

# Grizzly Bear in Danger

By A. H. Macpherson

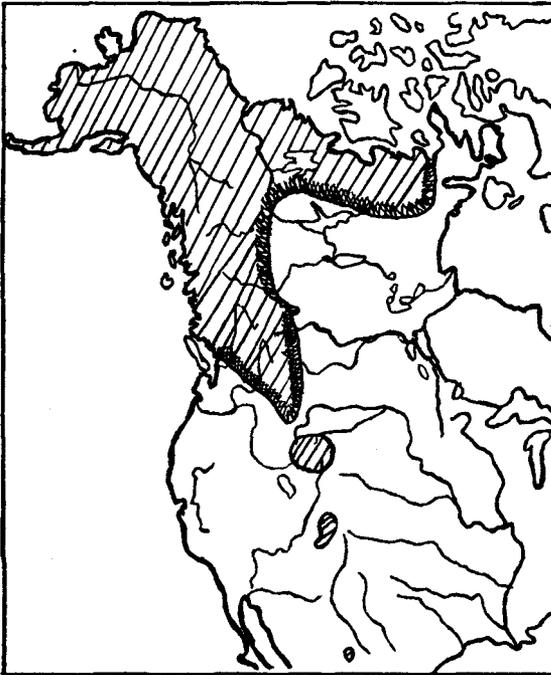
From 1949 to 1960 the barren-ground grizzly bear was totally protected in the Northwest Territories of Canada, with the result that numbers increased and so did their range. But pressure from trappers led in 1960 to an amendment legalising the killing of grizzlies in defence of life or property, and in 1964, despite the views of wildlife biologists and organisations, another amendment deprived the bears of all protection from licensed native hunters. The author, who is Research Supervisor of the Eastern Region, Canadian Wildlife Service, and has visited the Canadian Arctic almost every year since 1949, points out that the grizzly bear population there is now so low that a relatively small amount of hunting could reduce the breeding population and lead to the extinction of this magnificent animal.

THE sight of a barren-ground grizzly bear striding along in the Canadian Arctic, neck, shoulders and rump swinging with an undulating rhythm, head swaying from side to side in a characteristic carriage at once shy and defensive, yet menacing, as it moves low between the great, curving talons of the forepaws, is a profound experience and one that gives splendour to what might otherwise be a bleak and monotonous wilderness.

In the winter of 1963-64 the barren-ground grizzly was deprived of legislative protection by an amendment to the Territories' Game Ordinance. This was passed by the Territorial Council despite the opposition of the Canadian Wildlife Service, which advises the Council on wildlife matters, the Canadian Audubon Society and the Canadian Wildlife Federation. We don't know how many barren-ground grizzlies survive in the Northwest Territories, but it is unlikely to be more than 1,000, and 500 could be a closer estimate. How justifiable was the Council's action, and does it imperil the barren-ground grizzly?

The large brown and grizzly bears, once split into many species and races by museum specialists, are now generally believed to constitute only one species, *Ursus arctos*, of great geographic and individual variability. Ranging widely in the northern hemisphere, except where annihilated by man, it is found in suitable habitat from the hot, dry regions of North Africa and New Mexico to the cold, low-arctic tundras of Siberia and northern Canada, and as high as the snow-line in all the great mountain chains: in Eurasia from the Pyrenees eastward to the Anadyr Range, and in North America along the whole extent of the Cordillera and associated ranges.

The species arrived late upon the North American scene, crossing the land bridge across the Bering Sea from Asia at the same time as man, in the last glacial stage of the Ice Age; it seemingly failed to spread across North Africa before it met opposition from man.



Distribution  
of the  
Grizzly Bear  
in  
Western Canada  
and the USA  
(shaded areas)

The brown and grizzly bears are comparatively unspecialised. In contrast to other bears, they are not great swimmers or climbers, and they are remarkable for their varied diet, being able to live on almost anything from succulent, spawning salmon to the harsh, coarse grasses of alpine meadows. The largest bears, those living along the Alaskan coast, may exceed a ton in weight and stand four feet high at the shoulder, while the smaller varieties, of which the barren-ground grizzly bear is one, rarely reach eight hundred pounds.

