

# CANADA GOOSE - BRANTA CANADENSIS

**Taxonomy:** Kingdom: Animalia Phylum: Chordata Class: Aves Order: Anseriformes Family: Anatidae Genus: Branta  
Species: B. canadensis

## **Habitat:**

**Biomes:** The ecological niches of these geese are open, grassy habitats including temperate, terrestrial, and freshwater niches as well as tundra, semi-desert, wooded areas, and agricultural land. They can also be pesky animals who live in man-made habitats such as your backyard, at airports, and golf courses. It occupies a broad range of habitats in temperate to low-arctic regions, including flat, featureless tundra; boreal forest; prairies and parklands; high mountain meadows; and a variety of managed refuge conditions and areas of human habitation. It nests individually or semi colonial, preferring sites on small islands in tundra lakes and ponds, and on margins of lakes, ponds, and rivers. On the breeding grounds, it forages primarily on grasses, sedges, and berries and in wintering areas on grasses and agricultural crops.

**Elevation Ranges:** NONE

**Flight Ceiling:** Canada geese fly in a distinctive V-shaped flight formation, with an altitude of 1 km (3,000 feet) for migration flight. The maximum flight ceiling of Canada geese is unknown, but they have been reported at 9 km (29,000 feet). Around 2,000 to 3,000 feet.

**Temperature:** According to data, Geese are adapted to handle a variety of temperature ranges with the lowest recorded being around -32 degrees. They can survive -15 degrees just fine because of their adaptations. Waterfowl possess remarkable adaptations to survive in cold weather, including dense layers of insulating feathers, counter- current blood flow to reduce heat loss through their feet and legs, behavioral modifications to reduce exposure to the elements, the ability to carry large fat reserves, and perhaps the greatest adaptation of all-migration.

**Precipitation Levels:** NONE

## **Distribution:**

**In US:** This species is native to North America. It breeds in Canada and the northern United States in a wide range of habitats. The Great Lakes region maintains a very large population of Canada geese. Canada geese occur year-round in the southern part of their breeding range, including most of the eastern seaboard and the Pacific coast. Between California and South Carolina in the southern United States and northern Mexico, Canada geese are primarily present as migrants from further north during the winter.

**In Other Countries:** Canada geese have reached Northern Europe naturally, as has been proved by ringing recoveries. The birds include those of the subspecies B. c. parvipes, and possibly others. These geese are also found naturally on the Kamchatka Peninsula in eastern Siberia, and eastern China. Canada geese have also been introduced in Europe, and had established populations in Great Britain in the middle of the eighteenth century, Ireland, the Netherlands, Belgium, France, Germany, Scandinavia, and Finland. Most European populations are not migratory, but those in more northerly parts of Sweden and Finland migrate to the North Sea and Baltic coasts. New Zealand as well.

**Holistic Description:** The Canada goose (Branta canadensis) is a large wild goose species with a black head and neck, white cheeks, white under its chin, and a brown body. Native to arctic and temperate regions of North America, its migration occasionally reaches northern Europe. It has been introduced to the United Kingdom, New Zealand, Argentina, Chile, and the Falkland Islands. Like most geese, the Canada goose is primarily herbivorous and normally migratory; it tends to be found on or close to fresh water. Extremely successful at living in human-altered areas, Canada geese have proven able to establish breeding colonies in urban and cultivated areas, which provide food and few natural predators. The success of this common park species has led to its often being considered a pest species because of their depredation of crops and their noise, droppings, aggressive territorial behavior, and habit of begging for food (caused by human hand feeding).

**Species Richness:** Has 7 subspecies under the species of Canadian Goose.

**Population Dynamic:** In 2000, the North American population for the geese was estimated to be between 4 million and 5 million birds. A 20-year study from 1983 to 2003 in Wichita, Kansas, found the size of the winter Canada goose population within the city limits increase from 1,600 to over 18,000 birds.

## **Evolution and Systematics:**

**Evolution:** NONE

**Systematics:** The Canada goose was one of the many species described by Carl Linnaeus in his 18th-century work Systema Naturae. It belongs to the Branta genus of geese, which contains species with largely black plumage, distinguishing them from the grey species of the genus Anser.

