can still buy and use poisoned grain to exterminate prairie dogs. Resource managers should decide on the number of prairie dogs to be preserved and initiate steps to meet this goal. Many individuals have reported sighting black-footed ferrets. The authors have seen signs similar to those of ferrets in Mellette County, South Dakota, but, despite intensive surveys since 1971, have not seen a ferret in the Oklahoma Panhandle nor in portions of neighboring states. It is concluded that ferrets are either extinct or rare in the study area.

In the 1800's black-tailed prairie dogs (*Cynomys ludovicianus*) were found in western Oklahoma east to the ecotone between tall-grass prairie and postoak-blackjack forest (1). Apparently there were millions of acres of dog towns here just as there were in neighboring Texas (2). Strong (3) reported a virtually continuous town stretching from Kingfisher Creek to Fort Reno (now El Reno), Oklahoma, a distance of 22 miles. Prairie dogs were apparently common in short-grass and mixed-grass types (4), but were invaders in shinnery oak grassland (5), tall-grass prairie (6), and probably in mesquite grassland. They invaded or increased in response to heavy grazing by cattle or bison, or other factors that encouraged an open, short-grass life form.

In 1962, personnel of the Bureau of Sport Fisheries and Wildlife (7) estimated over 15,000 acres of dog towns still remained in Oklahoma. The first statewide survey of prairie dog towns in Oklahoma took place in 1966-1967 (8), when Tyler found 280 active dog towns occupying 9,522 acres. Forty-two percent of the acreage was in the three counties of the panhandle.

Black-footed ferrets were originally found in Oklahoma in the same areas as black-tailed prairie dogs. We are aware of four specimens from Oklahoma: a skull collected in 1923 from Cimarron County (U. S. National Museum collection number 243787), one specimen each from Woods County (date unknown), Texas County in 1927 (9), and Cleveland County in 1928 (10).

Cahalane (11) believed the Oklahoma Panhandle and bordering areas still contained ferrets. Lechleitner (12) listed a ferret sighting in Baca County, southwestern Colorado. Lewis eventually became aware of other promising reports of sightings in the Oklahoma Panhandle or its vicinity. Four reports were from Texas, one from Oklahoma, and one from Kansas. In August, 1954, Professor Ross Hardy, Department of Biology, California State College, reported (personal communication) observing a ferret in a prairie-dog colony in Texas County, Oklahoma. In 1961, Professor Gordon Creel, San Angelo State College, reported (communication to D. K. Fortenbery) seeing a ferret 6 miles south of Plainview, Swisher County, Texas. In 1961, Hudson Hendrix reported one captured and later released east of Amarillo at the Pan-Tex Ordnance Plant, and a ferret was observed near the Ordnance Plant in 1964 (communication to D. K. Fortenbery). In July, 1963, Mel Evans, a biologist with the U. S. Fish and Wildlife Service, described approaching to within 10 ft of a ferret in a prairie dog town at Muleshoe National Wildlife Refuge (communication to D. K. Fortenbery). Gene Maden, a service station manager, reported capturing a ferret in the early 1960's near Liberal, Kansas (personal communication).

METHODS

In 1969, the Oklahoma Cooperative Wildlife Research Unit began studies of prairie

[1] The Oklahoma Cooperative Wildlife Research Unit is a cooperative program of the U.S. Bureau of Sport Fisheries and Wildlife, Oklahoma Department of Wildlife Conservation, Oklahoma State University, and Wildlife Management Institute.

dogs and other animals residing in dog towns. Prairie dog colonies were located by the Unit, as by Tyler (8). In addition, the Unit contacted employees of the Oklahoma Department of Wildlife Conservation, the Soil Conservation Service, and the Agricultural Stabilization and Conservation Service. Sometimes dog towns were located on aerial photographs; all but the smallest are visible on photographs of a scale 1:20000. However, harvester ant mounds and pocket gopher (*Geomys bursarius*) diggings are sometimes mistaken for prairie dog burrows. Recent photographs fairly accurately depict current conditions, but all dog towns located on photographs actually require field checks to confirm their existence and size. We estimated the acreage after surveying the dog town for signs of black-footed ferrets (*Mustela nigripes*) and other animal life. Fences were generally present along half-section and quarter-section lines and served as reference points to help estimate acreages.

