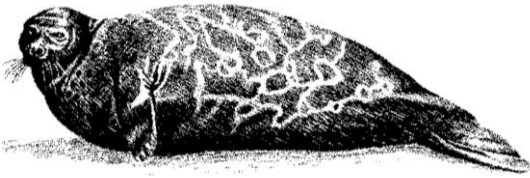


Wildlife Guide

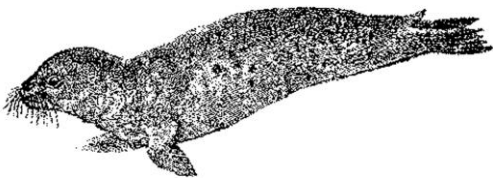
Arctic Region

MARINE MAMMALS



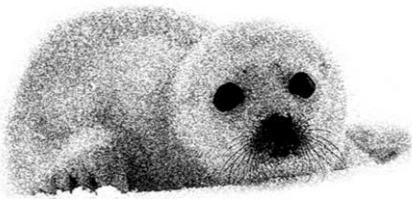
The **ringed seal**, or **natsik** has light rings on the back of its stout grey body. It ranges between 1.2–1.6 metres in length and weighs around 50–110 kilograms. The ringed seal is a year-round Arctic resident. It is found on fast ice in coastal areas where it maintains breathing holes and snow lairs throughout the winter. It is also found in pack

ice, but in lesser density. Females give birth to a single pup every year or so in a snow lair around late March or early April. The pup suckles for about two months or until the ice breaks up. In spring, ringed seals bask in the sun near their breathing holes or at the edge of the ice. Ringed seals are the main prey of polar bears, which break into their winter snow lairs and stalk them on ice. They are also an important food source for the Inuit.



The **bearded seal**, or **udjuk** is often a loner that prefers drifting pack ice and shallow open water. It feeds on anything it can find on the sea floor, like shrimp, clams, crabs, whelks, and small fish. The bearded seal gets its name from its characteristic long white whiskers, which resemble a great moustache. Bearded seals are around 2.1–2.4 metres long and have a mass ranging between

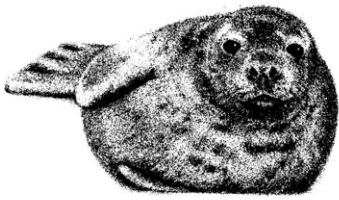
200–250 kilograms. Their long stalwart body, square flippers, and small head veiled with long white whiskers make the bearded seal quite distinct. Inuit whips and kamik (boot) soles are made of their tough but flexible hides.



The **harp seal**, or **kaigulik** is a social animal, often seen in large herds in summer in the Arctic, swimming vigorously in relative unison. Dark harp patterns decorate mature seals' light-coloured backs. The Newfoundland/Gulf stock of harp seals travels from their summering area in the Canadian Arctic and Greenland to their breeding grounds

in the pack ice off the north coast of Newfoundland and in the Gulf of St. Lawrence. The pups, which are born on

the pack ice in March, are completely white, weigh about 135 kilograms and grow to about 1.7 metres.



The **harbour seal**, or **kassigiak** has a dog-like face with v-shaped nostrils. Its size and weight averages 1.5 metre and 80 kilograms. Harbour seals can vary from dark grey with white blotches to white with dark spots—and all shades in between. Some harbour seals also look sandy or brown coloured. Harbour seals are more common in sub-Arctic and temperate waters of the North Atlantic and Pacific.



The **hooded seal**, or **natsivak** has a grey coat with uneven black blotches. This large seal can grow to be 2–3 metres and weigh between 160–400 kilograms. In Canadian waters, they are born in late winter in Davis Strait, on the Front of Newfoundland, and in the Gulf of St. Lawrence. Mature males have a hood beginning above the eyes that continues to the front of the mouth. During the mating

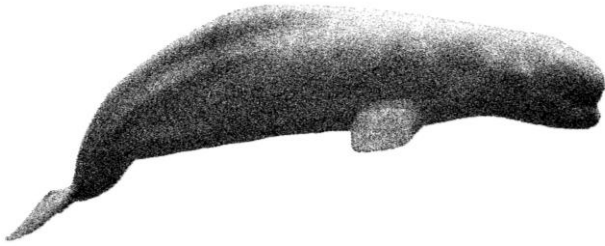
season, they display dominance by closing one nostril and inflating the hood. Through the other nostril, they can also expel a striking nasal septum that looks like a red balloon.



The **walrus**, or **aivik** once ranged widely in both Arctic and sub-Arctic waters, including the Gulf of St. Lawrence, but is now found almost entirely in the Arctic. There are two subspecies, the Atlantic walrus and the larger Pacific walrus. Large size (male 3 metres long, female 2.6 metres), hairless hind flippers that fold under the body, a lack of external ears and sexual dimorphism characterize

this species. If a walrus can survive sickness or its predators—man, killer whales, and polar bears—it may live to about thirty years. Mating probably occurs underwater near pack ice in winter or early spring. Mature females have a calf every three years on average, and suckle them for about two years. Walrus' thick skin ranges in colour from tawny to cinnamon brown. They have a flat muzzle with stiff whiskers and a large, robust body. Both males and females use their long tusks for display, fighting, and movement. The female tusks are more curved and slender than those of the males.

A walrus diet consists mainly of mollusks (mostly one species of clam *Mya truncata*) from the ocean floor. The highly receptive vibrissae (whiskers) aid in the location of shellfish, while their piston-like tongue and high-roofed, narrow mouths are used to suck the flesh of clams from their shells. In one day, a walrus can devour the flesh of 3,000–6,000 clams. While less common, some walrus attack and eat seals—or may even scavenge the flesh of dead whales.



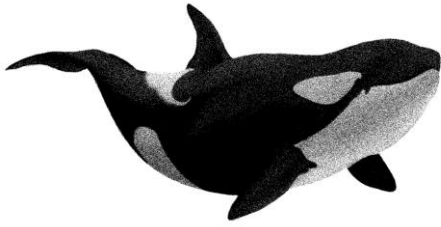
The **beluga, white whales**, or **kikalugak** grows up to 4 or 5 metres in length and can weigh up to 1–1.4 tons, depending on the population. Belugas from the more southern populations are of smaller size. It has broad flippers, a bendable neck, and a thickset body that lacks a dorsal fin. Young are grey and adults, pure white. The animals are sometimes dubbed sea canaries because of their loud penetrating cries and whistles. In summer, these gregarious whales cluster together in estuaries, and sometimes up large rivers. During that time, they feed little but, at other times of the year, they prey on schooling fish such as Arctic cod, capelin, and sand lance.



