

BIG GAME OF

Alaska



PHOTOS FROM
THE ALASKA
BIG GAME
PHOTO CONTEST

alaska department of fish and game

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SITKA BLACK-TAILED DEER
ROBERT D. MAURER
SITKA, ALASKA

\$10,000 Grand-Prize Winner.

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PHOTOS FROM
THE ALASKA BIG GAME
PHOTO CONTEST

STATE OF ALASKA JAY S. HAMMOND, GOVERNOR
ALASKA DEPARTMENT OF FISH AND GAME JAMES W. BROOKS, COMMISSIONER
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We would like to express appreciation to the Departmental staff, particularly to the members of the Game Division for their contributions and cooperation in preparing the text for this volume. Special thanks is given to Genny Rees for paintings of the four big game animals not represented by photo entries in the contest and to the five contest judges: Steve McCutcheon of Anchorage; Karl Lane of Juneau; Jack Quisenberry of Juneau; Glen F. Castleton of Anchorage; and R.T. "Skip" Wallen of Juneau.

Cover design is the Big Dipper
in gold on a field of blue,
symbol of the State of Alaska
as it appears on the State Flag.

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1977

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INTRODUCTION

ANYONE who has ever visited Alaska's wild country cannot help but be in awe of its spectacular natural beauty. It is seldom that one can view the mountain ranges and valleys, forests and flowers, wild game and fish without immediately wishing for a camera to capture the wonders seen.

Finding wild game in Alaska is particularly challenging and rewarding to hunter, photographer and casual observer alike.

The 1975 Alaska Big Game Photography Contest was created by the Alaska Legislature to encourage people to appreciate the state's 13 species of big game animals for not just meat and trophies, but as one of the most beautiful facets of the Forty-Ninth State. To emphasize the concept of total appreciation the legislature decided to limit the contest to photographs taken by people who had not harvested the same species of game during that year. Contestants vied for cash prizes of \$25 for honorable mention, \$1,000 for best-of-species in both color and black and white, and a grand prize of \$10,000 for the single best entry. Along with the grand prize and 31 honorable mention prizes, nine of the 26 prizes offered in the \$1,000 category were awarded.

Capturing Alaska's animals in their natural setting on film is often a difficult and time-consuming venture. Over 430 photographs were submitted for consideration, and we hope that this volume will be a partial reward for the efforts of the entrants. Further, we hope that those who have not yet experienced the grandeur of Alaska's wild country will perhaps find this book to be an incentive for their own expeditions.

Because some of Alaska's animals are difficult to find in the best of circumstances, are often dangerous, and live in some of the world's most difficult terrain, there were no winning pictures of the bison, elk, musk ox or polar bear. We have instead included paintings of these animals so that this book may serve as a reference as well as a book to enjoy.

We extend our thanks to all the photographers, amateur and professional alike, who contributed to making the contest a success and the book a reality.

HIGH AMONG THE CRAGS and alpine meadows, in the mountain world of the golden eagle and the marmot, live the Dall sheep.

Dall sheep are the northernmost species of wild mountain sheep in North America and the only white, wild sheep in the world. Their range in Alaska extends from the southern mountains of the Kenai Peninsula to the Sadlerochit Mountains north of the Brooks Range. They are found from the Canadian border westward to the De Long Mountains near Cape Thompson north of Kotzebue Sound.

Sheep habitat is usually the treeless alpine zone where the tundra vegetation provides a good supply of grasses, alpine willow and other plants which are important to these animals for food.

In summer, Dall sheep find food in abundance, taking advantage of the extremely nutritious alpine plants from first greenup through frost. Winter is a time of harsh conditions for the Dall sheep. They are confined to high, open ridges where the mountain winds blow the snow away allowing the animals to reach the dried grasses which serve as winter food.

The breeding season, or rut, of Dall sheep occurs from mid-November through early December. During this time rams and ewes are together on the winter ranges and the social order among the rams, established by ritualized fighting throughout the year, is sorely tried. Ewes carry the lambs until late May or early June. When the lambs are to be born, ewes seek out rugged terrain to gain safety from predators. Lambs weigh five to six pounds at birth and grow to about 10 times this weight by their first winter.

Dall sheep may be expected to live to from 12 to 15 years of age. Rams usually become legal hunting game at about six years of age when their horns have grown through three-quarters of a curl. Another two or three years are required for rams to produce the full curl horns so highly sought by hunters and photographers alike.

Pursuing Dall sheep for purposes of hunting or photography is an arduous task which, to be successful requires much physical

effort, much time and good equipment. Dall sheep can usually be approached in the wild if one takes time and care in his approach. It is extremely important to be downwind when approaching Dall sheep as they react to scent more readily than to sight of humans. When seen by Dall sheep a hunter or photographer will have the greatest chance of approaching close enough to attain his objective if he remains quiet, but does not "freeze." It is important to maintain a casual or even sloppy posture because stiff posture or "freezing" is a means of communicating alarm from one Dall sheep to another. Humans also communicate alarm to Dall sheep by assuming a stiff posture.

Photography of Dall sheep is always difficult because of the varying reflective properties of the white sheep and the habitat.

Usually summer photographs are difficult because of extreme contrast between a white sheep and a dark green background or because of light reflection from surrounding rocks. Wintertime photographs offer fewer problems, but then the situation may be reversed and success may be better with a film of higher-than-average contrast. Unhunted sheep are often more successfully approached for purposes of photography than

hunted populations. Areas where Dall sheep are not hunted may be preferable for the beginning sheep photographer. Three such areas are McKinley Park, Sheep Mountain on the Glenn Highway, and Cooper Landing Closed Area near Cooper Landing. Even in hunted populations Dall sheep can be approached, but more time is required. Mineral licks and other places of sheep concentration are also good places to photograph sheep. However, sheep frequent mineral licks during spring when they are shedding their long winter hair and are considered by many to be less attractive at this time of year.

Dall sheep are currently abundant over their entire range. The key to their continued well-being is habitat protection. The habitat which has always supported Dall sheep is vegetatively stable and will continue to support Dall sheep unless changed by man.