**Number of Species:** NONE, SUBSPECIES 7

**Number of Genera:** NONE SUBSPECIES 7

## **Physical Characteristics:**

**Size and Length:** 75 to 110 cm (30 to 43 in) in length, The male Canada goose usually weighs 2.6–6.5 kg (5.7–14.3 lb), averaging amongst all subspecies 3.9 kg (8.6 lb). The female looks virtually identical, but is slightly lighter at 2.4–5.5 kg (5.3–12.1 lb), averaging amongst all subspecies 3.6 kg (7.9 lb), and generally 10% smaller in linear dimensions than the male counterparts. The female also possesses a different, and less sonorous, honk than the male.

**Wingspan:** 127–185 cm (50–73 in)

**Coloration:** Canada Geese have a black head with white cheeks and chinstrap, black neck, tan breast, and brown back.

**General Body Features:** The Canada goose has a long black neck and head with a white band on its cheeks that runs under its chin like a strap. It has black feet and a light tan body with lighter brown or white under its tail. Its black bill has lamellae, or teeth, around the outside edges that are used as a cutting tool. Males and females look alike, although females are usually a little smaller than the males.

**Sexual Dimorphisms:** The male is usually larger than the female.

**Differences Between Juvenile Stage and Adult:** Goslings are yellow with grey-green feathers on their dorsal region and sometimes head, depending on the subspecies. They are born with black bills and feet. Their bill has lamella (comb-like ridges) around the outside edge, to aid feeding.

## **Behavior:**

**Diurnal, Nocturnal, or Crepuscular:** Diurnal, but could almost change to complete night activity if affected by a drastic change.

**Activity:** The v-formation used by Canada geese in flight is very energy efficient, as is flying with the wind. This arrangement during flight is called a "wedge" or "skein." The lead position in the "wedge" is rotated because it is the most taxing flight position in terms of energy usage. This technique allows Canada geese to cover up to 2,400 km in a single day of flight. Flocks of geese are often vocal and communicate with each other during flight.

**Communication and Perception:** Canada geese are known for their honking noise. During flight, they honk to communicate with each other. The typical honk associated with Canada geese is from the gander. The goose has a shorter, higher pitched call. They also hiss when they feel threatened.

**Home Range:** Giving a true description of the home range for all Canada geese is difficult. In some populations, a lone female has a mean home range of 25 km<sup>2</sup>. The home range size increases as the amount of geese in the population increases. Geese that have become residents of urban or suburban areas have smaller home ranges than birds that participate in migration. There are multiple factors that keep certain populations in one location. With the prevalence of manicured lawns, geese in temperate regions have access to food and a desirable habitat in the winter. Also, the lack of predators in urban environments encourages Canada geese to remain in one location. Lastly, migration is taught to offspring by the parents. If the parental pair does not migrate, the offspring of the couple will become non-migratory. The birds that do migrate spend spring in their northern breeding territory and winter in their southern wintering range.

**Degree of Sociality:** Has some aggressive territoriality behavior, but will also be begging for food from humans when there is a surplus.

**Level of Aggression:** The birds often become aggressive if they believe that their eggs or goslings are threatened. If you get too close, a goose may attack to defend it. Most goose attacks on humans result in minor or no injuries, but severe injuries can happen.

**Temperament:** UP

**Migration:** Canada geese are known for their seasonal migrations. Most Canada geese have staging or resting areas where they join up with others. Their autumn migration can be seen from September to the beginning of November. The early migrants have a tendency to spend less time at rest stops and go through the migration much faster. The later birds usually spend more time at rest stops. Some geese return to the same nesting ground year after year and lay eggs with their mate, raising them in the same way each year. This is recorded from the many tagged geese which frequent the East Coast. Canada geese fly in a distinctive V-shaped flight formation, with an altitude of 1 km (3,000 feet) for migration flight. The maximum flight ceiling of Canada geese is unknown, but they have been reported at 9 km (29,000 feet). MENU0:00 Low flyover by five Canada geese Flying in the V formation has been the subject of study by researchers. The front position is rotated since flying in front consumes the most energy. Canada geese leave the winter grounds more quickly than the summer grounds. Elevated thyroid hormones, such as T3 and T4, have been measured in geese just after a big migration. This is believed because of the long days of flying in migration the thyroid gland sends out more T4 which help the body cope with the longer journey. The increased T4 levels are also associated with increased muscle mass (hypertrophy) of the breast muscle, also because of the longer time spent flying. It is believed that the body sends out more T4 to help the goose's body with this long