The **narwhal**, or **tugaalik**, grow up to 6 metres and weigh an average 1.6 tons. This greyish whale is darkly speckled on the back and has no dorsal fin. Their tail flukes have curved tips, giving them the shape of an anchor. Narwhals have a toothless mouth, but adult males—and, in rare cases, females—develop one (occasionally two) long spiraled ivory tusk that can grow up to 3 metres long. As a result, they are called the unicorns of the sea. The tusk's purpose is still a subject of debate, but it is thought to be used for male competition during the winter mating season. Narwhals can be found throughout the eastern Canadian Arctic and in northern Hudson Bay. They often form pods of up to twenty, and these pods may merge into herds of several hundred animals. They are essentially Arctic whales, adapted to live in dense pack ice for most of the year. Although shy of ships, in summer they are sometimes seen in fjords and passages of Canadian Arctic Islands and Greenland.



The **bowhead whale, Greenland right whale**, or **arviq** has a smooth, finless 15-metre black body, and weighs between 75–100 tonnes. Often the chin and stomach have white colouring. They have a gigantic head with an arched upper jaw, and a bowed lower lip. Their 3-to-4-metre baleen plates, which they use for filter-feeding plankton, are the longest of all baleen whales'. Over several centuries, bowhead populations declined to the brink of extinction from relentless commercial whaling. After decades of protection, the current population in the Canadian Arctic and West Greenland waters has increased to about 6,500 animals. The European Arctic population appears to still be very small. In summer, bowheads are occasionally seen in passages of the Canadian Arctic islands and along the north and east coasts of Baffin Island. Some of these bowhead whales spend the winter in west Greenland, particularly in Disko Bay.



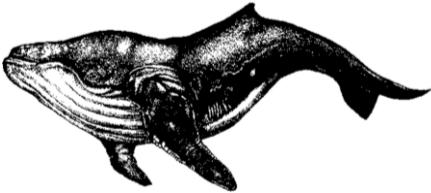
The **orca**, **killer whale**, or **aarluk** is the largest species of the dolphin family. It is stocky, with highly contrasted white patches over an otherwise black or dark grey body. Killer whales have large, erect dorsal fins, particularly the males. They measure on average between 7–8 metres and weigh 3.5–5.7 tonnes, with adult males larger than the females. Killer whales are social animals that travel in

pods of two to twenty-five individuals. They are found in all oceans of the world but, being a top predator of the seas, they generally occur in lower numbers than other dolphins. Some orcas are fish-eaters and other hunt marine mammals. They have occasionally been seen in the Canadian high Arctic and they are regularly seen near west Iceland.



Minke Whales from the Northern Hemisphere are the smallest of the rorqual whales (Balaenopteridae): whales with expanding throats. They reach 7–8 metres in length and weigh only 5–6 tonnes. Their back is dark grey to black, while their sides and stomach have white shadings.

They have a distinct falcate dorsal fin seen immediately after it blows when surfacing. Minkes feed mainly on capelin but take also other small schooling fish (such as cod, sand lance, and herring). They are often seen alone or in groups of two. The killer whale is their main predator.



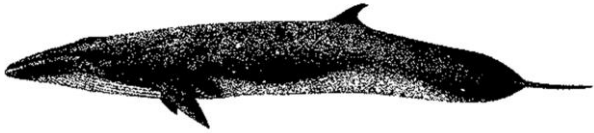
Humpback whales, also rorqual whales, have a dark grey 13-metre body that weighs 25–30 tonnes. The throat, flukes, and flippers have white colourings, and their flippers and rostrum are covered in knobs. Set back towards the tail are long flippers and a humped dorsal fin.

Humpbacks are often seen alone or in groups of up to ten but have been seen in much larger groups (up to one hundred animals) during migrations. They feed mostly on schooling fish like capelin, sand lance, and herring, but also like to take krill. When feeding, they can form a 'net' of bubbles around their soon-to-be meal before their kill. They summer in Greenland, Iceland, Norway, and Baffin Island, migrating to spend their winters in the tropics. Humpback whales have been protected since 1964 and are making a slow but steady comeback; their relatively slow travelling speed and tendency to follow coastal waters made them an easy target for early whalers.

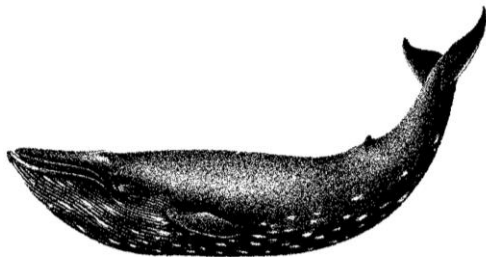


The **fin whale**, the second largest of the rorquals, has a characteristic black left jaw, and a white right jaw, lip and baleen. The long slim dark grey to brown 17–18 metre body has shades of grey or white on the underside of the flukes and belly. There is often a grey chevron behind the head. Capelin and small herring schools are the main dishes of the fin whale's menu in some areas, while in

other areas, it feeds mostly on krill. These whales are often seen alone but travel in small pods of two to three. They may be seen in larger groups in feeding areas.



also smaller. Adults measure about 13–14 metres and weigh around 12–15 tonnes with females being larger than the males. They have a pale grey belly and a dark steel-grey body, which is sometimes covered in pale oval markings from lamprey bites. Sei whales usually form in groups of two to five but may herd in larger numbers in feeding areas. There are probably only a few thousand sei whales in the North Atlantic presently. They are not commonly seen but, on occasion they have been spotted along Greenland coasts and around Iceland in summer or fall.



Blue whales are the largest of the rorqual whales. They are also the largest of any known animal, living or extinct, on the planet. In the northern hemisphere, they grow to a length of about 25 metres and weigh between 80–120 tonnes. Towards the end of the back is a triangular dorsal fin, which can be easily missed because of its small size (and because it appears only towards the end when the whale rolls at the surface). The blue whale has a wide

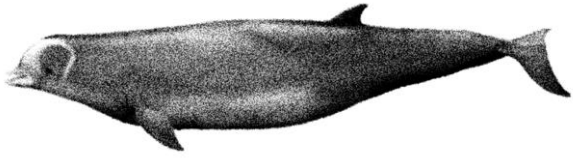
and flat head with black baleen. Its blow is slim and very high, reaching up to 9 metres. Their diet consists almost solely of krill, and they can consume up to six tonnes of it per day during the feeding season. There are only a few hundred blue whales in the north Atlantic.



The sperm whale is a large-toothed whale, brownish-grey to dark brown. Females grow to about 11 metres and males to 15 metres; they weigh 15 to 30 tonnes. The sperm whale has a single blowhole towards the front left of its distinctive square head. Approximately two-thirds down the body from the head is a triangular dorsal hump. Sperm whales are deep divers and can remain submerged for almost an hour. After long dives, they may stay at the surface to breathe for an hour or more. Squid comprise the majority of the sperm whale's diet. There is

mounting evidence that they even prey on the giant squids, *Architeuthis*. They also take schooling fish. In summer, large males migrate to sub-polar and polar latitudes while females and young remain in temperate and tropical waters. These bull males generally are found alone. Sperm whales were hunted commercially in

previous centuries, mainly for their spermaceti oil, which was used for oiling fine machinery. Ambergris, which is found in the lower intestine and stomach, was also used in perfume composition.