DALL SHEEP



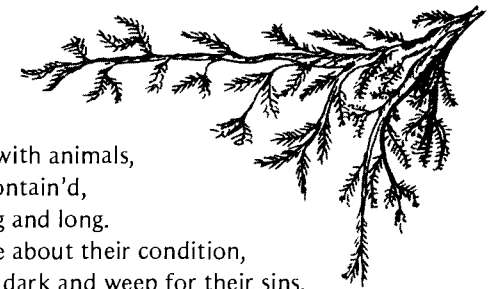
Tom Walker
Talkeetna, Alaska



Tom Walker
Talkeetna, Alaska

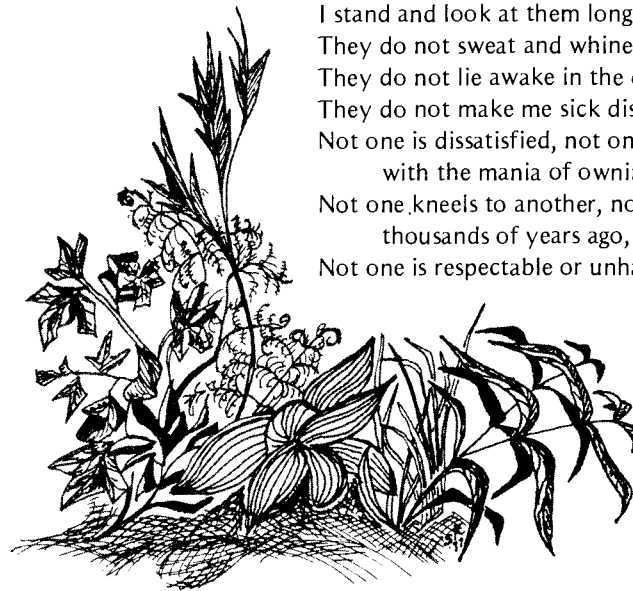


*Stephen J. Krasemann
Hartford, Wisconsin*



"I think I could turn and live with animals,
They are so placid and self-contain'd,
I stand and look at them long and long.
They do not sweat and whine about their condition,
They do not lie awake in the dark and weep for their sins,
They do not make me sick discussing their duty to God,
Not one is dissatisfied, not one is demented
with the mania of owning things,
Not one kneels to another, nor to his kind that lived
thousands of years ago,
Not one is respectable or unhappy over the whole earth."

—Walt Whitman





*William Erkelens
Fairbanks, Alaska*



*Audrey Erkelens
Fairbanks, Alaska*



*Tom Walker
Talkeetna, Alaska*



*William Ruth
McKinley, Alaska*



*Joseph J. Branney
Englewood, Colorado*



*Doug Looney
Anchorage, Alaska*

SITKA

POISED ALWAYS as on the edge of flight, the image of elusive grace and soft-eyed beauty, deer are perhaps a symbol of the durability yet fragility of the wilderness.

Sitka black-tailed deer inhabit the moss-entangled rain forests of southeastern Alaska and northcoastal British Columbia. In the 1930's their range was expanded by transplants to include the Yakutat and Prince William Sound areas as well as Kodiak and Afognak islands. Sitka deer are related to the mule deer of the western U. S., though they are smaller, stockier and have shorter faces than their southern cousins.

Their reddish-brown summer coat gives way to dark grey in winter. Branched antlers grow only on the buck and are shed each January or February, to begin growing again in April. Fully developed antlers may have five points on a side, though the Sitka deer rack is relatively small compared to other deer species.

Fawns are born in May or June, with multiple births being common and twins normal. Birth usually occurs in the fringe of trees adjacent to wetlands or beaches. Spotted fawns lie motionless, soundless and almost odorless during the first weeks of life. At about one month, fawns are strong enough to venture forth with their mothers and their spots begin to fade.

Deer usually frequent the higher elevations of their range in summer, often grazing above timberline. During the winter, if snow becomes very deep, deer are forced to open beaches, feeding on poor-quality beach grasses and kelp. These periods of heavy snow when the deer congregate in

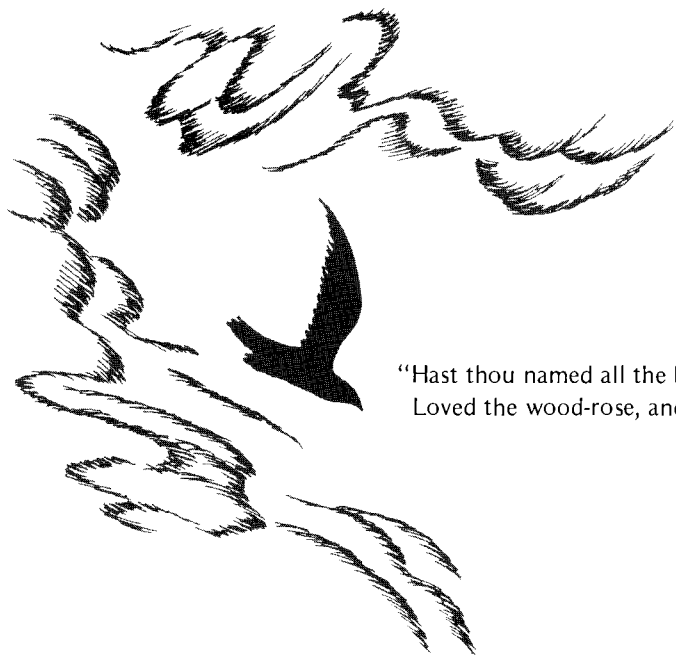
the narrow zones adjacent to the beaches are excellent observation times, though daylight hours are usually short. It is a hard time for the deer, and they are often on the verge of starvation, even with a full stomach, for want of nutritious foods. It is here that wolves make their greatest inroads, though wolves only inhabit about half the deer's range. Accordingly, deer populations fluctuate with the severity of winter though they are capable of a speedy recovery given a mild year.

As the first hard frosts turn the green alpine regions gold and then red, deer begin to withdraw into the high timber. The location of the winter range is dependent on snow depth — deer being nearly immobile in deep snow. Throughout the winter most deer remain just below the snow line, moving up and down with changing snow depths. Photography at this time would depend largely on skill with snowshoes and skis, and on outdoor winter experience. Wary and swift, deer are challenging animals to approach and photograph in the wild. They are usually early morning and evening feeders, venturing into the open at these times, then retiring into heavy timber or brush during the rest of the day.

DEER



Stan Price
Windfall Harbor, Alaska



"Hast thou named all the birds without a gun?
Loved the wood-rose, and left it on its stalk?"

—*Ralph Waldo Emerson*



*Mike Munsey
Kodiak, Alaska*

IF THERE IS an animal that lives up to its legend, it is the Alaskan Brown Bear. Possessed of great size, unpredictable temperament and almost primeval strength, brown or grizzly bears stride their vast territory with the assurance of total supremacy. Their stronghold is the last domain where man — their only enemy — has yet to intrude. Once widespread in North America, the brown bear still is abundant throughout Alaska, from Frederick Sound north to the Arctic Ocean. Their fearsome reputation spawned by encounters with man in the wilderness is a reality in Alaska.

BROWN

The brown bear is known widely as the Kodiak Bear and the "world's largest carnivore," though neither title nor description is accurate. While the largest of their kind live on Kodiak Island and the adjacent Alaska Peninsula, interbreeding has proven the coastal brown bear and the tundra-dwelling grizzly to be in fact the same species. Although the brown-grizzly is a meat-eater, he is actually omnivorous,

which accounts in part for his wide range and adaptability.

