



Canada Goose

The lines and vees of geese come south from the tundra. The birds pass over Pennsylvania each fall, some traveling by day others winging across night skies. Their flight can be high — so high that their incessant calls do not reach earth — or low enough that the honking carries clear as church bells on a frosty morning. The lines and vees may be long and undulating, or tight, strong and symmetrical. They are following long established migratory highways to their wintering grounds — an ancient rite of autumn that will be reversed in spring.

Biology

The Canada goose (*Branta canadensis*) is a member of Order Anseriformes, Family Anatidae, a large group comprising all North American waterfowl. Waterfowl are further divided into seven subfamilies, one each for swans and geese, and five for ducks.

Canada geese belong to subfamily Anserinae. They are closely related to emperor, snow, blue, Ross's and white-fronted geese, and brants. There are two species of Canada geese — the small, tundra-breeding cackling Canada goose, *Branta hutchinsii*, and the larger-bodied *Branta canadensis*, which has seven recognized subspecies. As a group, Canada geese are often referred to as "honkers."



Three distinct Canada goose subspecies occur in Pennsylvania. Two are migrants that breed in Canada; the third breeds here. The migrants comprise geese from the Southern James Bay population (*B. c. interior*), which fly over western-most Pennsylvania, and the Atlantic population (*B. c. canadensis*), which migrate over eastern Pennsylvania. Our resident geese are giant Canada geese (*B. c. maxima*). Resident geese are largely non-migratory; they nest and winter here. The growth of this population has been phenomenal. Prior to 1935, no Canada geese nested anywhere in Pennsylvania. Today they are found in every county.

Geese are large, plump birds with long necks, short wings, a broad, round-tipped bill and short legs. Their legs are set farther forward than those of ducks or swans; this adaptation permits them to walk and graze on dry land. The feet are webbed between the three front toes. Adult males or ganders of the interior race average 36 inches in length and weigh approximately 9 pounds. Females and immatures are a bit smaller and lighter.

Both sexes of Canada geese look alike. The bill, head, neck, legs, feet and tail are black. There is a broad white cheek-and-chin patch; the upper body is gray-brown. Flanks and underwings are a lighter gray, as are the breast and belly, which are also faintly barred. Geese have large amounts of down — fluffy feathers close to the body which create insulating dead air space — to keep them warm in cold weather.

Grazing birds, geese feed on wild and cultivated plants. They eat rhizomes, roots, shoots, stems, blades and seeds. Foods include widgeon grass, pondweed, eelgrass, spike rush, American bulrush, cordgrass, glasswort, algae, grass, clover, wheat, millet, corn, barley and rye. They can damage cultivated crops, particularly young shoots of fall-planted wheat. Animal matter isn't a major part of their diet, although they sometimes eat insects, crustaceans and snails.

When feeding in shallow water, geese tip their bodies, dip their heads under and pull up vegetation. On land, they feed in groups — and at least one member of the party always has its head up, looking for danger. Geese generally move in patterns to feed. Each day at about dawn, they leave the water — river, pond, lake, impoundment, or other body of water — fly to feeding areas, and feed for two or three hours. Then they return to the water, rest and fly out to feed again in the evening. On such forays they fly distances of as little as a few hundred yards to more than 20 miles, depending on availability of food.

Geese are intelligent and wary. Their vision is sharp and their hearing keen. These senses are multiplied when the birds are in flocks. In regions where they are hunted, they quickly learn locations and boundaries of refuges where they are protected.

A honker usually runs along the surface of the water or ground to gain lift for takeoff, though when surprised it can jump into flight as puddle ducks do. Once aloft, its flight may appear slow and labored — perhaps because of the bird's slow, deep wingbeats and large size — but actually it can reach 45 to 60 mph. In flight, geese sound their distinctive "honking" calls. When feeding, they make a gabbling sound and, when angry, they hiss.

In spring, honkers are among the first waterfowl to breed. Unmated males fight for females. The males approach each other with necks lowered and extended, hissing loudly, pecking and flailing with their powerful wings. Individuals of both sexes usually mate for the first time in their second or third year. The pair stays together as long as both are alive and healthy; if either dies, the other usually looks for a new mate.