task by speeding up the metabolism and lowering the temperature at which the muscles work. Also, other studies show levels of stress hormones such as corticosterone rise dramatically in these birds during and after a migration.

### **Predators:**

*Predators:* Known predators of eggs and goslings include coyotes, Arctic foxes (*Vulpes lagopus*), northern raccoons (*Procyon lotor*), red foxes (*Vulpes vulpes*), large gulls (*Larus* species), common ravens (*Corvus corax*), American crows (*Corvus brachyrhynchos*), carrion crows (in Europe, *Corvus corone*) and both brown (*Ursus arctos*) and American black bears (*Ursus americanus*). Once they reach adulthood, due to their large size and often aggressive behavior, Canada geese are rarely preyed on, although prior injury may make them more vulnerable to natural predators. Beyond humans, adults can be taken by coyotes and grey wolves (*Canis lupus*). Avian predators that are known to kill adults, as well as young geese, include snowy owls (*Bubo scandiacus*), golden eagles (*Aquila chrysaetos*) and bald eagles (*Haliaeetus leucocephalus*) and, though rarely on large adult geese, great horned owls (*Bubo virginianus*), peregrine falcons (*Falco peregrinus*), and gyrfalcons (*Falco rusticolus*). Adults are quite vigorous at displacing potential predators from the nest site, with predator prevention usually falling to the larger male of the pair. Males usually attempt to draw attention of approaching predators and toll (mob terrestrial predators without physical contact) often in accompaniment with males of other goose species. Eagles of both species frequently cause geese to fly off en masse from some distance, though in other instances, geese may seem unconcerned at perched bald eagles nearby, seemingly only reacting if the eagle is displaying active hunting behavior. Canada geese are quite wary of humans where they are regularly hunted and killed, but can otherwise become habituated to fearlessness towards humans, especially where they are fed by them. This often leads to the geese becoming overly aggressive towards humans, and large groups of the birds may be considered a nuisance if they are causing persistent issues to humans and other animals in the surrounding area.

### *Anti-Predator Defenses:* UP

**Parasites:** Canada geese feces can be hazardous to people's health, but usually only when inhaled or ingested. Walking past geese feces, or even lounging near them on the beach is likely safe to healthy people. However, the elderly, children, and pregnant or breastfeeding women are particularly susceptible to health risks posed by parasites that inhabit Canada geese feces. At even higher risk are those with weak immune systems, such as people with HIV/AIDS, chemotherapy recipients, recent organ donors and recipients, or those with lupus. Similarly, people with gastrointestinal (GI) problems, such as ulcers and irritable bowel disease, are also at increased risk, since they too cannot easily combat parasites from Canada geese feces. Geese feces usually contain the parasites cryptosporidium, giardia, coliform, and campylobacter.

### **Diet and Nutrition:**

*Adult Diet:* Canada geese are primarily herbivores, although they sometimes eat small insects and fish. Their diet includes green vegetation and grains. The Canada goose eats a variety of grasses when on land. It feeds by grasping a blade of grass with the bill, then tearing it with a jerk of the head. The Canada goose also eats beans and grains such as wheat, rice, and corn when they are available. In the water, it feeds from aquatic plants by sliding its bill at the bottom of the body of water. It also feeds on aquatic plant-like algae, such as seaweeds. In urban areas, it is also known to pick food out of garbage bins. They are also sometimes hand-fed a variety of grains and other foods by humans in parks.