Adult bear sizes and colors vary considerably. The male is generally larger and both sexes are considerably heavier in the fall prior to hibernation. At this time mature males weigh between 500 and 900 pounds, with extremely large individuals weighing up to 1,400 pounds and standing nine feet tall on their hind legs. Inland bears are usually smaller than coastal bears, perhaps because they lack the rich supply of fish.

In color, they range from dark brown to light blonde. The latter, known as the Toklat grizzly, is a common color phase often found in McKinley Park, where bears may be easily observed. Regulations there prohibit leaving the roadway, both for the safety of the photographer and tourist and so that the bear may remain undisturbed in his own territory. Look for single bears foraging for food in the late evening summer twilight alongside the roadway.

BEAR

Confusion between the smaller black bear and the grizzly generally vanishes after the first few sightings one

has of the latter. However, color is not a reliable key to bear identification as black bears occur in many shades of brown. The hump at the shoulder and the blunter, more massive head and long claws are grizzly trademarks.

In coastal Alaska, as well as elsewhere along salmon spawning streams, congregations of bears are a common sight in the summer and fall. Extreme caution is urged in approaching and photographing bears at these and other times. Total unpredictability and tremendous speed are the keys to this often dangerous animal's behavior.

Brown bears enter dormancy in November and December and the young are born in the winter den, emerging in April or May with the mother. Dens are most often at high elevations near timberline, but may be encountered almost anywhere. Multiple births are normal with two being common. Female brown bears may adopt other cubs and sightings of six or more young with a single female have been recorded. The young stay with their mother at least through the second year, before embarking on a mostly solitary life.

Precautions should be taken at all times in bear country, but the photographer/viewer should be especially careful not to come between a female and her cubs as any interference, intended or otherwise, can bring out the most protective defense instinct in any bear.



*John Ibbotson
Anchorage, Alaska*



Leonard L. Rue III
Blairtown, New Jersey



Joseph J. Branney
Englewood, Colorado



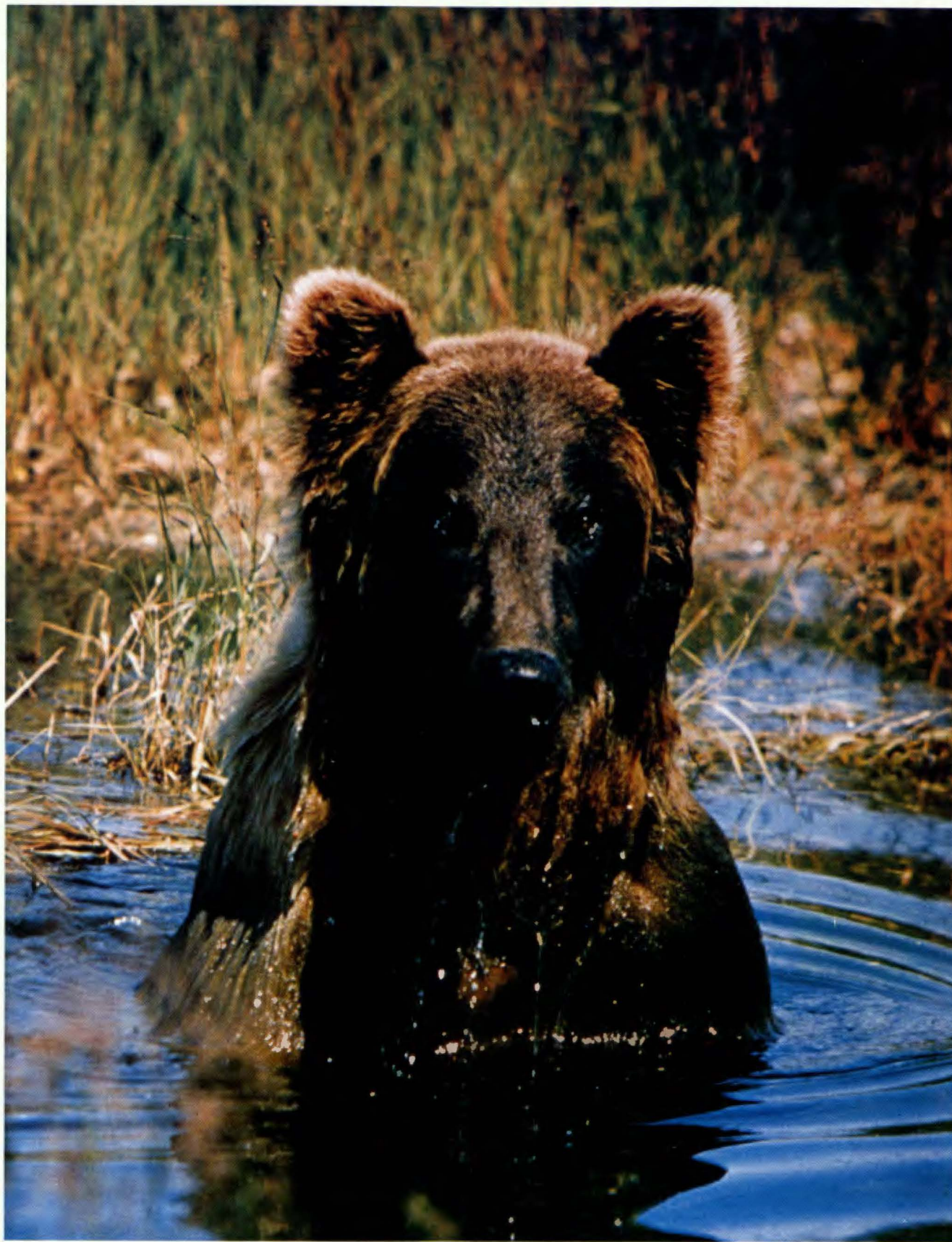
*Joseph J. Branney
Englewood, Colorado*



*Charles G. Summers, Jr.
Littleton, Colorado*



*Rollie Ostermick
Anchorage, Alaska*



Rollie Ostermick
Anchorage, Alaska

MUSKOX

ORIGINALLY FOUND along the coastal fringes of Arctic Alaska, the stocky, long-haired muskoxen have returned to their native land. Indications are that these great, shaggy animals were never numerous. Marginal climatic conditions and primitive human hunting contributed to the disappearance of muskox from Alaska sometime in the last

century. No white man ever saw a muskox from the original population in Alaska and Eskimo legend tells of the last survivors, a herd of 13, before they were seen no more. Only the Native name, Oomingmuk or "the bearded one," and Eskimo reports or occasional skeletal discoveries survive to tell us of the probable range and fate of the species.

