

Eastern Great Horned Owl

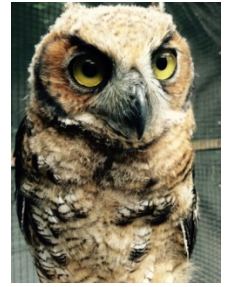
Bubo virginianus virginianus

Class: Aves **Order:** Strigiformes (owls) **Family:** Strigidae (typical owls) **Genus:** eagle-owls and horned owls

Other names: Common great horned owl; tiger owl [1]

Other subspecies: More than 20 subspecies have been named.

Other Relatives: The great horned owl is part of the genus *Bubo*, which may include as many as 25 other extant taxa.



Zoo great horned owl 1.0

"Atticus" 1.0– male, DOH: March 2015, wild hatched AQ: June 25, 2015

About "Atticus"

"Atticus" came from a wildlife rehabilitator in Connecticut. He contracted West Nile Virus (a mosquito borne, zoonotic disease) which causes torticollis, unstable/uncoordinated walking, tremors and more. These symptoms are probably what caused him to fall from his nest as a chick. His subsequent neck injury required physical therapy. "Atticus" was rehabilitated at a rescue in CT, where he received physical therapy for strengthening his neck. He currently weighs about 1.1kg (~2.25 lb) upon arrival.



Status

Least Concern [2]

Geographic Region

Found all across North America up to the northern tree line [3]. GHOWs have a vast range, from just south of the Arctic tundra in Canada to the pampas of South America [4].

Habitat

Great horned owls usually gravitate toward secondary-growth woodlands, swamps, orchards, and agricultural areas, but they are found in a wide variety of deciduous, coniferous or mixed forests [3].

Characteristics

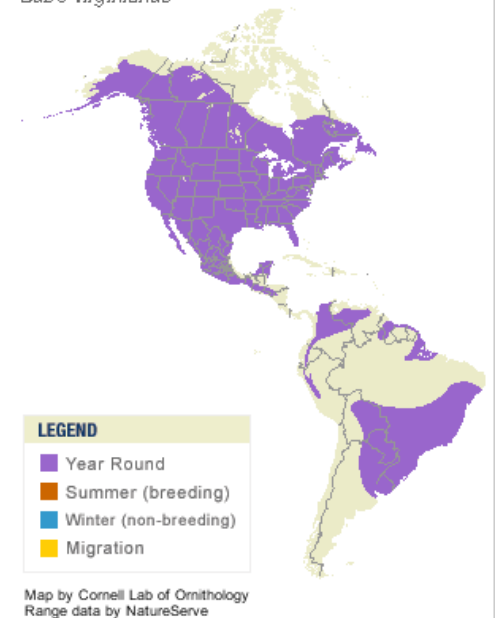
Size: *Length:* 45.7 to 63.5 cm [5] *Wingspan:* 127 to 152.4 cm [5] *Weight:* 1.3-1.7kg (2.2-3.7 lbs)

Longevity: *Wild:* 13-28 years [5] **Captivity** 20-35 years [5]

Physical Description

- Great horned owls are the largest common owl in North America [3].
- These are large, thick-bodied owls with two prominent feathered tufts on the head. The wings are broad and rounded. In flight, the rounded head and short bill combine to create a blunt-headed silhouette [3].
- Great horned owls are mottled gray-brown, with reddish brown faces and a neat white patch on the throat. Their overall color tone varies regionally from sooty to pale [3]. Birds in the east tend to be more richly colored with orange-ish facial discs. Those from the far north and desert areas are paler with gray faces. Birds from the far West and from tropical areas are the darkest, with dark reddish facial discs. Sexes are similar, although females tend to be larger and more heavily marked. [4]
- Great horned owls have large eyes, pupils that open widely in the dark, and retinas containing many rod cells for excellent night vision. Their eyes don't move in their sockets, but they can swivel their heads more than 180 degrees to look in any direction [3].
- They also have sensitive hearing, thanks in part to facial disc feathers that direct sound waves to their ears [3].
- The legs and feet are thickly feathered with only the talons exposed [4].
- Great horned owls use their vision to locate prey and navigate in the darkness, even through dense forests. They have binocular vision, which allows excellent frontal vision but weaker peripheral vision [5].
- The bill and cere are greyish.
- Many owls have tufts of feathers on the tops of their heads which are often referred to as "horns" or "ears," but these structures are neither horns, nor are they ears or in any way associated with hearing. It is thought that these structures may play a role in non-vocal communication. Nearly all of the owls with these "horns" or "ears" atop the head are found in dense woodlands. By erecting these tufts of feathers, a more distinct outline suddenly becomes visible. This may allow pairs of birds

Great Horned Owl
Bubo virginianus



(or families with young) to silently keep track of each other's presence, communicating by erecting and lowering these feathers.

