



species factsheet

| species introduction |

Common name: Snowy owl

Scientific name: *Bubo scandiacus*

The Snowy Owl is a large owl that breeds on the open treeless landscapes of the circumpolar Arctic. During the winter months in North America, it is an unpredictable migrant south to the northern U.S. and similar latitudes in Europe. Adult male Snowy Owls are almost pure white; while females and younger owls have variable amounts of dark spotting and barring everywhere except their feathered feet and facial disk. When breeding Snowy Owls rely heavily on small mammals for prey. Consequently local populations of these owls can fluctuate drastically in response to the variable abundance of their prey.



Female Snowy Owl near nest in Barrow, Alaska

| status in the wild |

There is a general lack of range-wide population data for the Snowy Owl, due in large part to its nomadic nature and the wild, inaccessible nature of its Arctic habitat. The worldwide population is estimated at less than 300,000 although precision of such estimates are not known. The IUCN lists the Snowy Owl as a species of 'least concern' and worldwide populations appear stable, though evidence suggests declines in the Palearctic region, notably Scandinavia. The effects of a rapidly changing Arctic climate on Snowy Owls are almost completely unknown and may remain obscure for years to come. Development of natural resources and the continued growth of Arctic communities pose a threat to the owl's breeding habitat if not properly planned and managed. Illegal shooting still frequently occurs and collisions with automobiles, airplanes, and structures regularly kill and injure owls on the wintering grounds. Snowy Owls are enigmatic predators of the Arctic who can be viewed as an indicator of the health of northern ecosystems. Conservation of the Snowy Owl would benefit a myriad of other Arctic inhabitants.

| species reproduction |

Snowy Owls only breed when sufficient prey populations are available. When nesting is attempted, clutch size is largely dependent on available food with fewer eggs laid (3-5) when food is scarce and more eggs (7-11) when prey is abundant. Pair formation probably occurs in late April to early May on the breeding grounds. Snowy Owls are usually seasonally monogamous and actively defend territories. Polygyny does occasionally occur.

Snowy Owls will often aggressively attack potential threats to chicks and predators. As with most owls, there is a strict division of parental care; the female incubates and broods young while the male delivers food throughout incubation and chick development. Incubation period is approximately 32 days. Chicks leave the nest on foot after about three weeks of age, and about three to four weeks before they are capable of sustained flight. Leaving the nest on foot at such a young age is probably an adaptation which reduces the likelihood of predation of the entire nest due to their habit of nesting on the ground. Adults continue to provision food for developing young at least until they are capable of strong, powered flight at approximately six to seven weeks after hatching. Once chicks become capable of hunting, the family group likely dissolves by early autumn. However, little is known about independence and dispersal of Snowy Owl chicks.

| species habitat |

Snowy Owls nest on the ground, usually atop a high mound, in the treeless expanse of Arctic tundra. Breeding usually occurs at low elevations from near treeline to the polar seas, except in Scandinavia where Lemmings are more abundant at higher elevations. Winter habitats of the Great Plains and coastal marshes, grasslands, and dunes closely resemble habitat of the Arctic breeding grounds. Snowy Owls usually perch on the ground but often use buildings and other structures such as telephone poles, fences, houses, towers, and trees when available.

| species food |

Snowy Owls often hunt during the day and anytime in the constant light of the Arctic summer. During winter they may hunt by day or night. They appear to have exceptional vision which they use to locate and capture prey and equally good hearing demonstrated by their ability to hunt prey in grass and snow. Most often they hunt from a perch. Small mammals comprise the overwhelming proportion of the Snowy Owl's diet during any time of year, although they are known to take a diversity of other prey species including other birds and mammals. Lemmings play a particularly important role on the breeding grounds. Indeed, some studies indicate that Brown Lemmings (*Lemmus trimuncronatus*) represent over 90% of the Snowy Owl's breeding diet (Owl Research Institute, unpublished data).

| threats |

Historically, Snowy Owl populations have likely suffered most from shooting by humans. Although shooting still occurs, it may no longer be such a prevalent threat. Snowy Owls are often involved in collisions with automobiles, planes, towers, and power lines and found entangled or entrapped. There are also reports that Snowy Owls are illegally harvested for body parts, including the eyes, which are thought to be sold as aphrodisiacs.

Due to their restricted range, Snowy Owls face possible threats from growing Arctic communities and the expansion of natural resource development which may encroach on breeding and wintering habitats. However, the Snowy Owl is a tolerant species and can coexist with many forms of development if proper management and conservation measures are established. Setting these measures in place can only be done if developers and conservationists work together.

Compared to other ecosystems, the Arctic climate is one of the most rapidly changing landscapes on Earth. How the changing Arctic conditions will affect plant and animal communities is largely unknown and a source of a much speculation. It will be important to continue monitoring this charismatic predator as the habitat and climate of its Arctic breeding ground rapidly undergoes wide scale change.

| conservation |

Snowy Owls are protected in the United States under the Migratory Bird Treaty Act of 1918, although native peoples of Alaska are still allowed to harvest Snowy Owls for subsistence purposes. Currently, the harvest of owls for food is not considered widespread or common. In fact, the native community of Barrow, Alaska passed a resolution that outlaws the killing of Snowy Owls for any reason in that area. Barrow is one of the most reliable and accessible breeding locations in North America for Snowy Owls. Consequently, many people come to Barrow to attempt to catch a glimpse of the Snowy Owl on their breeding ground. The native Ukpeagvik Inupiat Corporation has adopted the Snowy Owl as part of their logo.

In recent years, the Snowy Owl has garnered international attention as an iconic species of the Arctic. However, conservation initiatives that directly focus on Snowy Owls are currently lacking. With continued research and monitoring of Snowy Owl populations, their movement and habitat use, we will be better able to assess the impacts of threats to this species and specific conservation measures that are needed to sustain this remarkable Arctic species.

| find out more |

- Owl Research Institute at www.owlinstitute.org
- BirdLife International 2012. *Bubo scandiaca*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. <www.iucnredlist.org>. Downloaded on 08 April 2013.
- Holt, D.W., R. Berkely, C. Deppe, P.L. Enriquez-Rocha, P.D. Olsen, J.L. Petersen, J.L. Rangel-Salazar, K.P. Segars, and K.L. Wood. 1999. Strigidae species accounts. In: J. Del Hoyo, A. Elliot and J. Sargatal, eds. Handbook of Birds of the World. Vol. 5. Barcelona Spain, Lynx Edicions, pages 153-242.
- Holt, D.W., M.D. Larson, N. Smith. In prep. Snowy Owl (*Bubo scandiaca*). The Birds of North America (A. Poole, Ed.). Ithaca: Cornell Laboratory of Ornithology. <http://bna.birds.cornell.edu/bna/species/???>.
- Marthinsen, G., Wennerberg, L., Solheim, R., & Lifjeld, J. T. 2009. No phylogeographic structure in the circumpolar snowy owl (*Bubo scandiaca*). *Conservation Genetics*, 10(4), 923-933.
- Parmelee, David. 1992. Snowy Owl. In The Birds of North America, No. 10 (A. Poole, P. Stettenheim, and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, DC: The American Ornithologist' Union.

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