In 1931, 34 calves and yearlings arrived at the University of Alaska from Greenland. They were subsequently moved to Nunivak Island in the Bering Sea where they increased to 750 animals by 1968. This was more than the food resources of the island could support in winter and the population crashed in the mid-1960's. Transplants to the mainland — the muskox's original domain — commenced in 1969. Today, a carefully controlled hunting season is permitted.

Stocky and long-haired, with down-curved horns nearly joined at the base, the muskoxen look fit for the bleakest terrain on earth. Poorly adapted for digging in snow, they must exist where the wind sweeps the underlying vegetation clear. Their natural habitat is thus the coastal and farthest north regions of the area known as the high arctic, where snowfall is slight and winds nearly perpetual. It is into this forbidding terrain that the photographer must pursue them. However, easier camera hunting may be found on Nunivak Island.

Domesticated muskoxen are also on display at the University of Alaska Muskox Farm, just outside of College, Alaska, near Fairbanks. There, experiments are underway for the development of the muskoxen for their soft, brown, wool-like under-hair called "qiviut." Soft as cashmere, this fur performs extra service for the animals, helping them to survive in arctic climates. The conversion of "qiviut" into wool garments is the basis for a possible native Alaskan industry.

Muskoxen do not migrate and therefore inhabit virtually the same range year-round. Wolves are their chief predators, though the muskoxen's defensive tactics serve them well. At the first sign of danger, the herd gathers in a running mass and then, as if on signal, whirls and presents the enemy with an impenetrable barrier of horns. Such tactics, however, serve the animals poorly in the face of hunting pressure by humans and today greatly simplify capture for transplant by men on snowmachines.

One of the primary purposes of putting muskoxen on Nunivak Island was to establish a herd from which animals could be transplanted to former ranges within Alaska.

Areas which have since received transplants include Nelson Island, the Arctic Wildlife Range in northeastern Alaska, the Nome and Cape Thompson areas of the northwest Arctic coast and the Kavik River on the North Slope. Some of the transplanted herds have begun to grow and muskoxen may be on the way to replenishing their former range.



THERE IS NO SOUND in the Alaskan wilderness quite so eerie and chilling as the howl of the wolf. Roaming across the barren arctic tundra or prowling the dense, spruce forests of the Southeastern Panhandle, wolves will appear unannounced and watchful, on bleak nights, green eyes shining iridescent, watching and waiting. It is no wonder that wolves are revered and feared in history and mythology.

Wolves generally exist as members of a pack which often consists of 6 to 15 and occasionally 20 or more individuals. Packs include parents, pups and their yearlings, and often other adult members. The social order is characterized by one dominant male and one dominant female within the pack. Wolf pups are born in May and early June with litters usually consisting of from four to seven pups. Prior to midsummer when pups are able to travel, most older wolves in a pack center their activities around the den, traveling as much as 20 miles or more from the den while hunting. By late autumn wolf pups are able to travel considerable distances with the pack and may take part in the foraging activities of the pack when about one year old. The mortality rate among wolves, and especially pups, is high due to starvation, disease, accidents and hunting and trapping by man. Few wolves live to be 10 years old under the conditions prevalent in Alaska today.

Packs inhabit territories of several hundred square miles apiece which sometimes partly overlap territories of adjacent packs. Adult male wolves average about 90 pounds and may weigh as much as 130 pounds with adult females averaging about 10 pounds less than males.

Wolves are carnivores and in Alaska rely primarily on moose, caribou, or deer depending on their range. Their diet is often supplemented with berries, fish, waterfowl, small mammals, sheep and goat. The wolves' occasional unpopularity is due to the fact that they are primarily dependent on game animals which are coveted by man. The combination of the effects of man, wolves and other environmental factors not uncommonly results in the decline of prey populations to very low levels, creating competition between man and wolves for big game prey. Still, wolves remain an essential component of Alaska's fauna and an indicator of the quality of our remaining wild areas.

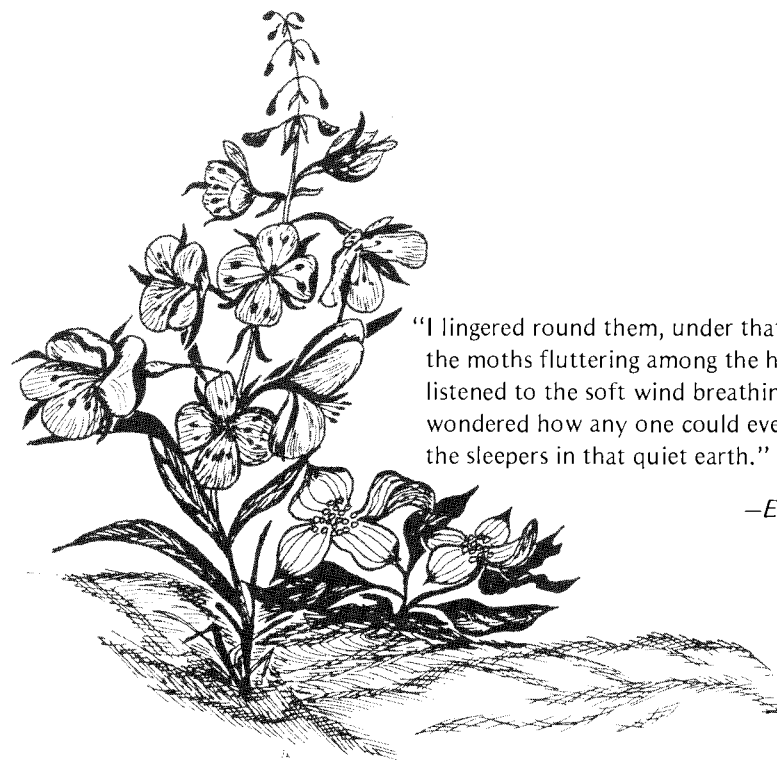
Although wolves are found throughout Alaska they are rarely seen and even more rarely photographed by people other than those using aircraft. In alpine and tundra habitat wolves can be seen over great distances but in most of Alaska chance encounters provide the only opportunity for

WOLF

photographs. Because wolves are great travelers, alert and usually shy, and because they are few in number compared to other Alaskan mammals, close encounters are rare and of short duration. A person intent on photographing a wolf must be ready and watchful.