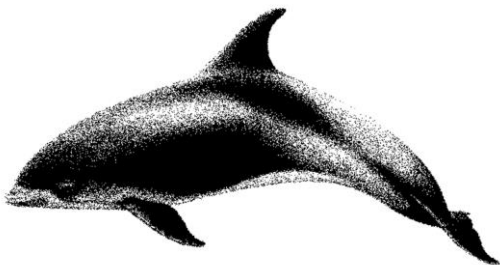
Northern bottlenose whales are large-beaked whales with a pronounced fatty forehead and a beak shaped like that of a bottlenose dolphin. Their colouring is brown to grey, with their head colour lighter in mature males. The bottlenose's forehead or "melon" is high and blunt and the male has two protruding teeth near the tip of the

lower jaw, while the female's teeth remain implanted in the gums. These lower jaw teeth and long beaks are distinguishing feature of the Beaked whale family (Ziphiidae). Adults measure about 7–8 metres and weigh 4-6 tonnes. The Northern Bottlenose Whale ranges in sub-Arctic and Arctic waters of the North Atlantic, including Baffin Bay, Davis Strait, the Labrador Sea, the Norwegian Sea and the Greenland Sea. They are occasionally spotted near The Gully of Nova Scotia, in Davis Strait, and around Iceland.



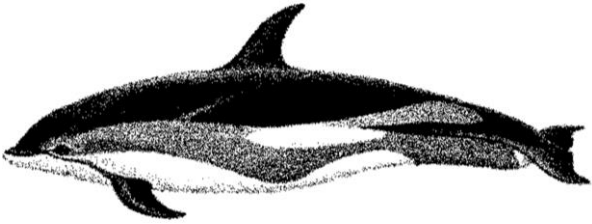
Long-finned pilot whales are also oddly-shaped dolphins. They have a long robust body with a wide falcate dorsal fin set one third down the body length. It has long tapering pectoral fins and a bulbous melon (fatty forehead), from which they get their nickname, "potheads". They have a bulbous forehead, a wide falcate dorsal fin and long pointed flippers. Adults

measure about 4–5.5 m (13-18 ft.) and weigh about 1–2 tonnes, males being larger and heavier than females. They are almost always in large groups ranging from a dozen to over a hundred individuals and sometimes form herds of over a thousand. They sometimes associate with other dolphins, such as the white-beaked or white-sided dolphins. They are a deep-water species, but will chase their fish or squid prey inshore from mid-summer to early fall. They are regularly seen in eastern Newfoundland, Labrador, southern Greenland, Ireland, the UK, the Faroe Islands and southern Iceland.



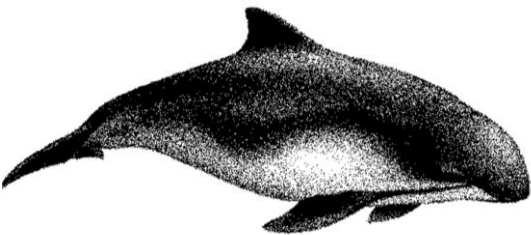
White-beaked dolphins are decorated by a black body with a grey saddle behind the tall curved dorsal fin and a light grey or white stomach. They also have a blaze of greyish streaks starting in front of the dorsal fin and running along the flanks. They grow up to about 2.75 metres. Despite their name, the beak of that species is grey coloured in North American waters. The European

ones, on the other hand, have a white beak. Octopus, squid, cod, haddock, herring, and capelin crustaceans are its main prey. This dolphin is often in pods of several tens of individuals; herds of several hundred are sometimes observed.



Atlantic white-sided dolphins have a sharply contrasted body with black back, flippers, upper jaw, and tail, a white stomach and lower jaw and sides with sharp stripes of white, pale grey, and ochre. They are about 2.3 metres long and are usually found in pods of three to ten; these pods often merge to form herds of several tens to several hundreds. They may be found amongst fin and pilot whales in feeding areas. Squid, shrimp, and schooling fish

such as capelin, herring, and sand lance are the main components of their diet. They are usually found offshore but in summer they may follow their prey inshore and even enter bays.



Harbour porpoises are the smallest cetacean species in the North Atlantic and Arctic waters. They measure on average 1.4–1.6 metres and weigh a mere 45 –60 kilograms; the females are larger than males. They have a black back and flippers, grey flanks and a white belly and throat. Their back is topped by a distinctive triangular dorsal fin. They can be seen alone but often form groups of two to twenty and sometimes herds of a few hundred

are seen in areas where prey is aggregated.

LAND MAMMALS



Polar bears are the largest living land-based carnivore in the world. The hide of an adult male can reach nearly 3.5 metres in length—about the same as a compact car. The largest males can weigh up to 800 kilograms. Its shape, with a streamlined head and body, reflects its adaptation to swimming, and accounts for its Latin name, *Ursus maritimus*, 'bear of the sea'. The front legs and paws do the paddling, and the hind legs serve as a rudder. In fact, the polar bear is so much a creature of the sea that, in the United States, it is protected by marine mammal legislation, which also covers whales and seals.

Polar bears are also built for the cold. Their coarse outer fur is made up of translucent hairs, which allow ultraviolet radiation in. The fur also serves as a wetsuit, trapping heat while the bear swims. Thick, insulating hairs surround their paws, and small, rounded ears minimize heat loss. A dense, woolly underfur provides added insulation to the body, as does a layer of fat up to 10 centimetres thick.

All these features work perfectly in the winter, but in the summer, they become problematic: overheated bears may die of heat exhaustion, especially if they overexert themselves. To compensate, polar bears pant like dogs, losing heat through the black skin of their tongue and lips, and through their ears, footpads, and snouts.

Polar bears have a relatively low reproductive rate: females do not reach sexual maturity until 4–6 years of age, and then breed only every third or fourth year. Males reach sexual maturity between the ages of five and ten. The common litter size is two cubs, but only 30–50% reach the age of two, and by certain estimates, only one bear in ten will live twenty-five years and fulfill its life expectancy.

Polar bear mating season is in May. At that time, the egg implanted in the female is fertilized, but does not in fact begin to form a foetus until September, and then only if the bear is healthy. A pregnant polar bear will dig a maternity den in a heavy snow bank on land towards the end of October in anticipation of her cubs' arrival in December. Young females often build their dens in the area in which they themselves were born.

Other male or female adults occasionally build dens for shelter during the worst of the winter weather. During pregnancy the bears fast for up to eight months, absorbing the nutrients from their own body fat. By March, the polar bear family emerges from its den and moves onto the sea ice. The cubs will stay with their mother for at least two and a half years, until they have learned to fend for themselves—but some stay as long as four.

