

SNOWY OWL - BUBO SCANDIACUS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Strigiformes Family: Strigidae Genus: Bubo Species: B. scandiacus

Habitat:

Biomes: Whether the tundra or the Great Plains, an airport field or beach dunes, Snowy Owls like treeless places and wide-open spaces. Because they often sit right on the ground to hunt, they prefer rolling terrain where they can find a vantage to survey the surrounding area. On their wintering grounds they'll also perch atop a fencepost, hay bale, building, telephone pole, grain elevator—anywhere with a good view.

Distribution:

In US: The snowy owl is typically found in the northern circumpolar region, where it makes its summer home north of latitude 60° north. Snowy owls nest in the Arctic tundra of the northernmost stretches of Alaska, Northern Canada, and Eurasia. They winter south through Canada and northern Eurasia, with irruptions occurring further south in some years. Snowy owls are attracted to open areas like coastal dunes and prairies that appear somewhat similar to tundra. During irruption years when they are found in the Northeastern US, juveniles frequent developed areas, as well as the expected grassland/agricultural areas that older birds primarily utilize. All ages spend a fair amount of their time over water in the Great Lakes and Atlantic Ocean, mostly on ice floes. They have been reported as far south as the American Gulf Coast states, Hawaii, southernmost Russia, and northern China.

In Other Countries: ^^^^^

Holistic Description: The regal Snowy Owl is one of the few birds that can get even non-birders to come out for a look. This largest (by weight) North American owl shows up irregularly in winter to hunt in windswept fields or dunes, a pale shape with catlike yellow eyes. They spend summers far north of the Arctic Circle hunting lemmings, ptarmigan, and other prey in 24-hour daylight. In years of lemming population booms they can raise double or triple the usual number of young. More ID Info image of range map for Snowy Owl Range map provided by Birds of North America Explore Maps Find This Bird Unless you visit the high arctic, you'll mainly be looking for Snowy

Species Richness: NO SUBSPECIES

Population Dynamic: After being considered of least concern by the IUCN since 1988, the snowy owl was upgraded to a conservation status of vulnerable in 2017. Previous population estimates of about 200,000 individuals are now regarded as substantially overestimated, and a total population size of 28,000 individuals is thought to be more realistic.

Evolution and Systematics:

Evolution: The etching of a pair of Snowy Owls and their chicks by Paleolithic people from the late Pleistocene of Europe was discovered on the rock face of a cave.

Systematics: Variation is slight across this species' Holarctic range, probably because of its nomadic habits and dispersal over broad areas. As a group, the owls (Strigiformes) were long considered to be related most closely to the nightjars (Caprimulgiformes), yet cladistic and molecular evidence have suggested that these groups are not related.

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 20.5-27.9 in (52-71 cm) Weight: 56.4-104.1 oz (1600-2950 g)

Wingspan: 49.6-57.1 in (126-145 cm)

Coloration: Snowy Owls are white birds with varying amounts of black or brown markings on the body and wings. On females this can be quite dense, giving the bird a salt-and-pepper look. Males tend to be paler and become whiter as they age. The eyes are yellow.

General Body Features: Snowy Owls are very large owls with smoothly rounded heads and no ear tufts. The body is bulky, with dense feathering on the legs that makes the bird look wide at the base when sitting on the ground. Has a mildly adapted facial disc that focuses sound so that the bird can identify prey.

Special Features of the Body: The Arctic tundra is a harsh environment, but the snowy owl is well adapted to surviving and thriving in the cold habitat. They are quite round-bodied, which helps them maintain their body heat, and they have thick plumage.

Special Features of the Head and Sensory Organs: Flights are short and low to the ground, and they wait for prey as opposed to flying and searching.

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: Most birds have bare legs, but the snowy owl has feathers covering its legs and feet to further insulate it from the cold. Its abundant coat helps make it one of the heaviest members of the owl family, with adults weighing approximately 1.8 kilos.