In behaviour, they are markedly opportunistic. Their attitude to man varies from indifference or curiosity in unfrequented places where their rule has not been challenged to extreme shyness in such places as the Alps, where they have been almost exterminated. Their habits change with the seasons. In most places, the adults wander alone, except when at food concentrations, or when paired during the rut, which is centred on the end of June, though couples may occasionally be seen any time between May and October. In early winter both sexes retire to dens—late October or early November in northern Canada—and the cubs are born about December. Inside their dens, the bears become lethargic, their metabolic rate is lowered, and feeding ceases. This benefits the individual by enabling it to evade the stresses



of cold and hunger, and the species by enabling it to circumvent the population limitation to which most northern mammals are subjected by a scattered, dwindling, winter food supply. During the winter the bears wake and move about a little and finally vacate their dens in spring—April or May in northern Canada. A grizzly bear may produce up to six cubs at birth, according to M. Couturier,<sup>1</sup> who estimates that a female may give birth every two years, and have up to 12 litters of two cubs each in a lifetime.

Much remains to be learned about the movements of grizzly bears. In some areas most appear to be sedentary, in others nomadic. Mundy,<sup>2</sup> in his studies of grizzly bears in Canadian national parks, found that bears that had been transported distances up to 38 miles returned to their capture-points before resuming their normal movements.

#### **A Remarkable Sense of Smell**

The grizzly bear's eyesight is similar to man's, but less perceptive of movement at a distance. There is no evidence that its hearing is acute, but its sense of smell is remarkable, a faculty which draws it from afar to the food caches and garbage piles of man, and very likely plays a vital role in bringing the sexes together at the time of rut. A good memory for country, or some form of navigational ability, or both, is suggested by Mundy's experiments, and again by evidence of bears returning repeatedly to a denning site, and to sources of food that are only seasonally available.

All these characteristics mark the large bears out for a life of conflict with man—as competitors for food, and as a source of personal danger by virtue of their size, strength and courage. They can also be appallingly destructive of man's houses and chattels. Grizzlies are hated and feared by many of the people who live uneasily within their range, and demands for their reduction and extermination are frequently heard.

Population after population has been extirpated, and only 500 to

1,000 are believed to remain in the continental United States, plus some 11,000 in Alaska. Mundy estimated a total in Glacier National Park of about 100. Only about 500, or perhaps 1,000, are believed to roam the vast area of the Northwest Territories, but there are still too many for some people. The cattle ranchers of Kodiak Island and the trappers of the Mackenzie Delta are not alone in their intolerance of the big bears, and even the grizzlies of the national parks of western Canada and the United States are not universally appreciated. The parks were established in part for the perpetuation of species that could not survive in settled areas, and several contain grizzlies. But more and more people now visit the parks, and the large bears pose a proportionately increasing threat to their safety.

### **Grizzlies Seldom Attack Humans**

Grizzly bears can unquestionably be dangerous, yet humans are very rarely injured by bears. A bear may attack if it becomes frightened, or concerned about the safety of cubs. Normally encounters occur only in the bush, where thick cover delays awareness until escape no longer seems possible. I have heard of only one close encounter on the barrens, when a biologist, A. de Vos, working in a caribou fawning area, was charged by a bear that suddenly reared up from a depression in his path. At the last moment, the bear veered to one side and ran on. There are several reports of similar attacks, some with less happy endings, from forested areas in western Canada and Alaska. On barren and open tundra, however, the grizzly is usually seen at a distance, and avoidance by both parties is easy; even when surprised, grizzlies do not always attack. It seems likely that bears wounded by small-calibre rifles have been responsible for a large proportion of the incidents reported. Rausch<sup>8</sup> has reported the use of light rifles by the Nunamiut Eskimos for shooting bears, and there is evidence of similar irresponsible behaviour in the nearby Mackenzie delta. Where hungry bears are concentrated by an odorous bait, such as rotting, unburied muskrat carcasses at a delta trapper's cabin, the risk of meeting one of the animals is, of course, greatly increased. Those most familiar with grizzly bears seem to be least afraid of them. A case in point is that of Andy Russell, free-lance photographer from Waterton Lakes National Park, who writes that he has been unarmed when watching grizzlies on some 200 different occasions. Though he has sometimes been charged he has always been able to avoid an actual attack. An observant, intelligent and respectful person is unlikely ever to be attacked.