The spring is the polar bears' most active time, and it is largely devoted to the seal hunt. By far the most important prey for polar bears is the ringed seal, although they will also eat bearded, harp and hooded seals, as well as walruses, beluga whales and narwhals. They often catch the seals by "still" hunting", which involves lying next to a seal's breathing hole in the ice, waiting for a seal to emerge. Once the victim pops its head out, the bear uses its massive canine teeth and large, well-clawed forepaws to grab it. Or they might swim underwater close to the edge of open leads, surfacing at the spot where they think a seal might be poised to dive in. They also use their keen sense of smell to stalk seals across the ice and sniff out seal dens ('aglus') to kill the pups within. Bears have even been observed using chunks of ice as a tool to kill seals or even walruses.

The most nutritionally valuable part of the seal to the polar bear is the blubber (fat). So much so that the bears sometimes leave the rest of the seal carcass uneaten. These are generally promptly devoured by the Arctic foxes which trail the bears for this very reason. Polar bears can eat as much as 4.5 kilograms of seal fat and meat a day, though they need at least 2 kilograms to survive. The polar bear's stomach can hold a gargantuan 20% of their total body weight, allowing them to store up food reserves in times of plenty. They can travel great distances over land or ice, and can swim up to 135 kilometres at a time. Bears with their cubs have been seen on the offshore pack ice in the middle of Baffin Bay, 335 kilometres off the coast of Baffin Island.

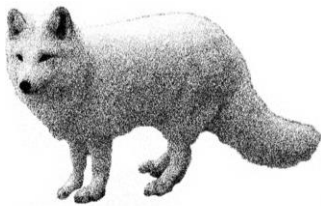
Polar bears spend their summers on the fast ice or they may land at traditional retreats to den in the remaining snow banks or loaf about on shore. With a successful spring hunt, they have a good stock of fat and generally don't need much to eat. They may fast or may occasionally eat sea birds (mainly waterfowl), eggs, small rodents, grasses, berries, mosses, algae, and even seaweed. They will also eat carrion—particularly whale carcasses—and garbage in camps or settlements. The one thing they do not usually eat is fish.

In the fall, as the ice forms, the bears will move off the land and onto the ice, leaving the pregnant females to dig their dens. The seal hunt begins again and continues through the winter.

Polar bears are not naturally aggressive against humans, but will attack if they feel threatened. Worldwide, there are an estimated 30,000 polar bears, half of which live in Canadian territory. Theirs is not an endangered species, but is nonetheless highly protected by wildlife conservation legislation. In Canada, only Inuit and Indians are legally allowed to hunt polar bears, and they do so within an overall quota system. In the Northwest Territories, a limited number of hunting tags are distributed to communities each year. Native hunters may allow some of their tags to be used by a non-native person on an Inuit-guided polar bear hunt. The price for polar bear hides is \$1,000–\$2,500, whereas the guided hunts can fetch \$18,000–\$20,000 each for the resident with the polar bear tag.

The incentive is obviously there, but there is a good deal of honour and tradition still associated with killing a polar bear, so the practice remains limited. There is a certain irony in that these guided sporting hunts tend to be much less successful than the native hunts, and since the tag cannot be reused after an unsuccessful non-native hunt, the net effect is a reduction of the number of bears killed and a healthy injection of funds into the community.

The **grizzly bear, brown bear, or aklak** is a large brown-coloured bear with a broad head and strong body. Adults have a pronounced hump on the shoulders. It is distinguished from black bears by its broad head, its short ears its hump, and its rump that stands lower than its shoulders. Adults average about 2 metres in size and weigh between 130 and 360 kilograms, with females being smaller than males. Grizzlies can be seen on occasion in the barren grounds of continental Nunavut. They leave signs of digging on the landscape and large scats full of undigested roots or berries.



The **Arctic fox** is a member of the canid family which includes wolves, dogs, and other foxes. Its scientific name, *Alopex lagopus*, translates as 'hare-footed fox', referring to the dense fur on its feet which is similar to the fur on the foot of a hare. This extra fur provides insulation against the cold, as does its thick winter coat with its underfur and long guard hairs. It is a small animal, normally weighing 2.5–5 kilograms and

measuring 65–85 centimetres in length. The female, or vixen, is slightly smaller than the male.

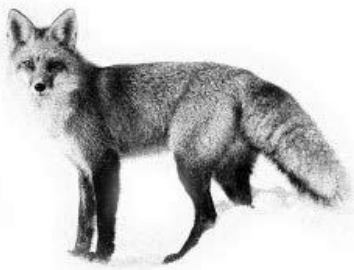
The Arctic fox is the only canid that changes the colour of its coat in summer. The back, tail, legs, and head are brown, and the sides and belly are blond. The summer coat allows the fox to blend into the tundra vegetation, and lasts only during July and August. There are two winter colour phases of the Arctic fox: white and blue. The blue coat varies from grey to dark blue-black. The different colour phases may occur within the same litter and the proportion of each colour phase varies geographically. The white phase is the most prevalent in the Arctic. This winter coat is much thicker and longer than the summer coat.

The Arctic fox's habitat is virtually circumpolar. In Canada it lives as far north as the higher Arctic islands, and as far south as the treeline—occasionally even venturing into the boreal forest if food is scarce. Each fox has its

own range, which varies in size from 3–25 square kilometres, but they are highly mobile animals with some recorded as having travelled over 2,000 kilometres.

They feed primarily on lemmings, voles, ptarmigans, Arctic hares and carrion. In winter, the lemmings must be sniffed out in their tunnels under the snow, and in full darkness. The fox relies on its acute sense of smell, as well as its speed and agility in pouncing on the animal once located. They are certainly not above feeding on animal carcasses, such as seals, or stealing eggs and young from seabirds' nests. Foxes cache food in times of plenty to tide themselves over when the food supply disappears.

In late winter, Arctic foxes seek dens in which to raise their young. The dens are usually dug in gently sloping, sandy soil near rivers or lakes or on elevated areas free of permafrost. They have complex underground tunnels with numerous entrances, and may expand the tunnel system year after year if they return to the same den. The foxes are sexually mature after about ten months of age, after which they breed each year in March or April. One litter is produced each season after a gestation period of fifty-one days. On average, six pups are born between mid-May and mid-June. The newborn pups are tiny and utterly helpless. They emerge from the den after three to four weeks, and are weaned at about six. By mid-August they are independent and are abandoned first by the male fox and then by the vixen.



The **red fox**, or **kajuqtuq** is often red in colour—but there *are* colour variants, such as the silver, grey, and dark brown morphs. Nevertheless, they all have a distinctive white-tipped bushy tail. Adults measure 1 to 1.2 metres and weigh 2.7 to 7.2 kilograms—and males are slightly bigger than females. Red foxes have long ranged over much of the continental northern hemisphere in both North America and Eurasia and is also found in the U.K and Ireland. About fifty years ago, they arrived on Baffin Island and have expanded northward up the island.

