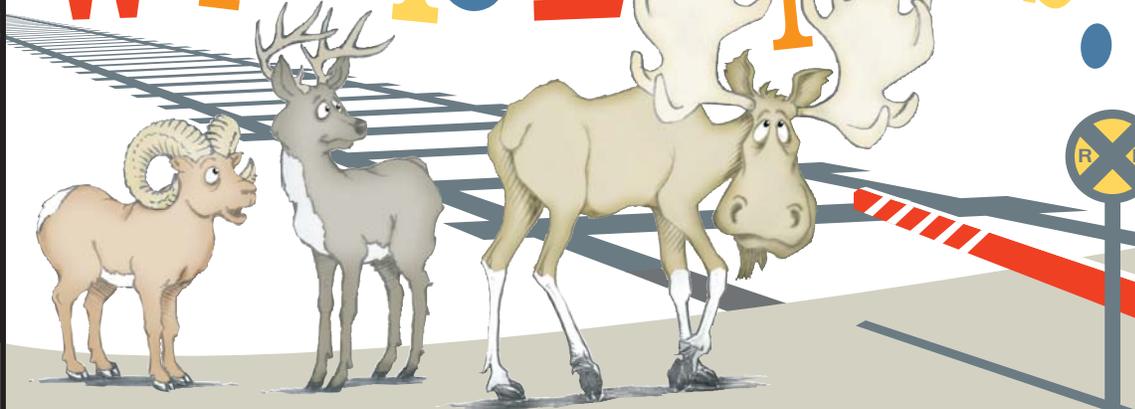


# Wildlife Express!



Volume 18

Issue 9

May 2005



Beaver Fever



# Let's Look At ... the Beaver



What is the largest **rodent** (RO-dent) in North America? It is the beaver! An adult beaver weighs 22-75 pounds. They may weigh 90 pounds, but a 90-pound beaver is rare.

Unlike humans, beavers never stop growing. They will keep growing for as long as they live. People who study beavers are not quite sure how long they live. Some people think their average life span is ten years, but some beavers have lived as long as 30 years.

The scientific name for the American beaver is *Castor canadensis* (KAS-tor can-a-DEN-sis).

Many people have seen what beavers can do, but few people ever see the beaver. Beavers are **nocturnal** (nok-TURN-al). They are most active at night when we are sleeping.

Beavers are known as nature's engineers (en-ji-NIRS). An engineer is a person that designs and builds things. Beavers can sure build! They use their long, strong front teeth to cut down trees. The trees are used to build dams across streams and rivers. A dam is like a wall across the stream. It blocks the flow of water

and makes a pond.

Beavers use the water for safety. If danger is near, they slap their tails on the water and dive. The tail slap tells other beavers about the danger, and they will dive underwater, too. A beaver can hold its breath for up to 15 minutes underwater! Usually, however, they stay underwater for just two to three minutes.

Trees are also used as food. Beavers eat only plants. They like to eat the bark off of small tree branches, water lilies, berries and grasses. Beavers eat bark off of twigs just like you eat corn off of a cob! Some branches are stored at the bottom of the pond. This is food for the winter.

Beavers use larger branches and trees to make a dam. They take trees and branches and stick them in the mud at the bottom of the stream. Then they put rocks and mud on top on the sticks. They make layers of branches, rocks and mud until the dam is above the water. Beavers will then spread mud on the dam with their paws to stop the water from coming through. In two or three days, the dam is finished.

A beaver's home is called a lodge. A lodge looks a bit like an igloo. It is a round pile of sticks, rocks and mud in the beavers' pond or along the side of the pond. The only way into the lodge is by swimming. The lodge has underwater tunnels and entrances. This helps to keep enemies out of the lodge. Inside the lodge, beavers have a place to eat and sleep. Above the eating-place is the beavers' bed. Their bed is higher, so it will stay dry. Even beavers don't like to sleep in a wet bed!

