

Wildlife Express!

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Bats

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Going "Batty"

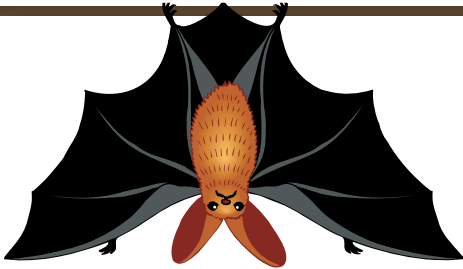


Photo courtesy Jason Beck

Let's Talk about. . .



An Upside-down World



Can you hang upside down by your toes? Bats can! Bats are some of the world's most fascinating animals. They are found in every habitat except extreme deserts and the Polar Regions. Bats make up one-fourth of all of the mammals living on Earth.

There are 1,000 species or kinds of bats, and they are divided into two groups – megabats and microbats. Mega means big, and megabats are the largest. The giant flying fox has a wingspan of five feet! These bats have large eyes, small ears and fox-like faces. Megabats are fruit bats that live in the tropics; they do not live in Idaho. These bats eat fruit, nectar or pollen. Megabats use their sense of smell and sight to find ripe fruit or flowers. They eat only very ripe fruit. They chew on the fruit and swallow the juice. They spit out most of the seeds and fruit pulp. When they drink nectar, they get covered with pollen and carry pollen between flowers. Megabats are important in helping tropical forests survive.

They fertilize flowers that make seeds, and they spread seeds by eating fruit.

Most of the bats in the world are microbats. Over 750 species are in this group. Microbats are small bats with small eyes and interesting ears. Most have a wingspan around 12 inches. They would fit in the palm of your hand! The smallest bat in the world is the bumblebee bat found in Thailand. It weighs less than a penny! Depending upon the bat, microbats may eat fruit, insects, frogs, nectar or blood. Microbats may eat different things, but one thing they all have in common is that they use sound to help them find their food. They use echolocation. All of Idaho's 14 species of bats are microbats, and they all eat insects or other creepy crawlers. Microbats are a farmer's best friend. They eat insects that often destroy farmers' crops.

Some people think that bats are just flying mice or rats. This is far from the truth! You actually have more in common with a bat than a mouse. Bats are the only mammals that can fly. Bats are in their own group of mammals called Chiroptera (KIR-op-ter-a). Chiroptera is a Greek word that means "hand wing." Bat wings are really

their hands. They have four fingers and a thumb just like you. Skin stretches over their arms and between their fingers to make a wing.

The shape of a bat's wing tells you something about the way it flies and how it eats. A short, broad wing allows a bat to move well and quickly in tight places. Bats with this wing shape usually hunt where there are many obstacles – like shrubs and tall trees. They often swoop down and pick insects from branches or the ground. Bats with long, narrow wings are usually fast flyers. They feed while they fly. This can be tricky. Bats can't grab an insect out of the air with their mouths like you might catch a piece of popcorn, so they make a cup. Bats use their wings or the skin between their legs to knock insects and flip them into their mouths. The crazy flight of a bat is just the bat shoving food in its mouth! Who knew? Bats really are fascinating creatures.



Small-Footed Bat

Photo courtesy Jason Beck

Be Outside: Bat Watch

Spending time outside observing bats is a fun way to learn about these fascinating nocturnal mammals. Summer is the best time to watch bats as they swoop and dive through the evening sky catching flying insects. During the fall, migrating bats can also be observed.

Good places to observe bats are near water such as a pond or stream, or under street lights after dark. Water attracts bats that need a drink. Aquatic insects hatching off the water will also attract bats. Street lights attract flying insects like moths which can make a good meal for a hungry bat.

Another place to observe bats is when they leave a roost site. Bats will roost in old buildings, caves, and even bridges. Make sure to get to the roost before dark so you can find a good observation point. As dark falls, the bats will begin to leave the roost. At first, you will only see a few bats, but as it gets darker more and more bats will fly off to hunt insects. Seeing large numbers of bats leave a roost is an amazing wildlife spectacle! Make sure to close your eyes and listen to the soft rustle of the bats' wings as they move through the air. Think about how each of these bats will spend their night eating hundreds of insects that might otherwise bug you!