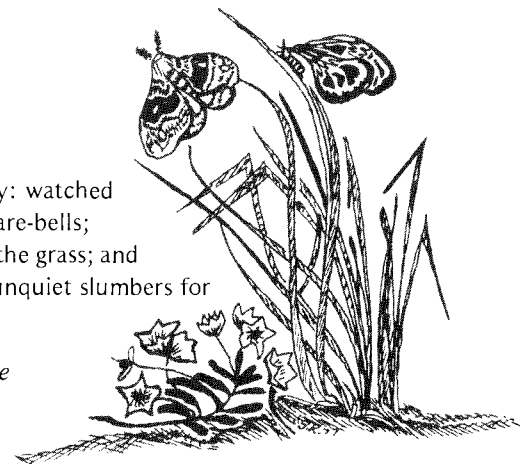


*Rollie Ostermick
Anchorage, Alaska*



"I lingered round them, under that benign sky: watched
the moths fluttering among the heath and hare-bells;
listened to the soft wind breathing through the grass; and
wondered how any one could ever imagine unquiet slumbers for
the sleepers in that quiet earth."

—Emily Bronte





Rollie Ostermick
Anchorage, Alaska



Rollie Ostermick
Anchorage, Alaska



Rollie Ostermick
Anchorage, Alaska



*Clifford Moore
Fairbanks, Alaska*

POLAR BEAR

THE GREAT white bear, the strong and supernatural Nanook of Eskimo legends, sometimes seems more apparition than animal. Living most of their lives on sea ice, polar bears are solitary hunters, seldom seen even by their prey. The white color, great size and rangy appearance of the polar bear is distinctive. Subsisting mostly on seal meat and often equaling or surpassing brown bears in height and weight, polar bears are the true "largest carnivores." Although well known to the Eskimo culture, much of the life history and ecology of these northern giants remains unknown. By virtue of their distribution and habits they are often difficult animals to observe and photograph.

Polar bears are circumpolar in range, inhabiting portions of five countries: Canada, Denmark (Greenland), Norway (Spitzbergen Islands), the Soviet Union and the United States (Alaska). They are protected in the United States by the Marine Mammal Protection Act and all five countries have international agreements to protect and study polar bear populations. In Alaska, only Native subsistence hunting of these animals is currently allowed.

Off the coast of Alaska polar bears spend the summer on the ice pack, hunting seals along its edge and along leads (cracks) and pressure ridges. The extent to which they drift on ice driven by ocean currents around the pole has not been determined, but they generally follow the ice pack north in the summer and south in the winter. Occasionally they move inland and have been known to feed there on vegetation and birds.

As the sea ice forms off the Alaskan coast in the fall, some bears move southward, occasionally reaching as far south as St. Lawrence Island. In April, these bears gradually move northward through the Bering Straits and the Chukchi Sea ahead of the retreating ice pack.

Pregnant females hollow out dens in the snow in October, having mated the previous spring. The young are born in November and December, into a sunless, cold arctic world. Like other cub bears, they remain in their dens until spring, when they emerge with their mothers. The young usually remain with their mothers through the second year.

Observing and photographing polar bears is an expensive proposition. Hunters and photographers formerly flew out of Kotzebue, Barrow, Point Hope and Teller. With the implementation of the Marine Mammal Protection Act, sport hunting ceased in 1972. At present, scientists engaged in polar bear research programs have the best opportunity to observe the animals at close range.



C A R I B O U

ALTHOUGH THE once horizon-spanning herds have declined from past population highs, caribou are still an important presence in the far north. Natives have for centuries depended upon these northern deer for food, clothing and material for shelters. Caribou play an important part in the lives of the people in many northern villages even today.

For the photographer caribou are magnificent subjects, with their striking antlers, stately carriage and impressive numbers. Though only occasionally accessible to photographers, they are usually found in a panoramic setting. Caribou may be encountered scattered throughout the Alaska Range. They are one of the most common animals sighted at McKinley Park during spring and summer.

Caribou are usually on the move (except for a few months in winter) seeking both new grazing and relief from hordes of tormenting insects during summer. Most calving occurs on calving grounds when the animals are temporarily sedentary, but some are born on the move, and can follow the herd almost from the moment of birth if deep snow is not encountered.

Barren ground caribou are relatives of the European reindeer, the latter having been imported for domestication in Alaska. All caribou and reindeer throughout the world are considered to represent a single species. Barren ground caribou generally inhabit open tundra. In Canada woodland caribou inhabit heavily forested areas.

Caribou are the only members of the deer family in which both sexes grow antlers. Average adult bulls weigh 350 to 400 pounds, with females considerably smaller. Very large caribou may weigh up to 700 pounds. They spend the summer months growing fat on the lush vegetation, then bulls shed their velvet and go into rut, losing most of their accumulated fat. Bulls start to shed their antlers after October and most are bareheaded by January. Pregnant cows and yearlings retain their antlers until May or June, but nonpregnant females usually shed them before late April.

Though migration patterns for each herd are basically known, caribou movements often become unpredictable. Population shifts from herd to herd contribute to a puzzling overall picture. Major hardships for the people of the north are often caused by shifts in migration habits. Areas known for many years to have great numbers may suddenly decline.

Evidence of herd depletion, particularly in the Arctic, has caused the need for major reductions in human takings of caribou and even complete hunting closures. Predators have also taken their toll and definite steps are being taken to insure the continuation of caribou in Alaska.



*Cecil Rhode
Cooper Landing, Alaska*



*Joseph J. Branney
Englewood, Colorado*



*Jon Welch
Ridgewood, New Jersey*



Charles G. Summers, Jr
Littleton, Colorado



William Ruth
McKinley, Alaska



*Helen Rhode
Cooper Landing, Alaska*



*Nancy Simmerman
Girdwood, Alaska*

ONCE VAST and flowing herds of the American Bison strongly influenced the life style of the plains Indians in much of western North America. Since their near extinction in the last century, bison exist in the lower 48 and Canada in scattered but stable remnants. Transplanted to Alaska in 1928 from Montana, several herds have become established — one near Big Delta south of Fairbanks, one in the Copper River Valley south of the Alaska Range and small herds at Healy Lake, Chitina River and Farewell.

Bison are grazing animals and the grasses and sedges found along rivers and around potholes are important foods however, good bison ranges in Alaska are limited. Bison are migratory and in the Delta Junction area move far up the Delta River in early spring. Later in summer they move downstream feeding slowly, eventually finding their way into farming areas where they remain throughout the winter, sometimes causing damage to unharvested crops. The Copper River herd has a similar movement pattern.

In late fall, the bison's coat is a rich, dark brown color and is of high quality. As winter progresses the coat changes color, becoming much paler by spring. Soon the old hair of the coat, which loosens and hangs in patches, is completely shed. The new coat replaces it by late spring. For a short time, bison appear to be almost completely devoid of hair except the head, hump and forelegs.

BISON

Calving usually takes place in secluded meadows of upper river areas. Most bison are born in May but the calving season usually extends from April to August, with calves occasionally born even later. Calves are reddish in color when born and are able to stand when 30 minutes old. Within three hours of birth they are playful

and can run and kick their hind legs. At about six days of age they start to graze.

