Big Bone Lick State Historic Site – Historic Pocket Brochure Text

KENTUCKY STATE PARKS
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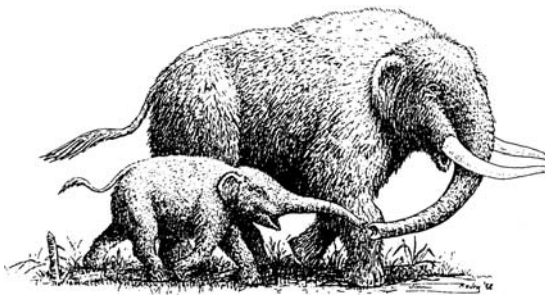
The Pleistocene …

"it looks as if the earth had anciently been in another position and the climates differently placed …"
Benjamin Franklin

Pleistocene…what does this word mean to most of us? Many of us may never have heard of it; some of us may know that it has something to do with a geologic period; and most of us probably do not know how to pronounce it! The Pleistocene, pronounced pli ste sen, is more commonly known as the Ice Age. The Pleistocene epoch started 1.8 million years ago and ended 10,000 years ago. The important part of the Pleistocene relating to Big Bone Lick spanned an 8,000 year period 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, the giant 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? Certainly there would have been no buildings, paved trails, roads, or picnic shelters. There probably would not have been trees in the marshy area surrounding the mineral springs. The flora which existed in the Big Bone area during the Ice Age was probably much different than the grasses, shrubs, and trees of today.



From the bison, to the stag moose, to the gigantic mastodon, weighing from 9,000 to 11,000 pounds and standing over nine feet tall, prehistoric animals came to the springs to quench their thirst and satisfy their need for salt and minerals. Due to its tremendous weight, the mastodon was in particular danger as it approached the swampy earth around the springs, or "jelly ground" as it was known to the pioneers. The weight of the beast was too much for the unstable jelly ground to support. When the mastodon struggled in the ooze, it only sank deeper in the swamp. The gigantic animal eventually became completely buried in the ooze, its bones preserved in the ancient prehistoric layer of the swamp. It is perhaps ironic that the very thing the mastodon needed for survival was responsible for its death and also for the preservation of its bones.

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 different 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 layer beneath the historic is dubbed the recent prehistoric layer. Bison, elk, deer, and human bones have been found within this layer. The oldest and deepest layer, the ancient prehistoric layer, contains bones of the extinct giant stag moose, the Bison antiquus (the forerunner of the modern-day bison), the giant ground sloth, the wooly mammoth, and the American mastodon.

The process in which bones turn to stone is called mineralization and may take anywhere from hundreds to thousands of years. Bones that do not remain on the surface of the ground for a long period of time have the best chance of being preserved. The action of the sun, rain, and fluctuations in temperature destroy a bone relatively quickly. Bones that sink to the bottom of a bog, pond, sandbar, or are scattered on the floor of a cave are most likely to be preserved because temperature and humidity remain fairly constant in these locations.

As you walk the trails that wind through Big Bone Lick State Park, or go exploring along the banks of Big Bone Creek, look carefully at the ground around you. At first glance, what may seem to be a weathered piece of wood or dirt-covered rock may be a bone that is thousands of years old. If you are fortunate enough to discover one, you will have discovered an important piece of our earth history.

"One piece of Mammoth Rib and Two pieces of Eliphants Tusks"

The first recorded discovery of fossils at Big Bone Lick was made in 1739 by a French soldier, Charles Le Moyne, second Baron de Longueil. As De Longueil 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 Inglis, a pioneer woman who was a captive of 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 separated from their mother at an Indian village at the mouth of Scioto River. During Mary's captivity, she carefully planned an escape, and in preparation, she reportedly obtained a tomahawk from one of the Frenchmen 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 trace to the Ohio River, then made her way upstream and overland until she reached Virginia. Thirteen years later, one of her sons was recovered; however, the other son died in captivity.

A famous Kentucky settler, John Findley, visited Big Bone in 1752 after a trading expedition to the Falls of the Ohio River 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 the Licking River, the Kentucky Plain (also known as Indian Old Fields in Clark County), Pilot Knob, and Wasioto Pass. Boone later used these 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 describes 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 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 naturally 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 from 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 the Big Bone Licks and began a universal destruction of the bears, deer, elks, buffaloes, and other animals which had been created for the use of the Indians: that 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 the 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 in 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 extinct Pleistocene giant 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 may have been the first organized paleontological expedition in the United States. Over 300 bones were gathered and shipped to Washington via the Mississippi River.