Bears and men have had their most bitter conflicts when domestic animals have been preyed upon—sheep and goats in the Pyrenees, or cattle in the American west. The Kodiak Island cattle ranchers still condemn the enormous brown bears that live in the adjacent wildlife refuge. But it seems extraordinary that bears can be considered such a menace to man in the dispersed and marginal economy of the hunter-trapper.

Bears sometimes visit and ravage unoccupied cabins and food caches on the tundra. Few cabins or caches can be made safe from the attack of an adult grizzly. Usually, however, wrecked cabins were those left in an unsanitary condition, or with odorous foodstuffs inside. Canadian Wildlife Service cabins in grizzly bear country have largely escaped damage, although one was made attractive to bears in 1960 by a passing airborne tourist, who left in it a bucket of fish. Since then, this cabin has been faithfully revisited, twice or more a year, and badly damaged. Attacks on occupied cabins are much rarer, though J. P. Kelsall heard of a female with cubs attempting to enter a cabin near Dismal Lakes which was occupied by a party of unarmed prospectors: "she was very persistent," and kept them imprisoned for hours.

Bears are notoriously destructive of canoes. According to popular belief, they hear the reverberation of their foot-falls in upturned canoes buried under the snow, become curious, and dig down to, and *through* them. For that reason, canoes are habitually left right-side-up in some areas frequented by bears though they fill with rain, snow and ice.

The barren-ground grizzly bear was long protected against extermination by the scarcity and timidity of the people with whom it shared its enormous range. With primitive weapons, bear hunting must have been an almost desperate undertaking. The ice-covered bears encountered in winter in the mountains of northern Alaska and elsewhere were particularly to be feared. Even with the coming of the first rifles to the central barrens in the 19th century, the large bears were rarely molested. Later, after acquiring repeating rifles, more hunters were prepared to attack the grizzly bear, and it may be that a period of reduction accompanied the advent of modern firearms. Meanwhile, patterns of human distribution changed, and man's activity declined in parts of the bears' range and increased in others, particularly in the Mackenzie valley.

### Protective Legislation

The first protective legislation was passed in 1943, providing a close season for bears from June 1 to August 31. This was done because of reports of killings and fears for the animals' survival, but it met with hostility from some trappers. The numbers of bears continued to decline despite the curtailing of the open season, and in 1949 they were given year-round protection. The frequency of sightings then increased considerably, and bears were occasionally seen beyond their usual range, a finding variously interpreted as a true range extension or a re-occupation of country from which they had recently been exterminated. But increasing criticism from individual trappers and their associations led the Territorial Council in 1960 to legalise the killing of grizzlies for the protection of life and property. The Council's decision in 1964 to remove all protection for the grizzly bear in the Northwest Territories was made even though no cases of

grizzlies attacking people, or damaging shelters, goods or canoes, had been reported.

The argument was that the amendment simply legalised present practice, and there is evidently much to be said for that point of view. There is, for example, no record of a person being prosecuted, let alone convicted, for shooting a grizzly bear in the Northwest Territories, though such killings are regular and inevitable. It is sardonically stated that every bear killed in the Mackenzie delta was in the middle of a charge, and it is now uncommon for anyone even to inform the authorities when one is killed. The circumstances surrounding the killings are rarely determined, but the opinion of an experienced Mackenzie District biologist, T. W. Barry (*in litt.*), is that there are no problem bear areas; the problems are generally caused by the people themselves. Thus, even before the recent amendment, the right to self-protection was recognised, in a very broad sense, and bears were being shot near camps.