Beavers have special bodies for spending time in water. They have long thick fur to keep them warm. At the base of their tails, beavers have two oil glands. One gland makes oil that the beaver combs through its fur. This oil makes the fur waterproof. The other oil gland makes **castoreum** (ka-STOR-ee-um) oil. This oil stinks. It smells like a mixture of honey, mildew and cow manure. Beavers put castoreum oil on piles of mud around the pond. The smelly oil tells other beavers that a family already lives in the pond.

Beavers have webbed back feet to help them swim. On each back foot a beaver has a special toenail that is split in two parts. This toenail is used like a comb to help the beaver get tangles out of its fur.

How would you like to have built in swim goggles? Beavers do! They have clear eyelids that help them see underwater. They even have flaps in their nose and ears that close to keep the water out when swimming.

Beavers live in family groups, which includes a male and female, their babies and last year's babies. A baby beaver is called a **kit**. Kits can see, hear, walk and swim soon after they are born. Baby beavers drink their mother's milk for about six weeks. After that, they will eat only plants. By the time beavers are one year old, they can cut down trees and help repair the dam and lodge. Beavers live with their parents until they are about two years old. Then the young adult beavers leave and find their own place to build a dam and start a family.

## The Rodent Family

A **rodent** (RO-dent) is a mammal whose front teeth never stop growing. Squirrels, rats, mice, and porcupines are all rodents. Most rodents eat plants, but some rodents are predators. They may eat insects or other small animals.

There are more rodents in the world than any other type of mammal. Idaho has 45 different kinds of rodents.

Idaho's largest rodent is the beaver. The largest rodent in the world is the capybara (kap-ee-BAR-ah). It is about the size of a pig. Capybara can weigh more than 125 pounds and be four feet long! It lives near ponds and rivers in South America. One of the smallest rodents is the pygmy mouse of Africa. It weighs about as much as an unsharpened pencil and is only two inches long.

Because their front teeth never stop growing, rodents need to chew on tough things to keep their teeth from growing too long. If they didn't chew to keep their teeth short, their teeth could actually circle around and grow into their skulls!

If you have a pet rodent like a mouse, hamster or guinea pig, you may have noticed that your pet's front teeth are a yellow-orange color. The teeth are only orange on the outside. Believe it or not, these teeth are supposed to be orange! The orange color is special **enamel** (in-AM-el) that helps to make their teeth strong and hard. Imagine cutting down trees like beavers. Wouldn't you want strong teeth? The orange enamel also helps to keep their teeth sharp. The hard outside of the teeth wear down more slowly than the softer inside. This keeps their teeth chisel sharp.

Rodents are an important part of the ecosystem. They are important links in the food web. Many rodents are food for other animals. Even people eat rodents. In Venezuela, people love to eat capybara. Eating a rodent might sound strange, but to the people in Venezuela, it is no different than eating a cow. Venezuelans eat capybara during a traditional holiday, just like we eat turkey for Thanksgiving. Anyone want a serving of capybara?

## What is a furbearer?

A furbearer is an animal whose pelt is considered valuable to people. A pelt is an animal skin that has fur on it. Idaho has 16 mammals that may be considered furbearers. They are badger, beaver, bobcat, coyote, fisher, long-tailed weasel, short-tailed weasel, lynx, marten, mink, muskrat, raccoon, red fox, river otter, spotted skunk and striped skunk.

Fur is made of two different kinds of hairs, guard hairs and underfur. Underfur is very soft and warm, so it is often used to make fur coats and hats. The underfur of some animals is also used to make a fabric called felt. Some cowboy hats are made out of felt.

Many furbearers are fun to watch, and people enjoy seeing them. River otters can be especially fun to watch. River otters love to play. They slip, slide and swim while chasing each other in the water.

Furbearers are also important because they offer us opportunities to learn about nature. By studying furbearers, people learn how they help to keep nature in balance. Many furbearers eat rodents like mice and gophers. These animals may cause problems for farmers because they eat crops. Furbearers help to keep rodent numbers under control, so they do not become a problem.