They are secretive and generally stay hidden from view. They are more likely to be seen in early morning or at dusk, especially when they are hunting rodents in open areas.



Arctic wolves are a member of the Canidae (dog) family. Adult males average about 35–40 kilograms, while females are smaller at about 30–35 kilograms. From the tip of the nose to the end of the tail a male wolf will measure 1.5–2 metres and a female 1.4–1.8 metres. The tail is nearly one-quarter of the total length. The largest wolves in Canada live in the northwest, and the smallest are found on the Arctic islands. Their territory once covered the whole of Canada, including the Maritimes, but it is now limited to the unpopulated areas of the mainland and to the Arctic. Although relatively abundant, their exact numbers are unknown. In the Northwest Territories, Nunavut, and Nunavik there are three different groups of wolves: those that live below the treeline (timber wolves), those that live on the Arctic islands (Arctic wolves), and those which travel both above and below the treeline (tundra or caribou wolves).

Wolf colouration varies from pure white to black, with accompanying shades of cream and brown. White is the most common colour on the Arctic islands, while on the mainland the majority of the wolf population is grey or

darker. The coat is composed of long, coarse guard hairs with a short, soft underfur. Northern wolves shed their coats once, in the late spring.

One of the most interesting aspects of wolf behaviour is howling. Howling may be a wolf's message to pack members of its whereabouts. A howl may summon a pack to a nightly hunt, or adult wolves may howl to find a lost pup. It may also be that wolves howl simply for the sheer pleasure of it, alone or in groups, when it can sound like deliberate harmonizing.

Another well-known wolf characteristic is their tendency to form packs, which may contain from 2–16 members, although 4–7 is the most common. Large groups of 30–40 wolves have been recorded. Together, the wolf pack will travel, hunt, breed, raise pups, and in most cases maintain a certain area as their home territory. Territories are marked out by scent posts such as rocks, stumps, ice chunks or any conspicuous objects which can be marked by urine. Pack members are usually close relatives—generally one set of parents, their pups and an aunt or uncle or two. The social structure of the pack is complex and tightly knit, with each member knowing its rank or position. Throughout the winter, wolf packs are on the move, travelling many kilometres, feeding where they find prey and resting when they are tired, or when extreme weather causes them to seek refuge. Wolves find travelling in deep snow difficult, and will follow paths, roads or snowmobile tracks whenever possible.

Wolves are predators of large game, and in the Arctic this restricts their diet largely to muskoxen and caribou. They may also take hares, foxes, birds, fish, eggs, or even small quantities of grass. In their hunt for large game—animals larger than themselves—wolves have had to develop rather sophisticated means of catching their prey. Muskoxen defend themselves by charging and hooking at the wolf with their horns or kicking their hooves. They also adopt a unique semi-circular defence formation. Faced with this, the wolf will circle the group, attempting to break up the formation or scare out individual animals. If the muskoxen are calm and well organized enough to maintain their formation, the wolves will eventually give up. But any muskox that separates itself from the formation is liable to fall prey.

Arctic wolves mate in late March. A gestation period of 60–65 days follows, producing litters of 4–7 pups by early June. The pregnant female will start digging a den about six weeks before the birth of her pups, completing it in about three weeks. Old dens are frequently reused, and old fox dens are often usurped and enlarged. Most are burrows in sandy soil, although rock caves or sandy surface beds are also used. Dens usually face south, are situated near water and in a high area that can serve as a lookout. A wolf might have several dens in the same area.

Feeding the pups occupies much of the adults' time during the summer. Adults may travel as far as 25–30 kilometres to bring back food, which they either carry in their mouths or swallow and regurgitate. When the pups are about two months old, the family may leave the den for a 'loafing spot', where the wolves will feed, rest and play until the pups are old enough to travel.

Usually in each wolf pack, one pair is dominant and it is normally these two that mate. In some cases, more than one female will have pups, in which case the pack may split into separate packs. Other pack members may care

for the pups, taking turns feeding and babysitting them. As wolves become adults and are sexually mature, rivalry for mates may cause the pack to split. It is unusual for a wolf to live alone for long—despite the term ‘lone wolf’—and single wolves normally join or form new packs.

Grey wolves, or **amaruq** are large and powerful canids that live in groups (packs) which may contain from 2–16 members, although 4–7 is the most common. Large groups of 30–40 wolves have been recorded. Adults measure average 1.5–1.7 metres and weigh between 18–40 kilograms; males are bigger than females. The largest wolves in Canada live in the northwest, and the smallest are found on the Arctic islands. Wolf colour varies from pure white to black, with accompanying shades of cream and brown. White is the most common colour on the Arctic islands, while on the mainland the majority of the wolves are grey or darker. Their range once covered the whole of Canada, most of the U.S.A and Eurasia and the Middle East, but it is now limited to less populated and mountainous areas of mainland Canada, the Arctic Islands, North Greenland and Northern and Central Asia. There are some recovery successes in parts of Europe, with in parts of Europe, but they are absent from Ireland and the U.K. They are occasionally spotted during cruises in the barren grounds of Nunavut or in the Arctic Islands.

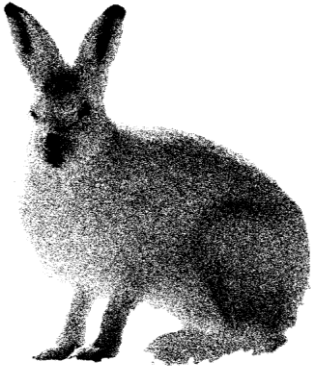


Caribou and **reindeer**, or **tuktu** are the names of two sub-species of this Arctic and sub-Arctic deer. The caribou is the North American sub-species, while the reindeer is the Eurasian one. Nevertheless, reindeer herds have been imported to Greenland and the Northwest Territories and are now well-established there. Caribous and reindeers are medium-sized brown deer with white necks, chests and rumps. Males have long antlers with small palmated tips; females also have antlers but they are smaller. Adults measure about 1.7-2.5 metres and weigh around 90-250 kilograms; females being smaller than males. A small race of caribou, called the Peary caribou, can be found in High Arctic Islands and northwest Greenland, while a larger race called the barren-ground caribou is found on mainland Nunavut, Baffin Island and central Greenland. A third race, called the Boreal or woodland caribou, ranges over the Canadian boreal forest from the Northwest Territories to Newfoundland & Labrador. Reindeer were introduced to southwest Greenland for herding and were

eventually released; they have since established several feral populations. Caribou and reindeer tend to remain inland in summer and are only occasionally seen in Nunavut and Greenland. Icelandic reindeer are only found in East Iceland and are rarely if ever seen, except in the mountains.