In 1971, personnel of the Oklahoma Cooperative Wildlife Research Unit began searching for ferrets in the Oklahoma Panhandle, in Baca and Prowers Counties, Colorado, in Morton and Stevens Counties, Kansas, and in Dallam and Sherman Counties, Texas. Since then thousands of acres of prairie dog towns have been surveyed annually for signs of ferret and areas with promising-looking signs were watched at night. The main participants in these surveys were Leroy Anderson, Ken Butts, and the authors. Prairie dog towns were surveyed by Unit workers walking 20-100 feet apart. Most of the burrows were examined or observed for scats, tracks, evidence of ferret digging, plugged burrows, and ferrets. Hundreds of landowners were interviewed about possible ferret sightings. News releases in Texas, Colorado, and Oklahoma encouraged reporting possible ferret sightings. School groups were shown movies and 35-mm slides of ferrets and were encouraged to stay alert for ferrets.

RESULTS AND DISCUSSION

In the first survey of prairie dog towns by Unit personnel, Butts (13) examined Beaver and eastern Texas Counties in 1970. He found a net decline of 7% in acreage and 12% in number of dog towns since Tyler's (8) study. Prairie dogs had been eradicated from 20% of the dog towns and 17% of the acreage occupied in 1967. Forty-four dog towns were still present and totaled 1,703 acres, an average size of approximately 39 acres for each town. Dog towns constituted only 0.16% of the 1,468-square mile study area; however 66% of the population of the western burrowing owl (*Speotyto cunicularia*) resided in dog towns. It was estimated that there were 98.6 adult owls per square mile of prairie dog town and only 0.11 adult owls per square mile in habitat at least one mile from dog towns (13). The importance of prairie dog colonies to the existence of large burrowing owl populations is apparent.

In 1971, one of the authors (J. C. L.) checked nine dog towns located by Tyler (8) in southwestern Oklahoma. This part of Oklahoma was experiencing a severe drought that seemed to increase the landowner's desire to eradicate prairie dogs. Six of the nine colonies no longer existed; two of the remaining towns had been poisoned and contained a smaller acreage than that listed by Tyler (8). The decline in number and acreage of dog towns which existed in 1967 was 80% and 66%, respectively. The net gain or loss is unknown because there is no information about dog towns which have been established in those counties since 1967.

In 1971 and 1972, Leroy Anderson and one of the authors (J. C. L.), assisted at times by others, surveyed dog towns in Cimarron County. Whereas 3,800 acres may have been present in 1967, these surveyors found 5,500 acres in 1972, a 45% increase in acreage. Each dog town occupied an average of 61 acres.

In 1972, O. B. Hamblin, Ranger, and Thomas Hines, Research Supervisor, Oklahoma Department of Wildlife Conservation, George Johnson, Wildlife Biologist, U. S. Department of Defense, Fort Sill, and one of the authors (J. C. L.), surveyed Comanche County in southwestern Oklahoma. Tyler's survey (8) indicated that Comanche County had the largest acreage of dog towns outside the panhandle. We found 12 dog towns occupying an area of 1,586 acres, a net decline in numbers of towns and acreage of 33% and 12%, respectively.

In 1973, one of the authors (F. D. H.) surveyed Texas County. Although the survey was not complete, it indicated that, by minimum estimates, there were 85 dog towns within an area of 3,017 acres, a net increase of 240% in number of colonies and 332% in acreage since Tyler's survey. The average dog town extended over 35 acres and the size range was from 0.5 to 300 acres.

The Division of Wildlife Services provided data on acreages of dog towns which had been treated for control of prairie dogs since 1952. Presumably these data include most of the prairie dog-control work in Oklahoma. Control was generally achieved by using 1080 (sodium monofluoroacetate)- or strychnine-treated grain and gas cartridges. The total acreage treated peaked at 47,459 acres in 1957 and has gradually declined since then. More than 6,000 acres were treated by federal employees the year after Tyler's (8) 1966-1967 survey, i.e., less than 10,000 acres remained untreated in Oklahoma.

We estimate there are now at least 15,000 acres of dog towns in Oklahoma, based on our recent surveys of the four counties that in 1967 contained more than 60% of the acreage of dog towns in Oklahoma (8). These counties, Beaver, Cimarron, Comanche, and Texas, now contain about 11,000 acres of dog towns. Judging from the acreage of dog towns treated and our surveys, we believe the prairie dog population declined through 1968 and has increased slightly since then.

