



Great Horned Owl

Bubo virginianus



2018 | YEAR OF THE BIRD



2018 marks the centennial of the Migratory Bird Treaty Act, considered by many to be the most powerful and important bird-protection law ever passed. In honor of this milestone, National Geographic, the National Audubon Society, the Cornell Lab of Ornithology, and BirdLife International are joining forces with more than 100 other organizations, including the National Park Service, and millions of people around the world to celebrate 2018 as the “Year of the Bird.” As part of this celebration, NETN’s Species Spotlight series will focus on a different bird species each month throughout the year.

Scene of a Murder

A mouse scurries across the forest floor on a moonlit October night, doing its best to be as silent as possible. Nevertheless it inevitably rustles some freshly fallen leaves - it is the last mistake this little mouse will ever make. Over 100 yards away perched in a venerable sugar maple tree, a Great Horned Owl whips its head around almost 270 degrees to face the leaf sounds. Raising short facial disk feathers, the sounds are amplified and channeled towards the owl’s ears located just behind the eyes. Each ear is offset on its head, with one a little higher than the other and the openings angled in slightly different directions. The owl tilts and bobs its head, facing the mouse’s general location. When the noises are of equal volume in each ear, the direction and distance of the mouse is pinpointed, and the owl launches from its perch.

Though lacking good color vision (unnecessary for the low light conditions they hunt in) the Great Horned Owl’s eyesight is very keen and it locks onto the clueless mouse still almost a football field’s distance away. With a few powerful wing-beats the owl covers the distance in a matter of moments, plying the air silently all-the-while as specialized fringes on the edge of its wing feathers allow wind to noiselessly slip over them and provides the bird a ninja-like stealth.

It’s over in an instant. The mouse is just about to slip into its hole when the owl’s crushing talons clasp over its body. Touch-sensitive short feathers cover the owl’s legs and feet, and the last struggles of the mouse let it know it has successfully nabbed its prey and not a claw-full of leaves. It’s talons are able to squeeze with a pressure of up to 500 lbs per square inch, though only a fraction of that is needed to quickly dispatch this mouse.

A few seconds later the owl perches in its favorite dining tree, and downs the mouse in one gulp. But this owl is hungry yet, and more leaves can be heard rustling in the distance...

The Classic Owl

With its large size, long ear tufts, big yellow eyes, and classic hooting call - this is the quintessential owl. Though the most widespread owl in all of the Americas, the Great Horned Owl is not glimpsed as often as it’s disbursement might suggest as it is primarily active at dawn and dusk and in the forest.

They are one of our larger owls, standing as much as 2 feet tall with a wingspan almost 5 feet-wide.

Great Plumicorned Owl?

Doesn’t have quite the same ring to it, does it? Though that is what those tufts of feathers are known as in the bird world. Regardless of what they’re called, what is their purpose? Well - no one is totally sure, though there are many theories. They may help break up the bird’s outline against a tree to improve camouflage, they could serve to mimic ears of mammals (like a fox or bobcat) making them look larger/more intimidating to would-be predators, or they could aid in communication with other owls - much in the way dogs use their ears. Likely their purpose is some combination of these and perhaps even more uses that have not been figured out yet. One thing they certainly don’t do, however, is improve the owl’s hearing, as noted in the opening story, the feathers of the facial disk serve in that role.

The intense, large-eyed stare of a Great Horned Owl.

“Whoooo’s up late? Me too...”



Tim Lumley/ Flickr

John Blakeman



Greg Lilly



Bill VanderMolen



The soft fringes of an owl wing that allow for silent flight.

It is thought that at least one of the functions of an Owl's "horns" is to display emotion. How do you think this guy is feeling?

Owl "pellets" can often be found underneath a favorite perching tree.

What Does a Great Horned Eat?

Pretty much whatever it wants - and that is only a slight exaggeration. Great Horned's have one of the most diverse diets of all North American owls, though they tend to specialize in small-to-medium sized rodents (think mice, squirrels and rabbits) in the northeast. They may also regularly make meals of much larger prey, and have the strength to carry up to four times their body weight. A poor sense of smell means skunks are often on the menu. The occasional porcupine is even nabbed - though the owl ends up on the wrong-side-of-the-quill sometimes and have been found dead with bunches of them protruding from their bodies. Additional documented menu items include: ducks, muskrats, woodchucks, raccoons, house cats, very small dogs, bobcat, fish, reptiles, and amphibians.

A wise old owl sat in an oak. The more he saw the less he spoke. The less he spoke the more he heard. Why aren't we like that wise old bird?
- Edward H. Richards

Owl's Don't Have Eyeballs

It's true. Those bright yellow peepers aren't eye "balls" at all, but are shaped more like eye tubes. They are fixed in their skull and can only look straight ahead - not really an issue when you can turn your head almost completely around! All owls have large eyes, and in some species they can account for as much as 3% of total body weight (if the same were true for the average American male - each eye would weigh-in at about 3 lbs a pop!). Owl eyes are loaded with light-sensitive cells called "rods" with almost a million per square millimeter (human eyes have about 200,000 rods per square millimeter). Owls also have "eyeshine", a phenomenon you've undoubtedly encountered through your car's headlights in many night-active animals. Eyeshine occurs when light enters the eye, passes through the rods and cones (color receptors)

of the retina, strikes a special membrane and is then bounced back through the eye once again. This mirror-like membrane lets the owl make use of available light twice - once on the way in and again on the way out - improving their already superior night vision.

What goes down...

You may have noticed, that like other birds, owls lack teeth. This means they often swallow their smaller meals whole. An owl's food goes directly from the mouth to the gizzard - an organ that uses digestive fluids and grains of sand and gravel to grind and dissolve all of the usable bits from a meal. Indigestible material left behind - such as teeth, bones, claws, and feathers - could damage the digestive tract if allowed to pass through. What is an owl to do? Amazingly, this material is safely exhausted by being compacted into tight 'pellets' that the owl then regurgitates through its mouth. The pellets can accumulate under a favored perching tree. Great Horned Owls can produce pellets that are up to 3 or 4 inches long. Many an amateur naturalist has found and dissected these to learn more about their local owl's eating habits. Give it a try yourself!

For more information

- Download a worksheet to help identify the contents of your dissected owl pellet: https://www.biologycorner.com/resources/Owl_Pellet_Bone_Chart_grid.pdf.
- For info on NETN's long-term Breeding Landbird monitoring program see <https://www.nps.gov/im/netn/breeding-landbirds.htm>.