Dimorphism

They exhibit reverse sexual dimorphism, where females are slightly larger than males [5].

Males: males average 1.3 kg. Males have a larger voice box and a deeper voice than females (audible differences in pitch) [3].

Females: Females average about 1.7 kg [3]; Females are 10-20% larger than males [6].

Diet: Carnivore

Diet in the Wild: A Great Horned Owl is powerful enough to take prey 2 to 3 times heavier than itself [6]. They have the most diverse diet of all North American raptors. Their prey range in size from tiny rodents and scorpions to hares, skunks, geese, and raptors. They eat mostly mammals and birds—especially rabbits, hares, mice, and American coots, but also many other species including voles, moles, shrews, rats, gophers, chipmunks, squirrels, opossums, woodchucks, marmots, prairie dogs, bats, skunks, porcupines, ducks, loons, mergansers, grebes, rails, owls, hawks, crows, ravens, doves, starlings, bats, weasels, and the occasional domestic cat. They supplement their diet with reptiles, insects, fish, invertebrates, and sometimes carrion [3] [4]. mammalian prey typically comprise more than three quarters of the diet, but more than fifty species of birds have been recorded as prey [4].

A 3-pound great horned owl can carry a 10-pound jack rabbit just by grabbing it with its talons and hanging on [7].

Diet in the Zoo: rodents

Behavior

- *Nocturnal, night-active*

Home Life

- *Non-migratory*
- Great horned owls inhabit nests abandoned by squirrels or other birds, including other Great horned owls. Nests often consist of sticks and vary widely in size, depending on which species originally built the nest (usually Red-tailed Hawks, other hawk species, crows, ravens, herons, or squirrels). Great horned owls may line the nest with shreds of bark, leaves, downy feathers plucked from their own breast, fur or feathers from prey, or trampled pellets. In some areas they add no lining at all. Nests deteriorate over the course of the breeding season, and are seldom reused in later years. [3]
- Territories are generally 5.26 to 5.56 sq km in area. Disputes over territory can result in fatalities. Some Great horned owls become 'territorial floaters.' They do not have a set territory, and may travel between home ranges of other Great horned owls [5].

Feeding Behavior

- Although they are usually nocturnal hunters, Great horned owls sometimes hunt in broad daylight, especially in winter or when food supplies are low [3].
- This powerful predator can take down birds, including large birds of prey such as Ospreys, Peregrine Falcons, Prairie Falcons, and other owls, and mammals even larger than itself, but it also dines on daintier fare such as tiny scorpions, mice, and frogs [3].
- Occasionally, when Great horned owls kill more prey than they can eat, they cache the remains for later use. [4]
- Their short, wide wings allow them to maneuver among the trees of the forest [3].
- Owls cannot chew and instead swallow their prey whole; they produce **pellets** after eating. Pellets are very large, about 7.6-10.2cm long and 3.8cm thick. Pellets are dark greyish-black and compact. Skulls as wide as 3cm are regurgitated whole. Pellets are regurgitated 6 to 10 hours after eating [6].

Social Structure & Communication

- Great horned owls are not considered to be a social species, and are solitary except during nesting [5].
- Their distinctive territorial call, a deep, stuttering series of four to five hoots ("hoo-hoo hoooo hoo-hoo"), can be heard from miles away [5] [3]. They screech loudly when attacking prey [5].
- Great horned owls communicate with one another by hooting, which is primarily for establishing territory limits [5].
- Mates find one another through 'hooting' rituals, which increase in intensity as the mating season approaches. Males hoot throughout the year, but females only hoot during mating season [5].
- The mating ritual of Great horned owls is described 'violent nodding and bowing', followed by a quieter 'billing and cooing' stage that signifies the completion of copulation [5].
- Breeding pairs are territorial, excluding other breeding pairs from their territory to ensure access to prey. However, they may only display territorial behavior in areas close to their nest and do not completely protect their territory [5].