Geese nest in a wide variety of habitats. They like sites that afford an open view. These include islands in rivers and lakes, the tops of muskrat houses in large marshes, rocky cliffs, abandoned osprey and heron nests, artificial nesting structures and grassy fields near water. The female usually selects the site and builds the nest. Nests are typically ground depressions lined with sticks, cattails, reeds and grasses. A central cup may be lined with down, which the female plucks from her breast. Outside dimensions of nests vary from 17 to 48 inches, with 25 inches the average. Inside diameter of the central cup is 9 to 11 inches, and the nest may be 3 to 6 inches deep.

The female lays four to 10 eggs (usually five or six). Geese nesting for the first time generally lay fewer eggs than older birds. The eggs are creamy white and unmarked at first, and are either smooth or have a slightly rough texture. As time passes, they become stained. Incubation averages about 28 days. The gander does not sit on the eggs, but always is nearby, guarding and defending the nest and surrounding territory. To avoid detection on the nest, a goose will crouch, extend her neck, and remain still. Although geese are gregarious from late summer through winter, nesting adults dislike crowding.

Goslings are precocial. Their eyes are open, they are covered with a fine, brown fuzz, and they're able to walk and swim soon after they hatch. They leave the nest within 24 hours after hatching. Both parents stay with the goslings, and the female broods them nightly for about a week, and then less often.

Canada geese are highly successful in raising broods, but those nesting in northern Canada are highly susceptible to weather conditions. Late spring snowstorms and cold weather can severely impact nesting and brood-raising. Flooding and predation can also cause nest failure. In Pennsylvania, crows, bald eagles, coyotes, raccoons, opossums and skunks destroy eggs; coyotes, foxes, bald eagles and owls prey on goslings. In northern Canada, red and arctic fox and large gulls are the most important predators of nests and goslings.

Because they're big, strong and aggressive, adult geese are less subject to predation than most other waterfowl with coyotes, bald eagles and large owls removing unhealthy individuals from the population. Disease, parasites and accidents also take their toll.

When young are half-grown, their parents begin to molt. Adults lose their flight feathers and are grounded for about 3 weeks. During this time, the goslings grow their own flight feathers, so parents and young are able to fly at about the same time.

As autumn approaches, geese prepare to migrate. Family groups gather in small flocks, leave their subarctic breeding grounds and fly leisurely to staging areas along the route south. Migrating geese travel by day or night, flying until tired and then landing to feed and rest.

Honkers fly in vees or occasionally in single, diagonal lines. A trailing goose encounters less air resistance, thus uses less energy, because of the turbulence set up by the bird flying just ahead.