Many years ago, furbearers were often trapped and killed for their fur. Today some furbearers are still trapped for their fur, but this does not happen as often as it once did. Today we have many man-made fabrics like polar fleece. These new fabrics are often used to make things that used to be made out of fur.



*This furbearer is a marten.*

# Fur Real



*A mink's long guard hairs keep it dry in the water.*

Many animals are covered by what is called fur. You know what fur looks like. Beavers, bears and coyotes are all covered by fur. It looks like long, soft hair. But there is more to fur than meets the eye.

Fur is made up of two different layers of hairs. **Guard hairs** make up the top layer. Guard hairs do just what their name says. They guard and protect the animal's second layer of fur and skin from weather and water. Often guard hairs are shiny, because animals put oil on them. Animals that spend a lot of time in water, like beavers and otters, don't want their fur and skin to get wet. They might get too cold if they get wet. Water hits the oily guard hairs

and runs off the animals' backs keeping their fur dry.

Some animals, like beavers, have special glands that make oil just for spreading on their fur. Beavers' oil glands are at the base of their tails. Other animals have very small oil glands all over their skin to help keep the guard hairs oily.

The second layer of fur is called **underfur**. Underfur is shorter than the guard hairs. It is usually very soft and fluffy. Underfur keeps animals warm. Animals fluff up their underfur and trap air in it. The animals' bodies warm the trapped air. The warmed air is like insulation, and the animals stay nice and cozy. This is what happens when you put a coat on. Your body heats the air trapped by the coat, and you stay warm.

Some animals with fur also have other special hairs on their bodies. Can you think of any? Porcupines come to my mind. Porcupines have fur with quills. The quills are special hard hairs that protect porcupines from their enemies. When danger is near, porcupines will arch their backs and tuck their heads under their bodies. This makes the quills stick straight up in the air. If an animal tries to touch the porcupine, it will get a quill in its body. Porcupines cannot shoot quills out of their bodies. Remember a quill is just a hair. You can't shoot hairs out of your head, so porcupines can't shoot quills out of their bodies.

# By a Hair

Some animals have hair on their bodies instead of fur. Fur is made of two different layers of hairs. Hair is usually just one layer, and all the hairs look alike. Hairs are usually thick and stiff. Deer, elk, pronghorn and you, all have hair.

If you looked closely at a deer hair, you would see that it looks a bit like a straw. The hair is hollow. Animals with fur trap air to stay warm. Well, so do animals with hair. When they are cold, they stick their hairs up. They trap air inside and in between all of their hairs. The trapped air makes a nice coat of insulation to keep them warm.



*This shaggy elk is shedding its winter layer of hair.*

Have you ever gotten goose bumps when you were cold? Look at a bump next time you have goose bumps. You will see a hair sticking up in the middle of the bump. Your body gets cold and tries to trap air by making your hair stand up, just like the deer's. We are not very good at trapping air in our hair. Our hairs are too thin and short to trap air.

In addition to hair, animals have other ways to help them stay warm in the winter. Some animals put on a thick layer of fat. The fat helps keep them warm. It can also be used to help animals stay alive when food is hard to find. Many animals start the winter nice and plump. By the time spring arrives, they are skinny and weak. They lose a lot of fat and weight during the winter.

Many animals grow a thicker layer of hair for the winter. More hair means they can trap more air and stay warmer. Some animals with hair grow a thick woolly layer of special hair close to their skin. Caribou do this. The woolly layer of hair is similar to the underfur that animals with fur have. In the winter, caribou are out in temperatures that can get down to 60 degrees below zero! Now that's cold. Their woolly layer of hair insulates them from the cold and helps to block the icy wind.

In the spring, animals will shed their winter hair and grow thinner summer coats. Animals often look shaggy and strange when they are shedding their long winter coats. Some people may think they even look sick. But once they have their new shiny summer coats, animals will look nice again.