### Dangers in the Amendment

Now that the amendment has been passed there are grounds for grave concern. Though most of the peaceable, energetic trappers and hunters of the Territories are unlikely to kill more grizzlies than they have in the past, it is possible that some will—to satisfy a local demand for skins, for example, whether for tourists, white residents, or trade; and the evidence leads us to believe that the barren-ground grizzly bear population cannot stand regular exploitation of any kind. On the evidence available, five hundred is a reasonable estimate of the population, which might include 100 breeding females, each producing an average of two cubs every three years, to give an annual increment of about 70 bears. If natural mortality accounts for about half of these—wolves, old age and disease take a toll, and others are probably killed in battles at the rut—a kill of more than 35 by humans might reduce the breeding population. It is likely that as it is some 30 grizzlies are killed each year in the Northwest Territories.

Another exceptionable effect of the amendment is that it gives legal sanction to the view that grizzly bears are vermin, to be shot on sight. If this conclusion goes unchallenged, before many years we may expect to see poison, traps, and set-guns used to destroy them. Reduction programmes against large predators lead easily to local extinctions, for, as familiarity with the animal decreases, those that remain are all the more greatly feared and detested.

Finally, public attitudes may give rise to even more serious and immediate problems. The hunting of game in the Northwest Territories is very largely confined by law to the native peoples. This is resented by a segment of the increasing white population. Though the addition of the latter would not add greatly to the kill, it is widely believed that the education of the Eskimos and Indians in game conservation would receive a set-back if all white residents were allowed a share. It seems a dangerous move to increase the differential, as it were,

between the hunting privileges of native and white, especially in regard to what white hunters look upon as a prestigious and desirable trophy species. Rather, the differential may have to be reduced, with further restrictions on the kill of native hunters, if the rich and valuable, but delicately balanced wildlife resources of the Northwest Territories are ever to be managed, not merely for perpetuation, but for high economic yield. Of the sixteen or so hardy mammal species of our Canadian Arctic tundra, we and the world can ill afford to lose a single one.

What of the fears of the people who live in areas where bears are numerous? They should, of course, retain the right to kill individual bears that threaten their lives or livelihoods. Over most of northern Canada, grizzly bears are so scarce that defensive action against the occasional marauder might serve to control their numbers. Other measures may be necessary where bears are exceptionally abundant, such as a subsidised insurance scheme, and, if necessary, a reduction programme. Whenever possible, the authorities should support the contention that grizzly bears form a part of the natural scene, and that their occasional depredations must be accepted as an integral part of wilderness life. The barren-ground grizzly cannot be judged on the basis of an occasional incident in an area which, taken as a whole, is becoming depopulated by man.

The surviving barren-ground grizzlies are scattered over the broad and bleak extent of Canada's Northwest Territories. Surely adequate research should have preceded any legislation which lessened this magnificent animal's chances of survival in such a poorly known area.

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#### REFERENCES

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2. K. R. D. MUNDY, 1963. Ecology of the grizzly bear *Ursus arctos* in Glacier National Park, British Columbia. Canadian Wildlife Serv. Completion Report (Mimeo). Edmonton.
3. R. L. RAUSCH, 1951. Notes on the Nunamuit Eskimo and mammals of the Anaktuvuk Pass region, Brooks Range, Alaska. *Arctic* 4: 147-95.

#### THREAT TO LAKE BAIKAL

**I**N an open letter in *Komsomolskaya Pravda*, the vice-president of the Academy of Sciences and 10 other academicians, including the famous nuclear physicist Professor Kapitza, have protested against the construction of a vast industrial complex that threatens to pollute Lake Baikal in Siberia. The lake is the largest and deepest freshwater lake in the world, and contains more than a fifth of the reserves of fresh water on earth. It has many unique species of wildlife, in addition to freshwater seals. The scientists fear that as well as irretrievably polluting the waters of the lake, the proposed development will alter the climate of the whole region and lead to an irreversible advance of the Gobi Desert in Central Siberia.