

Wildlife Express!

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BEWITCHING



BARN OWLS



WHAT IS AN OWL?

Owls are birds of prey or “raptors.” A raptor is a bird that has a sharp beak and sharp claws (talons) that it uses to catch and eat its food. Members of the raptor group include hawks, eagles, falcons and owls. Unlike other raptors, owls are mostly nocturnal, hunting at night when the other raptors are sleeping. Because of this, owls and other raptors can share a territory and tend not to compete with each other. During the day, the owl snoozes and the hawk will hunt for prey. At night, the owl takes over, hunting nocturnal animals.

Owls have been around for a long time. Owl fossils have been found that are 70 – 80 million years old. Scientists believe that almost 155 different kinds of owls live throughout the world today. In North America, 19 different kinds of owls can be found. Here in Idaho, 12 different kinds of owls have been recorded nesting. Two other species of owl, the snowy owl and the northern hawk owl, have visited Idaho, but do not nest here.

Owls can be very small like the five-inch elf owl, or pretty big like the two-foot tall great gray owl. They all look stocky with large heads and soft feathers. Owl feathers tend to be tan, brown, gray, reddish-brown, and white. These muted tones help owls camouflage themselves against tree trunks and branches. Unlike most raptors, many owls have feathers on their legs and toes. Owls have large eyes that face forward like your eyes. Around the eyes are the facial disks that give the owl a “face.” Their wings are long and broad, and their tails are usually short.

Owls are predators. They eat many different kinds of prey depending upon their own size. Northern pygmy owls and saw-whet owls are small, so they usually hunt for large insects, shrews and mice. Larger owls also capture bigger prey like voles, woodrats, rabbits and squirrels. Great horned owls will even catch and eat skunks-----yuck! Other animals on the menu include scorpions, lizards, snakes, frogs, toads, birds, bats and even fish.

NATURE’S MOUSETRAPS

Owls pretty much eat whatever they can get their talons on. But the most common prey animals are the small rodents, such as mice and voles. These little mammals are important food sources for many animals. They can also be serious pests for people. Farmers can lose huge amounts of crops and stored grains to rodents. Lost crops means lost money for the farmer and less food for livestock. Owls play an important role in keeping these potential pests under control. And they do it all for free!

Consider the following:

- The average lifespan of a barn owl is approximately 10 years.
- A barn owl needs to eat 3 to 4 ounces of food a day.
- The average weight of a mouse is 1 ounce.

If you do the math, you will find that one barn owl needs to eat about 73 pounds of mice a year. During its 10 year lifespan, that turns out to be around 730 pounds of mice. That is about 11,000 individual mice! Each of these mice needs to eat approximately 10% of its body weight each day. And 11,000 mice will eat almost 26,000 pounds (13 tons) of food each year. Wouldn’t you like to have a few barn owls living on your farm?



Photo Courtesy of IDFG

Saw-whet Owl

Scientists determined these figures by studying barn owls and their prey. One thing they relied upon to find out what the owls were eating was owl pellets. Pellets are the non-digestible parts of an owl’s meal: the hair, feathers, and bones. Just like you, owls cannot eat this stuff. So, instead of eating around bones and pulling off fur or feathers, they swallow their food whole. The non-digestible stuff is formed into a pellet. Pellets are formed in the gizzard. Six to twelve hours after its meal, the owl will spit up a pellet. Scientists collect the pellets and pull them apart to see what they contain. This may sound gross, but it is a fascinating way to look at an owl’s diet. It is also an accurate way to count how many prey animals the bird ate. Owl pellets are a lot of fun to dissect. See if you can talk your teacher into doing an owl pellet dissection in class.

LET'S LOOK AT...

Courtesy George W. Robinson ©
California Academy of Sciences



BARN OWLS

Have you ever heard of an owl called a “monkey-faced” owl? How about a “ghost owl?” These are two nicknames for the barn owl. The nickname “monkey-faced” comes from this bird’s heart-shaped face and dark brown eyes. Some people think this makes the barn owl’s face look like a monkey. Because this owl’s face and breast feathers are mostly white, some people think they look like a ghost flying in the night.