When observing bats, you can practice your best wildlife watching skills. Do not closely approach the bats or their roost. Be very quiet and still as you observe the bats. Never throw anything up in the air to try and attract the bats. You may hurt the bats or yourself when whatever you threw falls back down! Leave your flashlight off when you observe the bats to help protect your night vision and that of the bats. Help others understand why bats are such an important part of our nighttime world.



Roost, Sweet Roost

A roost is a bat's home. It is a safe place where bats rest, have young or hibernate. Bats use different roosts during the day, night and at different times of the year.

Roosts may be places like caves, mines, crevices in rocks, holes or cracks in trees, under loose tree bark, or even just a hole in the ground. Some bats live in human structures. Warm attics, old barns and bridges make great bat roosts.

A roost where females give birth is called a maternity roost or colony. Hundreds of bats will often gather together to give birth to their young called pups. Females usually have only one or two pups a year. A good maternity roost is generally warm. Pups are born hairless so a warm place is important. A good maternity roost also needs to have a good supply of food close by for the mother. She will need lots of food while making milk for her young.

In the summer, night and day roosts are often at different places. A night roost is a place where a bat can eat and digest its meal in peace and perhaps take a short nap. Under night roosts you may find bat poop, insect wings or legs. Bats may pull the legs and wings off an

insect and just eat the soft juicy middle. A day roost is more like a bedroom. This is a place that needs to be more protected and covered for deep sleep. Bats don't want to be awakened during their "night-time!"

Hibernation roosts are called hibernacula (HI-ber-nak-u-la). It is usually a place where the temperature is fairly stable and above freezing. A quiet place away from humans is important, so the bat isn't disturbed. Often a cave, mine or lava tube is a great hibernation roost.



Photo courtesy Jim White

Idaho has 14 beautiful and amazing species of bats. Here is some information on six.

Silver-haired Bat

It is easy to see how this bat got its name. The silver-haired bat is covered in dark fur that has silver tips.

This is a snag-loving bat. A snag is a dead standing tree. Silver-haired bats roost in natural and bird-excavated tree cavities and under loose tree bark, but they may use other sites as fall and winter roosts. In northern Idaho, single bats have been found hibernating in mines. In southern Idaho, lava-tube caves may be used as day roosts during fall north to south migrations.

Three to eight hours after sunset, silver-haired bats look for food along waterways and ponds. They eat moths, beetles and other small insects.

Several dozen females form small maternity colonies. Twins are born in late June, and by late July they are flying.



Little Brown Bat

Little brown bats are little. They weigh about as much as two crayons! Little brown bats are small, but they are not Idaho's smallest bat. Idaho's smallest bat is the western pipistrelle. It weighs about as much as six small paperclips!



Little brown bats are found throughout Idaho near water. Caves, hollow trees and man-made structures make good roosts for little brown bats. They fly through woodlands and over water at night to catch insects like mosquitoes. A little brown bat may eat 1,200 mosquitoes in a single night! That would be like a 50-pound girl eating 303 peanut butter and jelly sandwiches in a day!

Females gather in maternity colonies that may have hundreds or even thousands of females. Each female gives birth to one pup in June. Three weeks after being born the pups can fly and hunt on their own.

Hoary Bat



If you wanted to call a bat “cute,” the hoary bat would qualify. It has dark, white -tipped fur, round ears and a round face circled by tan fur. It almost looks like a teddy bear! This is Idaho’s largest bat. It weighs about as much as three crayons and has a wingspan of 15 to 16 inches.

Hoary bats are probably found throughout most of Idaho’s forests. They don’t like caves at all. They roost in trees! During the day, their colors make them look like a leaf shadows. Often a day roost is more than a mile away from where a hoary bat hunts along waterways and over

meadows. They are swift and direct when they fly to get to feeding areas quickly. Hoary bats love to eat moths, but they may also eat grasshoppers, dragonflies, wasps, beetles and flies.

