

OZARK ADVENTURE

SPONSORED BY FANTASTIC CAVERNS SCIENCE RESEARCH PROGRAM

MASTODON STATE HISTORIC SITE Kimmswick Bone Bed

Mastodon State Historic Site contains an important archaeological and paleontological site – the Kimmswick Bone Bed. This site, located just 20 miles south of St. Louis off I-55 in Jefferson County, is where scientists discovered the first solid evidence that humans and the American mastodon (*mas-tə-dăn*) coexisted in eastern North America.

At the end of the ice age (35,000 to 10,000 years ago) the glaciers to the north were slowly melting as the earth warmed. Animals such as the giant ground sloths, peccaries and hairy, elephant-like mastodons roamed the Midwest. Paleontologists (*pā-lē-än-'tāl-ə-jəsts*) imagine that the area was once swampy and contained mineral springs. Animals visiting the springs may have become trapped in the mud, helping to preserve their bones. Early humans also had reached present-day Missouri by at least 12,000 years ago. For a short time, during what is called the Pleistocene (*pī-stē-sēn*) epoch, humans and mastodons lived together.



Present day Missouri was once home to the American mastodon, a large, elephant-like animal that lived during prehistoric times.
Photo courtesy Illinois State Museum.



This skeleton of an adult American mastodon is on display at Mastodon State Historic Site in Imperial, Missouri.
Photo courtesy Missouri DNR.

The first recorded report of bones of mastodons and other now extinct (*ik-'stinkt*) animals was in the early 1800s near the town of Kimmswick, Missouri. Private businessman and owner of the St. Louis Museum, Albert C. Koch, investigated a report of bones showing from the banks along Rock Creek. He conducted his first investigations in 1839. Thinking he had discovered a new animal, he named his discovery the *Missouri Leviathan* and exhibited it throughout the United States and Europe. Richard Owen, from the British Museum in London, convinced Koch the skeleton was nothing more than an American mastodon. Mr. Owen purchased the mastodon from Koch and it is still at the British Museum.

At the turn of the century, nationwide interest in the site was revived when amateur paleontologist C.W. Beehler excavated several skulls, jaws, teeth, tusks and other fossils. Railroad tours from St. Louis brought many visitors, especially during the 1904 St. Louis World's Fair, to visit the wood-shack museum Beehler had erected near the bone bed. Beehler's excavations were not well documented so the recovery of stone artifacts in the deposits was

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Mastodon State Historic Site, just southwest of St. Louis, includes a museum containing fossils, artifacts, dioramas and other information about the mastodons that once inhabited Missouri.

Photo courtesy Missouri DNR.

(Continued from Page 1) not initially accepted as proof that humans were present during the Pleistocene.

From 1940-1942, excavations by the St. Louis Academy of Science were sponsored by the Works Progress Administration (WPA) This work recovered other fossils but few artifacts. Unfortunately, many bones and tusks were given away, sold, stolen or destroyed during the next 25 years.

During the 1970s, construction of Interstate Highway I-55 revived interest in the site. A movement to save the site from being destroyed was organized by the Mastodon Park Committee. Through the efforts of this group, local legislators, individuals, corporations, school children, and with the help of a federal grant, the Missouri Department of Natural Resources

(DNR) was able to purchase the 418 acres containing the bone beds in 1976.

In 1979, Russell W. Graham of the Illinois State Museum provided the first solid evidence that humans and the American mastodon coexisted in eastern North America. A stone “Clovis” type projectile point (spear tip) was found in association with mastodon bones. This means a human-made device was used to kill or disable the mastodon. Due to its archaeological and paleontological importance, the Kimmswick Bone Bed was placed on the National Register of Historic Places on April 14, 1987. Today, the remnants of the mastodon bone bed are protected by D.N.R. and remain safely buried for generations to come.