In Alaska, bison do not remain in a single large herd, but are scattered about singly or in groups of up to 50. During the summer they spend much time wallowing in the dust like range cattle, leaving large depressions in the ground.

Bison move slowly while feeding and though assumed to be clumsy because of their great size, are actually fast and have great endurance when pursued.

Mature bulls may weigh over 2,000 pounds, making them the largest big game animal in Alaska. Hunters and photographers will find them surprisingly wary.

At present, the Delta and other herds combined consist of approximately 600 to 800 animals. They may be seen and photographed at various points near Big Delta and along the Copper River south of Copper Center. They are often seen in the fall near Delta Junction. Because of the lack of suitable grasslands, it is unlikely that very large numbers of bison could sustain themselves in Alaska. However, their population has increased to the point where annual permits are issued for controlled hunts to help keep the herd population in line with their food resources.



MOOSE are one of Alaska's most important wildlife species. Although possibly awkward appearing to the first-time observer, these oddly majestic creatures are firmly established, hardy and highly adapted to Alaska's severe climate. Their long legs allow them to walk through deep snow, marshes and brush and the long muzzles assist in feeding under water and warm the cold, winter air as moose inhale. Their thick, dark coats provide warmth during winter and protection from the hordes of mosquitos during summer.

MOOSE

Moose are the world's largest deer, and Alaska-Yukon moose are the largest of all. Smaller cousins of Alaskan moose are found around the globe in northern forest regions. Alaskan bull moose are just plain big, 1,200-1,600 pounds for adults. Females are somewhat smaller, usually weighing 800-1,200 pounds. Bulls produce the world's largest antlers, occasionally reaching 80 inches in spread and weighing 70 pounds. However, spreads of 55 to 65 inches are more common for large bulls. Typically, yearling bulls grow small spikes to four-point antlers and each year thereafter produce larger racks until about 10 to 12 years of age when antlers begin to decline in size. Bulls sometimes reach 15 years of age and cows occasionally live to be 20.

In Alaska, moose can be found from the Stikine River in the Panhandle to the Alaska Peninsula and the Colville River on the Arctic Slope. They are prevalent in areas where willows, a prime food source, are abundant, in young second growth forests, along creeks and rivers and in high subalpine areas.

As the high subalpine vegetation comes alive with fall's crimsons and golds the stage is set for one of the most dramatic events man can witness — the moose rut. With the shedding of velvet and the sharp chill of an early September morning the pre-rut activities begin. Antlers are polished by thrashing against trees and brush, attracting other moose to the area. These powerful giants establish their dominance ranking through sometimes lethal jousting matches. As the rut progresses much of their time is spent calling and searching for other moose. Bulls cease to feed, and exhaust their fat reserves by the end of rut in mid-October. About eight months later, in late May and early June, the reddish brown calves are born.

One of the greatest problems affecting moose is man's ever-increasing industrialization and development of wildlands and the adverse influence this has on habitat and moose distribution.

Moose are relatively easy animals to photograph, inhabiting many areas along the Alaska highway system. However, care must be exercised when closely approaching moose, particularly cows with calves. More than one photographer has been run up a tree by a hostile moose. McKinley Park is probably the finest moose viewing and photographing area in Alaska, if not the world. There, moose are relatively tame and the open habitat allows them to be easily located.



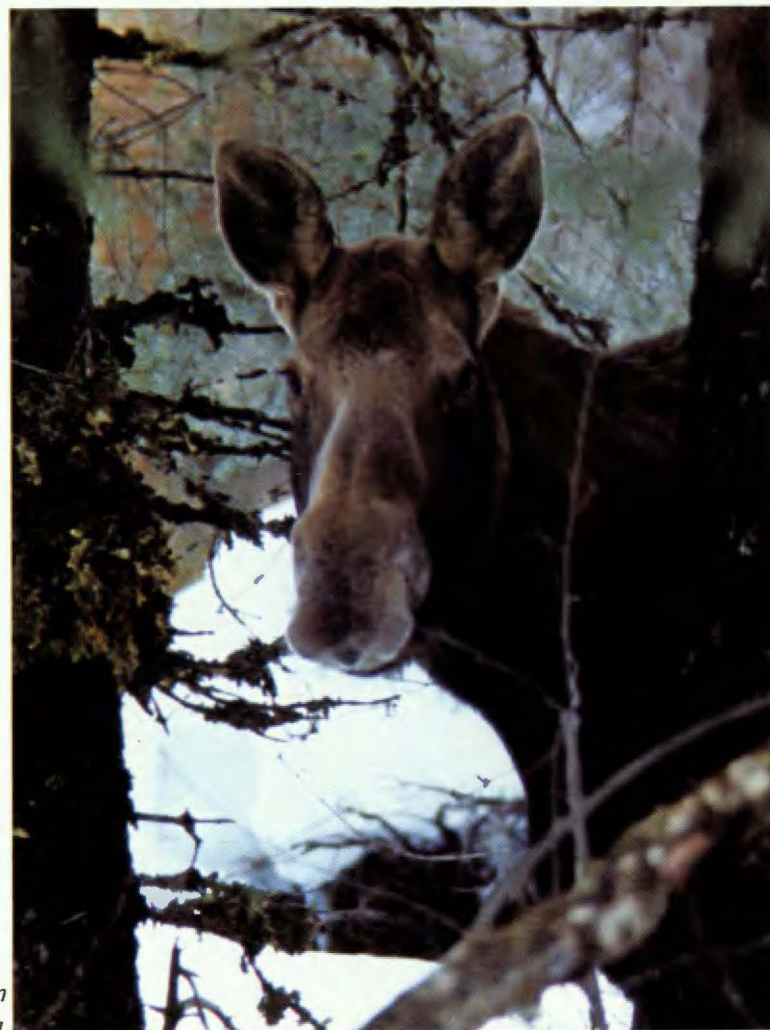
*Helen Rhode
Cooper Landing, Alaska*



*Helen Rhode
Cooper Landing, Alaska*



*Len Rue, Jr.
Blairstown, New Jersey*



*William R. Brandon
Girdwood, Alaska*



Helen Rhode
Cooper Landing, Alaska



*Kermit L. Johnson
College, Alaska*

BLACK E A R

THE MOST COMMONLY seen and widely distributed bears in Alaska are black bears. They have also been recorded in every other state except Hawaii. Cautious and secretive by nature, blacks undergo something of a personality change when civilization en-

croaches. Highly adaptive to man's ways, they have earned a reputation for invading food stores in bush communities and construction sites, and have even made appearances in large cities. While such antics make them ready subjects for even snapshot photographers, black bears are very powerful animals and may vigorously defend their food supply and their young. They should be treated with respect wherever encountered.

