

THE MAMMALIAN PREDATOR COMMUNITY OF
WIND CAVE NATIONAL PARK

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Objectives

This project is committed both to describing the species composition of the mammalian carnivore community in Wind Cave National Park (WCNP) and to discovering the factors which operate to structure the observed community. Studies conducted in 1988 were directed to the first of these goals, the description of the existing community.

Methods

All of WCNP's existing wildlife records were examined for accounts of carnivores. This subset was transferred to computer databases and examined for patterns. The Park itself was thoroughly surveyed on foot and on horseback for predator signs, tracks, scats, etc. Five ungulate carcasses were watched for signs of predator visitation, and on 5 nights spotlight searches were made of trail 8 from highway 87 to the Research Reserve Prairie Dog Town.

Separate from these observations efforts, my student and I laid out about 200 scent stations on the Park. These covered the entire Park, although I chose to concentrate them a bit more in the western half, the area traditionally showing the greatest diversity of carnivore species. Of these, 189 yielded data; most of the remainder were destroyed by buffalo. The stations themselves consisted of an area of bare ground, approximately 1 m² in area, over which a thin layer of soil was sifted. In the center of the area, we placed a small plaster disk which had been impregnated with "fatty acid scent", a preparation produced by USDA/APHIS/ADC as a predator attractant. Each station was visited 24 hr after placement for observation of tracks.

Wire cage traps were baited with sardines and set at Cold Spring Creek, Reaves Gulch, the Headquarters area, and the bison trap, for a total of 71 trap nights.

Results

Existing Park records and 1988 surveys are summarized briefly in Table 1. The historical records reflect primarily early predator control

Table 1. Comparison of historical and 1988 records of mammalian carnivores on Wind Cave National Park.

Species	Historical	1988
Canis latrans (coyote)	***	***
Felis concolor (cougar)	*	---
Felis rufus (bobcat)	**	*
Mephitis mephitis (striped skunk)	*	---
Mustela frenata (long-tailed weasel)	*	---
Procyon lotor (raccoon)	*	*
Taxidea taxus (badger)	**	*
Fox (species unknown)	---	*

- absent
- * occasional
- ** regular but uncommon
- *** common

efforts, which ended in 1925, and quite recent observations (1979-present), with only occasional reports in intervening years. All of these records must be viewed with caution, since carnivores tend to be secretive and nocturnal. Given the lack of a sustained and consistent carnivore census effort, variation in these records should be considered reflective only of variation in interest in this component of the WCNP fauna. Nonetheless a few historical patterns seem clear. The most conspicuous is that coyotes have been common on the Park since its genesis. The second is that other species which were once common, bobcats, raccoons, skunks, have become either rare or absent in recent years.

Observations in 1988 indicate that the mammalian predator community is dominated overwhelmingly by coyotes. Single observations of four other species were made, but none of these suggests a viable population. A total of 26 scent stations were visited by coyotes. One was visited by a fox, and one contained prints of an unknown large mustelid. Wire cage traps caught no predators. All five carcasses we observed were visited by coyotes, but we saw no evidence of other carnivores. Spotlighting resulted in one observation of a coyote.

Observations of coyotes tended to be clustered somewhat along the western side of the Park, although all but the southeastern corner showed some coyote activity. The structure of this population is not yet clear, although some patterns seem to be emerging. Scat deposition and howling suggest that Beaver Creek is a boundary between two territories. Patterns of sightings indicate that at least 3 territories exist on the Park and possibly as many as 5 or 6. The northeasternmost pair of coyotes appears to be reproductively active; one juvenile was observed and small tracks were seen twice.

One bobcat with kits was seen in Reaves Gulch in 1988, and one badger was seen near the fire tower. A set of fox tracks was found in lower Reaves Gulch, and a raccoon was glimpsed briefly in the Headquarters area. Apart from these secure observations, three independent sightings were made of large weasel-like mustelids in and around the prairie dog towns along Highway 385. Two of these were by untrained observers, and none could be confirmed to species.

Conclusions

The community of carnivores on WCNP seems to be quite simple and to be overwhelmingly dominated by coyotes. A couple of species, raccoons and striped skunks, are notable for their rarity or absence on the Park when they are quite common on adjacent lands.