

Wildlife Express

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Inside:

An Upside-down World
Echolocation, Location, Location...
Where Have All the Bats Gone?
Roost, Sweet Roost
Various Species in Idaho
Be Outside! Bats



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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-fifth of all of the mammals living on Earth.

There are more than 1,300 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 six 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 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 are actually more closely related to a bat than a mouse. Bats are the only mammals that can fly. Bats are in their own group of mammals called **Chiroptera (KI-rop-ta-ra)**. *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 pluck 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.



ECHOLOLOCATION, LOCATION, LOCATION...

Most bats in the world are microbats, the smaller sized bats. These bats eat insects, frogs, fish, blood, and even 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.

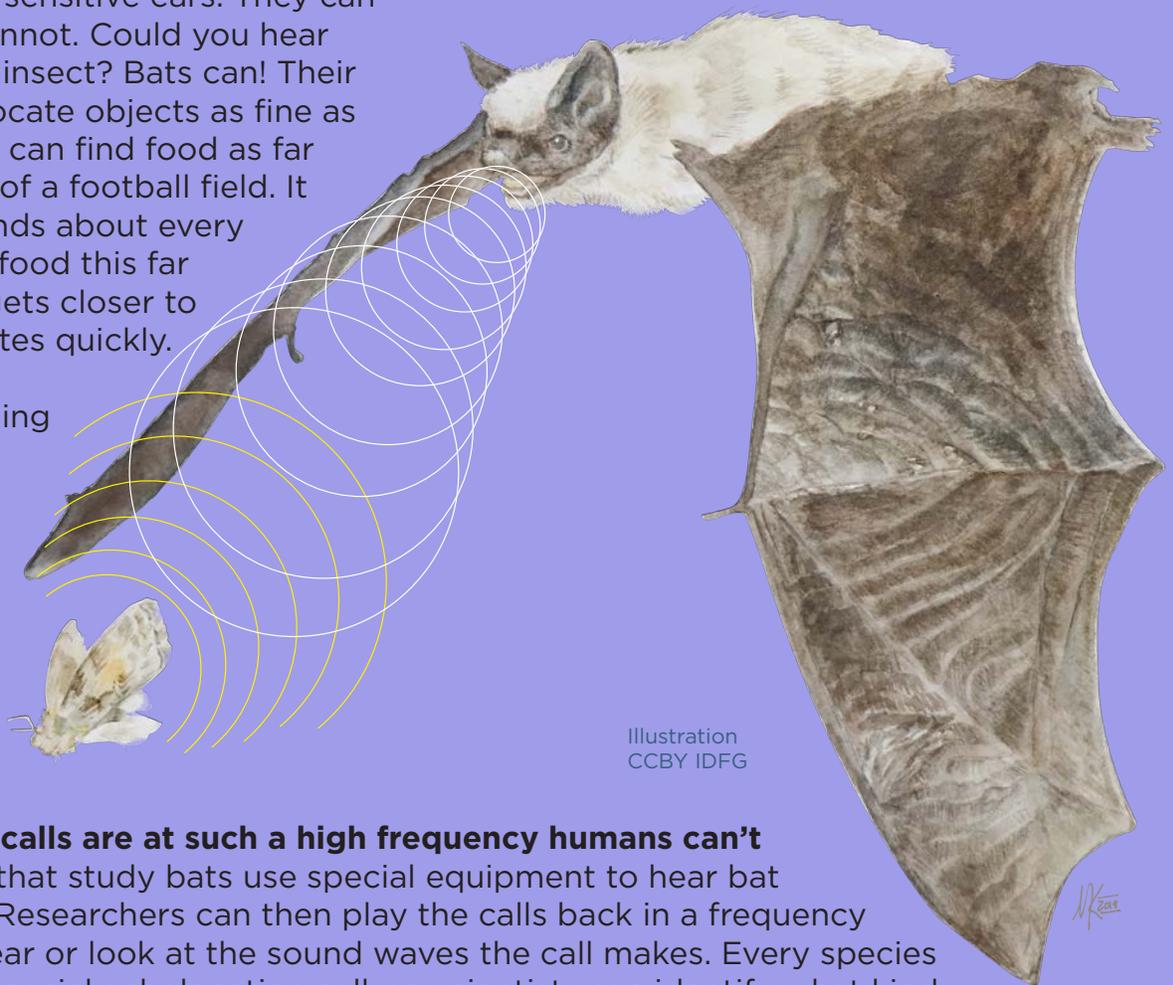


Illustration
CCBY IDFG

Most echolocation calls are at such a high frequency humans can't hear them. People that study bats use special equipment to hear bat echolocation calls. Researchers can then play the calls back in a frequency that humans can hear or look at the sound waves the call makes. Every species of bat has its own special echolocation call, so scientists can identify what kind of bat is flying just by listening to echolocation calls! A few bats do echolocate at a low enough frequency that humans can hear, like Idaho's spotted bat.