Black bears are most often associated with forested areas, but depending on the season of the year, they may be found from sea level to alpine regions. Black bears are not found on the Seward Peninsula or north of the Brooks Range. They are also absent from the larger islands in the Gulf of Alaska and from the Alaska Peninsula beyond the area of Iliamna Lake.

More adaptable to civilization than their larger cousin the grizzly, contacts with man are more frequent and less awe inspiring. Blacks can be readily distinguished from brown bear by their longer facial profile, smaller size and lack of a distinct hump. Mature blacks may weigh 180-200 pounds, though adults 400 pounds and up have been recorded.

Their color may range from the more common black, through varying shades of brown (cinnamon) in southcentral Alaska, to a pale grey or "blue" (glacier) phase sometimes seen in the Yakutat area. Nearly all black bears have a patch of white hair on the front of the chest, and a brown muzzle.

Blacks, like browns, lead solitary lives except for females with cubs. They are creatures of opportunity when it comes to food, as many wilderness campers or cabin-dwellers have discovered. The usual diet of black bears consists of tender young shoots, roots, berries and small animals. In the late summer and fall they gorge themselves on blueberries or salmon, depending on their habitat. Like the brown, they are waddling fat as winter drowsiness approaches and they take to their dens for as long as six months, emerging only during warm spells if at all.

Cubs are born in midwinter and by spring are able to follow their mothers into an awakening world. At the first sign of danger, even young cubs can scurry up the nearest tree.

Photographers seeking black bears should hunt for targets of opportunity along coastal and interior rivers and roadways. Black bears are often present where browns are absent, as the two do not mix well and bloodletting between them is not unknown. Attacks on humans have been documented with increasing frequency as Alaska is penetrated by man, so caution is always recommended when observing any bear.



*William R. Brandon
Girdwood, Alaska*



*Deborah A. McCune
Valdez, Alaska*

ELK

MONARCHS OF THE HIGH COUNTRY, Roosevelt elk are dwellers of upper level forests and tundra in northwestern North America. From Northern California to the Olympic Peninsula in Washington State they are often encountered in the early morning mists, grazing in herd formation, a picture of wilderness grace and mountain freedom.

The elk or wapiti in Alaska originated from a transplant of eight Roosevelt elk to Afognak Island in 1929. Although vast Afognak forests would seem capable of supporting large elk herds, this has not proven to be the case. They had grown to approximately 1,500 animals by 1965, but a series of winters with heavy snowfall caused extensive natural mortality. Although the herds are recovering, the population was estimated at only 500 animals in 1976. Game experts believe it unlikely that they will return to their former numbers because of the inability of the available range to sustain such a large herd.

Today, elk are found only on Afognak and Raspberry Islands near Kodiak. Elk are animals of the semiopen forests, moving above timberline during the summer months where breezes keep biting insects at bay and the alpine vegetation is ample and nutritious. They are very social animals, a trait which contributes to their tendency to overgraze their range. Elk are considerably larger than deer, though not as large as moose. The large yellowish rump patch and dark brown legs and neck are distinctive. Bulls have large antlers, carried swept back over their shoulders with dagger-like light-tipped spikes pointing forward. Like deer, they lose their antlers in the winter and grow new ones the following summer. Cows are smaller than bulls and have no antlers.

Bull elk on Afognak sometimes weigh over 1,000 pounds dressed, and are larger than their lower-48 relatives. Their diet in summer is a grazing one, consisting of blue joint, sedges, fireweed, lupine, cow parsnip and chickweed. From late fall to early spring they are browsers and their main foods are elderberry, highbush cranberry, willow and devils club.

In late summer, bands of elk begin to congregate in herds, mostly consisting of cows, calves and yearlings. In September, bulls join the herd and breeding occurs. Dominant bulls challenge each other with a high-pitched "bugling" call — a distinctive and eerie sound in high mountain valleys. While the large bulls demonstrate their prowess competing in pushing and shoving matches, smaller bulls often take advantage of their preoccupation by breeding first with waiting cows.

In order to photograph an Alaskan elk extensive effort is required to reach their remote and rugged corner of the state. The reward, however, would be more than worth the effort, as the majestic elk are among the most photogenic of our wild animals.



MOUNTAIN

thought to be white bear specimens, and so remote was their habitat that little was known about mountain goats prior to 1900.

Mountain goats in Alaska are distributed along the coastal mountains from Portland Canal to Cook Inlet and inland where they overlap with Dall sheep in the Chugach, Wrangell and Talkeetna Mountains.

On close inspection goats are easily identified by their long hair, deep chests and the spiky black horns worn by both sexes. Long hair on the legs gives these animals the appearance of wearing pantaloons. The goats' scraggly beards are readily apparent, even

GOAT

THE ONLY ANIMALS that challenge the Dall sheep's rugged territory are mountain goats. These nimble cousins of the antelope were mistaken for sheep by early explorers in southeastern Alaska. Goat hides obtained by Captain Cook were

at some distance. Sexes, however, are so alike that the only way to differentiate them is that females are often accompanied by a kid.

Besides having long, white coats, a rather squared appearance, and living in one of the most hostile environments in

the world, goats have several other peculiarities which make them distinct. One anatomical peculiarity is the presence of two scent glands behind the horns. These glands are most prominent on the male during the rut. It has been suggested that goats use the scent from the glands as an aid in locating each other. Another oddity is the hoof. Rather than having a bony concave surface, the hoof is composed of pliable pads which are convex. This adaptive feature allows the animals to negotiate the most precipitous ledges.

The mountain goats' primary habitat is the alpine zone, which generally consists of a grass, sedge and moss complex and is characterized by deep snows during the long winter period, and short, cool summers. Mountain goats are generally found in the alpine zone from early spring through summer and early fall; and then, as winter proceeds, the goats tend to move down the sides of the mountains, in some cases all the way to beach line. Wintering areas consist of rocky, wind-blown ledges which are generally snow free and provide a minimum amount of food material. Although goats have a seasonal migration, in many cases they migrate up and down vertical distances of 3,000 feet in a matter of hours.

Goats feed on grasses, sedges and forbes during the summer period. In winter, primary foods are ferns, bunch grasses and sedges. When excessive snow is present, goats become opportunists and seek whatever happens to be available.

As with most wildlife in Alaska, the critical period for mountain goats appears to be during the winter. Although very limited research has been conducted in Alaska, studies indicate that nearly all mortality occurs during the winter period. Most biologists are of the opinion that severe winter weather regulates goat populations. Protected by their remoteness and inaccessibility, goat populations are little affected by man.

Mountain goats breed at approximately two years of age. The breeding period, or rut, generally takes place during November or December. At this time, billies can be seen traveling long distances in search of different groups of nannies. Before giving birth, usually in May or June, nannies break away from the group and become somewhat secretive, occupying precipitous, rocky ledges. There they give birth to one kid and, in some cases, twins. At birth kids are fully capable of traversing the most difficult terrain with the nanny. Kids remain with their nanny for at least the first year of life and often through the second year of life. It is very common to observe a nanny, a yearling and a kid together.

