

22. GRIZZLY BEAR POPULATION BIOLOGY AND MOVEMENTS IN THE WESTERN BROOKS RANGE

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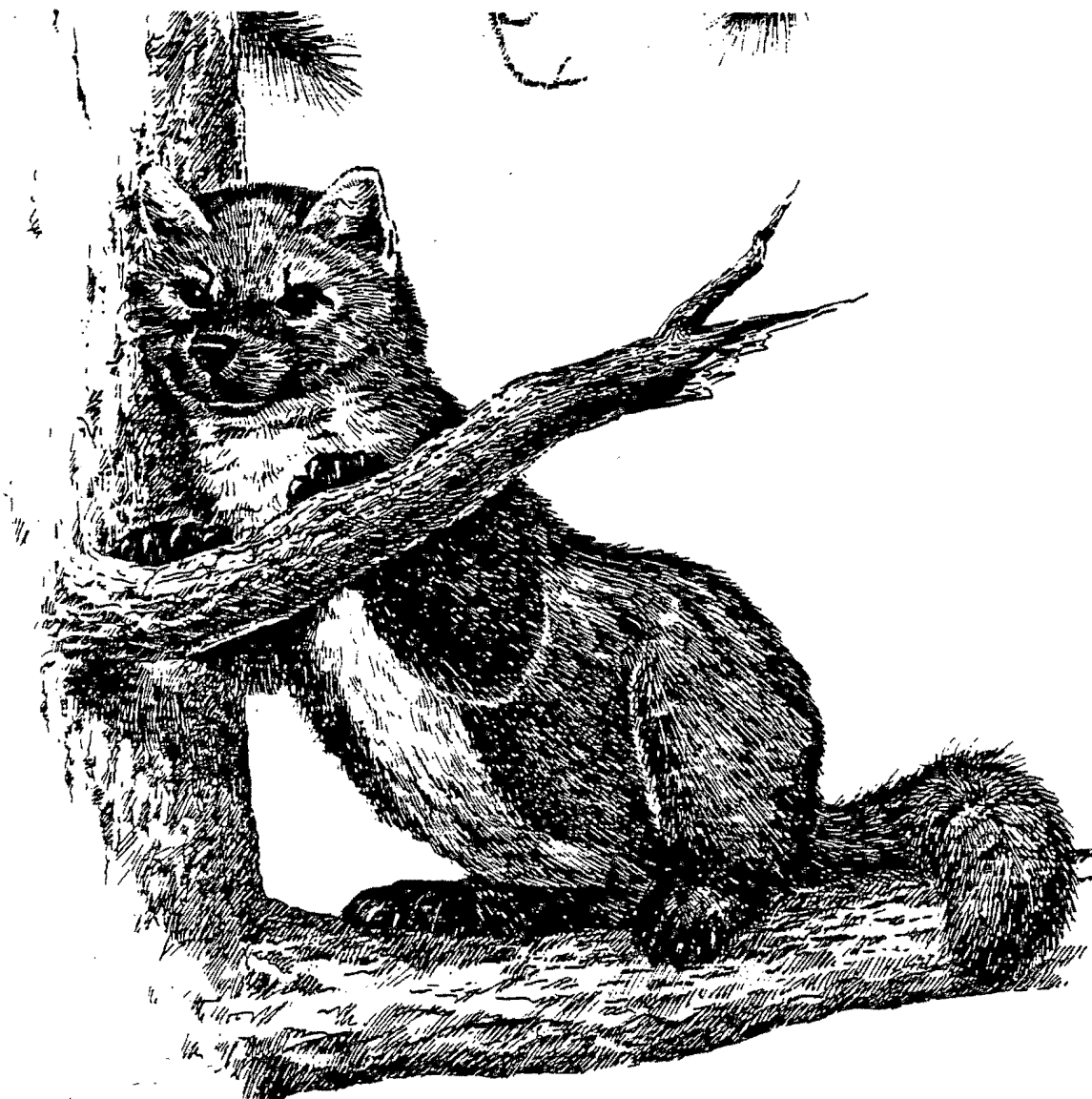
Population biology movement, distribution, and predation behavior of grizzly bears were studied during the 1977-1980 in the northern

foothills of the western Brooks Range. During this period, 101 bears were captured in the 5200 km² (2000 mi²) study area. A density of 1 bear/41 km² (1/16 mi²) was calculated from the estimated population of 125 bears in the area. The age structure of the population showed more animals in the 0.5- to 2.5-year age classes than in any others. The sex structure of that portion of the population over 2.5 years of age was 57 percent females and 43 percent males. Measures of reproductive biology which were calculated included: a mean age of 8.4 years at first production of a litter, a reproductive interval of 4.03 years, a mean litter size of 2.03 young, and a reproductive rate of 0.503 cubs/female/year. Evidence indicated that these parameters are higher than those reported in other portions of the North Slope, probably due to the availability of carrion and prey from calving caribou of the Western Arctic Caribou Herd.

The mean distance traveled per day by grizzly bears was observed to be 5.0 km (3.1 mi). The maximum movement by an individual was by a male which traveled 163 km (101 mi) to the coast of the Arctic Ocean and later returned. Home ranges were calculated for 27 grizzlies: mean home range size was 1350 km² (521 mi²) for males and 344 km² (133 mi²) for females. Food habits and predation behavior were investigated. Bears usually denned within their spring, summer, and fall ranges, but four individuals moved from 16 to 48 km (10-27 mi) from their fall ranges to den.

ABSTRACTS
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