

# Big Bone Lick State Historic Site



## The Pleistocene

*"It looks as if the earth had anciently been in another position and the climates differently placed than they are at present." ~ Benjamin Franklin*

The Pleistocene, more commonly referred to as the Ice Age, began 1.8 million years ago and ended at around 10,000 BC (12,000 years ago). The important part of the Pleistocene relating to Big Bone Lick spanned an 8,000 year period, from approximately 12,000 to 20,000 years ago. During this period, great ice sheets covered the North American continent in a jagged pattern to just north of Cincinnati.

Scientists speculate that many prehistoric mammals that had not previously been found in Kentucky were driven slowly southward by the huge sheets of ice. The bones of many prehistoric mammals, including mammoths, mastodons, ground sloths, bison, stag-moose, and a forerunner of the modern-day horse have been found at Big Bone Lick.

What would the Big Bone Lick area have looked like during the Ice Age? The flora that existed at Big Bone Lick during the Ice Age was probably much different than the grasses, trees, and shrubs of today. There probably would not have been trees in the marshy area surrounding the mineral springs.

From the bison, to the stag-moose, to the giant mastodon, weighing from 9,000 to 11,000 pounds and standing over nine feet tall, each came to the springs to quench their thirst and satisfy their need for salt and minerals.

Like the mastodon, the bones of many other Ice Age mammals have been found at Big Bone. Archaeologists and paleontologists who have conducted excavations at Big Bone discovered artifacts of different ages in the many layers of soil. They identify the layer of soil nearest the surface of the earth as the historic layer. Bones of bison, whitetail deer, dogs, horses, hogs, and humans have been found within this layer. The oldest and deepest layer, the ancient prehistoric layer, contains bones of the ancient stag-moose, Bison antiquus (the forerunner of the modern bison); Harlan's ground sloth, the Columbian mammoth, and the American mastodon.

### **"One piece of Mammoth Rib and two pieces of Elephant Tusks"**

The first recorded discovery of fossils at Big Bone Lick was made in 1739 by a French-Canadian soldier, Charles Le Moyne, second Baron de Longueuil. As De Longueuil and his troops left Canada and proceeded down the Ohio River past what is now Cincinnati, they discovered a marshy area scattered with large bones and teeth they believed came from an elephant.

They gathered some of the huge bones, including a tusk, a femur, and molars, and took them to their rendezvous point with de Bienville's forces on the Mississippi River near Memphis. The bones were later sent to France and placed in the French king's collection of curiosities, the "Cabinet du Roi" and were later transferred to the National Institute of France.

## Adventures

One of the most famous accounts of adventures at Big Bone Lick took place during the autumn of 1756. Mary Draper Ingles, a pioneer woman and captive of the Shawnee Indians and French troops, was taken to Big Bone Lick on a salt-making expedition. Mary's two young sons had also been taken captive, but had been taken from their mother at an Indian village at the mouth of the Scioto River. During Mary's captivity, she carefully planned an escape, and in preparation, she obtained a tomahawk from one of the Frenchman in the salt-making party who was, as the story goes, "sitting on one of the big bones cracking walnuts."

Mary's escape was successful; she followed a buffalo road (called a trace) to the Ohio River, then made her way upstream and overland following the river until she reached Virginia. Thirteen years later, one of her sons was recovered. The other son died in captivity.

A famous Kentucky settler, John Findley, visited Big Bone Lick in 1752 after a trading expedition to the *Falls of the Ohio* near Louisville. On his return trip, he stopped at Big Bone where he met with Shawnee Indians. Almost 20 years later, Findley led Daniel Boone into Kentucky, showing him prominent topographical features including Wasioto Pass (Cumberland Gap), the Licking River, the Kentucky Plain (also known as *Indian Old Fields* in present day Clark County); and the overlooking Pilot Knob, the prominence from where Daniel Boone first glimpsed the Bluegrass Region. Boone later used the features as guideposts when leading settlers into Kentucky.

In 1765, the explorer Colonel George Groghan made a considerable collection of bones from Big Bone Lick. Groghan described his arrival at Big Bone in his journal: "Early in the morning we went to the great lick, where those bones are only found, about four miles from the river, on the south-east side... We found here two tusks above six feet long; we carried one, with some other bones, to our boats, and set off..."

Groghan's party was attacked by Indians; five men were killed and the others taken captive. Groghan later wrote to a friend, "I got the stroke of a hatchet on the head, but my skull being pretty thick, the hatchet would not enter, so you may see a thick skull is of service on some occasions."

During this attack, Groghan's original collection of bones was lost. He returned to Big Bone Lick in 1766 and collected still more bones. Some of the fossils were sent to London to Lord Shelburne, who was in charge of the American colonies. Groghan also sent some of the bones to Benjamin Franklin, who was then in London.

Franklin acknowledged the receipt of the bones in the following letter: "I return you many thanks for the box of elephants' tusks and grinders. They are extremely curious on many accounts; no living elephants having been seen in any part of America by any of the Europeans settled there, or remembered in any tradition of the Indians. It is also puzzling to conceive what should have brought so many of them to die on the same spot... the grinders differ from those of the African and Asiatic elephant, being full of knobs, like grinders of a carnivorous animal: when those of the elephant, who eats only vegetables, are almost smooth... It is remarkable, that elephants now inhabit only hot countries where there is no winter and yet these remains are found in a winter country... which looks as if earth had anciently been in another position, and the climates differently placed than what they are at present."