No matter what they are called, barn owls live in more places around the world than any other kind of owl. They are found everywhere except Antarctica. In the United States, barn owls live in almost every state except most of the northern states where winters are cold and long. Here in Idaho, you might see barn owls in the southern and western parts of the state.

Barn owls are about 13 – 16 inches tall. This is about the same size as a crow. They have long wings and weigh about 1 – 1.5 pounds. Their faces are white, and their chests are white with some dark spots. Female barn owls have more spots than the males. Their backs are a beautiful orange-buff color with small grayish spots. These owls have very long legs, toes and talons. Using these, they can reach into deep grass to catch their prey. Unlike many kinds of owls, barn owls do not have ear tufts, and they do not hoot. In fact, barn owls are different enough from other owls that they have their very own family, the *Tytonidae* (tie-TON-a-day).

Like their name says, barn owls often nest and roost in barns and other old buildings. They will also nest in cliffs, hollow trees and nest boxes. Barn owls like open habitat such as grasslands, pastures and meadows. Here they hunt shrews and small rodents like mice and voles.

If numbers of these animals decrease, barn owls will eat birds such as starlings and sparrows. They find their prey mainly by listening as they fly slowly over a field at night.

Barn owls usually mate for life. The pair will often stay on its territory all year if they can find enough food. If one member of the pair dies, the other will stay on its territory until it is joined by another barn owl. Some barn owl territories have been occupied by a series of different barn owls for as long as 70 years! Barn owl courtship begins in late winter. The female will lay two to 11 eggs in a nest scrape. She begins to incubate the eggs as soon as the first egg is laid. When they hatch, the parents stay very busy feeding their hungry owlets. If the rodent population is high, barn owl parents might raise two broods of owlets in one nesting season. No other kind of owl does that!

NIGHT LIFE

Animals that are active at night are called nocturnal animals. When we think of nocturnal animals, we usually think of owls. But are owls only active at night? That depends, because among the owls, enjoying the nightlife does not always mean the same thing. Some owl species are considered strictly nocturnal. These include the barn owl and long-eared owl. You usually never see these owls out except at night. Burrowing owls and Northern pygmy owls are more likely to be active during the day. These small owls eat a lot of insects so if they want to eat, they need to be active when their food is awake. Several other owls like the great horned owl are “crepuscular (kree-PUS-kew-ler).” This means that they are most active at dawn and dusk.

So, why are these owls out at different times of night? Many owls share habitats so being active at different parts of the night might help reduce competition between the different kinds of owls. In addition, different kinds of prey species are active at different times of night. If an owl was strictly nocturnal and its prey was crepuscular, that owl will not be able to find its food. Owls need to be able to hunt at the same time that their food is active to make sure that they get dinner!



Short eared owl



Photo by Colleen Moulton

EYE SEE YOU!

Owl eyes really stand out. They are one feature that we usually notice most about owls. Their eyes allow them to navigate through their habitat in the dark. Owls that hunt during the daytime use their eyesight to find food. Owl eyes are one of the things we notice most about these birds.

Owl eyes are very large. They are so large that the eyes cannot move in their sockets. You can roll your eyes, but an owl cannot. Owls also have a smaller visual field than you do. When you look at something, your eyes can see a view of approximately 180 degrees. An owl's visual field is about 110 degrees, so their view is smaller. For an owl to focus well, it must turn its head to get an object into its visual field.

Seeing well in the dark is the major job of an owl's eyes. This is where those big eyes come in handy. Because the eyes are so large, they have a large surface area to collect light. Light hits specialized cells in the eye that help animals see in low light levels. These cells are called rod cells. Owls have many more rod cells than other animals. In addition, owls have a structure called the tapetum lucidum (tay-PEE-tum LEW-sid-um) at the back of each eye. Light goes into the owl's eyes and hits the rod cells. It then bounces off the tapetum lucidum to hit the rod cells again. This lets the owl see the light two times instead of just once. For an owl, this turns the night into day. You can see the tapetum lucidum when you shine a light at an animal at night. That glowing yellow or green eyeshine you see is actually the tapeta bouncing the light back into the eyes.

