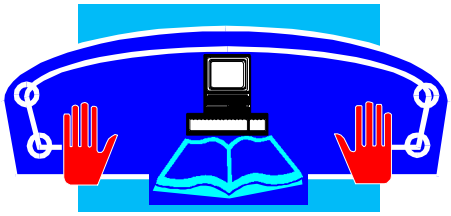

Arctic Development
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Wolves Of The Northwest Territories - Arctic Wildlife Sketches
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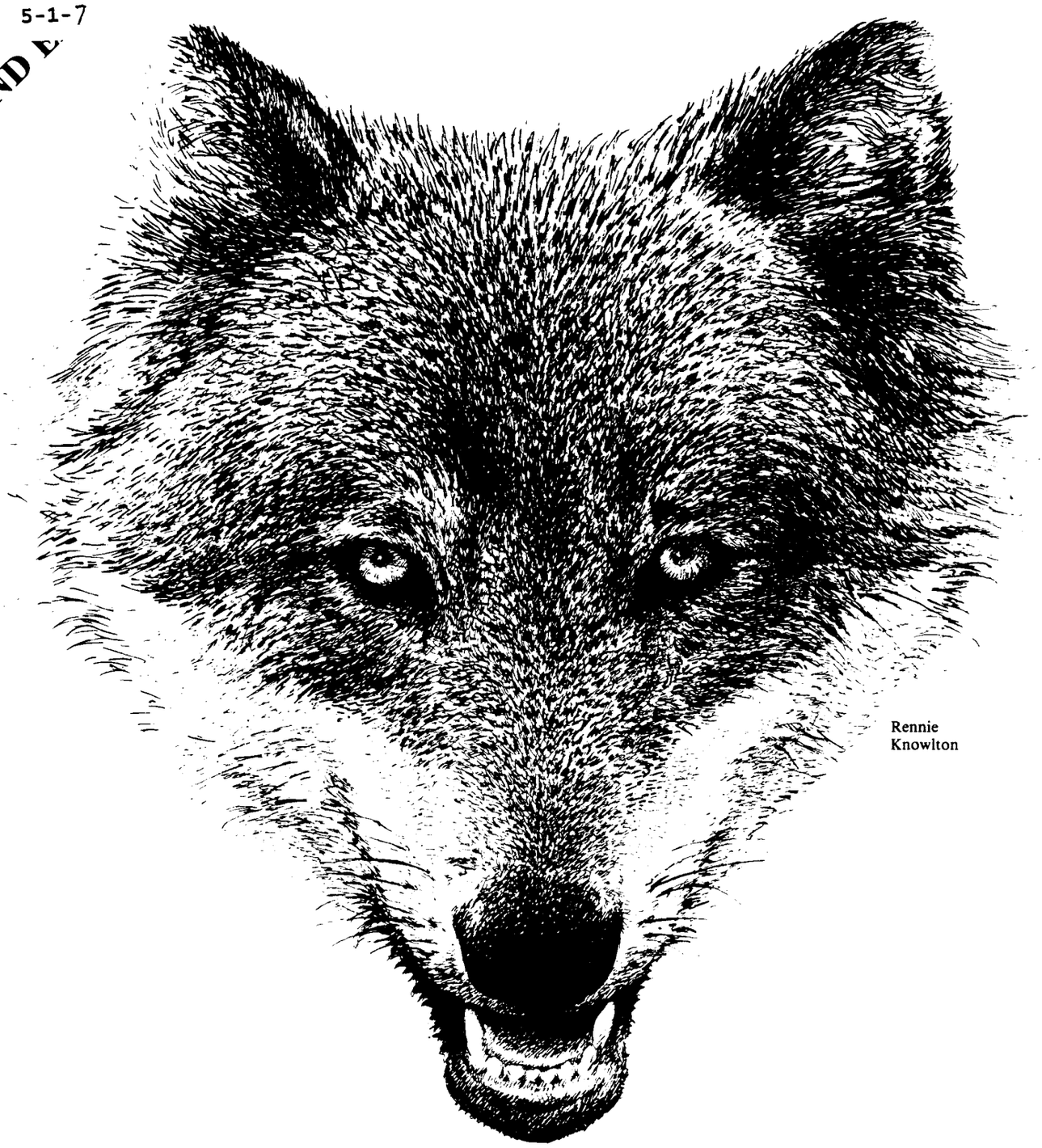
Arctic Wildlife Sketches