Signs similar to those made by ferrets in South Dakota have been reported in the study area by several observers (14). In Dallam County, Texas, H. D. Ellerd, U. S. Fish and Wildlife Service, reported ferret-like signs in the snow in the winter of 1969 (personal communication). A "slide" was seen in the snow in a small prairie dog town in Texas County, Oklahoma by Ken Butts in February 1971 (personal communication). Trenches and plugged burrows were seen by U. S. Forest Service personnel in Morton County, Kansas in 1971 (personal communication). Ferret-like diggings and plugged burrows were seen by Roy McDonald, Bill Adkins, and Darrell Gretz, U. S. Fish and Wildlife Service, northwest of Toonerville, Colorado during the summer of 1971 (personal communication).

We have frequently observed signs similar to those made by ferrets in Beaver, Cimarron, and Texas Counties, Oklahoma, and Sherman and Dallam Counties, Texas. These signs have included groupings of plugged burrows, stringers or trenches, exit holes from plugged burrows, and prairie dog skulls with what appear to be small tooth marks in them. Both Don Fortenbery and Con Hillman, specialists on black-footed ferrets, visited our study area. Both men believed the signs we showed them could be ferret signs and seemed optimistic that we would eventually see ferrets.

The "bridled" or "masked" weasel (*Mustela frenata*), a color form of the long-tail weasel, occurs in the study area and might be mistaken for a ferret. Persons who reported seeing ferrets were shown study skins of weasels. We did not identify the specimens they were viewing. We asked if the specimens were like the animal they had seen. If not, they were asked how the animal they saw differed from the specimens. The observers were then shown a taxidermy mount of a black-footed ferret and asked if it looked like the animal they had seen. Again, the specimen was not initially identified. Some observers were also shown color photographs and 35-mm slides of ferrets and/or a 10-min color film, provided by Glen Titus, showing ferrets in South Dakota. If the observer's description of the animal fit the description and behavior of a ferret, and he accurately identified specimens and other visual aids, we assumed his observations were authentic.

We have received reports of 63 sightings that may be authentic. They include sightings by untrained observers making a brief observation in poor light conditions, biologically trained observers who used a spotting scope, and those who observed ferrets from a few feet away for 15 minutes. Six ferrets have been reported killed or found dead in Oklahoma since 1967, but their carcasses were not preserved because the observers were not aware ferrets were rare or had any scientific value.

Portions of our study area do contain a pattern of prairie dog towns and total acreages similar to the situation where ferrets still exist in Mellette County, South Dakota. However, despite our efforts, we have not seen ferrets and cannot confirm their presence. Two conclusions seem

possible. A small population of ferrets may exist in the study area, but the odds against our seeing a ferret are tremendous. An alternative possibility is that ferrets do not exist in the area, sightings reported were of masked weasels, and the signs observed were made by prairie dogs, weasels, and other animals.

Beginning in January 1972, the Oklahoma Department of Wildlife Conservation placed a moratorium on control of prairie dogs. One avowed reason for the moratorium was to preserve declining prairie dog populations where ferrets might exist. Some ranchers complained about the moratorium and a bill to legalize poisoning of all burrowing animals was introduced in the State Legislature. The Oklahoma Zoological Society and others opposed the bill and it remained bottled up in committee action. The moratorium was cancelled in February 1973. Any landowner can now get a permit to poison prairie dogs from the local Ranger of the Department of Wildlife Conservation. Strychnine-treated grain and carbon disulfide are still readily available to landowners.

Several successful attempts to establish or restore prairie dog colonies have been made by the Oklahoma Department of Wildlife Conservation and Wildlife Services personnel (15 and unpublished). Prairie dogs were captured by flooding them from burrows (15, 16) or by using steel traps. Prairie dog colonies were successfully established at the Wichita Mountains National Wildlife Refuge near Lawton, Canton Public Hunting Area near Canton, and Darlington Game Farm near El Reno. An albino prairie dog was captured by Wildlife Services personnel and released at the Darlington Game Farm. Several albino or partial albino prairie dogs are now present in that dog town. One of the authors (J. C. L.), Berkeley Peterson, and Bob McVickers, employees of the U. S. Fish and Wildlife Service, recently successfully established prairie dogs in six experimental pastures.

The town of Lawton, Oklahoma has preserved a dog town within the city limits. The Oklahoma Zoological Society has protected a small prairie dog town near Norman, Oklahoma. Tyler (8) reported landowners were protecting 19 colonies within a total of more than 500 acres; the present status of these colonies is unknown.

The relatively small acreage of dog towns remaining in Oklahoma makes it imperative that some population goals be set. How many prairie dogs should be preserved? What about other species, like burrowing owls and desert cotton tail rabbits (*Sylvilagus audoboni*), whose future may be tied to that of prairie dogs?

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