

North American Goshawk

Accipiter Gentilis



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Physical Description:

Northern goshawks are the largest species of the genus *Accipiter*. Males generally weigh between 630 and 1100 grams, average 55 cm in length, and have a wingspan ranging from 98 to 104 centimeters. Females are slightly larger, weighing, on average, between 860 and 1360 grams, and having a wingspan of 105 to 115 centimeters and an average length of 61 cm.

Identification:

Adult birds are slate gray on back and upper wing coverts. The chest and under wing coverts are light, pale gray with black vermiculations. The tail is blue-gray with three or four dark bands. The two most striking features in adult birds are the iris, which ranges from orange to blood red, and the pronounced superciliary line.

Juveniles' upper wing coverts and back are brown with crème and white mottling, while the chest, belly, and under wing coverts are highly streaked with brown. The tail has irregular brown bands. All accipiters, including northern goshawks, have a distinctive white grouping of feathers which form a band above the eye (the superciliary). In goshawks this band is thick and more pronounced than in the other members of the species. The eye color of adult goshawks is red to reddish-brown, in juveniles eye color is bright yellow.

The colorings of adult male and female northern goshawks range from slate blue-gray to black. Their backs, wing coverts, and heads are usually dark, and their undersides are white with fine, gray, horizontal barring. Their tails are light gray with three or four dark bands.

A juvenile northern goshawk's coloring is quite different than that of the adult. Their backs, wing coverts, and heads are brown, and their undersides are white with vertical brown streaking.

Hunting Strategies:

Tenacious and reckless, Goshawks routinely crash through thickets and into cover in pursuit of prey. Common hunting strategies for Goshawks are to conduct searching flights just below the forest canopy, weaving through trees and catching quarry unaware, or waiting in trees until prey is spotted, upon which high speed chase through the forest is made. Whatever their strategy, Goshawks use concealment and stealth to their advantage.

Mainly consuming birds, mammals, invertebrates, and reptiles of moderate to large size. Individual prey items can weigh up to half the weight of the goshawk. The content of an individual goshawk's diet depends upon the environment in which that goshawk lives. The average diet consists of 21 to 59 percent mammals and 18 to 69 percent birds, with the remaining percentages being made up of reptiles and invertebrates. Some common prey include snow-shoe hares, red squirrels, ground squirrels, spruce grouse, ruffed grouse, and blue grouse. Northern goshawks sometimes cache prey on tree branches or wedged in a crotch between branches for up to 32 hours. This is done primarily during the nestling stage.

Use in falconry:

Goshawks have a long history as falconry birds. They are often flown 'from the fist' after avian and ground quarry. Their skill lies in their acceleration, maneuverability and tenacity.

Goshawks were called 'the cook's hawk' in old world literature, due to the deadly efficiency with which they were capable of taking a wide range of game, including rabbits, small to medium mammals, pheasant, quail, partridge grouse, and waterfowl.

Goshawks are temperamental, and prone to bouts of sullen moodiness; they can challenge the patience of any master falconer, but no bird is as versatile in the field as a well trained Goshawk.

Habitat/Range:

Northern goshawks are found throughout the mountains and forests of North America and Eurasia. In North America they range from western central Alaska and the Yukon territories in the north to the mountains of northwestern and western Mexico. They are typically not found in the southeastern United States.

Northern goshawks can be found in coniferous and deciduous forests. During their nesting period, they prefer mature forests consisting of a combination of old, tall trees with intermediate canopy coverage and small open areas within the forest for foraging. During the cold winter months they migrate to warmer areas, usually at lower elevations.

Reproduction:

When courting a mate, female goshawks will attract males in the area by either performing dramatic aerial displays and vocalizing, or by perching in the nesting area and vocalizing. Once a mate has been found, the two goshawks begin to construct or repair their nest. During this time, the pair will copulate many times a day, sometimes as many as 518 times per clutch.

Male and female goshawks typically maintain a life-long pair bond and only upon death will they seek out a new mate.