Rennie
Knowlton

Wolves

of the Northwest Territories

Wolves *Canis Lupus*
of the Northwest Territories

Wolf on the ***barrens*** *(tundra* ***wolf).***

Description and Distribution

In appearance the wolf resembles a German shepherd or husky, though larger. Adult males average about 45-50 kg in weight, while females are smaller, at about 35 kg. Length of males from nose to tail varies from 1.5 to 2.0 m, with females from 1.4 to 1.8 m. Of this, the tail may be nearly one-quarter of the total length. Wolf rugs sometimes present misleading proportions because they can be stretched out to 2.5 m. In Canada, the largest wolves are from the northwest, while the smallest occur on the arctic islands.

Wolf **colour** varies considerably — from pure white to black, with accompanying shades of cream and brown. Although there is no geographic uniformity of **colour,** white is most common in the arctic regions while darker shades predominate below the treeline.

The wolf's coat is thick and luxurious, composed of long coarse guard hairs and short soft **underfur.** Wolves in warmer climates may shed their coats twice a year, but in the Northwest Territories the coat is shed only once, in late spring. By winter the short new **pelage** grows into a long silky coat, with the **underfur** appearing in autumn. Wolf foot pads are bare and vulnerable to ice and snow, but northern wolves have stiff tufts of hair which grow between the pads in winter to protect the feet.

Wolves were once distributed throughout Canada. They are now extirpated in New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland, the settled parts of Quebec and Ontario, and the settled parts of the western provinces. In the Northwest Territories, they are still found everywhere on their traditional range. Although relatively abundant, their exact numbers are unknown.

Densities are lowest on Victoria Island and the Queen Elizabeth Islands, and highest in areas on the mainland where barren-ground caribou winter. The only place where there is prey but no wolves is **Coates** Island in Hudson Bay.

Behaviour

One of the most interesting aspects of wolf **behaviour** is howling. Howling plays a role in several situations but its greatest significance may relate to territory. Howling is a way of letting others know that an area is already occupied. It may also be a wolf's message to pack members of its whereabouts. A howl may summon pack members to a nightly hunt. Adults may howl to find a lost pup, or a howl may be voiced in response to certain sounds. It may also be that wolves simply enjoy howling, alone or in groups. People who have observed group howls attest to the wolves' obvious pleasure in the occasion and to the marvelous sounds of wolf voices in harmony.

Pack or group howling is not a haphazard affair. It is initiated by one wolf, not necessarily the pack leader, but the animal with the most active inclination to howl at that time. As each wolf comes in, it is at a different pitch, possibly by design, but probably only because each has a different voice range. This produces the wild harmony which once heard is never forgotten.
(Rutter and Pimlott 1968)

Another well-known characteristic of wolves is the formation of packs, which

NWT Renewable Resources

Wolf den.

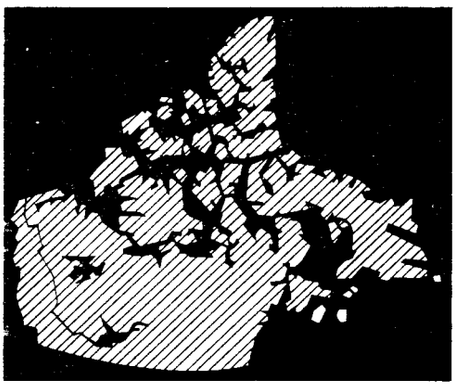
Wolf pup tagged in July, just east of Greenstockings Lake, N. W. T.

may contain from two to thirty-six members, although four to seven is more common. Together these wolves will travel, hunt, breed, raise pups, and in most cases maintain a certain area as their home territory. Pack members are generally close relatives — usually one set of parents, their pups and possibly one or two aunts or uncles. The social structure of a pack is complex and tightly knit, with each member knowing its own rank or position.

Territories are marked out by scent posts such as rocks, stumps, logs, ice chunks or any conspicuous object which can be marked by urine. Other packs or lone wolves coming into contact with a scent post are thus alerted and may avoid the area, although there is probably some overlapping among territories.