This is a bat that likes to be alone. Rarely are hoary bats found together. Females usually give birth to twins in May or June. Newborns are covered with a fine silver-gray fur. Since the female has her pups alone, she will sometimes carry her pups while feeding. The pups can fly when they are four weeks old.

Pallid Bat

This bat lives up to its name. Pallid means pale, and this bat has a light tan or yellowish belly with a lighter brown or tan back. Pallid bats are found in western-central and southern Idaho. They live in rocky canyons and cliffs near water. This bat has a large wingspan – about 15 inches!

Pallid bats like the company of other pallid bats. They may even feed together if food is plentiful. While roosting at night they make calls. Scientists think that the calls may help other pallid bats find where the group is roosting. Like many other bats, pallid bats give birth to their pups in maternity colonies, but the group is often smaller. Pups, usually twins, are born from May through June. By 6 weeks of age, they are flying.

Pallid bats come out late in the evening to look for prey. These bats catch prey on the ground. They eat beetles, crickets, moths and scorpions. The sting of a scorpion doesn’t hurt this bat at all!



Photo courtesy Jason Beck

Townsend's Big-eared Bat

Townsend's big-eared bats do have huge ears. They are 1 ½- inches long! Sometimes when they are hibernating or sleeping their ears curl around like the horns on a bighorn ram.

This bat is found throughout Idaho in many habitats. They have been found in dry deserts with shrubs to high mountain forests. This bat roosts in mines, caves and old buildings. In southern Idaho, they have been found overwintering in lava tube caves. In some areas their numbers seem to be declining, so this bat is a Species of Special Concern in Idaho.

Well after dark, this bat looks for moths near trees and shrubs. It is a specialist at catching moths, but it may also eat beetles and flies.

Townsend's long-eared bats form small maternity colonies to have their pups. Females give birth to one pup in June. At one month of age, the pups can fly; at six to eight weeks, they are weaned and no longer drink their mother's milk.



Long-eared Bat

This bat's long ears can extend past its nose and may be $\frac{3}{4}$ of an inch long! The fur is brownish near the tips and dark at the base near the skin.

Long-eared bats have been found in many habitats, but they are often found in forests. It roosts under tree bark and in holes in trees. In areas where shrubs are found, it may be found in crevices in cliffs and rocks on the ground, lava-tube caves or abandoned mines.

Long-eared bats look for food over water or among trees and shrubs. They pick insects from the surface of leaves, tree trunks, rocks or the ground. They eat mostly moths and beetles but will also eat true bugs, lacewings, wasps and bees.

A single pup is born as late as mid July. Each pup is about 20% the weight of its mother. That would be like a 125 pound woman having a baby that weighed 25 pounds. That is a big baby!



Where have all the bats gone?



Bats are so important to our environment. Their appetite for nectar, fruit and insects keep nature in balance. Without bats, our world would not be the same, but bats are disappearing. In the United States, bats are the most endangered land mammal. What is happening and how can we help? To help, we need to first understand bats.

Researchers study bats to see what bats need to survive. They catch bats in nets, measure them and weigh them. Sometimes they may put tags on the bats to see where they go during different parts of the year. Handling a bat may be risky for the bat and the person. In *Wildlife Express*, all the pictures of people holding bats are researchers that have had special training and shots to protect them from bat diseases. You should never handle a bat!

Often bats are destroyed because people don't understand them. Some people think that all bats carry a disease called rabies. Rabies is a disease of the nervous system that can kill mammals, including people. Actually only about 1% of all bats carry rabies. A bat that has rabies usually dies quickly. If a bat is flying during the day or acting strangely, it may be sick. You should leave the bat alone.

Bats often live in large groups in one place like a cave or mine. When people enter a cave, they may disturb or wake the bats. Bats only have a small amount of fat to survive their winter's sleep. If a bat wakes up too many times, it may not have enough fat to survive the winter. This is why gates have been put over some entrances to mines and caves. The gates let bats in and out, but keep people out to protect the bats.

