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Northern Hawk Owl

Surnia ulula



By Nicole Lee

Is it a hawk or is it an owl? While the northern hawk owl (*Surnia ulula*) shares many characteristics with smaller hawks, from its long, tapered tail and facial feathers to its diurnal hunting behaviours, it is in fact an owl.

A resident in the boreal forests of northern latitudes, including in British Columbia and most of Canada, this raptor finds ideal hunting grounds in open spaces with access to prominent perches from which it can scout out prey. While the population is considered to be healthy, the species has never been particularly prevalent; this, mixed with its relatively remote breeding grounds, has resulted in the northern hawk owl being one of the least studied bird species on the continent. Increased focus on the species, especially on their ecology, would benefit our overall understanding of this graceful and skilled predator and our potential influences on the population with continued human development.

Characteristics

The northern hawk owl is a slender, medium-sized owl with hawk-like features. It has a long, rounded tail and fairly pointed wings for an owl. The species lacks ear tufts, contrasting many other types of owls, and has a characteristic greyish-white facial disc with thick black rims bordering the sides of the face; the

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black extends inwards towards the eyes, running adjacent to and just below whitish eyebrows. Its eyes are a pale yellow.

Above the eyebrows, running along the top of the head to the crown is a dark grey base colour with heavy white spotting. The nape features a black V-shaped pattern, thought to outline false eyes; however, this is not as distinct as in some other owl species. Back and wing feathers are a rich, dark brown with rows of larger white spots, with particularly dense white running along the scapulars (shoulders).

The underside of the bird is much lighter, generally whitish and covered with dense horizontal dark brown bars. The shape of the tail is graduated and a similar colour to the back with thin white bars running along its length. The legs and toes of this bird are feathered.

Females tend to be larger than males, ranging from 306-392 g (10.8-13.8oz) compared to 270-326g (9.5-11.5oz) for males. Wingspan is similar for both genders averaging at about 80cm (32in). Overall body length from head to tail is 36-45cm (14-18in).

In juveniles, not all of the characteristic markings on the plumage are yet present. They are a duller greyish-brown and have fewer white markings. Underneath, the chest and flanks are shaded but the barring seen on adults is less distinct. As juveniles, the whitish facial disc with dark borders is present.

Although the species exhibits characteristics of both hawks and owls, the northern hawk owl is not easily confused with others of these groups as its long tail and behaviour separate it from other types of owls in North America and its broader head and body separate it from other hawk species.

Life Cycle

By the end of their first year, hawk owls become sexually mature. During the breeding season from April to late June, these owls are vocal and conspicuous. From perches, particularly around dawn and dusk, males produce mating calls to advertise to females potential nest sites; females respond with their own calls and select a mate and his proposed site. The pair stays together for the duration of the breeding season.

Nesting takes place in cavities, including enlarged woodpecker holes, hollowed trees or stumps, and sometimes even nests formerly used by other raptors; or nest boxes.

Reproductive success is observed to be related to annual food supply and while 3-9 eggs are usual for a single clutch, hawk owls can lay up to 13 eggs per clutch (a relatively high number), usually associated with good vole years (voles being their main prey). These white, oval eggs (average 40X32 mm or 1.6X1.3 in) are laid asynchronously at one to two-day intervals, and are incubated by the female for 25-30 days. During this time, the male protects the nest against predators and hunts for food.

Young are helpless, covered in white down and brooded for an additional 13-18 days. Thirty days after hatching, owlets leave the nest, and after an additional two weeks, are able to fly. Full independence requires yet another eight weeks, often occurring near the end of August.

Fledging success for the species can be quite high, seen in Canada at eight of nine owlets successful fledged. These owls can live for 10 years.

Habitat

Northern hawk owls inhabit areas ideal for hunting that offer access to prominent lookout perches as well as open areas. This may mean sparse woodlots, forests adjacent to burned or cleared land or bogs, tundra or fields. Perches are often chosen to be bare branches, broken-topped trees and telephone poles.

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The species is circumpolar, found across boreal forests at northern latitudes. In North America, their year-round range covers Alaska and Canada. Hawk owl populations are split into two separate races: *S. u. caparoch* in North America and *S. u. ulula* in Eurasia; on occasion the Eurasian race has been seen as an accidental in western Alaska.