Throughout the winter, wolf packs are on the move, traveling many kilometres over their territory, feeding where they find prey and resting when they are tired, or when extreme temperatures and storms cause them to seek refuge. Winter travel routes include game trails, logging roads, ridges, seismic lines and frozen waterways. In deep fluffy snow, wolves find traveling difficult and any easier access route, including highways, is preferred. In many places regular runways through the woods become hard-packed with use and form the boundaries of the wolves' territory.

Above the treeline territoriality among wolves may be less well-developed than elsewhere. This is because the main prey species is caribou, which migrate over long distances. These wolves are informally known as tundra wolves, which differentiates them from the timber wolf (living below the treeline) and the arctic wolf (living on the arctic islands). It is uncertain whether groups of tundra wolves in the central Northwest Territories are packs at all or simply individuals forming temporary associations.



Except for a few islands, wolves are found throughout the Northwest Territories.

Size of winter range for wolves within the treeline varies considerably from area to area, and is largely dependent on prey density. In areas where prey is few and far between, a pack would have to range far to locate vulnerable animals, and fewer packs would be able to thrive there. In Alaska winter range has been estimated from 100 km² for a pair of wolves, to 12,000 km² for a pack of ten. On a per wolf basis, this varies from 50 km² to 120 km².

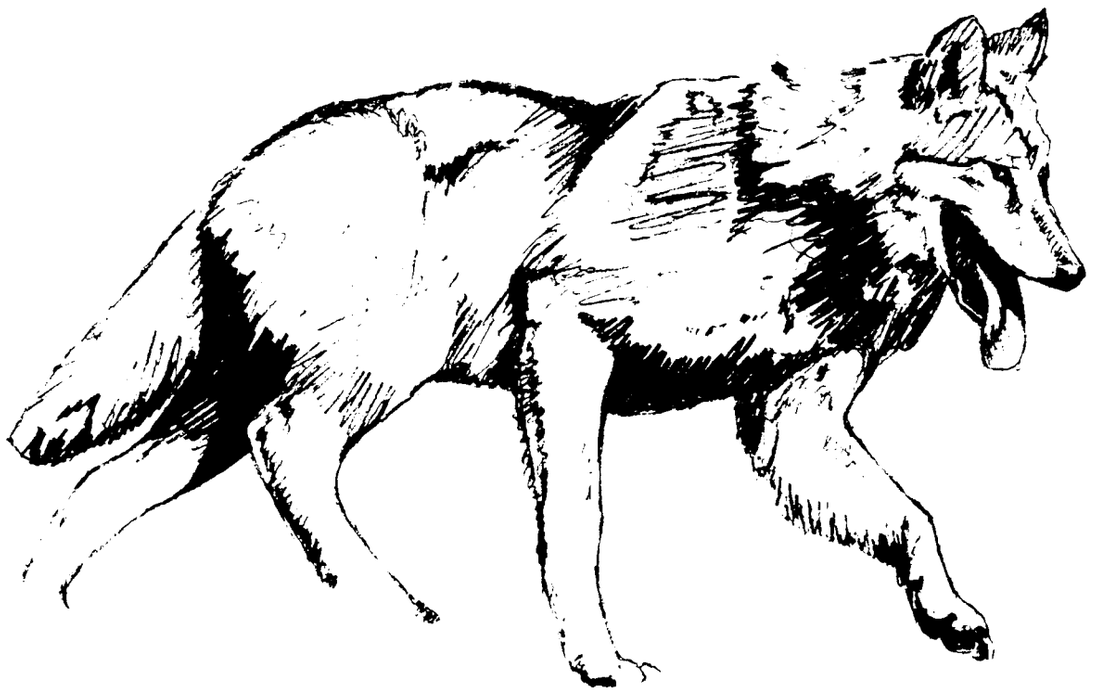
In the central Northwest Territories, winter range is less well defined and it is thought that wolves there do not defend specific territories. In early spring when caribou group together to begin their northward migration, the wolf density in those areas may be as high as one wolf per 9-10 km².

Food

Different populations of wolves prey on different species depending on what is available. According to the area and time of year, a wolf's diet may include hares, foxes, rodents, birds, beaver, fish, eggs or even small quantities of grass and other vegetable matter.