*Editor note: This story was contributed by Mo. DNR. For additional information on **Mastodon State Historic Site-Kimmswick Bone Bed** contact Missouri State Parks on-line www.dnr.mo.gov or via mail at 1050 Museum Drive, Imperial, MO 63052; mastodon.state.historic.site@dnr.mo.gov*



Students visit a non-toured portion of Fantastic Caverns, near Springfield, using lanterns to light the way.



Specialty learning programs at Fantastic Caverns are very “touchable” experiences. Because of student involvement with the activities, “after school” clothing is suggested.

Diggin' Up Bones

What becomes of the fossil bones removed from caves and other historic sites? Perhaps less than two percent (2%) of such bones wind up on display in museums (*myú-'zē-əmz*) open to the public. Most specimens are small pieces that are used for research. These often end up in scientific collections where they are preserved in humidity and temperature controlled chambers.

A majority of Missouri's ice age bone collections are kept at the Illinois State Museum's Research and Collection Facility in Springfield, IL. In Missouri, there are several displays open to the public at the St. Louis Science Center, several show caves, the Division of Geology and Land Survey offices in Rolla and Mastodon State Historic Site in Imperial.

Mastodon State Historic Site is the only public site in Missouri devoted entirely to ice age fossils associated with the Paleo-Indian cultures. The museum exhibits actual bones of extinct animals including a reconstructed ground sloth and a

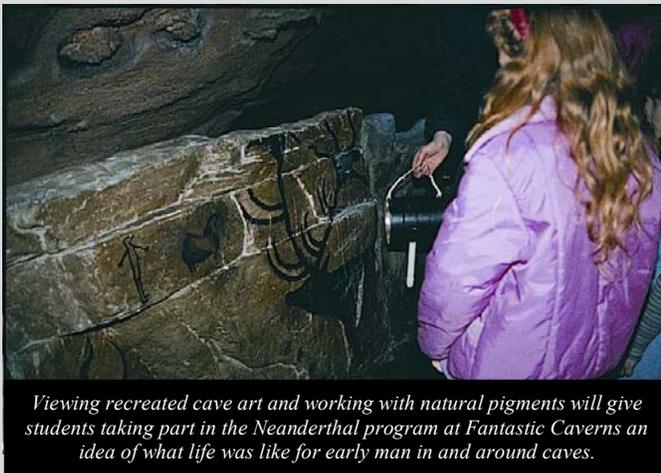
mastodon replica made from casts of mastodon bones. Visitors to the site can take a short walk to the Kimmswick Bone Beds to see where the bones and associated Paleo-Indian artifacts were found.

*Editor note: This story was originally written by Dwight Weaver, Information officer for the DNR Division of Geology and Land Survey and a long-time friend to the caves of Missouri. Materials contributed by Mo. DNR. For additional information on **Mastodon State Historic Site-Kimmswick Bone Bed** contact Missouri State Parks on-line www.dnr.mo.gov or via mail at 1050 Museum Drive, Imperial, MO 63052. mastodon.state.historic.site@dnr.mo.gov*



The thrill of discovery is evident when students work at a simulated mastodon dig at Fantastic Caverns.

2006 Neanderthal



Viewing recreated cave art and working with natural pigments will give students taking part in the Neanderthal program at Fantastic Caverns an idea of what life was like for early man in and around caves.

Imagine living in a cave. Early man experienced this environment and left behind clues for us to discover today. **Neanderthal** is an ALL NEW, active learning experience coming to the Fantastic Caverns learning programs for 2006.

Built on the foundation of the popular Cave Works series, the new **Neanderthal** program will teach participating student and scout groups about man's historic and prehistoric relationships with caves.

Those taking part will even have the opportunity to take a lantern trip into non-toured portion of the cave.

Neanderthal is available only during January, February and March. This special, 90-minute program includes the all-riding educational cave tour and takes place entirely inside the caverns where it's always a warm 60°. **Neanderthal** is recommended for all grade levels.