# Furbearers in Idaho History

Furbearers have played an important role in Idaho history. Furbearers, especially beavers, are the reason European people first came to this area. In the early 1800s, fur was used to make coats, hats, gloves and other pieces of clothing. Beaver hats became popular with men. Every man wanted one, and many beavers were needed to make all the hats the men wanted. Beavers were getting harder to find in the eastern part of the United States and in Canada, so trappers moved into what is now Idaho to find beavers.

In 1809, David Thompson built Kullyspell House by Lake Pend Oreille. This was the first European building built in Idaho. The house was built for the Northwest Fur Company. The Northwest Fur Company began trapping in Northern Idaho in 1810. Soon other trappers heard about all the beavers in Idaho. By 1811, four fur companies were trapping beavers and other animals in Idaho. They were the Northwest Fur Company, Missouri Fur Company, Pacific Fur Company and the Hudson's Bay Fur Company. Mountain men that were not members of fur companies were also trapping animals.

At the time, Idaho was unclaimed territory. The United States and Great Britain signed a treaty in 1818 that let people from both countries occupy the land, but they were both interested in owning it. Great Britain operated The Hudson's Bay Fur Company. They wanted to create a 'fur desert' to keep the Americans out of the area and claim the land for Great Britain. They thought that if they trapped all the beavers out of the area, no Americans would want to come here. Between 1818 and 1827, the Hudson's Bay Fur Company trapped 85,000 beavers out of the Snake River alone! Now that is a lot of beavers.

Trapping all of those beavers didn't keep Americans out of the area. Russia gave the Northwest Territory, which included Idaho, to the United States in 1824.

Trapping continued for many years, and it became an important activity for pioneers and homesteaders. Beavers were becoming harder to find, and many people thought beavers needed protection. In 1899, beavers were protected in Idaho. It was against the law to trap beavers, and this law stayed in place until 1957. There is now a trapping season on beavers once again.

## POPULAR PONDS

Where beavers live, they change the land and water. Beaver dams help make habitats for other animals. The dams beavers build flood the land and make a pond. The pond is not only a home for beavers, but also a home for fish, frogs, insects, birds and many other animals. Otters, muskrats and raccoons will all visit beaver ponds to find food and water.

Beavers can live anywhere trees and water are found, even in deserts. Beavers that live in dry areas make little oases for other animals. Beaver ponds make the land around them wetter. More plants grow in the damp soil. Soon many different types of plants and lush grasses can be found. Cutting down trees also lets more sunlight touch the ground. This also helps new and different plants to grow. Animals may come to eat the plants, which brings other animals to eat them. Animals find water to drink, food to eat and shelter at beaver ponds.

Beavers will stay at a pond for as long as there are trees to cut down and eat. When the trees are gone, the beavers leave. With no beavers to take care of the dam, the dam soon starts to leak and break down. The water will drain from the pond. The rich mud left behind is the perfect place for a meadow. Grasses and plants will grow, and rabbits, gophers, deer and elk will eat the grass.

After a long time, trees will start to grow again and take the place of the grasses. A new generation of beavers may find the spot, build a dam and form a pond. The land will again be changed. With the change in land, comes a change in the animals that use it. A circle of change from meadow, to pond and back to meadow again will start. This change over time in the land is called **succession** (suk-SESH-un).



## Furbearer Management

Furbearers are special animals. They not only can supply people with fur, but they are also fun to watch, interesting to study and connect people with their historic past. To make sure furbearers will always be a part of Idaho, laws have been passed that affect hunting and trapping furbearers.

Idaho has 16 mammals that may be considered furbearers. They are badger, beaver, bobcat, coyote, fisher, long-tailed weasel, short-tailed weasel, lynx, marten, mink, muskrat, raccoon, red fox, river otter, spotted skunk and striped skunk. Not all of these animals are defined as furbearers by Idaho law though.

Idaho's lawmakers passed a law that made long-tailed weasels, short-tailed weasels, coyotes, striped skunks and spotted skunks **predatory animals**. Some people think these animals can cause problems around farms by eating farm animals like sheep and chickens. They wanted to be able to kill them to protect their animals, so the law was passed. Predatory animals may be killed at any time as long as the hunter has a hunting license and follows all the general rules for hunting.