However, the main prey of all wolves on all ranges is large game. Within the treeline in the Northwest Territories, this includes bison, moose, deer and caribou. On the tundra, wolves feed almost exclusively on caribou, while wolves in the high arctic regions hunt both caribou and muskoxen. On Ellesmere Island, where arctic hares occur in large groups, they too are prey to the hunting wolf.

Because wolves prey on animals much larger than themselves, they have had to develop rather sophisticated methods of catching their prey. To hunt bison, which is the most important food of wolves in the Wood Buffalo National Park area, the wolves do not kill an animal until several days after their first attack when its weakened condition makes it less dangerous. A full grown male bison, which may stand nearly 2 m high at the shoulder and weigh up to 1,000 kg, is a formidable opponent for a wolf. Generally only very old animals or young calves fall victim to wolf attack.



Keith Taylor

For tundra wolves the most important prey animal is caribou. Nearly all caribou herds are accompanied by wolves most of the year, and the presence of wolves within the herd seems to cause little concern, for under most circumstances a caribou can easily outrun a wolf. The wolves therefore rely on methods which will compensate for their lack of speed.

Sometimes they use a system in which one animal positions itself strategically out of sight behind a hill or in a valley, while others single out a caribou and drive it towards the ambush. The first wolf then springs out for a quick high-speed chase. Another effective method is to chase caribou in relay systems. As each pursuing wolf tires, a fresh one takes over until the exhausted caribou can no longer keep ahead.

Wolves encountering large bands of caribou often chase the entire group, on the alert for any animal which stumbles, appears weak or becomes vulnerable in some way. Old and ailing caribou or a calf which hesitates a second too long often fall victim in this game. However, wolves are opportunistic hunters, and a healthy animal caught off guard is as susceptible to attack as any other.

In spring, the caribou herds move north to their calving grounds which are often located in high, bleak and windy areas. Because the extremely inhospitable nature of the calving ground makes it an unlikely spot for denning wolves, calves and cows are afforded some measure of protection at a time when they are especially vulnerable to attack. Nevertheless, there are sufficient number of wolves on the calving grounds to constitute a serious threat to a yearly calf crop. It is estimated that up to 50% of first-year calves may be lost to wolves during spring and summer.

Muskoxen, which are found on some arctic islands and in parts of the mainland Northwest Territories, are an alternate prey for wolves when caribou or small animals are not available. Under most circumstances a full grown muskox can easily defend itself by charging and hooking at the wolf with its horns. In a group, muskoxen form their unique, semicircular defense formation when threatened by wolves. Adults face outward with calves and yearlings bunched in the middle. The wolves circle the group attempting to break up the formation or scare out individual animals. If the herd is well-organized, moving together to close ranks, the wolves will eventually give up. However, if an animal does become separated from the herd, or if wolves come upon a lone animal or a cow and calf, they will follow and worry the muskox until it becomes too weak to defend itself.

Reproduction

In the Northwest Territories wolves generally mate in late March. The gestation period is about 60 to 65 days with litters of four to seven pups born in late May or early June. About 3 weeks before the birth of the pups, the female completes digging her den, which has been started 2 to 3 weeks before.

Most wolf dens are burrows in the ground, usually in sandy soil. They may be new, or they may be enlarged dens of other animals, particularly foxes. Sometimes hollowed-out bases of large trees, hollow logs, rock caves or shallow surface beds are used. On the tundra, where permafrost makes digging difficult, wolves often den in sandy eskers. Dens are usually situated near water and in a high area which can be used as a lookout post.

Wolf pups are born blind and deaf. They are darkly furred, their heads are rounded, ears are small and noses blunt. They weigh about 0.5 kg each and are completely dependent on their mothers. For the first 3 weeks of life, the pups remain inside the den. Then, when their eyes are open and they can crawl about, they begin investigating the den opening and the outside world.

At about this time the pups may be moved to a new den site. The move could be for protection against predators, but it is also likely that the old den becomes over-crowded, or a new site may be closer to water. A wolf family may move more than once when the pups are very young, but with the exception of these moves, pups do not travel far from home during their first summer.

Tagging a wolf.