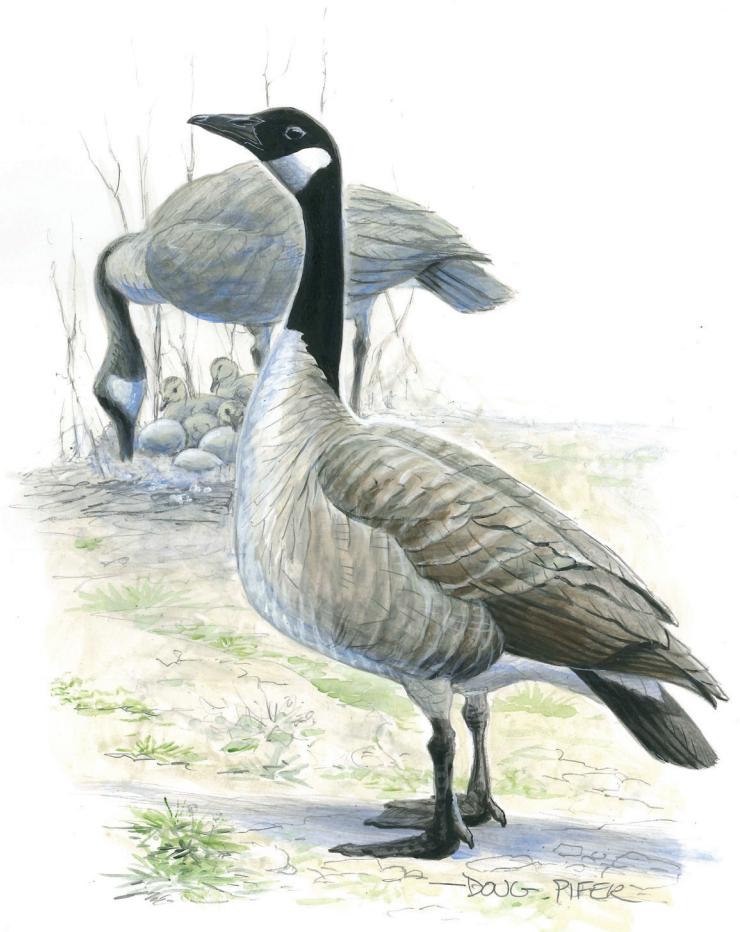
Flight altitudes vary with weather conditions, distance to be flown and time of year. In heavy overcast, honkers might fly only a few hundred feet off the ground. Under fair skies, they tower up almost a mile. An average derived from airplane pilots' reports is 2,000 feet, with 64 percent flying between 750 and 3,500 feet (this is for fall migration; during spring, altitudes average a bit lower). Geese fly high over long distances, lower for short hops.

Population

The range of the Canada goose blankets the United States and most of Canada. There probably are more honkers on the continent today than when the Pilgrims landed; like certain other wildlife species — blackbirds, crows, woodchucks, and white-tailed deer — honkers have benefited from increased agricultural production. Geese feed abundantly on grains and cereal crops on their migration and wintering grounds. Geese on the Atlantic Flyway now rely more on crops than on aquatic plants.

Early during the 20th century, the Canada goose population had dropped dangerously as a result of unrestricted market hunting on the species' wintering grounds and migration routes. Fortunately, strict law enforcement, wildlife-management practices and increased farming have reversed this trend. The resulting increase in the goose population rivals the comebacks of the wild turkey and white-tailed deer.

Geese are migratory birds and fall under the jurisdiction of the federal government's U.S. Fish



& Wildlife Service. This agency cooperatively manages all waterfowl with the states and Canadian provinces. This work includes monitoring populations and habitat, conducting research and setting annual seasons and bag limits.

Habitat

Landowners interested in attracting migrating geese can leave portions of crops unharvested. Good foods are oats, barley, wheat, rye, grasses and corn. In feeding studies, fields of corn and small grains attracted most geese. Geese generally will not land close to fencerows, woodlots, houses or barns. Strips of corn alternating with wide grass fields often will draw flights.

Geese are quite mobile — willing and able to fly great distances to find food and resting areas. Grazing birds, they generally are more land-based than ducks, especially when goslings are growing.

Breeding habitat is tremendously variable; they do well in open fields near water, and on islands, rocky cliffs, and other locations. Artificial nesting structures — tubs secured to trees, old tractor tires placed on islands, or platforms built over water — often attract resident honkers. Geese raise

families in city parks, reservoirs and farm ponds, although the vast majority of them breed in the far north.

Migratory geese of the Atlantic Flyway winter primarily in Chesapeake Bay and Delmarva region. Smaller numbers winter from as far north as New York and coastal New England to southeastern Pennsylvania and New Jersey.

In spring, honkers retrace their routes to ancestral breeding grounds. Migrating flocks are composed of several family units, parents and offspring of the previous year, but the yearlings leave their parents shortly after arrival. Adults usually nest in the same locale year after year, some even using the same nest foundation.

In Pennsylvania, geese are common spring migrants in late February, March and early April, with stragglers into May. In spring, resident flocks breed here. Strong concentrations exist within the Game Commission waterfowl areas such as Pymatuning and Middle Creek, as well as other suitable habitat in the state. In fall, honkers are common September-December migrants. If the winter is mild, some stop in the southeastern portion of the state, although most go farther south.