Mountain goats played an important role in the history of the native people of Alaska, providing meat, cosmetic and ornamental materials, and hair for weaving blankets. Goats were also important to early-settlement whites.

Modern Alaska sportsmen hunt goats primarily for meat and/or trophies. The best time for trophy hunting or photography is from October to December, when goats are in prime condition. The meat hunter will take a goat anytime from August 1 through December 31 with the trophy value of the animal being incidental.

Stalking and photographing goats is partly a matter of sheer endurance. They are not overly wary and have only normal senses of sight, hearing and smell. When possible, stalkers should approach from above, as goats are more alert to possible danger from below.

Areas accessible for goat observation and photography include Mt. Bullard near Juneau and the area east of Cordova.



*Stephen J. Krasemann
Hartford, Wisconsin*

WOLVERINE

STOCKY and powerful, wolverines are animals with a mystique all their own. In the Lower Koyukuk area newly trapped animals are honored by an old Russian word meaning leader, or chief. When a wolverine is brought to a village, the cry goes up, "Look at the Doyon!" Elsewhere, wolverines are known as the nemesis of all trappers, from their habit of following traplines to steal or foul the catch. Still, they are valuable to the trapper for their own fur; a prime pelt can bring as much as \$150 or more.

Wolverines are the largest North American cousin of the mink and weasel, and can be found in most arctic and subarctic regions in the northern hemisphere. While they have become rare in the continental United States, they are still common in Alaska. Their fur is usually a dark brown, with a horseshoe-shaped gold band running from shoulder to tail. Adult males weigh only about 32 pounds, with females about 10 pounds lighter, but their reputation for ferocity is unmatched. Luckily, most wolverines would rather avoid a fight unless they are molested in some way. When necessary, powerful jaws and long, curving claws make them dangerous adversaries even for much larger animals.

It is not unusual to find wolverines making a trek of up to 40 miles a day in search of food. Primarily nocturnal, they spend their days in a den when they can, but during the long arctic daylight periods they are often active. Their dens are usually one or two tunnels, up to 60 yards long under the snow, generally with only one entrance.

Carrion is a principal winter food of wolverines, but their diet is often supplemented by small mammals and birds. On occasion the relatively small animals are known to attack much larger species. They may take caribou or reindeer, and will sometimes attack Dall sheep and mountain goats. Wolverines have been dubbed devil bear, carcajou, and woods devil by various people, but most of all they live up to their scientific name, *Gulo gulo*, which means simply, "glutton."

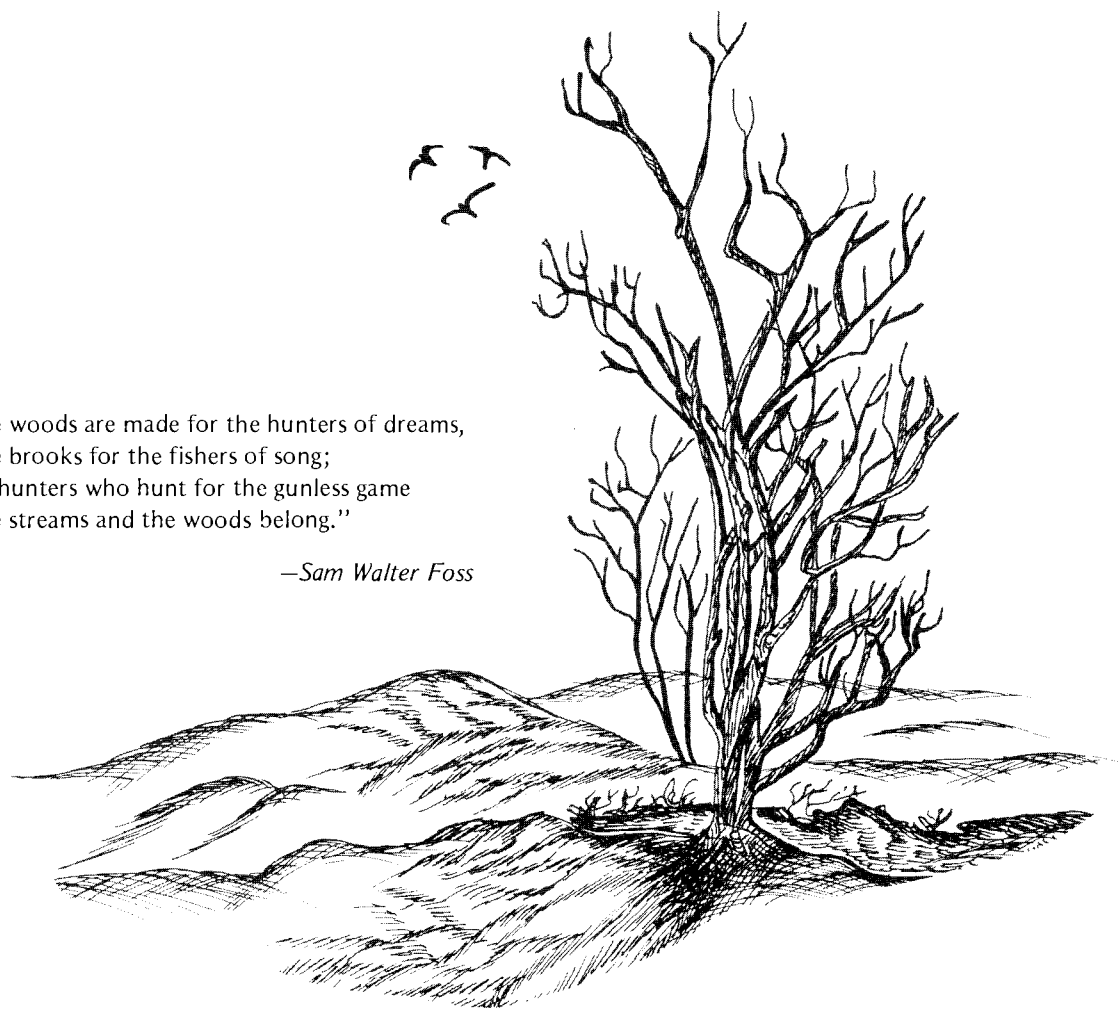
Although wolverines prefer wilderness areas, they do adapt to humans in their range and photographers should note that they are not uncommon visitors of garbage sites near metropolitan areas.



Darrel V. Tracy II
Bremerton, Washington

"The woods are made for the hunters of dreams,
The brooks for the fishers of song;
To hunters who hunt for the gunless game
The streams and the woods belong."

—*Sam Walter Foss*



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"I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived."

Thoreau