*Juvenile Diet:* In spring and summer, geese concentrate their feeding on grasses and sedges, including skunk cabbage leaves and eelgrass. During fall and winter, they rely more on berries and seeds, including agricultural grains, and seem especially fond of blueberries. They're very efficient at removing kernels from dry corn cobs. Two subspecies have adapted to urban environments and graze on domesticated grasses year round.

*Special Adaptations for Getting Prey:* A proper diet for Canada geese should be high in protein and energy. Their diet can generally be categorized as herbivorous and consists mainly of leaves, grass, seeds, berries, algae, and roots. The lamella on the edge of their bill helps during grazing, when grass is removed by making a jerking motion with their head. Plants containing high amounts of secondary metabolites are avoided, which helps prevent digestive issues and poisoning. Occasionally, aquatic invertebrates, insects, small fish, crustaceans, and mollusks may be dined upon, generally during juvenile development, when rearing goslings, or during breeding, where more nutrients are necessary. If environmental conditions prevent food from being obtained, Canada geese can go up to 30 days without food.

### **Reproduction:**

*Mating System:* During the second year of their lives, Canada geese find a mate. They are monogamous, and most couples stay together all of their lives. If one dies, the other may find a new mate. The female lays from two to nine eggs with an average of five, and both parents protect the nest while the eggs incubate, but the female spends more time at the nest than the male.

*Mating Season:* March, April, or May

**Courtship:** Canada geese are courting, and perform a curious ceremony when they do. If the pair is on the water, the male suddenly swims aggressively towards another male, cackling loudly, with his black-and-white neck stretched out along the surface of the water. When the other male retreats, the courting male swims back to the female with an air of triumph, cackling and whooping. He moves alongside her and they both start writhing their neck and turning their head to do some vigorous mock preening. The female may dip her head and neck into the water. A similar performance takes place when they are on land.

**Territoriality:** Males exhibit agonistic behavior both on and off breeding and nesting grounds. This behavior rarely involves interspecific killing. One documented case involved a male defending his nest from a brant goose that wandered into the area; the following attack lasted for one hour until the death of the brant. The cause of death was suffocation or drowning in mud as a direct result of the Canada goose's pecking the head of the brant into the mud. Researchers attributed it to high hormone levels and the brant's inability to leave the nesting area.

**Mating:** NONE

**Pheromones Involved:** NONE

**Nesting:** On the ground, usually on a muskrat mound or other slightly elevated site, near water. They prefer a spot from which they can have a fairly unobstructed view in many directions. Female selects the site and does much of nest construction. She adds down feathers and some body feathers beginning after the second egg is laid. She does all the incubation while her mate guards her and the nest. A large open cup on the ground, made of dry grasses, lichens, mosses, and other plant material, and lined with down and some body feathers.

**Egg-Laying:** Clutch size of 2-8 eggs, 1 brood, egg is 3.3 in or 8.3 cm in length, egg is 2.2 in or 5.6 cm in length, incubation period is 25-28 days, 42-50 days nestling period, the egg is a creamy white.

**Hatching and Incubation/Gestation:** Hatchlings are covered with yellowish down and their eyes are open. They leave the nest when 1-2 days old, depending on weather, and can walk, swim, feed, and even dive. They have enough energy remaining in their yolk sac to survive 2 days before feeding.

**Parental Care:** As soon as the goslings hatch, they are immediately capable of walking, swimming, and finding their own food (a diet similar to the adult geese). Parents are often seen leading their goslings in a line, usually with one adult at the front, and the other at the back. While protecting their goslings, parents often violently chase away nearby creatures, from small blackbirds to lone humans who approach, after warning them by giving off a hissing sound and then attack with bites and slaps of the wings if the threat does not retreat or has seized a gosling. Canada geese are especially protective animals, and will sometimes attack any animal nearing its territory or offspring, including humans. Most of the species that prey on eggs also take a gosling. Although parents are hostile to unfamiliar geese, they may form groups of a number of goslings and a few adults, called crèches. The offspring enter the fledgling stage any time from 6 to 9 weeks of age. They do not leave their parents until after the spring migration, when they return to their birthplace.