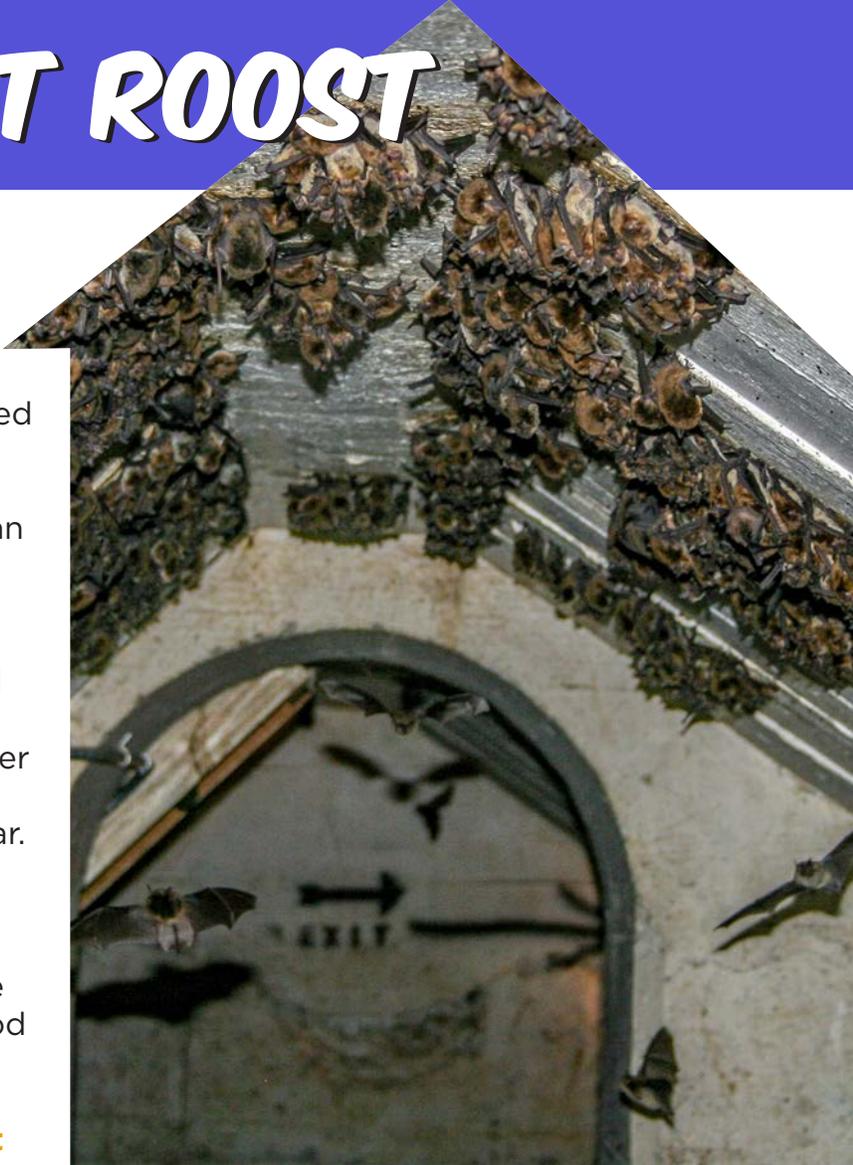
ROOST, SWEET ROOST

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, abandoned 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 or thousands of bats will often gather together to give birth to their young called pups. Most bats 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.

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, called guano, or 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. Day roosts may be a more sheltered area but not always. Bats sometimes roost right in the open, especially during migration.

Hibernation roosts are called *hibernacula* (Hi-ber-nak-u-la). These roosts are usually in places 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.