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: The adult male is virtually pure white, but females have some dark spots. Females larger than males, as in most species of owls. First year males and females are heavily marked with dark brown barring and spotting. Second year birds less marked in males, slightly less in females. Unknown how many years it takes for males to reach pure white adult plumage, and females to attain adult plumage.

Differences Between Juvenile Stage and Adult: Young birds have some dark spots; the young are heavily barred, and dark spotting may even predominate.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Unlike most owls that hunt at night, snowy owls are also diurnal and hunt during the day and night.

Activity: Snowy Owls do a lot of sitting. They sit still in the same spot for hours, occasionally swiveling their head or leaning forward and blinking their big, yellow eyes to get a closer look at something. When they hunt, they use extraordinary vision and hearing to draw a bead on their prey—maybe a vole scurrying beneath the snow—and then fly, or even run, over to pounce on it. If successful, they'll down the rodent headfirst in a single gulp. On their breeding grounds, male Snowy Owls execute a fascinating mating display. First the male rises into the air with exaggerated wingbeats in an undulating flight, holding a lemming in his bill or talons. Then he descends to the ground with wings flapping or held in a "V." He drops the prey on the ground, stands erect, then lowers his head and fans his tail as the female approaches. To defend his territory from another Snowy Owl, a male lowers his head and sticks it forward, extending his wings and raising the feathers on his neck and back to seem bigger. To defend against other species, Snowy Owls have been known to dive-bomb and strike at humans. Once it was reported that a Snowy Owl attacked a pair of arctic wolves.

Locomotion: Adults comfortably bipedal, and will walk to settle on a ground roost. Also walk around ground to inspect where prey may be hidden. Young entirely bipedal, and coordinated prior to fledging; can run when needed. All can hop and use outstretched wings for balance. Varies, depending on circumstances; can be leisurely, similar to other species of large owls. In general, flight is somewhat buoyant and similar to that of the Short-eared Owl. When chasing avian prey, conspecifics, or predators in defense of territory, flight is fast, straight, strong, and somewhat falcon-like. When high in the air, can glide long distances like a Buteo hawk, or can glide from a high perch to capture prey on the ground. FLIGHT EXPLAINED IN SPECIAL FEATURES OF HEAD AND SENSORY ORGANS. :P

Communication and Perception: Both sexes, but particularly the males, make low, powerful, slightly rasping hoots. They're often given two at a time but may include up to six hoots in a row. These can be heard for up to 7 miles on the tundra, and other owls often answer with hoots of their own.

Home Range: Spacing varies among individuals and may be influenced by age, sex, aggression, food resources, and individual tolerance. Spacing is also influenced by season. Although Snowy Owls are sometimes referred to as colonial or semi-colonial breeders, this habit of loosely clustered breeding does not fit the true definition of colonial breeding, such as in seabirds. Defining territories is difficult. Territories can change seasonally or annually in relation to prey densities, perhaps topographic features, and result in varying nest densities

Degree of Sociality: Not fully understood. On breeding grounds adults maintains exclusive territories. However, younger non-breeding adults, particularly males, often concentrate in loose groups away from territorial adults. Also, previously believed to be solitary and maintain individual territories outside the breeding season, with few exceptions.

Level of Aggression: Territorial males known to chase and fight fiercely with territorial intruders. Breeding females also know to defend territories against other females. Extent of such interactions is not well known and has not been quantified, but appears to be infrequent.

Migration: Irruptive medium- to long-distance migrant. Snowy Owl migrations are extremely variable. Some North American Snowy Owls winter in southeastern Canada, the upper Great Lakes states, and New England just about every year. Winter numbers of Snowy Owls in the U.S. peak periodically, which may be attributed to lemming cycles farther north. During irruptive years, Snowy Owls can flush south throughout the lower 48 states, as far as south as Texas and Florida in extreme years.