**Lifespan:** 10-24 years

#### **Conservation:**

**Official Federal Status:** Least Concerned. Canada Geese are common and increased between 1966 and 2015, according to the North American Breeding Bird Survey. The total North American population in 2015 was between 4.2 million to over 5.6 million. The species rates a 6 out of 20 on the Continental Concern Score. It is not on the 2016 State of North America's Birds Watch List. The proliferation of lawns, golf courses, and parks offers Canada Geese such reliable habitat that in some areas the birds stay all year round instead of migrating like they used to do. Recently, some communities have had to begin considering some Canada Geese as nuisances (for eating grass or fouling lawns) or even hazards (around airports, where collisions with planes can be very dangerous). Some 2.6 million Canada Geese are harvested by hunters in North America, but this does not seem to affect its numbers.

- + **Ecological - Canada geese provide several ecological benefits that may aid other plants and animals. They can serve as seed dispersers by eating plants in one area and then depositing seeds in another area when defecating. Goose feces, in moderation, can contribute to soil fertility by adding nutrients. As part of the food chain, adult geese, goslings, and eggs provide food for animals such as fox, snakes, raccoons, and turtles.**

#### **Notable Species:**

Atlantic Canada goose, *B. c. canadensis* (Linnaeus, 1758)

Interior Canada goose, *B. c. interior* (Todd, 1938)

Giant Canada goose, *B. c. maxima* Delacour, 1951

Moffitt's Canada goose, *B. c. moffitti* Aldrich, 1946

Vancouver Canada goose, *B. c. fulva* (Delacour, 1951)

Dusky Canada goose, *B. c. occidentalis* (Baird, 1858)

Lesser Canada goose, *B. c. parvipes* (Cassin, 1852)

Canada Geese eat grain from fields, graze on grass, and dabble in shallow water by tipping forward and extending their necks underwater. During much of the year they associate in large flocks, and many of these birds may be related to one another. They mate for life with very low “divorce rates,” and pairs remain together throughout the year. Geese mate “assortatively,” larger birds choosing larger mates and smaller ones choosing smaller mates; in a given pair, the male is usually larger than the female. Most Canada Geese do not breed until their fourth year; less than 10 percent breed as yearlings, and most pair bonds are unstable until birds are at least two or three years old. Extra-pair copulations have been documented.

During spring, pairs break out from flocks and begin defending territories. Spacing of these pairs is variable and depends on availability of nest sites and population density; where population is large, even after a great many fights birds may end up nesting in view of one another, and some populations are semi-colonial.

**Canada Goose threat displays may involve head pumping, bill opened with tongue raised, hissing, honking, and vibrating neck feathers. When an intruding goose doesn't retreat, geese may grab each other by breast or throat and hit each other with their wings. Fighting may result in injuries.**

Female selects nest site, builds nest, and incubates eggs. She may brood goslings in cold, wet, or windy weather and while they're sleeping for first week after hatching. Male guards the nest while female incubates.

Soon after they hatch, goslings begin pecking at small objects, and spend most of their time sleeping and feeding. They remain with their parents constantly, though sometimes “gang broods” form, especially in more southern latitudes. These can include at least two broods, and sometimes five or more, that travel, feed, and loaf together, accompanied by at least one adult.

Young often remain with their parents for their entire first year, especially in the larger subspecies. As summer wanes birds become more social; they may gather in large numbers at food sources; where food is limited and patchy, may compete with displays and fights.

In winter, Geese can remain in northern areas with some open water and food resources even where temperatures are extremely cold. Geese breeding in the northernmost reaches of their range tend to migrate long distances to winter in the more southerly parts of the range, whereas geese breeding in southern Canada and the conterminous United States migrate shorter distances or not at all. Individuals tend to return to the same migratory stopover and wintering areas year after year. Spring migration may be difficult for observers to track because of over-wintering birds and movements between nighttime resting areas and feeding areas, but the bulk of spring migratory movements tend to move north behind the retreating snow line, where the temperature is averaging 35 degrees.

Migrating flocks generally include loose aggregations of family groups and individuals, in both spring and fall. Flights usually begin at dusk, but may begin anytime of day, and birds fly both night and day. They move in a V formation, with experienced individuals taking turns leading the flock.