In British Columbia, the breeding distribution extends from Manning Park through the interior northward to the border of the Yukon Territories. A nomadic creature, *S. ulula* moves widely within its range depending on food and weather conditions. It winters in the far north when its preferred prey is abundant enough to sustain the population; however, other times it irrupts south of its breeding range into some of the United States, marking "invasion years"; particularly the juveniles undergo this type of movement outside of their normal range.

Hunting day or night—but mainly in the day—this predator waits on a perch until it detects its next prey and then swoops down to seize its meal. It preys on rodents in the summer, primarily voles (up to 90%), other mammals such as lemmings, rabbits, squirrels, mice; and birds in the winter (up to 90%) when small mammals become more difficult to find. They will also occasionally eat frogs and fish. Hawk owls have been known to eat animals as large as a sharp-shinned hawk or a weasel.

Behaviour

Northern hawk owls have a range of vocalizations. While they are vocal year round as necessary, they are relatively much more conspicuous aurally during the breeding season. As an attraction call, males produce a quick, rolling and whistled *ulululululululul* that progressively rises in pitch to a vibrating trill, lasting in total about 14 seconds long. This is repeated at various intervals. Females produce a similar, but higher-pitched and less clear version of this call. These vocalizations might also serve as territorial calls.

When excited, both sexes of hawk owl let out a sharp *kiiiiirri* or *kwikikikikikik*. When alarmed (e.g. by hawks and other owls), a *rike rike rike rike*. Gentler are some of the sounds produced to communicate with familiar individuals; parents and young communicate with chirps while a pair maintains contact with softer sounds similar to *ugh* or *uih*.

Once offspring are independent of their parents, they can be seen flying solo or in pairs; these birds are not particularly social creatures. Like a hawk it flies—further justifying its common name. Quickly, it beats its wings and flies in straight lines, often choosing to glide or hover like a kestrel. Similar to other hawks, hawk owls can often be found waiting atop a perch searching for prey.

Threats

This species is not considered to be at risk, however its numbers have never been particularly high in the wild and it is believed to have faced a decline in Europe when compared with the historic population due to deforestation and the resulting lack of nesting cavities. The International Union for Conservation of Nature (IUCN) lists the conservation status of the northern hawk owl as Least Concern. Nationally, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) categorizes the species Not at Risk. Provincially in British Columbia, the species appears on the Yellow List of secure species.

While not significant enough to effect northern hawk owl populations, the species must be wary of some natural predators, primarily great horned owls and northern goshawks. These predators may attack roosting hawk owls or attack nests and remove eggs or young owls.

Humans pose additional threats to this owl. Forestry compromises natural nesting cavities and human encroachment further removes hunting ground. Hawk owls do not tend to be found in close proximity with cities. In some areas, fire suppression allows dense undergrowth to fill in sparsely wooded spaces

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making them less ideal places for these raptors to hunt. Additionally, hawk owls can be harmed by accidental trappings and collisions with power lines and vehicles.

What We Can Do To Help

While the species is not considered threatened, since northern hawk owls occur in relatively low densities in the wild and breed in relatively remote grounds, there have been comparatively few studies examining the species and as a result, it is one of the least studied bird species on the continent. Focusing more attention on ecological studies of the species would help contribute to the overall understanding of this owl. Taking steps in that direction, the Migration Research Foundation, a non-profit in Canada and the US, as a part of its Northern Raptors Program, has begun to look at northern hawk owl movements.

Other Interesting Facts

The keen eyesight of the northern hawk owl allows it to see prey up to 800 metres (0.5 miles) away. However, they do not always rely on their eyesight to detect prey – these owls are able to detect prey by sound and capture individuals covered in up to 30cm (1 ft) of snow. Their hearing is so acute it can detect the heartbeat of a mouse!

Unlike other owls, the feathers of the northern hawk owl are fairly stiff resulting in slightly less silent flight.

This owl keeps clean by preening and rolling in the snow.

Northern hawk owls are fairly tolerant of humans and allow them to approach relatively closely. However, be warned that during the breeding season they will aggressively defend their young, dive-bombing potential threats.

Where & When to view the animal

While this owl usually resides far from cities or towns, you might be fortunate enough to see one in somewhat accessible open spaces in the northern latitudes. If you are in the Lower Mainland of Vancouver, a good place to see the hawk owl is in Delta at Boundary Bay or Reifel Migratory Bird Sanctuary.

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