THE BETTER TO HEAR YOU



Great gray owl

Because owls have big eyes, you might think they hunt by sight. Amazingly, owls hunt mainly by sound. Could you find your dinner by listening for it?

Owl ears are not on the top of their head. The “ears” you see on some owls are feathers called “ear tufts.” Owl ears are hidden under feathers on the sides of their heads. Several things work together to give owls excellent hearing.

The first are the facial discs. Facial discs surround the bird’s face giving owls their distinctive look. They are made of several kinds of specialized feathers. They collect sound around the owl’s head, just like a satellite dish collects signals for your television. Another adaptation is asymmetrical ear placement. This means that owl ears are not directly across from one another on the bird’s head. If you put your fingers in your ears and look in a mirror, your fingers will both be at the same height. If an owl put its talons in its ears, one talon would be higher on its head than the other talon. This ear placement means that sounds reach the owl’s ears at different times. As the owl moves, it can hold its head so the sound reaches both ears at the same time. When this happens, the source of the sound is directly in-line with the owl’s face. Some species of owl have moveable ear flaps that they can use to increase or decrease the sound coming to their ears.

So, how well can owls hear? A great gray owl sitting on a fencepost 60 feet away can hear a vole running in a tunnel under 18 inches of snow. A barn owl can capture prey when blindfolded. For owls, when it comes to finding food, listening is definitely better than looking!

FUN IN THE SUN

You are diurnal (die-ER-nal). This means that you are awake during the daytime and asleep at night. Many animals that we see around us are also diurnal. Being diurnal has many advantages. You have a lot of natural light to see. This helps in finding food and moving around safely. It is usually warmer during the day. In the winter, this is very important. Many kinds of food that diurnal animals eat are active or blooming during daylight hours. Butterflies and bees would have a hard time finding flower nectar at night because the flowers would be closed. Reptiles and amphibians need the sun to warm up enough to become active. It is a lot more fun playing outside when you can see where you are going!



© 2004 Stephen Dowlan

The Northern pygmy owl does not have well developed facial discs. Unlike many owls, this owl hunts mostly by sight because it is diurnal. Because they are active during the day, their night vision is thought to be the poorest of all the owls. Being diurnal can be dangerous for these small owls. To confuse a possible predator, they have a set of “eye-spots” on the back of their heads. If they were nocturnal, they probably would not need this kind of protection.



Saw-whet Owl

OWLS IN MYTH AND LEGEND

From ancient times to the present, owls appear in tales from many different cultures. Both the Greek and Roman goddesses of wisdom, Pallas Athene and Minerva, were often pictured in the company of an owl. Owls in China were associated with thunder, lightning and fire. The ancient Chinese would put statues of owls on their buildings to protect them from fire. Long ago in Europe, a dead owl was thought to keep away lightning, hail and disease.

Many cultures associated owls with death. In many parts of Europe, the sound of a hooting owl was thought to predict the death of the sick. These beliefs were also found in North America among a number of native tribes. Other tribes also thought owls were soul-bearers that transported the spirits of the dead to the afterlife. This belief can also be found in some ancient oriental cultures.

Owls appear in the creation stories of a number of tribes. They are also considered protector spirits by others. The Hidatsa people of the Dakota tribe called owl the “keeper of game spirit.” In their tradition, owl watched over and controlled the bison herds. These people also thought that the burrowing owl was the protector spirit of warriors. Members of the Hidatsa dog society even wore owl feathers because they considered owls to be their guardians.

Nowadays, we see owls in movies such as *Hoot* and read about them in books. The “wise old owl” appears in many children’s stories. The snowy owl Hedwig is almost as famous as her master, Harry Potter. Owls are also featured characters in the book *The Silver Chair* from the *Chronicles of Narnia*. Many readers are now following the adventures of the owls in the book series *Guardians of Ga’hoole*.