- Great horned owls snap their bills in response to stressful conditions or disturbance, particularly when potential predators (such as humans) approach their young [3].

Defense Mechanisms

- These tufts may also serve as signals to potential enemies by making the owl suddenly seem larger and more of a threat when the feathers become fully erect atop the head.

Reproduction

- Great horned owls are monogamous, forming a mating pair that raise the young together [5].
- Males and females alternate roosting and hunting during the time they are nesting. Males do the majority of the hunting while females spend their time protecting the **brood**. When prey is scarce, females are more likely to leave the nest unattended to search for additional food, especially if the **clutch** size is larger than average [5].
- Their brood sizes depend on food availability and geographic location. Smaller broods are more common in years with lower prey abundance. On the eastern seaboard, broods greater than 2 are considered rare [5].
- Eggs hatch in 30 to 37 days. Chicks are **altricial**, clad in white **natal down**.
- Great horned owl chicks fledge in 6 to 9 weeks and achieve independence at 5 to 10 weeks. They achieve sexual maturity in 1 to 3 years. [5] Young may leave nest and climb on nearby branches at 5 weeks, can fly at about 9-10 weeks; tended and fed by parents for up to several months [1].

Conservation

- **Use & Trade:**
- **Threats:** loss of forested areas and nesting habitat can impact numbers for owls and other birds of prey.
- **Predators:** Great horned owls are at the top of many food chains and are not preyed upon by other species. However, territorial disputes between members of the same species can be fatal. Sometimes crows (*Corvus brachyrhynchos*) or raccoons (*Procyon lotor*) eat their eggs, however [5].

Did You Know?/Fun Facts

- Great horned owls vary in color tone across their range: birds from the Pacific Northwest tend to be dark sooty; individuals across the Southwest are paler and grayer; and birds from subarctic Canada can be almost white. [3]
- References to a great horned owl's grip strength state such things as equal to a golden eagle's, equal to the bite of an adult German shepherd, five times stronger than the grip of a man or up to 500 psi [7]. The owls use this deadly grip to sever the spine of large prey [3].
- GHOWs are one of the only natural predators for skunks, as they lack a sense of smell.
- Reproduction of great horned owls is heavily dependent upon prey availability. For example, populations increase when numbers of its primary prey the snowshoe hare, *Lepus americanus*, were highest. When snowshoe hare abundance lowered, so did the number of great horned owls [5].

Glossary

Altricial - hatched or born in an undeveloped state and requiring care and feeding by the parents.

Brood - a family of young animals, especially of a bird, produced at one hatching or birth

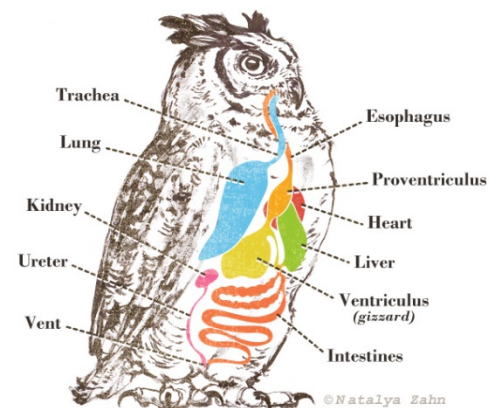
Clutch - A clutch of eggs refers to all the eggs produced by birds, amphibians, or reptiles, often at a single time, particularly those laid in a nest. In birds, destruction of a clutch by predators results in double-clutching.

Crop -the baglike organ used to store food after it has been swallowed so that it can be digested later

Gizzard - The gizzard (see image at right) is an organ that uses digestive fluids and bits of sand and gravel to grind and dissolve all of the usable tissue from the prey. Fur and bones cannot be digested in the gizzard.

Natal down – One of three types of down: natal; body; & powder. Natal down is the layer of down feathers that cover most birds at some point in their early development.

Pellets - Unlike other birds, owls lack a **crop**-instead, food passes directly from the mouth to the **gizzard**. Undigested food, including skin, bones and other waste is compacted into a tight pellet by the gizzard and is regurgitated by the owl.



References

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