Additional program and reservation information is available on our web site at www.fantasticcaverns.com or by calling (417) 833-2010.

When Giants Walked

By Dwight Weaver

Deep in the heart of the Missouri Ozarks near the Arkansas border, there is a cave that until recently was uncharted and only partly explored. Despite its huge opening, the depths of the cave remained unvisited because of an obstacle – a low-ceiling passage carrying cold water that led to even deeper water discharging from the dark innards of the hill. But a few years ago, a team of intrepid cavers braved the water passage and discovered something on the clay floor unique to the heartland of North America – tracks made by the extinct American lion. The tracks form the path of a beast that probably had been dead for 10,000 years or more.



Active investigations at Fantastic Caverns teach students more about man and his relationship with caves.

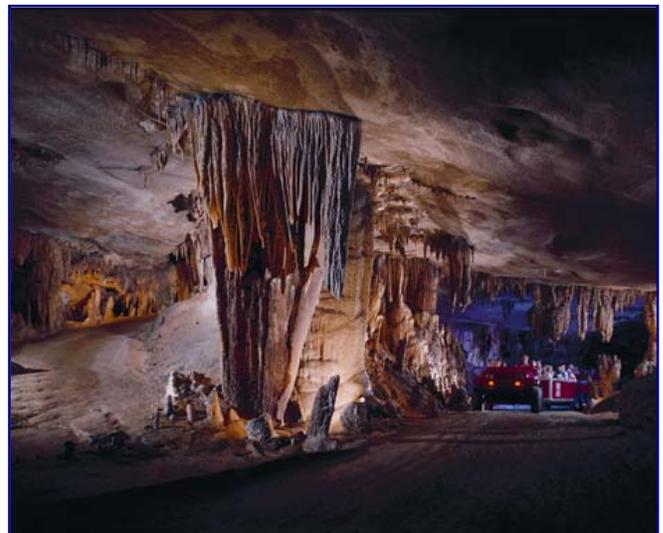
Now, consider another set of prints in clay discovered in a cave near Perryville, just south of St. Louis. This cave, too, was uncharted until recent times. In their efforts to explore all of the cave, explorers dug out sediments blocking the opening to another passage and thereby discovered the trackway (path) of another extinct cat.

They are thought to be the tracks of either a subspecies of the pleistocene jaguar or the saber-toothed cat.

“It’s amazing to think that one site was protected from easy discovery for so long only by some cold water and the other by some easily dug-out sediments,” said James E. Vandike, a hydrologist for the Missouri DNR Division of Geology and Land Survey. Vandike visited both sites and was on the team that discovered the American lion tracks. “Having such old and rare animal tracks right beneath us in our caves is a remarkable stroke of luck and part of our natural heritage that we should take special care to protect,” he said.

There is more to this story. These caves, like many caves in the Missouri Ozarks, are graveyards and museums of the Pleistocene, a period better known as the ice age. By following the tracks of these big cats backward in time, we can uncover the remarkable story of the large animals of the ice age 10,000 to two million years ago. It was an age of great biodiversity, a time when many magnificent animal species became extinct, and a time when giant mammals walked the face of the land!

Editor note: Dwight Weaver is the Information officer for the DNR Division of Geology and Land Survey and a long-time friend to the caves of Missouri. Materials contributed by Mo. DNR, Missouri Resources, Winter 1996-1997



Student groups taking part in the Mastodon and Neanderthal program also receive the all riding tour through Fantastic Caverns.

Prehistoric Giants Word Search



AGE
ANIMAL
BED
BONE
CLUE
COEXISTED
CONSTRUCTION
EVIDENCE

EXCAVATIONS
EXTINCT
FOSSIL
GLACIER
HISTORIC
ICE
KIMMSWICK
MUSEUM

NEANDERTHAL
PLEISTOCENE
PREHISTORIC
PROTECTED
SCOUT
SKELETON
SLOTH
SPECIMEN