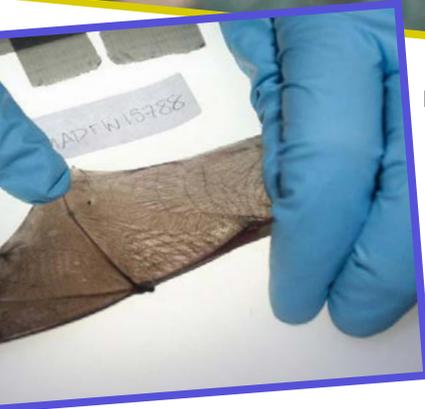


WHERE HAVE ALL THE BATS GONE?



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 one of the most endangered land mammals. What is happening and how can you 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, so they know how to handle bats without harming them. These researchers have also had rabies vaccinations to protect them if a bat they handle has the disease. You should never handle a bat!



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.

A new danger to bats is **white-nose syndrome**. This is a disease that is caused by a fungus that was introduced into North America. The fungus grows on bare skin while bats are hibernating. Sometimes it looks like white fuzz on the bats' face, which is how the disease got its name. As the fungus grows, bats become more active and may even come out of their hibernaculum during the winter. All this activity uses up precious fat needed to survive the winter. So far, millions of bats have died. Whole colonies of bats have been killed in the eastern United States and Canada. White-nose syndrome has not yet been found in Idaho. But bats with white-nose syndrome have been found in Washington, and the fungus that causes the disease has been found in Wyoming. It may be just a matter of time before it is found in Idaho.

The best way to protect bats is to learn about bats and help protect their habitats. Don't disturb bats, especially when they are hibernating. Tell others how important bats are to our environment. If you explore in places where bats roost, clean and decontaminate your clothes and gear. By doing these things, you can help ensure that bats are always a part of Idaho.



Bat Week is October 24 – 31!

Visit <http://batweek.org/>
to learn more about bats and special events.

Bats in Idaho

1. Pallid Bat

2. Townsend's Big-eared Bat*

3. Big Brown Bat

Photo CCBY Bat Conservation International
and Minden Pictures on Flickr

4. Spotted Bat

Photo CCBY Bureau of Land Management on Flickr

5. Silver-haired Bat*

6. Hoary Bat*

7. California Myotis

Photo CCBY Alan Harper on Flickr

8. Western Small-footed Myotis*

9. Long-eared Myotis

10. Little Brown Myotis*

Photo CCBY Dave Riggs on Flickr

11. Fringed Myotis

12. Long-legged Myotis

Photo CCBY JN Stuart on Flickr

13. Yuma Myotis

Photo CCBY Daniel Neal on Wikipedia

14. Canyon Bat

* Idaho Species of Greatest
Conservation Need

Photos CCBY IDFG unless otherwise noted



13



4



10



12



3



7



Idaho has 14 Beautiful & Amazing Bat Species

Here is some information on six.

Little Brown Myotis

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

Little brown myotis are found throughout Idaho near water. Caves, hollow trees and human structures make good roosts. They fly through woodlands and over water at night to catch insects like mosquitoes. **A little brown myotis 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, typically in June. Three weeks after being born the pups can fly and hunt on their own.

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 west-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 six 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!



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Photo CCBY Jason Beck for IDFG
Mosquito Illustration CCBY IDFG
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Hoary Bat

If you wanted to call a bat “cute,” the hoary bat would qualify. It has dark, white-tipped, frosty fur, round ears, and a round face circled by caramel-colored 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 13 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! They like to roost in leaves and small branches they can get their toes around. During the day, their colors make them look like leaf shadows. Often a day roost is more than a mile away from where a hoary bat hunts along waterways, ponds 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 from mid-May to early July. Newborns are covered with a fine silvery-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.

Townsend’s Big-eared Bat

Townsend’s big-eared bats do have huge ears. They are up to 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 greatest conservation need.

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 big-eared bats form small maternity colonies to have their pups. Females give birth to one pup from May to mid-July. 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.