The **muskox**, or **umingmak**, “the bearded one”, looks like a cross between a cow and a sheep, hence the scientific name *ovibos*. It is brown with a tan-coloured back patch and legs. A long coat covers most of its body. It has a thick undercoat, called “kiviut”, which is highly priced as a fine and warm wool for clothing. Its horns form a broad thick “boss” on the forehead and taper downward, out and forward ending in fine tips. Adults measure about 1.9-2.5 metres and weigh around 163-341 kilograms; females are smaller than males. Muskoxen are found

mostly in the Canada's central and high Arctic islands and in Northeast Greenland. It is absent from Baffin Island. Muskoxen were introduced to Northern Quebec and in West Greenland and their populations have grown to be quite large. Some were also introduced to Northwest and South Greenland. Muskoxen are regularly seen during cruises along Canada's High Arctic Islands and in North and West Greenland (near Kangerlussuaq).



The **snowshoe hare**, or **ukaliatsiak** is a medium sized hare with an entirely brown coat in summer, and a white coat in winter. As a result, it is also called “variable hare”. Its wide hind feet give it its “snowshoe hare” name. Adults measure about 38-51 centimetres and weigh around 1.3-2.3 kilograms; females are slightly bigger than males. Snowshoe hares are found over a broad range of boreal and deciduous forests from Alaska to Newfoundland, including the Maritime provinces. They are solitary, shy and nocturnal so they are only seen on occasion but signs of their presence, such as browsed saplings and piles of round droppings, are often seen along trails.

The **Arctic hare** inhabits the tundra regions, from Newfoundland west to the Mackenzie Delta, and north to the tip of Ellesmere Island. In the high Arctic, these animals retain their white coats all year, and band together in groups which can include up to two hundred individuals. In winter, they dig dens in snowy drifts. As a means of conserving heat, they rest by hunching over and sitting on their well-furred hind legs, thereby making themselves fairly wind-proof and keeping their body away from the cold ground. When alarmed, they rise up on their hind legs, then bound off, hopping upright at speeds up to fifty kilometres per hour. Adult hares' primary predators are wolves, though young animals are picked off by foxes, snowy owls, and gyrfalcons.



Lemmings are herbivores the size of small rats which are especially well adapted to life in the tundra. Wintering in the warmth and protection of snow burrows, they breed almost continuously in favourable conditions, producing four or five litters per year, each with up to six young. Two or three years of good weather can cause a population explosion. When their numbers reach a level where the local food supply is insufficient, the population rapidly collapses. A few lemmings migrate successfully, but most die of starvation and disease. This population cycle tends to repeat itself every four years. Larger mammals, such as Arctic hares, have a similar but longer lasting cycle (eleven years in the case of hares). Their predators include snowy owls and foxes, who naturally gorge themselves during population peaks. Lemmings themselves feed on vegetation of all kinds.

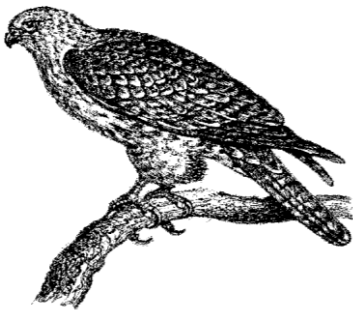
BIRDS

BIRDS OF PREY

Birds of prey, or raptors, are the hunters of the bird world. They typically have large, strong feet with which they seize and kill their prey, as well as powerful, strongly hooked beaks which are used to tear the prey into bite-sized chunks. Hawks, eagles, osprey and falcons are diurnal or daytime hunters and rely upon their keen eyesight to spot prey.

The only characteristic distinguishing males from females within these species is size. The male is usually about one-third smaller than the female, and for this reason is called a tiercel. Selection of mates often occurs at nesting sites. The same pair will return year after year to the same sites and frequently to the same nest. These nesting sites are known as eyries. The eggs once laid require 30-45 days to hatch, and then the young birds stay in the nest for a minimum of 30 days. The parents take turns incubating the eggs, feeding the young and defending the nest.

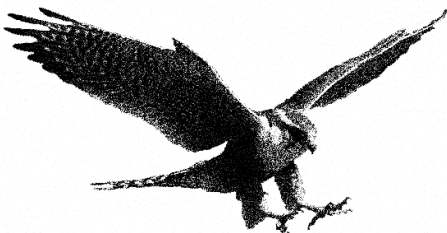
The vulnerability of the eggs and young birds over such a long period of time requires that the eyrie be situated in a location where it is invisible or inaccessible to most predators, and that the time spent searching for food be kept to a minimum.



Gyrfalcon (*Falco rusticolus*)

Gyrfalcons are the world's largest falcons—50–63 centimetres tall with a 1.2-metre wingspan. The colour of their plumage varies from dark grey in their southern territories to light grey or white in eastern Northwest Territories and on the Arctic islands. No nest is built. Instead, two to four eggs are laid and incubated by the female on a narrow cliff ledge, or in the stick nests of other species. Gyrfalcons nest in May in their northern range. The same nesting ledge is frequently reused year after year, or a breeding pair may alternate ledges within a small area. The 'eyasses' fledge about forty-seven days after hatching.

During the fall and winter, the immatures and some adults wander south as far as 45° in search of ptarmigan concentrations. Other adult gyrfalcons remain close to their nesting area, feeding on overwintering ptarmigan flocks or hares. The number of gyrfalcons and the nesting success vary in response to the prey available.



Peregrine Falcon (*Falco peregrinus*)

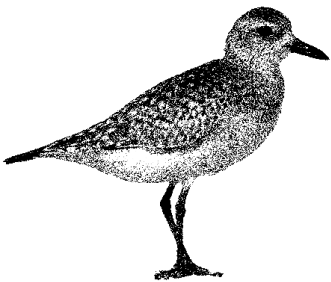
The grey to brown plumage and striking black sideburns against a white face differentiate the smaller (40–50 centimetre tall) peregrine falcon from the gyrfalcon. Ledges and hawk nests on cliffs adjacent to water bodies are used for nesting. In some places, successive pairs of peregrine falcons have nested on the same cliff face for over two

hundred years. Two to four eggs are laid in a shallow scrape in May or June, and incubation lasts for about a month. The eyasses begin to fly at thirty-nine days.

The most northerly populations of peregrines migrate in the fall to the southwestern US and the coastal regions of Mexico. Peregrines prey almost exclusively on other birds, but may take smaller mammals, amphibians and even insects. The final moments of a peregrine's hunt can be a spectacular sight: wings folded, the bird dives, often from great height, and uses its feet to stun its airborne quarry, knocking it onto the ground in a flurry of feathers. Peregrine falcons are the fastest animal on the planet and have been observed reaching stunning top speeds of 389 kilometres per hour in dives.