The Idaho Department of Fish and Game does set rules for the other 11 furbearers. Idaho does not have many fishers and lynx living here, so they may not be killed for any reason. Lynx are found mainly in the northern part of Idaho. Researchers don't know exactly how many lynx live here, so they want to protect all of the lynx there are.

Fishers are mainly found in remote areas of north-central Idaho. Fishers are animals that were trapped heavily in the 1800s and early 1900s. They are fairly easy to catch in a trap, because fishers are curious. They will go right up to a trap and hit it with their paw to try and understand what it is. By the 1920s, you could no longer find a fisher in Idaho. In 1962 and 1963, fishers were returned to Idaho. Fishers were captured in British Columbia, Canada and released into Idaho's forests. Idaho now has fishers living in its forest, but they are still difficult to find.

All other furbearers in Idaho may be either hunted or captured in a trap. By setting rules for trapping and hunting, Idaho will have furbearers for everyone to enjoy for years to come.



**Fishers are rare animals in Idaho.**

## Thirsty? How does buffalo cider sound?

Animals have always been important to human survival. Animal meat has been used for food, and animal skins have been used for clothing. Native Americans, fur trappers and early pioneers had to depend upon wildlife and wild plants for much of their survival. Both in the past and today, animals' bodies supply people with what they need.

Bison, also called buffalo, were important to Native Americans. Some Native Americans believed that their ancestors came from bison. When a bison was killed, it was treated with great respect, and all parts of the bison were used. Nothing was wasted.

Native Americans used bison skins for clothing and shelter. They ate all the meat. Bison bones were used to make tools and weapons. If you had been a Native American child, one of your favorite toys might have been a rattle. To make a rattle you would first dry the bison bladder. Bison hooves were then put in the bladder, and the hole was sewn together using **sinew** (SIN-yu). Sinew is tendon that holds the muscles to the bones. The hooves in the dried bladder would make a great rattling noise when shaken and tossed. People even drank what mountain men called 'buffalo cider'. Buffalo cider is the fluid in the bison's stomach. You may think that you would never drink anything from a bison, but if you had not seen water for a few days, buffalo cider may have been what kept you from dying. It was an important source of liquid when water was difficult to find.

Elk and deer were also important. They were eaten, and their hides were also used to make clothing, shelter and canoes. Spear points, tools, glue and fishhooks could all be made from elk and deer antlers. Believe it or not, Native Americans even used elk droppings as tobacco in pipes.