Northern goshawks breed once per year between early April and mid-June, with peak activity occurring at the end of April through May. A mating pair of northern goshawks begins to prepare their nest as early as two months before egg laying. Typically, the nest is located in an old growth forest, near the trunk of a medium to large tree and near openings in the forest such as roads, swamps, and meadows. Their nests are usually about one meter (39.4 inches) in diameter and one-half to one meter (19.7 to 39.4 inches) in height and are made of dead twigs, lined with leafy green twigs or bunches of conifer needles and pieces of bark.

The typical clutch size is two to four eggs, which are laid in two to three day intervals. The eggs are rough textured, bluish-white in color and measure 59x45 millimeters (2.3 x 1.8 inches) in size. The clutch begins to hatch within 28 to 38 days of laying. Incubation of the eggs is primarily the female's job, but occasionally the male will take her place to allow the female to hunt and eat. Nestlings stay at the nest until they are 34 to 35 days old, when they begin to move to nearby

branches in the same tree. They may begin to fly when they are 35 to 46 days old. Juvenile fledglings may be fed by their parents until they are about 70 days old.

Female goshawks do the majority of egg incubation, but occasionally males will incubate the eggs to allow the female to hunt and eat. After the clutch has hatched, the female will not leave the nesting area until the nestlings are 25 days old. During this time the male is the primary provider of food for the female and her nestlings. When the nestlings reach 25 days old, the female will leave them for periods of time to hunt with the male.

When nestling goshawks reach 35 to 42 days old, they begin to move to branches close to the nest. Soon after this, practice flights begin to occur. Often fledglings participate in "play" which is thought to allow them to practice hunting skills which will be needed throughout their lives.

Young goshawks tend to remain within 300 m of the nest until their flight feathers have fully hardened, at approximately 70 days. During this time fledglings still rely upon their parents for food. Full departure from the nest is often abrupt, though, and 95% of young goshawks become self reliant within 95 days of hatching.

Young goshawks reach sexual maturity as early as one year after hatching.

Breeding interval: once yearly.

Breeding season: early April and mid-June, with peak activity occurring at the end of April through May.

Eggs per season: 2 to 4

Time to hatching: 28 to 38 days

Time to fledging: 34 to 35 days

Time to independence: 70 days (average)

Age at sexual or reproductive maturity (female): 1 to 3 minutes

Age at sexual or reproductive maturity (male): 1 to 3 years

Lifespan / Longevity:

There is little data on life span and survival of goshawks. The average survival, based upon small banding return samples, is 10.7 months. Maximum lifespan has also been neglected in research, but it is believed to be at least 11 years. Females have a higher rate of survival, mainly due to their larger body mass, which gives them an advantage during the winter months.

Behavior:

Most goshawk populations are sedentary and they typically remain in their nesting areas throughout their lives. Only goshawks that breed in the north and northwestern parts of North America are migratory. They fly south during the winter months and then return to their nesting areas in the spring.

Northern goshawks are highly territorial and a mating pair will advertise their nesting territory by performing an elaborate aerial display before and during nest construction and/or repair. If their nesting area is encroached upon, they will defend it fiercely.

Northern goshawks live alone or in pairs and are diurnal.

Communication:

Goshawks, like other Accipiters, depend upon vocalizations for communication in their forested habitats. They are especially vocal during courtship and nesting. Both sexes make equally varied sounds, however, the female's sounds are deeper and louder, while male goshawks tend to have higher and less powerful voices. There are also several specific calls, or wails, given by goshawks. As nestlings, young goshawks may use a "whistle-beg" call as a plea for food. It begins as a ke-ke-ke noise, and progresses to a kakking sound. The chick may also use a high pitched "contentment-twitter" when it is well fed.

As adults, goshawks vocalize by way of wail-calls, which consist of "ki-ki-ki-ki" or "kak, kak, kak". This call varies with the action it represents. A "recognition-wail" is made by both males and females when entering or leaving the nest. A "food-transfer" call, which is harsh sounding, is made by males to demand food from the female.

Northern goshawks also use postures and other physical cues to communicate.