Predators:

Predators: Eagles, Hawks, Falcons, Jaegers, Gulls, Ravens, Fox, Wolves, Bears, Wolverines, Arctic Fox, Bald Eagle, Golden Eagle. Adult Snowy Owls have few natural predators, and are rarely killed by other predators. In one report, a Snowy Owl

grabbed a Peregrine Falcon fledgling from a cliff, and an adult Peregrine chased the owl and killed it with one stoop and strike.

Anti-Predator Defenses: Breeding males are almost always within sight of the nest if food is plentiful, but exceptions occur. Thus, males can be vigilant against predators and hunt at the same time. Nest defense includes: flushing from the nest, distraction displays, vocalizations, wing feigning, and attacks. Although males conduct most nest defense, females will also engage, depending on circumstances and individual female disposition. Owls engage them with attacks and chases. Owls also will abandon attacks on researchers and redirect attacks to foxes or dogs that wander into the nest area.

Diet and Nutrition:

Adult Diet: Snowy Owls mainly eat small mammals, particularly lemmings, which at times on the tundra may be all these birds eat. Sometimes they'll switch to ptarmigan and waterfowl. Snowy Owls are also one of the most agile owls, able to catch small birds on the fly. On both their breeding and wintering grounds, their diet can range widely to include rodents, rabbits, hares, squirrels, weasels, wading birds, seabirds, ducks, grebes, and geese.

Juvenile Diet: ^^^^^^

Special Adaptations for Getting Prey: 1) perched owl in relaxed posture scanning the landscape; 2) upon seeing prey of interest, owl shifts to an erect posture, elongating body and extending neck – apparently for a better look; 3) pursuit follows with steady fast wing beats if on low perch, glide and few wing beats if on high perch. If hover hunting, owl slips downward with wings extended, occasionally flapping to brake during descent. The most common hunting technique was the pursuit, yet the owls did glide long distances from high perches. Will occasionally chase prey on the ground. Hunts any time of day, except in severe weather conditions. Foraging activity is dictated by individual hunger, season and, if breeding, by the nutritional demands of the incubating female and nestlings.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Seasonally socially monogamous, with few cases of polygyny. Not known to establish long-term pair bonds, as would be expected with a highly migratory, nomadic species.

Mating Season: March to August

Courtship: Male performs near or far away from a prospective mate. Male's aerial display marked by exaggerated wing beats, especially on the upstrokes, creating a shallow undulating, bouncy courtship flight, with the wings set in acute dihedral "V", high over the back. Male often carries prey (i.e. lemming) in its bill. Upon landing in a snow-free area, or old nesting area, male begins ground display. Sometimes ground displays are performed independent of aerial displays. Male often drops prey from bill; stands erect with wings partially spread, stretched backward from the wrist, and held high. Some males walk in small circles, showing sides and back of body, but not facing female. At some point the male leans forward with head lowered and tail partially fanned; frequently peers around its wings towards the female. Flashing wings appear to attract female, who flies in. Male keeps wings raised and back oriented to the female; keeps prey in front, as if hiding it from the female. Ground display lasts only a few minutes, rarely 5 min.

Territoriality: HOME RANGE/NONE

Mating: NONE

Nesting: It is thought that the male selects the territory, and the female chooses the nest site within the territory. Snowy owls nest right on the tundra. They prefer slight, windswept rises that will be dry and blown free of snow. The Snowy Owl female builds the nest, scraping out a shallow hollow on the bare ground and shaping it by pressing her body into the depression. The process takes a few days, and the owls may reuse the nest site for many years.

Egg-Laying: Clutch Size: 3-11 eggs Number of Broods: 1 brood Egg Length: 2.2 in (5.7 cm) Egg Width: 1.8 in (4.5 cm) Incubation Period: 32 days Nestling Period: 18-25 days Egg Description: White.

Hatching and Incubation/Gestation: Wet and blind (eyes usually open by day 5); within hours a Snowy Owl hatchling is a little white fluff ball of downy feathers.