Peregrine falcons in North America experienced a decline in numbers, primarily from the effects of ingesting DDT-contaminated prey. In response to the decline, several breeding programs were established, and studies during the 1980s have indicated that in the Northwest Territories population levels and propagation of peregrines are now at healthy levels. Apparently, populations here experienced the effects of DDT and other pollutants to a much lesser degree than elsewhere.

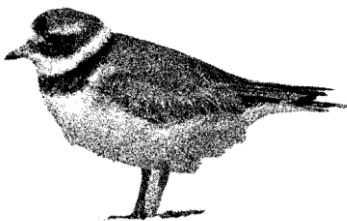
SHOREBIRDS



Black-bellied Plover (*Pluvialis squatarola*)

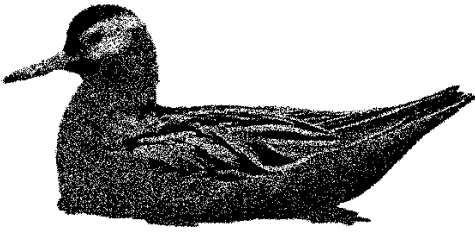
This bird spends its summers in the lowland tundra north of the treeline, and winters in the mudflats and estuaries of the US and Central America. Its summer range extends throughout the Arctic, including Siberia.

In summer, its black under parts reach down to the belly, and are separated from the silvery grey and black upper parts by a broad band of pure white. Its cry is a mournful 'tlee-oo-ee'. It is a larger and stouter bird than the golden plover, which has a more southerly summer range. It nests in a scrape on mossy ground, laying four grey eggs in late June. The chicks are fledged by the end of August. The black-bellied plover eats worms and intertidal vertebrates.



Ringed Plover (*Charadrius hiaticula*)

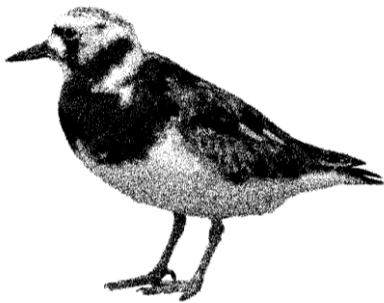
A small, rotund, lively shorebird, the ringed plover has a prominent black collar, a brown back and crown, and a black face and forehead. The legs are orangey-yellow and the bill is orange with a black tip. The cry is a rather disconcerting 'peee-u', but its song, a trilling 'tooli-tooli-tooli' is more distinctive. This plover breeds on shingly or sandy seashores, where it eats mollusks and insects.



Red Phalarope (*Phalaropus fulicaria*)

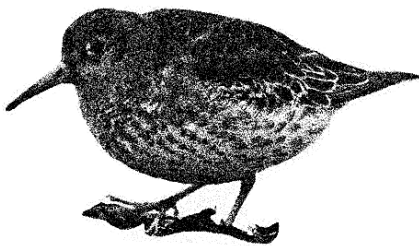
This species of phalarope arrives at the edge of the pack ice by late May or June, having spent the winter well south of the Equator in Chile. Its stay in the Arctic is short: the females return to the south after the eggs have hatched—the first half of July—with the males and juveniles following in late July and August.

In the summer, its breeding plumage is a distinctive reddish-chestnut colour in the under parts, black and white wings, prominent white cheeks and a black-tipped yellow bill. Its winter plumage is mainly white. Its call is a whistling 'wit'. It nests in the marshy tundra surrounding the islands, usually where there are pools with muddy shorelines.



Ruddy Turnstone (*Arenaria interpres*)

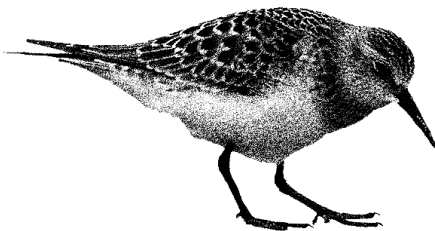
The rocky coastal islands of the Arctic are the nesting ground for this long-distance traveller, which winters along the coasts of all the warm continents. It has a distinctive cry, 'trik-tuc-tuc-tuc', and a contrasting black, white and chestnut plumage on its upper body. The lower breast and belly are pure white. The legs are orange-red and the short beak is black. The turnstone's name comes from its habit of flicking over shoreline debris and turning shells and stones over to get at food.



Purple Sandpiper (*Calidris maritima*)

This species of sandpiper never travels more than about 160 kilometres from its breeding area, which extends from the Canadian islands to Siberia, Iceland and upland Scandinavia. Most of the Canadian birds winter on the northeast coast of North America, but some are found around the Great Lakes.

This is a dark-plumaged, stocky bird with a long, yellow-based drooping bill and short yellow legs. The belly is whitish, flecked with grey, the upper parts dark brown and black. The purple hue that gives the bird its name appears in winter on the upper parts. The Purple Sandpiper feeds on small molluscs, crustaceans, algae and insects. Its nest is a small cup shaped out of the tundra vegetation, where it lays its eggs in June.



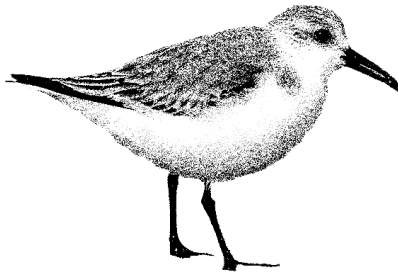
Baird's Sandpiper (*Calidris bairdii*)

This species of sandpiper has an unusual migration route that is well inland and concentrated along the backbone of the continents—the Rockies and the Andes. The birds begin to leave their winter quarters in March, passing over Central America without stopping and moving northwards through the interior of North America in April and May. After breeding, the adults leave the Arctic in late July/early August and travel southwards west of Hudson's

Bay to the American prairies. Here they feed up for five weeks of non-stop flight, covering 6,400 kilometres in a

great circle over the Pacific to the southern Andes.

Tier nests are made in exposed scrapes in short tundra vegetation, usually high up. They eat small invertebrates, plus spiders and insects. Their summertime plumage is a mealy looking mixture of buff, black and grey, with a white belly. The black beak is straight and long. The call is a low, raspy, trilling 'preet' or 'kleep'.



Sanderling (*Calidris alba*)

Brilliant white during the winter, the sanderling's summer plumage comprises a bright chestnut colouring on the head, upper breast and upper parts, with the belly remaining white and the mantle and scapulars acquiring a grey and chestnut flecking. It has black legs and a short straight bill. The bird's cry is a 'twick' sound.

It's a fast and erratic flyer, wintering on the coasts along the whole of the US and South America, and summering on Ellesmere Island and the northern coast of Greenland. The eastern population summers in Siberia before travelling to Africa and Australia for the winter.