Franklin was clearly puzzled about the origin of the fossils found at Big Bone Lick. He concluded that the earth “had anciently been in a different position” and, like his peers, subscribed to the commonly held theory that animals did not become extinct. Later, Franklin did accurately conclude that the sharp teeth could have been used “to grind the small branches of trees.”

The Delaware Indians had a fascinating legend about the origins of the mammoth and mastodon bones at Big Bone Lick: “In ancient times a herd of these tremendous animals came to Big Bone Lick and began a universal destruction of the bears, deer, elks, buffaloes, and other animals which had been created for the use of the Indians: the Great Man above, looking down and seeing this, was so enraged that he seized his lightning, descended on the earth, seated himself on a neighboring mountain, on a rock of which his seat and the print of his feet are still to be seen, and hurled his bolts among them till the whole were slaughtered, except the big bull, who presenting his forehead to the shafts, shook them off as they fell; but missing at length, it wounded him in the side; wherein, springing round, he bounded over the Ohio, the Wabash, the Illinois, and finally over the great lakes, where he is living at this day.”

Probably the most instrumental person in the development of paleontology as a science and in the recognition of Big Bone Lick as an important paleontological site was President Thomas Jefferson.

In 1796, Jefferson acquired an unusual set of bones which were later identified as those of *Megalonyx jeffersoni* or “great claw.” Jefferson was not sure what type of animal the bones were from, although he observed the similarities between the bones in his possession and those of a lion.

Jefferson then learned about the discovery of the skeleton of “an enormous animal from Paraguay, of the clawed kind, but not of the lion class at all; indeed, it is classed with the sloth... the skeleton is 12 feet long and 6 feet high. There are several circumstances which lead to a supposition that our megalonyx may have been the same animal as this.”

In 1797, Jefferson was elected president of the American Philosophical Society of Philadelphia and there he read his first paper on paleontology, a description of the megalonyx, now known to be a relative of the present-day tree sloth. Thus, the large extinct Pleistocene sloth was named after Jefferson.

In 1803, Jefferson instructed the explorers Lewis and Clark to record all animals they saw during their western journey and to see if any prehistoric monsters were still living in the Western United States. A few years later, and after Lewis and Clark failed to find any “monsters”, Jefferson commissioned William Clark to collect bones at Big Bone Lick to be sent to the White House. The Clark-Jefferson expedition is believed the first organized paleontological expedition in the United States. Over 300 bones were gathered and shipped to Washington by way of the Mississippi River.

When Jefferson received the bones at the White House, he wrote to his friend, Dr. Caspar Wistar, in Philadelphia. Wistar, like Jefferson, was a member of the American Philosophical Society. Wistar became the society’s authority on fossils and wrote several papers on the subject.

Wistar went to Washington at Jefferson’ request; he and the president spread Jefferson’s collection on the floor of an empty room of the White House so they could study the bones at their leisure. Some of the bones were sent to Philadelphia, others to the National Institute of France, and Jefferson kept a small number of bones for his private collection.

## **Pass the Shaker**

Indian tribes visited licks to hunt for game and to make salt. Salt was used as a preservative for pork and as a supplement for domestic animals such as horses, cattle, and pigs. Salt was also used in the tanning of hides.

Around 1780, a crude fort was built at Big Bone Lick to provide protection from Indian attacks for members of salt-making expeditions. The fortification is believed to have been built on what was once a man-made island of Big Bone Creek (created by cutting a channel to cut off a sharp bend of the creek channel). Although not much is known about the fort, it is shown on some early maps of the Big Bone Lick vicinity.

The salt-making process used by the pioneers was long and tedious. About 500-600 gallons of saline spring water has to be boiled down to make one bushel of salt. Water was drawn in buckets suspended like those in a well or pumped from wells using hoses and a tube or pipe that functioned as a siphon. The water was emptied into a trough, and then funneled into boiling kettles. The boiling kettles were of different sizes and were placed parallel to each other on furnaces made of layers of stone cemented with mud. The furnaces were several feet deep and 12 to 15 feet in length. Each boiler required a separate fire and after each boiling, the furnaces had to be newly cemented. The process required not only a lot of firewood, but also a great deal of labor and time.

## **Health Spas – 1800's Style**

By approximately 1812, salt-making at Big Bone Lick had ended. As new sources of salt became more readily available from rich deposits throughout the Ohio Valley, the old method of extracting salt from spring water was largely abandoned. However, the springs that had formerly attracted both animals and humans for thousands of years were not deserted. Health spas or "watering places" began to grow and flourish at mineral springs that had either weak salt water or lacked salt altogether. During the 1800's wealthy southern families came to Big Bone Lick to socialize and to partake of the "curative qualities" of the springs.

The Clay Hotel, named after the famous statesman Henry Clay, was built at Big Bone Lick in 1815. The hotel featured a dance pavilion, bathhouses adjacent to the springs, and stables for horses and carriages. Patrons came to Big Bone over the Lexington-Covington toll pike, now known as the Dixie Highway. Other visitors came by steamboat on the Ohio River, then traveled to Big Bone Lick on foot or by carriage.

In 1870, another hotel was built on a hill north of the springs. However, the Civil War had destroyed the fortunes of the wealthy Southern planters and effectively ended the prominence of mineral springs as popular vacation retreats in Kentucky.

The springs at Big Bone Lick are still changing, just as they have been for thousands of years. Huge prehistoric animals no longer come to the springs to drink, the salt/sulfur springs are slowly drying up, and the ancient marshes are gone. However, clues remain about life in Kentucky thousands of years ago, clues that are hidden in the bones preserved by the ancient marshes of Big Bone Lick.