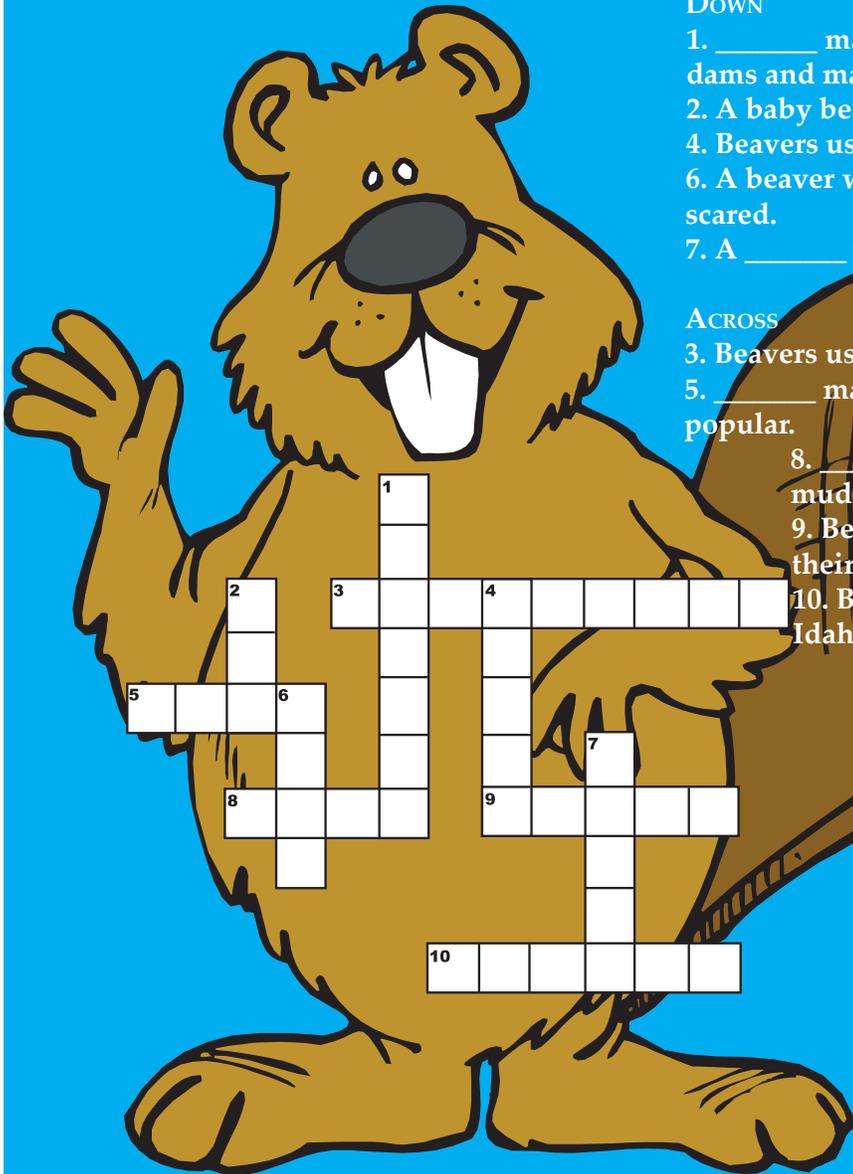
Not only were beaver furs used by people, but so were the castoreum (ka-STOR-ee-um) glands. Castoreum oil is the perfect base for making perfume and make up. It holds ingredients together for a long time, and most people will not have allergic reactions to it.

Today, we may not have to depend upon wildlife for our survival, but many wild animals are still used to make clothing, cloth and jewelry.



**Native Americans depended upon wildlife for their survival. Food, clothing and shelter all came from wildlife.**

## TRY YOUR BEST ON THIS BEAVER CROSSWORD.



### DOWN

- \_\_\_\_\_ make homes for other animals by building dams and making ponds.
- A baby beaver is called a \_\_\_\_\_.
- Beavers use \_\_\_\_\_ for building and for food.
- A beaver will \_\_\_\_\_ its tail on the water when scared.
- A \_\_\_\_\_ is a beaver home.

### ACROSS

- Beavers use \_\_\_\_\_ oil to mark their homes.
- \_\_\_\_\_ made out of beaver fur were once very popular.
- \_\_\_\_\_ are made of branches, rocks and mud.
- Beavers \_\_\_\_\_ trees for the winter in their ponds.
- Beavers are the largest \_\_\_\_\_ found in Idaho.

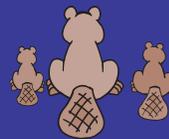
### WILDLIFE EXPRESS

Volume 18 • Issue 9 • *Beaver* • May • 2005

*Wildlife Express* is published nine times a year (September-May) by the Idaho Department of Fish and Game. Classroom subscriptions and an Educator's Guide are available for \$30.00 per year and includes a classroom set of 30 copies mailed to your school each month. Subscriptions of five copies or less are available for \$10.00.

*Wildlife Express* is also available on the Idaho Department of Fish and Game website at no charge at <http://fishandgame.idaho.gov> For more information, call or write: *Wildlife Express*, Idaho Department of Fish and Game, 600 South Walnut, PO Box 25, Boise, Idaho, 83707 (208) 287-2874.

Lead Writers: Adare Evans • Lori Adams  
 Layout and Design: Alyssa Jones  
 Contributors: Kevin Frailey • Renai Brogdon • Eric Stansbury



### 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 the address