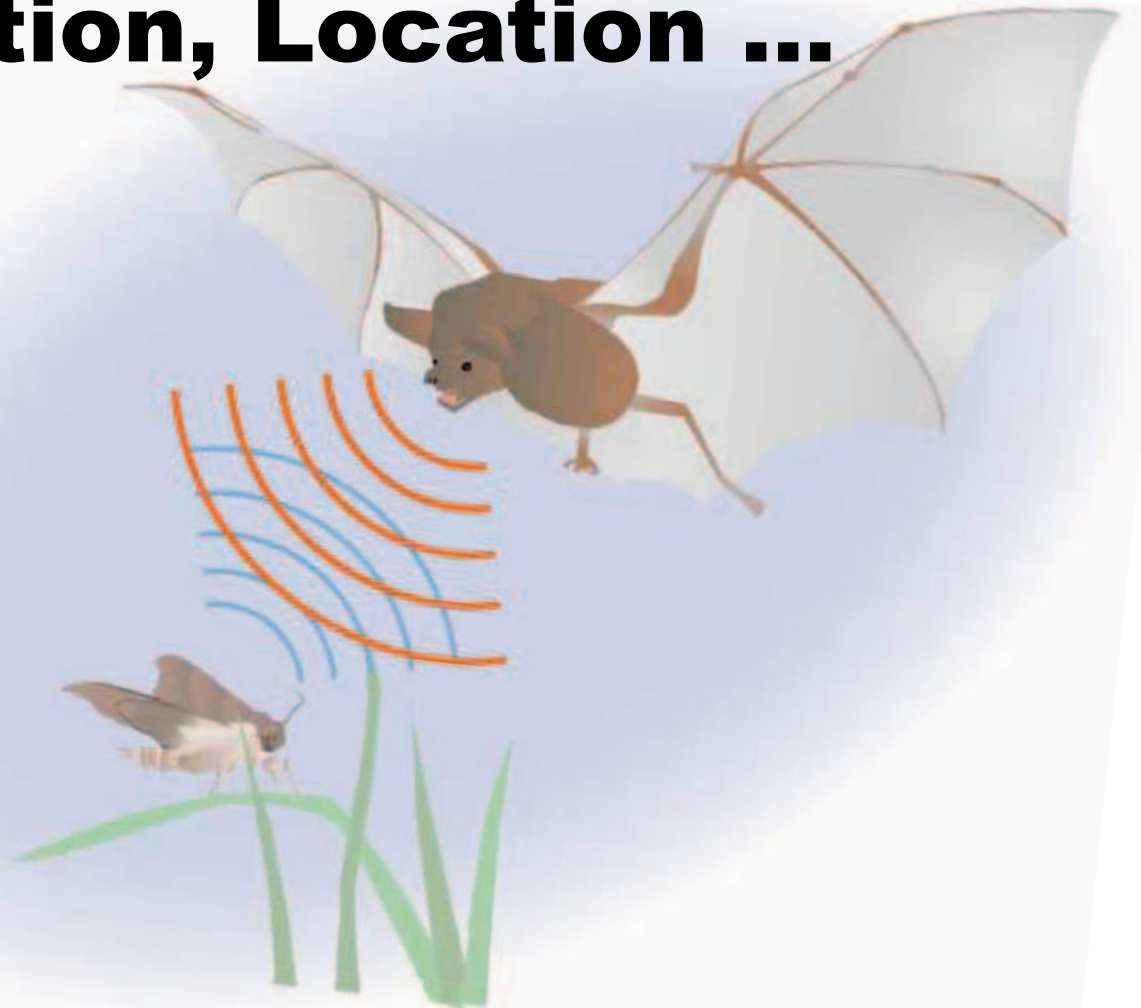


Photo courtesy:
Marvin Moriarty/USFWS

A new danger to bats is white-nose syndrome. This is a fungus that grows on a bat while it is hibernating. So far, over one million bats have died. Whole colonies of bats have been killed in the Eastern United States. Researchers are desperately trying to figure out how to stop white-nose before it wipes out whole species of bats. It has not been found in Idaho, but some think it will get to Idaho eventually.

The best way to protect bats is to learn about bats and help protect their habitats. Don't disturb bats and tell others how important they are to our environment.

Echo Location, Location, Location ...