When Jefferson received the bones at the White House, he wrote to his friend, Dr. Casper 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's 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.

For decades after Jefferson's death, his personal collection was thought to be lost. However, in 1987, a small, dusty collection of bones was discovered in the basement of the Virginia Museum of Natural History. No one on the staff knew the origin of the bones. However, it is known that Thomas Jefferson's grandson had donated a large collection of bones to the University of Virginia in 1887.

Are the bones part of Jefferson's personal collection? Were they put in a dusty attic by the busy wife of a Jefferson heir, then found by his grandson and given to the University of Virginia?

Scientists at the Virginia Museum of Natural History have tested clay samples taken from the bones and found the soil to be the same as samples taken at Big Bone Lick. Scientists hope to verify that the geo-chemistry, or basic mineralogical make-up of the bone from the so-called Jefferson collection, is the same as that of bones found at Big Bone Lick State Park.

"Pass the Shaker"

In addition to powder and lead, a basic need of the pioneers was salt. Expeditions went out frequently in search of salt "licks." Licks were places where wild animals went to lick the saline, brackish earth around salt-mineral springs. The springs at Big Bone Lick provided a primary source of salt for wild animals for thousands of years.

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.

About 1780, a crude fort was built at Big Bone to provide protection from Indian attacks for members of salt-making expeditions. The fortification is believed to have been built on what was once an island in Big Bone Creek. Although not much is known about the fort, it is shown on some early maps of the Big Bone Lick area.

Large tracts of land surrounding licks were often bought by absentee land speculators, primarily Virginians, who then leased the land and often even the salt-making equipment. A 1,000-acre tract of land that included Big Bone Lick was sold by Colonel William Christian in 1780 for 1,350 pounds, or approximately $4,455, which was nearly five-and-a-half times as much as other real estate in the vicinity.

Salt-making was so critical to pioneer Kentuckians that the Kentucky Legislature passed a series of laws between 1798 and 1820 which regulated and encouraged salt manufacture. For example, the owners of Upper and Lower Blue Licks Springs were required to construct a five-foot-tall fence around all of their saline areas. Other laws enacted penalties upon individuals who disrupted the manufacture or transport of the brines or salt.

The salt-making process used by the pioneers was long and tedious. Tremendous amounts of water, ranging from 400 to 800 gallons, were required 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 which functioned like a siphon. The water was emptied into a trough supported by rafters, 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 a great deal of labor, time, and firewood.

Health Spas - 1800s 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 which had 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 early 1800s, 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 rambling hotel sported a dance pavilion, bathhouses adjacent to the springs, and stables for horses and carriages. Famous Kentuckians such as the Breckinridges, Todds, Crittendens, Clays, Marshalls, and McDowells 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 on foot or by carriage.

Many southern families retreated to Big Bone during yellow fever epidemics which swept states such as Louisiana, Mississippi, Alabama, the Carolinas, Tennessee, and Arkansas during the summer. The Kentucky spas had a much cooler climate and many wealthy southern families did not choose to go farther north for the summer.

During the cholera epidemics of 1833 and 1849, even Kentuckians retreated to the mineral springs. The resorts advertised that their spas were free from disease, and since cholera is a disease caused by a microorganism which lives in water, the springs probably were a healthier place to be than cities where water supplies were often polluted.

Social life at the resorts may have attracted more people to the springs than the purported medicinal qualities of the water. As plantations prospered in the pre-Civil War era, resort owners expanded their hotels, especially the ballrooms where dances, masked balls, and other events were scheduled weekly. Bands, theatrical companies, and even military drills were featured entertainment. Cock fighting, bowling, poker, horse races, and quoits, a game in which flat rings of iron or rope are pitched at a stake, were other popular pursuits.

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 that had visited Big Bone, 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/sulphur springs are slowly drying up and the ancient marshes are gone. However, nature has left us clues about life in Kentucky thousands of years ago, clues which are hidden in the bones preserved by the marshes at Big Bone Lick.