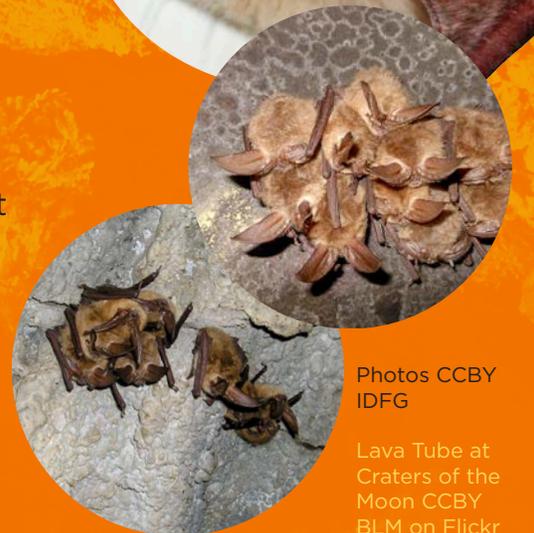
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Silver-haired Bat

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.

Silver-haired bats are not choosy about where they roost, which often gets them into trouble with people. You can find them in firewood piles, small cracks in the side of a building low to the ground, chicken coops, or right out in the open on the side of a tree or building. This also makes them more vulnerable to predation by cats, magpies and crows.

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 to early July. By late July, the pups are flying.



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Katie Miller
for IDFG

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Madame
LaZonga
on Flickr

Long-eared Myotis

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 myotis can be found in many habitats, but they are often found in forests. They roost under tree bark, in holes in trees, and in abandoned mines. They may be found in crevices in cliffs, rocks on the ground, lava-tube caves, or abandoned mines.

Long-eared myotis 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!



Gated mine photo
CCBY IDFG

Photo
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Cobun on
Wikipedia

BE OUTSIDE! BATS



Photo CCBY IDFG



Photo CCBY Kent McFarland on Flickr

In this issue of *Wildlife Express*, you have learned many cool things about bats. Aren't they amazing animals? One of the most important things you can learn is how to help bats. This includes how to behave if you find a bat.

Sometimes bats find their way into houses and cabins. Bats get very confused by all the walls and lights. They just want to find a way back outside! Check out the video "I Found a Bat in my Home! What Do I Do?" on the Fish and Game website, <https://idfg.idaho.gov/blog/2017/06/i-found-bat-my-home-what-do-i-do> This video will give your family exact directions on what to do if you find a bat in your home.

In the fall, it is not uncommon to find a bat roosting on the side of a building during the day. It may leave at night and come back to the exact same spot the next day. This bat is probably taking a break during its fall migration. It might be hanging out because it is finding a lot of insect food. This is a healthy bat that needs to be left alone! Do not disturb the bat in any way. Stay away from the roosting bat and make sure others do the same. It will resume its migration when it is ready.

But what should you do if you find a bat on the ground?

Leave the bat alone and find an adult! This bat might be sick, injured or just worn out from its migration. Even though you want to help, bats can sometimes get rabies. Rabies is a deadly disease, not only for bats, but also for humans and other mammals. It's important to leave the bat alone and let an adult know. You could also hurt the bat by trying to pick it up. You wouldn't pick up an injured bear, right? So do not pick up other sick or injured wild animals like bats, either. Instead, find an adult who can contact the nearest Fish and Game office or wildlife rehabilitator. These people know what to do to help wildlife in trouble.

While waiting for help to arrive, stay away from the bat.

It's good to keep an eye on the bat, but do so from a distance. Make sure your friends or other people do the same thing. You will also want to keep any neighborhood pets away from the bat. When a biologist or wildlife rehabilitator arrives, you will be able to show them where to find the bat so they can rescue it.

When you do the right thing, you will make it more likely that the bat will live to fly another day. It just might return the favor by coming back and eating lots of pesky insects in your neighborhood.



"Bat recovered from attack and was released." Photo CCBY Willamette Biology on Flickr



BE OUTSIDE
IDAHO CHILDREN IN NATURE

IDAHO'S BAT SPECIES

FIND THE NAME OF IDAHO'S BAT SPECIES IN THE PUZZLE!



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Words

- BIG BROWN BAT
- CALIFORNIA MYOTIS
- CANYON BAT
- FRINGED MYOTIS
- HOARY BAT
- LITTLE BROWN MYOTIS
- LONG-EARED MYOTIS
- LONG-LEGGED MYOTIS
- PALLID BAT
- SILVER-HAIRED BAT
- SPOTTED BAT
- TOWNSEND'S BIG-EARED BAT
- WESTERN SMALL-FOOTED MYOTIS
- YUMA MYOTIS

Illustration CCBY IDFG

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WE WOULD LIKE TO HEAR FROM YOU!

If you have a letter, poem or question for Wildlife Express, it may be included in a future issue! Send it to:

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or

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