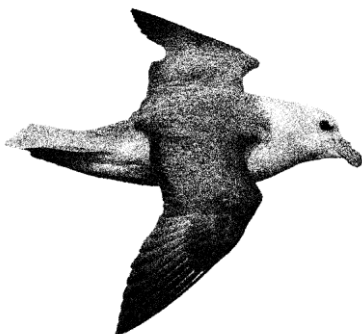
Sanderling nests are found on flat tundra, usually near water, where the birds feed on plant buds, flies, seeds, burrowing amphipods, algae and mosses. The eggs are laid in June.

SEA BIRDS



Arctic Tern (*Sterna paradisaea*)

This bird breeds in the Arctic and winters in the Southern Hemisphere—often as far south as Antarctica. Their migration route takes birds bred in Canada across the Atlantic and south along the coasts of Europe and Africa—possibly the longest migration route of any bird. Long lived, one Arctic tern banded in Norway died there twenty-seven years later. The Arctic tern has a pale back with grey under parts and a deeply forked tail. Its bill is long and pointed, designed for spearfishing. The legs are short, and the bird has difficulty walking.



Fulmar (*Fulmarus*)

The Fulmar is a member of a large family, the Procellariidae family, which also includes shearwaters and petrels. All members are characterized by their external nostrils, situated in a horny sheath lying along the top of the upper mandible. But unlike many family members, the Fulmar is a bold and aggressive bird, well able to defend itself and its eggs against predatory gulls and skuas. There are enormous Fulmar colonies in the Arctic, where hundreds of thousands of birds make their nests on cliffs and the flat tops of islands. The female lays one or two white eggs, which are incubated by both parents in shifts. The young

fledge in three to five months, and defend themselves by discharging oil from the mouth. Fulmars are oceanic birds, using the land mainly for breeding. They feed on the surface of the water, either in flight or after landing, and catching mainly plankton, fish and squid. They may also take other birds as well as offal and refuse.



Common Murre (*Uria aalge*)

Murres are sleek black and white birds, about 40 centimetres long and 1 kilogram in weight. It has a sharply pointed beak and short, narrow wings adapted for manoeuvring underwater during a dive. About five and a half million thick-billed murres (members of the Alcidae family and called 'turrs' in Newfoundland) winter around the shores of Newfoundland, which may seem an enormous number, but in fact the bird is threatened with extinction: next to the mallard duck, the murre is Canada's most sought-after game bird, hunted at a rate of 750,000 birds a year. Moreover, the birds have a slow reproduction rate. They do not reach sexual maturity until their fifth year, after which breeding females only produces one egg each year. Murres are fish eaters and are almost

entirely self-sufficient on the open ocean, where they flock in large rafts. Late in March, they come to land to nest and rear their young, forming great colonies on rocky cliff sides near the sea.



Shearwater (*Procellariidae*)

Found on all seas and oceans of the world, shearwaters are great migrators. Some of the fifty or more species probably travel farther in a year than any other living creature. Their name reflects their habit of skimming low over the water along the troughs of giant waves and effortlessly sweeping up over their crests. Under calm seas, shearwaters typically flap their powerful wings rapidly a few times to gain momentum, and then stiffen the wings to sail into a controlled glide. Shearwaters can walk on the water for feeding, partially folding their wings into air foils for balance. In the Antarctica some species are known as whale birds since, like whales, their preferred food is krill, and the old time whalers knew that they would likely find their quarry near a cluster of shearwaters. Like other pelagic seabirds, shearwaters secrete large quantities of oil from special glands lining the stomach.

The oil serves as a means of defence—they spit it at enemies—as food for the young, and as a dressing for their plumage. Discharged through the nostrils, it may also serve to rid the bird of excess sea salt. The oil gives the birds an unpleasant musky, iodine-like smell.

Kittiwake (*Rissa tridactyla*)

One of the most graceful and buoyant of gulls in flight, the kittiwake is probably the most pelagic of all, travelling far from its nesting area outside the breeding season. The young often travel even further afield than the adult birds. Their colonies are large and characterized by a raucous din and the white splashes surrounding every nesting site. The smallest rock projection, often impossibly situated, serves as a base for the kittiwake's nest of seaweed and mud. The adults are equipped with the longest claws of any gull in order to cope with their surroundings and, as one wrong step would be fatal, the adolescent kittiwakes are among the best behaved of all young birds. Researchers have exchanged kittiwake young for the young of the ground-nesting black-headed gull to test the strength of this instinctive behaviour. Within minutes, the black-headed gull chicks

stepped from the ledge and fell—saved by nets in this case. Kittiwakes feed mainly on fish and zooplankton, plunging in the manner of terns and sometimes submerging completely.



Jaegers and Skuas (*Stercorariidae*)

These birds play the role of a sea-hawk, using their webbed toes, sharp, curved talons and long beaks with hawk-like hooked tips. They tend to be brownish in colour, some with almost white under parts.

There are four species in this family, of which three are called jaegers (after the German *jäger*, a hunter) and are of circumpolar distribution—the fourth is a skua. There is a good deal of overlap between the groups, however, and parasitic jaegers (*Stercorarius parasiticus*), for example, are just as often called Arctic skuas.

These birds are rather like gulls in their structure, but are more powerful and robust. They are also able to manoeuvre more deftly in the air, and typically will pursue another bird until, through harassment, they force it to disgorge whatever food it holds in its crop. Piratical, they steal food from other birds, as well as their eggs and chicks. Weakened land birds and exhausted migrators are typical prey, but these birds are not above scavenging carrion.

Jaegers and skuas breeding in the Arctic tend to have large territories. Their nests occasionally appear in colonies, but if so they are widespread. The success of the breeding season coincides with the population peaks of the smaller rodents.

LAND BIRDS



Snowy Owl (*Nyctea scandiaca*)

This beautiful, large white owl lives in the Arctic and is seen in southern Canada and the northern US in winter every four years or so, in a cycle that coincides with the population levels of the lemming. In normal years, the snowy owl is able to take enough lemmings, its principal food source, to sustain itself—but in those years where the lemming population declines abruptly, the owl wanders south in search of alternative quarry.

The snowy is a diurnal (or daytime) owl, and is quite easily approached. Its flight is rather jerky, for its upward wing beat is slower than the downbeat. It also glides for short distances. It is easily seen, not only because of its bright white plumage, but also because of its habit of perching in exposed

places. Females and young birds have varying degrees of horizontal black bars on front and back. The face and legs are heavily feathered, right down to the tips of the claws. The eyes are a striking yellow. It croaks, like a raven, and whistles piercingly.



Snow Bunting (*Plectrophenax nivalis*)

The Snow Bunting spends the winter in southern Canada and the northern USA, seldom travelling south of areas where snow is present. A sparrow, the bunting is the whitest of all songbirds, with only small black patches on its wings and back during its breeding period in the Arctic.

These birds move about in large flocks, feeding on the seeds of grasses and weeds sticking up through the snow. A constant twittering sound can be heard while they are in flight. They build their nests in cracks in the rocks and under stones. On their breeding grounds their song is quite loud and warbling.