

Going batty

– Dr. Graham Young, Curator of Geology and Paleontology & Parklands/Mixed Woods Gallery Project Manager



More than 400 handmade bats hang in the cave.



360 degree view of the bat cave under construction.



In anticipation of the September 20 opening of the Parklands/Mixed Woods Gallery, behind-the-scenes stories of the Gallery's creation have been appearing in your member newsletter, Features. The final article in this four-part series is *Going batty*, a story written by the Parklands/Mixed Woods Gallery Project Manager, Dr. Graham Young, about the sources of inspiration for the Museum's walk-through bat cave.

Caves in Manitoba? People in Winnipeg, sitting on the flat plain of the Red River Valley, may find it hard to believe that there are hundreds of known caves in this province. And now there is one more because a new cave has been built at The Manitoba Museum. Building a cave for the Parklands/Mixed Woods Gallery has been a huge undertaking for our institution, but it has also been a fascinating process for all of those involved.

When the Gallery was first planned in the early 1990s, a cave was considered to be an essential exhibit because an enthusiastic group called the Speleological Society of Manitoba was actively studying caves and similar features in the Interlake Region. Jack Dubois, the Curator of Mammalogy at the time, was involved in the cave exploration and was researching bats

that hibernate in the caves. Jack involved other Museum curatorial and gallery staff in these studies, which was a great benefit to the Gallery project.

Most of the Interlake caves are formed in dolostone bedrock, a rock that is similar to limestone, although there are caves made of gypsum in some areas. Some of the caves have steep vertical shafts and most are dry, but a small amount of meltwater will flow through the caves in the spring. Many caves began as fractures in the rock and were expanded by the movement of groundwater. These caves can be up to 70 metres long. Other Interlake caves formed when winter frost broke apart bedrock cliffs along fractures or along lakeside cliffs where waves scoured and cracked the rock.

We don't know how old Manitoba's caves are. Cave formation probably occurred in the last 10,000 years but some features may have formed in the distant past, perhaps as much as hundreds of millions of years ago.

Generally, Manitoba's caves have little or no development of mineral deposits, such as stalactites and stalagmites. However, a few caves have significant structures. Some of the finest features are in a cave known as Iguana Crypt, located in the Grand Rapids Uplands. This cave features

tooth-like structures on its ceiling that look like the teeth of an iguana!

With such a variety of known caves, how could we go about representing them in the Museum? At first we wanted to reproduce one particular cave, but as more information was gathered we realized that it would be wonderful if we could show the unique features of a number of different caves. As a result, the cave that we have built is a composite of several dolostone caves.

The cave that visitors will see in the Gallery is the work of several Museum artistic staff; it has taken years of work to produce this exhibit. Past

and present staff involved in the design and construction of the cave include: sculptor Ota Pavlik, diorama artist Betsy Thorsteinson, artists Kathleen Fonseca, Daniel Labay and Curtis Labay.

Supports for the cave walls were made of wood and wire mesh, which are attached to ramp and floor structures above. Once the mesh for the walls had been successfully shaped, many batches of concrete were mixed and applied to the mesh. A lot of experimentation and testing were required before the perfect coloured concrete formula could be found. Once the concrete had been applied, features such as stalactites and

the Iguana tooth structures were cast and attached to the cave ceiling. The substantial concrete structure, which is hard and cool, gives the cave a very realistic look and feel.

The cave has low light levels, with only a little light from the sky shining dimly through a crack in the roof. Visitors will be able to pick up flashlights at the cave entrance so that they can explore the space. Little brown bats hibernate in Manitoba's caves, in groups of a dozen to groups of thousands. The above-freezing winter temperatures in some caves make them ideal spots for hibernating.

Visitors to our cave will be able to see the several hundred bats hibernating on the cave ceiling and walls. Kathleen Fonseca created the incredibly accurate bats using a glue gun and fake fur! If visitors look carefully they may also see a few herald and tissue moths, which hibernate near the cave entrance where light still penetrates.

Be careful, other animals are also sometimes found in the caves as well. It has been rumoured that there might be a black bear hibernating somewhere deep within our cave!



Importance of little brown bats – Dr. Gavin Hanke, Curator of Zoology

The little brown bat (*Myotis lucifugus*), about the size of a small mouse, is an overlooked asset to Manitoba. Most people will never see bats in their lifetime, but strangely, these seldom-seen animals are feared by humans.

Only recently have people recognized the importance of bats in controlling insect pop-

ulations. Bats eat flying insects such as mosquitoes, moths, beetles, crickets, grasshoppers, wasps, midges and caddis flies. Individual bats may eat up to 600 mosquitoes an hour! Because of recent increased public awareness, many people construct bat houses to encourage bats to stay and clear their neighbourhood of

biting insects. During the summer bats also rest in hollow trees, attics and have been known to seek shelter in chimneys.

Bats can carry fleas, mites and ticks and, like many other mammals, they can contract rabies. However the risk to humans is limited. Bats are very delicate animals and

should be handled with care and only if absolutely necessary.

Restrained bats may bite but most gloves provide ample protection.



Bats need homes too

You can purchase a bat house from the Museum Shop for \$36.99. The house is handmade in Canada and can accommodate a dozen bats. Hang it in the right spot and you'll have bats gobbling up mosquitoes in no time!



About your bat house

- Paint your bat house a dark colour and place it in a spot that will receive at least 10 hours of sun. Bats need to stay warm during the day, while they're sleeping.
- The best place to put a bat house is on the side of a building or on a pole between three and six meters high.

- Bats should begin arriving around early summer and will stay until fall.
- To observe the bats, shine a flashlight into the open bottom. Try to do this fairly quickly so you do not disturb them.
- The North American Bat Research Project would like your help. They are looking for volunteers to participate in their project. They are

researching the habitats of bats in order to help provide what the bats need. To participate in the project, contact them at:

**BCI North American
Bat Research Project
P.O. Box 162603
Austin, Texas 78716**

- You can also check out Bat Conservation International at its Web site <http://www.batcon.org/>