

# Snowy Owl

*Nyctea scandiac*



Photo credit: Darren Colello

By Maryann Martin

The snowy owl, ghost of the Arctic, this species has long been a favourite of birders and nature enthusiasts alike. Snowy owls are the heaviest owls in all of Canada and have been adopted as the provincial bird of Quebec. Their beauty and mystique are indeed engaging.

## **Characteristics**

Among the largest owl in North America, and the heaviest owl species on the continent (due to its thousands of feathers) fully-grown snowy owls measure 53 to 66 cm (21 to 26 inches) and weigh up to 2.7 kg (6 lbs). Female snowy owls are typically 10 to 12 cm (4 to 5 inches) larger than their male counterparts.

The feathers of males are white, while females are mostly white with black or brown mottling. These subtle differences in colour aid the snowy owls in their fairly distinct roles: the male, blending into the sky and clouds as he hunts for food to bring back to the female who waits at the nest – the female blends into the earthy colours of the nest, concealing herself and her eggs and owlets from predators.

Snowy owls are well insulated against their Arctic environment and are able to withstand temperatures as cold as  $-40$  degrees Celsius ( $-40$  degrees Fahrenheit). They have more than 6,000 feathers covering their body and their feathers alone weigh more than their entire skeleton.

While most owls hunt only during the night, snowy owls hunt during the day. The eyes of a snowy owl have yellow irises (the coloured membrane of the eye, surrounding the pupil) face to the front for optimal binocular vision. Snowy owls blink with their upper eyelids, not their lower; and their eyes are framed by 'eyelashes'. In addition, they have a third clear eyelid or nictitating membrane. Owl vision is exceptionally acute especially at low light levels. They can turn their heads 270 degrees with 14 very flexible neck bones. Part of this is because their eyes are fused to their skull and they cannot move them independently. However it is the owl's hearing which is their best sense. All owls have superb hearing and can easily pinpoint the source and coordinates of interesting sounds even without the aid of vision. Their ears are slits located at the sides of their skulls and are so acute they could detect a mouse's heart beating. This allows them to capture prey under snow for example without even seeing their desired prey.

### **Life Cycle**

After mating with the male, the female snowy owl scratches out a place for her nest along the ground where she lays as many as 16 white eggs. The female snowy may not lay any eggs at all if food is scarce.

If eggs are laid, the female keeps them warm and safe from predators for a period of 32 or 33 days. Small owlets hatch the eggs and emerge with thin, white feathers.

By the time the owlets are between 45 to 50 days old, they will have learned to fly. Learning how to hunt independently takes longer; after about 60 days owlets are hunting by themselves.

Males rarely breed before the age of 3 or 4. Some older, aggressive males form nests with two different females. These males will hunt and protect both nests and surrounding territories. The male Snowy will do most of the hunting during the period from the laying of eggs to the relative independence of the owlets. Females stay at the nest; eggs and small owlets left uncovered in the Arctic cold would freeze.

The full breeding cycle, from the laying of eggs to the departure of the owlets is about 3 and a half months, virtually the entire arctic summer.

Snowy owls may reach the age of 15 in the wild and can live up to 28 years in captivity.

### **Habitat & Behaviour**

Snowy owls inhabit the harsh climate of the Arctic regions in Asia, Europe, and North America. Snowy owls prefer to nest in open areas with slight elevations for two reasons: to avoid damp ground, and to be able to see their surroundings quickly and clearly.

As carnivores, snowies hunt a variety of small mammals such as rodents, rabbits, and weasels; birds such as ducks, grebes, jaegers, eiders, songbirds, gulls, grouse, and geese. A large portion of their diet is lemmings. These small rodents dig tunnels below the ground; entrances to these tunnels are favourite spots for snowies to await their next meal. Some researchers estimate that adult snowies eat about five lemmings per day. Snowy owls are opportunistic hunters, often waiting for prey to get close to them before striking.

Often during winter months in North America, snowies may be seen in southern Canada and northern United States. Being very adaptable, not all snowy owls will migrate south when winter arrives; some will choose to stay in the Arctic and hunt during the three months of 24-hour darkness.

The decision to migrate depends upon the availability of food in the snowy owls current territory. For example, if the lemming population is low in their Arctic home, snowies will likely migrate south in order to find a larger food supply. Conversely, if the summer hunting season has been plentiful, snowies may decide to remain in the Arctic even though winter hunting may be sporadic.

Snowy owls are very protective of their young and drive away potential threats to their nests, such as humans, dogs, foxes, wolves, and caribou. The territory around the nest they claim is quite large: up to 6.5 km (4 miles) in total.

While snowy owls are territorial, they have no fixed attachment to particular breeding grounds. They are nomadic in their movement around the Arctic and will nest wherever food is abundant.

### **Threats**

Snowy Owls are not endangered but are protected by law. They have few natural predators. Foxes and gulls will occasionally attack very young owlets but the adults are very well equipped to protect their young. The two biggest threats to snowy owls are global warming and humans.

Changing Arctic climate conditions may affect the breeding of lemmings and consequently the food supply of snowy owls. Changing weather conditions, such as an early winter thaw in May, can bring lemmings out from their tunnels about a month earlier than normal. As a result, snowies may be tricked into early breeding by the appearance of a plentiful hunting season. Unfortunately, there may not be enough lemmings to support the appetites of growing owlets and several may die.

Sometimes humans may injure a snowy owl intentionally or unintentionally. Poachers can be a problem and obviously have an adverse effect on the snowy owl population. In the winter months snowies may also migrate to unsafe places.

## **What We Can Do To Help**

Firstly, never intentionally harm a snowy owl. Never take injured or uninjured wildlife home. This practice is considered illegal and quite dangerous. If you find an injured owl call local wildlife authorities immediately.

Reuse and recycle. Take care of the environment around you! Conscientious environmental practices will help snowies and other wildlife as well. Contact local wildlife organizations to donate time and/or money to wildlife in your area – your contribution can make a difference.

## **Where & When to View the Snowy Owl**

Snowy owls typically spend summers in the high arctic, but in the winter often live in the southern regions of Canada and the northern areas of the United States. In the winter they can be seen in areas that resemble the Arctic tundra. Snowy owls are not exclusively nocturnal, so they can be seen during daylight hours.

The Boundary Bay ecosystem in south-western BC is ideal habitat for snowy owls in the winter between November and February.

The Bird Studies Canada and Audubon organizations sponsor bird counts which track sightings of birds by bird enthusiasts. See the Bird Studies Canada and Audubon websites listed in the Web Resources section for more details.

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The Owl Pages website – includes recordings of Snowy Owl calls and a range distribution map:

<http://www.owlpages.com/species.php?genus=Bubo&species=scandiacus>

Hinterland Who's Who website – Canadian government website with interesting facts and distribution map of Snowy Owls in Canada

<http://www.hww.ca/hww2.asp?id=76>

Bird Studies Canada website – for birders interested in participating in Bird Counts and other bird watching programs

<http://www.bsc-eoc.org/national.html>

Audubon website – Query the results of the yearly Christmas Bird Count and find more interesting facts about birds

<http://www.audubon.org/bird/cbc/>

Sila Clue Into Climate Change website – read about climate change and it's affect on the Arctic, this website has many helpful suggestion for how you can make a difference

<http://www.nature.ca/sila/>

Birder's World magazine website – includes many interesting articles on birds

<http://www.birdersworld.com/>

National Wildlife magazine website – National Wildlife Federation magazine with articles on wildlife in America

<http://www.nwf.org/nationalwildlife/>

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