Most bats in the world are microbats, the smaller sized bats. These bats eat insects, frogs, fish or other bats. They use sound or echolocation to find their food in the dark. Echolocation also helps bats figure out where objects are located. A bat sure wouldn't want to fly into a tree or building!

If you have ever yelled in a large, empty room or into a canyon, you may know about echolocation. After you yelled, did you hear your voice bounce off the walls and back to you? This is what echolocation is like. A bat makes clicking sounds with its mouth or nose. The sounds go out, bounce off

objects and come back to the bat. Bats have very sensitive ears. They can hear sounds you cannot. Could you hear the footsteps of an insect? Bats can! Their hearing lets them locate objects as fine as a human hair. A bat can find food as far away as the length of a football field. It makes clicking sounds about every half second to find food this far away. When a bat gets closer to its prey, it echolocates quickly. This is called a feeding buzz, because the clicks are so close together they sound more like buzzing than clicking.

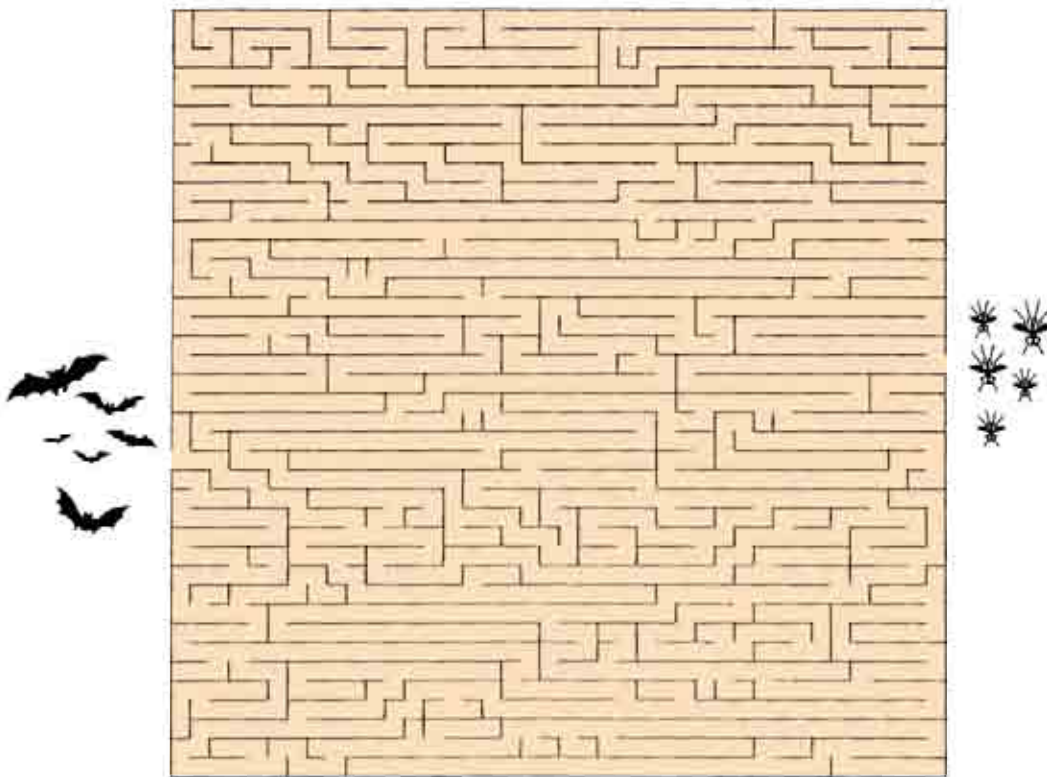
Most echolocation calls are at such a high tone humans can't hear them. People that study

bats use a special computer to hear bat echolocation calls and record them. Then they play the calls back in a tone that humans can hear. A few bats do echolocate at a low enough tone that humans can hear, like Idaho's spotted bat.

Echolocation is used only to find objects. Bats make other sounds to communicate with one another. Bats are social animals and communicating is an important part of their lives. A mother bat and her pup know and find each other by the sound of their calls. These squeaks, squeals and clicks humans can hear. If you could use echolocation, how would you use it to help you?

Mosquito Maze:

Help the bats catch the mosquitoes.



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