

**E**VEN the most hardened animal hater will usually admit that the grizzly is a magnificent mammal. A single blow of the bear's paw can crush a bull's skull. Yet although the grizzly has lumbered across the North American continent for a million years, it has been drastically dwindling in numbers since the advent of the repeating rifle in the 1850's. *Ursus horribilis* is now facing possible extinction.

Few grizzlies are left in the United States except in national parks. Even there many were shot or relegated to the back woods in the 1960's, in the wake of an increasing visitor load and an increasing number of grizzly-human confrontations, usually near garbage dumps. Although black bears were delivering more minor injuries to park visitors during this decade than grizzlies, the grizzly really got into trouble during the summer of 1967 when a grizzly mauled two campers to death in Glacier National Park. There was talk of doing away with grizzlies altogether in the parks (SN: 12/28/68, p. 642). There still is.

The grizzly has received an especially bad press during the past several months, for somewhat elusive reasons. Glen Cole, supervisory research biologist for Yellowstone, Glacier, Grand Teton and Rocky Mountain National Parks, declares: "It is probably because the authors haven't heard that a rapid phaseout of open garbage dumps in Yellowstone and subsequently in Glacier [there are no grizzlies left in Rocky Mountain and only a few in Grand Teton] has reduced grizzly injuries to humans almost entirely." There has been only one injury in Glacier during the past four years; there had been periodic injuries before. Grizzly injuries to Yellowstone visitors stood about four a year in the 1960's. They were reduced to three in 1970; none have occurred so far in 1971.

To counter what he considers a delayed reaction to a problem about solved, Cole rose to the grizzly's defense at the annual meeting of the American Institute of Biological Sciences in Fort Collins, Colo., in September. He presented a preliminary report on an extensive National Park Service scientific study of the grizzly in relationship to the natural habitat, particularly with elk. A study of grizzly-bison interaction in Yellowstone is also under way. Such studies have several purposes. One is to inform scientists and the public who treasure what is left of the American wildlife heritage about grizzly ways (in spite of a long history of human encounters with the grizzly, many facts about the bear's life style remain uncertain). Another is to assist park personnel in their efforts to return the grizzly to complete dependence on its natural food sources.



## Stalking the grizzly stalking the elk

by Joan Lynn Arehart

Cole hopes documented scientific studies will reinstate the grizzly's image as "king of the national park food chain and to abolish his image as a recycler of human garbage."

In their grizzly-elk studies, Cole and his colleagues have since 1967 been studying the grizzly-elk population in a 56-square-mile area of Yellowstone. They have found that while the grizzly feeds off a variety of grasses, tubers, nuts, berries and rodents, it will go out of its way to bring down large game when other food sources are scarce and it is especially hungry, such as when it emerges from hibernation in March. At such times, the grizzly will cull weak elk out of a herd. (The greatest number of grizzly-elk kills since 1967—111—took place in the spring of 1970 after a particularly harsh winter. More than 90 percent of grizzly-ungulate interactions observed that spring involved elk.) The grizzly will feed off some newborn elk in early summer. It will take some bull elk in fall when they are distracted by mating.

The study suggests that the elk population has the potential to, and probably does, compensate for death from various natural causes by its reproductive rate. The grizzly, along with other natural processes, keeps the elk population in check. Moreover, while the grizzly may feed on and defend an elk carcass for a week or more, it often leaves enough meat on the carcass for secondary elk consumers—coyote, black bear, grey wolf, bald eagle, magpie, raven, wolverine.

Much of Cole's data are based on circumstantial evidence, such as bear tracks and scattered blood around an elk carcass, or bear teeth marks in the

carcass. But other information is derived from direct observation of grizzly-elk interplay. Whether taking elk in spring, summer or autumn, grizzlies generally work as individual animals, or as social units, to cull a victim from an elk herd. Although the bears are usually easy-loping predators, they use great bursts of speed to split the elk herd. The grizzly will bring down the chosen elk on either land or in water. The young adult is often most efficient at the assault. It will rear at the elk on its hind legs; mount the elk's rump, apparently allowing its weight to collapse the elk's hindquarters; shake the elk's neck with its jaws; roll the elk onto the ground, over onto its back, and open its abdomen. Cole witnessed two elk kills by grizzlies in which it was possible to observe the entire chase. Both times he was accompanied by photographer Mike Sample of Billings, Mont. They admit the grizzly's irascibility and ability to smell and hear humans a hundred yards away has in the past usually discouraged researchers from observing such grizzly spectacles at close quarters.

On one of Cole's and Sample's trips, two young adult grizzlies emerged from a forest and chased 12 elk in two overlapping circles in a meadow for about 15 minutes (photo above). One of the bears, weighing some 400 pounds, managed to bring down a 400-pound elk (cover photo). In spite of the dangers of following and photographing this hunt, Sample calls the grizzly "a magnificent animal."

Cole agrees. "If we at the national parks don't save the grizzly as king of the wilderness food chain, who the hell else will?" □