GIVING A HOOT

Often, we only know if an owl is around because we hear it. Owl calls, like other bird songs, are part of courtship. Both the male and female call which helps bring them and keep them together as they raise their offspring. Most owls begin courting in the winter. You might be able to hear the long low calls of a great-horned owl as early as December, but most other owls begin their courtship in late winter. As you listen to an owl, you will be able to tell which is the male and which is the female. The male has the lower voice and the female's voice is higher. You can also tell how big an owl is by the pitch of its call. Larger owls have lower voices than smaller owls. Their low tones can carry a long distance, so other owls can hear them across a big territory. Smaller owls have smaller territories and do not need low calls to cover distance.

Owls have a big variety in their calls. Some whistle, some screech and some sound like dripping water or a bouncing ball. By learning these calls, you can identify the owls in your neighborhood. Listed below are some of Idaho's owls and their calls:

Great Horned

Owl: "who, who-who-who-whooooo-who- who"

Western Screech Owl: "pwep, pwep, pwep, pwepwepwepep" (like a bouncing ball)

Saw-whet Owl: "whoop, whoop, whoop, whoop"

Barred Owl: "who cooks for you, who cooks for you alllllll"

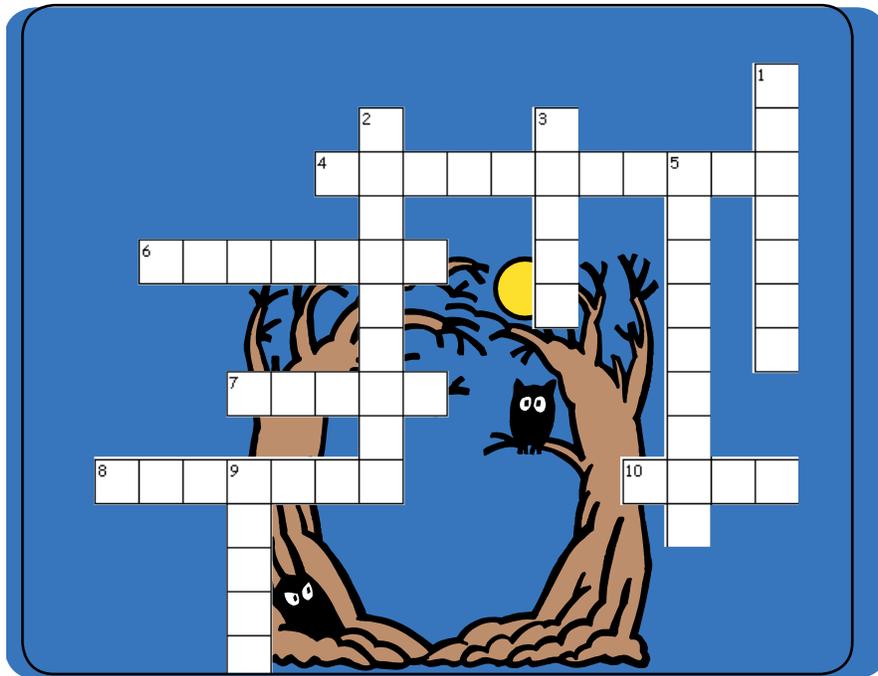
Northern Pygmy Owl: "toot, toot, toot, toot, toot, toot"



Great horned owl

Crisscrossing Owl Words

Words
<i>Courtship</i>
<i>Diurnal</i>
<i>Hidatsa</i>
<i>Mice</i>
<i>Monkey faced</i>
<i>Nocturnal</i>
<i>Pellets</i>
<i>Pygmy</i>
<i>Raptors</i>
<i>Sound</i>



Across

- Another name for the barn owl is the _____ owl.
- Scientists use owl _____ to see what an owl has eaten.
- Owls hunt by _____.
- Animals that are active during the day are _____ animals.
- A barn owl needs to eat 3 to 4 _____ a day.

Down

- The _____ people called owls “keepers of game spirit.”
- Animals that are active at night are called _____ animals.
- A diurnal owl is the _____ owl.
- Owl calls are part of their _____.
- Owls are _____.

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If you have a letter, poem or question for *Wildlife Express*, it may be included in a future issue! Send it to the address printed above!