Usually in each wolf pack, one pair of animals is dominant. Only these animals breed and the breeding behaviour is suppressed in subordinate members. However, all pack members care for the pups, taking turns feeding them and babysitting. Thus all members form close ties with the young wolves and strengthen the bond which will keep the family together throughout the winter.

Feeding the pups occupies much of the adults' time throughout the summer. Wolves which remain in areas where their normal prey is abundant, continue to hunt large game, but wolves which stay near the treeline when the caribou migrate north, feed on small rodents, passerine birds, eggs and fish.

An old Russian proverb states that "The wolf is kept fed by his feet. " Adults may travel as far as 25 or 30 km to bring back food. Food is carried by mouth, or swallowed and carried in the stomach which acts like an "internal packsack''. Digestion is inhibited and when the food is disgorged, in response to the pups biting at the corners of the adult's mouth, it is still fresh and raw.

When the pups are about 2 months old, the family leaves the den and moves to an open grassy plain, an old burn or a marshy area. In this "loafing spot" or "rendezvous", the wolves feed, rest and play until the pups are old enough to travel. Much of the pups' play time is spent learning to hunt mice or voles in preparation for the more serious business of winter survival ahead.

All this time, the bond which will hold the pack together is growing stronger. The pups develop strong attachments to each other as they play, and as they grow older the social bond between pups and adults strengthens. Suspicion of strangers deepens. Although pups from 12 to 21 days old can usually be easily handled and show little fear of man, after about 3 months they become wary of strange individuals. At about 5 months, the young wolves probably fear all strangers, human and animal.

A wolf family may stay together for at least two or possibly three generations, hunting and traveling as a pack. Although more pups are born every year, pack size does not always increase. This is likely the result of high mortality between 6 to 12 months of age which claims many wolves. Additionally, as each generation reaches mating age, usually during the second year, rivalry for mates may cause the pack to split. Two pack members may leave and start a new family or single wolves may drift away by themselves. Although the term "lone wolf" is commonly heard, it is unusual for a wolf to live alone and the single wolf frequently joins a new pack. However, existing packs are not always amenable to new members and may attack, injure, or even kill a stranger.

Economic Status and Management

Whenever wolves and man have occupied the same territory, wolves have suffered. As man pushes into the wilderness, clearing land and developing resources, wolf territory must diminish. In the Northwest Territories, where an extremely small number of people occupy a vast area, most of the land remains undeveloped. On those occasions, however, when wolves and man compete for the same food, and as a result the prey population declines, both wolves and hunting must be controlled.

In 1951 a wolf control program was started in response to studies which showed that barren-ground caribou numbers were sharply declining. The program operated most extensively

George Calef

Wolf below the treeline (timber wolf).

during 1955-59, after which it dwindled considerably, and finally ceased in 1971. Wolf control was also tried during 1977-78 to shore up declining bison numbers in the Hook Lake area near Fort Smith. Such programs, however, will only be successful when carried out in conjunction with controls on hunting, if hunting has been identified as a contributing factor to declines.

The current policy of the Department of Renewable Resources is that there will be no wolf control unless it is clear that a bison, muskox or caribou population is declining as a result of wolf predation.

As it is, there are presently few restrictions on the hunting of wolves in the Northwest Territories. Residents may shoot any number of wolves, while non-residents are limited to one. The hunting season is closed briefly to protect pregnant females and new-born litters, except in the case of wolves preying on the Bathurst, Beverly and Kaminuriak caribou herds, where the season is open all year round. There are also specific trapping seasons.

In the past 10 years the total Northwest Territories wolf harvest has usually been 500 to 1000 annually. The largest wolf kills have regularly come from Coppermine. Totals of 100-200 wolves per year are not unusual for this arctic community, with an exceptional take of about 800 occurring in 1978-79. Wolf pelts are still used extensively in the Northwest Territories for home-made winter garments.

Wolves are extremely resilient and can usually survive the pressures of hunting and trapping, providing they have sufficient prey. As long as there are caribou there will be wolves. Thus wolf management is directly related to caribou management and it can be concluded that the future of the wolf in the Northwest Territories depends on the future of the caribou.

Jonquil Graves
Yellowknife
1983

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Northwest Territories Renewable Resources

George Calef

Wolf with radio collar for tracking movements.

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