Development: Chicks are semi-altricial. At hatching, chicks are wet, covered in white protopile (1st) down, with eye-lids fused shut, and white egg tooth present. Bill is black and cere grayish or bluish. Large metatarsal pad and soles of feet are bare of feathers, and pink in color. By end of day one, chicks dry into a white fluffy downy plumage. They are helpless, move little, and dependent on the female for food, thermoregulation, and protection.

Parental Care: Only females brood nestlings, and simultaneously incubate unhatched eggs. Brooding continues, but intermittently, as chick's age, and depart the nest in order of hatching – at about 3 wk of age. Male brings food to the incubating/brooding female, who in turn feeds young. Female tears apart prey and feeds chicks small soft portions. Young are given increasingly larger portions up to the time they receive whole prey.

Lifespan: 9.5 to 10 years.

Conservation:

Official Federal Status: Vulnerable

Special Statutes in Individual States: NONE

Threats: Snowy Owls nest in remote areas, have huge territories, and in winter their migrations are widespread and unpredictable, so it's very difficult to estimate their population size. Partners in Flight estimates a global breeding population of 200,000 with 24% wintering in the U.S., and 50% spending some part of the year in Canada. The species rates a 13 out of 20 on the Continental Concern Score. Snowy Owl is a U.S.-Canada Stewardship species, and is listed on the 2016 State of North America's Birds' Watch List, which includes bird species that are most at risk of extinction without significant conservation actions to reverse declines and reduce threats. Like all raptors, Snowy Owls are protected from trapping and shooting, and this may protect them during winters in populated areas. Their remote breeding grounds are largely free from direct human disturbance, although it's not clear how climate change will affect them. The Snowy Owl population probably rises and falls with the population cycles of its prey; for example, on Banks Island in Canada, the Snowy Owl breeding population has ranged from 2,000 to 20,000.

Conservation Efforts: ^^^^^^

Extra Facts:

1. The Snowy Owl can be found represented in cave paintings in Europe.
2. In some years, some North American Snowy Owls remain on their breeding grounds year-round, while others migrate in winter to southern Canada and the northern half of the contiguous United States. In the northern plains, New York, and New England, Snowy Owls occur regularly in winter. Elsewhere, such as in the Pacific Northwest, the Midwest, and eastern Canada, Snowy Owls are irruptive, appearing only in some winters but not in others.
3. Male Snowy Owls are barred with dark brown when they're young and get whiter as they get older. Females keep some dark markings throughout their lives. Although the darkest males and the palest females are nearly alike in color, the whitest birds—including the ones that played Harry Potter's Hedwig—are always males and the most heavily barred ones are always females.
4. Snowy owls are territorial on their breeding areas, and sometimes their wintering areas as well. Some Snowy Owls defend their winter territories fiercely, even engaging in combat with other Snowy Owls (a behavior not recorded on their breeding territory). Some banded Snowy Owls return to the same wintering site year after year.
5. Unlike most owls, Snowy Owls are diurnal, extremely so. They'll hunt at all hours during the continuous daylight of an Arctic summer. And they may eat more than 1,600 lemmings in a single year.
6. Snowy Owl young may disperse remarkably far from their birthplace. From a single Snowy Owl nest on Victoria Island in the Canadian Arctic, one young bird went to Hudson Bay, one to southeastern Ontario, and one to the far eastern Russian coast.
7. Thick feathers for insulation from Arctic cold make Snowy Owls North America's heaviest owl, typically weighing about 4 pounds—one pound heavier than a Great Horned Owl and twice the weight of a Great Gray Owl (North America's tallest owl).
8. John James Audubon once saw a Snowy Owl lying at the edge of an ice hole, where it waited for fish and caught them using its feet.
9. The oldest-known Snowy Owl was a female, and at least 23 years, 10 months old when she was recaptured in 2015 during banding operations in Montana. She had been banded in Massachusetts in 1992.

Notable Species: NONE

Popular Culture: The Harry Potter books by J. K. Rowling, and subsequent films of the same name, feature a female snowy owl named Hedwig.