**History Of Eastern Kentucky Karst**

**By Larry Simpson**

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| **~1 billion years BP:** Collision of continents produces Grenville Mountains, predating the Appalachians and creation of the super-continent, Rodinia.  **~750 my BP:** Rodinia pulls apart creating rift valleys where the Mississippi Valley and Cincinnati Arch now lie. New Madrid Fault System is a present day remnant of this rifting. Rome Trough, a graben-like structure, is created beneath what is now the Cumberland Plateau.  **~430my BP:** The gradual uplift of the Cincinnati Arch begins along a southwest axis in central Kentucky.   **~360my BP:** Alleghenian Orogeny forms southern Appalachian Mountains as the north African coast of Gondwana drifts into the south coast of Laurasia eventually forming Pangea.  **~350my BP:** Mississippian limestone that will become future karst is deposited in a shallow inland sea.  **~320my BP:** Seas are replaced by periodic swamplands and deltaic outwashes of clastics that eventually will form coal beds, shale and sandstone caprock of the Cumberland Plateau.  **~5.7my BP:** Upper levels of Bone Cave in Tennessee are abandoned.  **~3.5my BP:** Upper levels of Cumberland Caverns in Tennessee are abandoned.  **~2.2my BP:** Upper levels of Wolf River Cave are abandoned as the Cumberland River and its tributaries are downcut.  **~2my+ BP:** Teays River and Valley is formed draining Kentucky and Licking Rivers north into Ohio and possibly westward to Illinois or eastward into Pennsylvania.  **~1.8my BP:** Upper levels of Zarathustra Cave in Tennessee are abandoned as the Cumberland River and its tributary Obey River downcut.  **~1.6my BP:** Upper levels of Xanadu Cave are abandoned on the Obey River.  **~900,000 years BP:** Sands, silts and muds are deposited in Great Saltpeter and Sloans Valley caves. (Quartz pebbles were later dated by Anthony and Granger.)  **~70,000 to 18,000 years BP:** a series of Pleistocene glacial advances and retreats destroy the Teays River drainage, damming the Licking River and New River and creating a 7000 square mile lake nearly 900 feet deep in parts of Ohio, Kentucky and West Virginia, most likely including the Carter Caves area. During maximum glaciation and minimum sea level, abundant melt waters allowed the Mississippi River to flow 100 feet deeper than present effecting other rivers of the Cumberland Plateau such as the Cumberland and Kentucky Rivers. The final retreat allows the present path of the Ohio River to form.  **~10,000 to 35,000 years BP:** Jaguars left tracks and remains in Jaguar Cave, Tennessee.  **~10,000 to 12,000 years BP:** Clovis point deposited near Cumberland River northeast of Nashville, Tennessee. Chert was mined in western Kentucky for Clovis points. Cumberland fluted points were made and distributed along the escarpment of the Cumberland Plateau, one later found in Sloans Valley Cave Entrance. Fire was used at a rock shelter in Jackson County. Flat head Peccaries, leave remains in caves of Rockcastle and Wayne Counties, Vero Tapir in Rockcastle County Cave.  **~4500 years BP:** Explorers using cane torches leave bare footprints in Jaguar Cave, Tennessee.  **3000 years BP:** Woodland period peoples domesticate native Kentucky plants.  **2200 years before present:** Peoples of Adena Culture build mounds in Kentucky. Caves used for water, habitation, burial, possibly for minerals and ritual.   **1750:** Dr. Thomas Walker crosses “Cave Gap” later called Cumberland Gap along an Indian and buffalo path into Kentucky that would become Wilderness Road. He describes the entrance to Cudjo’s Cave found near the gap.  **1754-1763:** French and Indian War. Cherokee settled around the upper Cumberland in and around Burnside Kentucky, hold a war Counsel at the sacred Doublehead Cave vowing to hold their land against French and their Native allies from north of the Ohio. The French are defeated, but the celebrated War Woman, She-Who-Carries-The-Sun is killed in Battle.  **1775:** In the Watonga Treaty (1774) and the Overhill Cherokee Treaty (Sycamore Shoals, 1775), the Cherokee sell all of eastern and central Kentucky north of the Cumberland to the Transylvania Land Company (Henderson Purchase). Daniel Boone cuts Boone’s Trace through Rockcastle County and founds Fort Boonsboro on the banks of the Kentucky River.  **1775-1781:** American Revolutionary War.  **~1789:** Big Jake Troxell marries Corn Blossom, daughter of Chief Doublehead at Doublehead Cave.  **1790:** US Congress Declares war on Cherokee and other indigenous peoples of southeastern Kentucky. Treaties signed in 1791 & 1795.  **1792:** Kentucky becomes the 15th state admitted to the Union.  **1793:** Fight between Indian raiding party from Ohio and settlers near Murder Cave, which is named for hostages killed.  **1798:** John Baker discovers Great Saltpeter Cave and becomes lost exploring it.  **19th Century:** Pioneers use caves for water, food storage, camping, saltpeter: Saltpeter Cave, Carter County; Great Saltpeter Cave and Teemer’s Cave in Rockcastle County; Sloans Valley and Peter Pit caves in Pulaski County, and numerous others on a smaller scale, reaching pinnacle of production during the war of 1812. Whiskey brewed from springs along the Cumberland.  **1801:** mining begins in Great Saltpeter Cave.  **1805:** Dr. Samuel Brown, Saltpeter entrepreneur, buys Great Saltpeter Cave. The following year he writes of several peter caves in Jackson and Rockcastle Counties including Kinkaid’s Cave, later called Great Saltpeter.  **1806:** Doublehead (Chuquilatague) cedes the final of ten million acres of Cherokee land in Wayne and McCreary Counties outraging many of the Cherokee, possibly resulting in his assassination as a traitor by the faction led by Kahnungdatlageh.  **1810:** Massacre of Cherokee women and children at Yahoo Falls in McCreary County (near Eureka Cave) marks the final dispersal of Cherokee in Kentucky. Corn Blossom mortally wounded. Big Jake Troxell thought dead but escapes.  **1811-1812:** New Madrid, several earthquakes occur near the westernmost tip of Kentucky. Thought to be greater than a magnitude of 8, they are said to have caused the Mississippi to flow backwards.  **1818:** Luke Munsell produces the first official map of the state of Kentucky showing caves and karst features.  **1832:** Naturalist Constantine Rafinesque catalogues and describes Kentucky caves and their fauna including two from Rockcastle County.   **Mid-1800’s to mid-1900’s:** Short Creek Spring is location several grist mills over the years. Settlers begin exploring caves for pleasure.  **1870-1910:** Timber boom strips most old growth forest from Kentucky causing sediment influx and increased flooding in many caves.   **1873:** Cholera epidemics in Kentucky likely due to contaminated water (and cave springs).  **1877:** USGS geologist C. J. Norwood first describes geologic strata in Rockcastle County.  **1888:** A.L. Packard Jr. investigates fauna of Carter County caves.  **1896:** Oligonuk Caverns overlooking Carter City may have been the first tourist cave in the region. A spur rail line ran from Garrison to Carter, Kentucky. On weekends tourists could take an excursion train into Carter City and the Oligunuk Caves. (Ghost Railroads of Kentucky.)  **1930’s:** attempt made to commercialize Stab Cave (AKA Taylor Saltpeter).  **1937:** Daniel Boone Forest is created (originally called Cumberland forest.)  **1940-1942:** Clyde A. Mallott & Floyd C. Mallott survey more than 7.5 miles Sloans Valley Cave connecting Minton Hollow Cave to the commercial section then called Cumberland Caverns. This map is later published by the KGS as Malott, C.A., and McGrain, P., 1977, A Geologic Profile of Sloans Valley, Pulaski County, Kentucky. Renfro Valley Barn Dance is broadcast from Great Saltpeter Cave on WHAS radio in 1940.  **1941:** Construction begins on Wolf Creek Dam, which will contain waters of the Cumberland River flooding many caves including parts of Sloans Valley, Cave Creek, Coral and Wells Cave as well as the old city of Burnside, once a trading center of the Cherokees. Construction halted for three years in World War II.  **1949:** Alabama biologist, J. Manson Valentine visits a number of caves in Pulaski & Wayne Counties with Pulaski County Geologist, Woodson Diamond, and publishes a paper on cave beetles (1952).  **1950:** W. R. Jillson and students from Transylvania College in Lexington, survey lower levels of Sloans Valley (the commercial section then called Crystal Cave). Jillson privately publishes Geology of Crystal Cave in 1952.  **1952:** Wolf Creek Dam fully operational. Lake Cumberland filled.  **1954:** McGrain publishes Geology of Carter and Cascade Caves. Lake Cumberland reaches an all time low of 665.1 due to drought.  **1957:** Charles Fort surveys Blowing Cave in Wayne County possibly the first cave survey in that County. Ralph Ewers, Tom Klekamp, Paul Howeiler, Al Geiser and others form the Cincinnati Speleological Society, exploring caves in Carter County among others. Ralph Ewers at the Cincinnati Museum of Natural History creates a 16mm on cave life in Bat Cave and other caves in Carter County. Thomas C. Barr Jr. begins investigation of cave fauna of Eastern Kentucky.   **1959:** Eureka Cave in McCreary County makes national news when explorers claim the cave is bigger than Mammoth. Roy Davis maps Eureka, reporting its length of just over a mile in NSS News. In Carter County, Joe Voigt and COG members survey Jarvie Roark's Cave and others of Tygarts Valley in the 50's and early 60's.  **1961:** Greater Cincinnati Grotto (GCG) chartered by the NSS. The Grotto initiates the Kentucky Cave Survey as an on-going project, publishing a list of over 35 caves in Franklin County, Kentucky. First annual meeting is held at Bat Cave, Carter Caves State Park. (Later to be known as Karst-O-Rama)  **1962:** Al Geiser, aided by members of the GCG begins his mapping of Sloan’s Valley Cave, also known to the locals as Tater Cave. University of Texas Grotto Members, Thomas Costello and William Russell visit Rockcastle, and Pulaski Counties surveying Great Saltpeter, Sinks of Roundstone and Pine Hill Caves and exploring many more. They also visit Sinking Valley caves in Pulaski County. Tom Barr and others found the Blue Grass Grotto (BGG). GCG holds second annual meeting at Sinking Creek, Pulaski Co.  **1966:** Great Saltpeter Cave commercialized. A group of Boy Scouts from Cincinnati, Ohio begins the first survey of Wells Cave, mapping 15,000 feet. Philly Grotto cavers explore several caves and in Pulaski County including Slavey Pit.  **1967:** Wayne White publishes Speleography of Great Saltpetre Cave.  **1968-1970:** Emergency grouting of Wolf Creek Dam is credited with saving the dam, but does not solve the problem, cavernous limestone bedrock below the dam.  **1969:** Dave Beiter begins the fourth survey of Sloans Valley Cave and is joined by Lou Simpson who spearheads efforts by Columbus Ohio Grotto (COG) and the Blue Grass Grotto (BGG) surveying more than 24 miles, the longest in the Cumberland Plateau. Cavers from GCG explore multiple entrances in Hound Hollow that will eventually be surveyed as Coral System, the second longest cave survey of the Cumberland Plateau. The Coral Cavers will eventually be joined by DASS surveying the cave with additional help of COG & Cleve-O Grotto. Sinkholes for in embankment of Wolf Creek Dam on Lake Cumberland “due to the karst geology of the site characterized by an extensive interconnected network of solution channels in the limestone foundation.”  **1970-1980:** COG surveying in Pulaski & Wayne counties, DASS surveying Pulaski, Buck Creek; GCG surveying in Rockcastle, BGG surveying in Rockcastle Jackson, Pulaski & Wayne counties. Ken Tankersley surveys caves of Jackson County.  **1972:** G. Odell & J. Rebmann publish Caves of Rockcastle County. Beiter & Cooper report discovery of blind cave fish in Sloans Valley Cave. Coral/DASS cavers begin second survey of Wells Cave that will eventually exceed eleven miles. Ewers completes geology master’s thesis for the University of Cincinnati using data and photos from Coral, Wells and Sloans Valley caves.  **1973:** SWORCA (South West Ohio Regional Caving Association) discover the Miracle Mile in Goochland beginning a survey that will add five miles to the two previously mapped in the longest cave surveyed in Rockcastle County. Werner Jud and SWORCA Cavers discover Blind cave fish in Coral.  **1974:** Cave Run Lake is completed by Army Corps of Engineers. Miami Valley Grotto forms.  **1975-77:** A concrete diaphragm wall is constructed at Wolf Creek Dam to prevent undermining by bedrock karst features. Feb. 9, 1977, Lake Cumberland reaches low level during construction (677.85 ft), opening many submerged passages previously below the lake.  **1979:** Thomas Barr and Donald Harker Jr. publish Caves and Associated Fauna of Eastern Kentucky.  **1980s-90:** Cavers fight to prevent a proposed garbage landfill draining into Sloans Valley. Cavers, speleologists and local groups testify at hearings. BGG & MVG begin surveying in Long Hollow and Sinking Valley systems.  **1981:** Lake Cumberland reaches (675.1ft.) allowing Mike Johnson to make previously sumped Coral and Dave’s Cave connection solo.   **1983:** Jon Thompson & cavers from Pulaski County and Cumberland College form the Lake Cumberland Speleological Society. They resurvey (Pulaski County) Wind Cave finding new passage. A flash flood in Rockcastle County traps GCG cavers in Precinct 11 Cave. Dr. Horton Hobbs & WUSS survey Saltpeter-Moon System and other caves in Carter County.  **1984:** (May 13) Big Flood in Pulaski & Wayne Counties, eight-inch rain raises Lake Cumberland to highest level ever (751.7), flooding Coral & Wells Caves and many others to new heights. Doc Daugherty and MVG surveying Ranch Cave and Big Sink in Sinking Valley.  **1985:** Percy (Doc) Dougherty edits Caves and Karst of Kentucky.  **1986:** Attempt made to get permit to strip mine Long Hollow, permit withdrawn 1987. Strip mines are initiated above Hail Cave and Pourover Cave on east and west sides of Buck Creek.  **1989:** Great Saltpeter Preserve is formed.  **1990-2000:** GCG surveying Rockcastle County Caves. COG, DUG, GCG, MVG & others survey Black House Mountain Caves.  **1998:** Plans announced to build I-66. The proposed preferred route would take the interstate through prime karst including Wells and Coral Caves. Lee Florea alerts cavers and a loose coalition of cavers and environmentalists are formed to challenge the proposed route (Kick-66). Cavers and hydrologists critique karst aspect of the plans.  **1999-2000:** Partly in response to I-66 and other ecological threats, regional Grottos, project cavers and the Kentucky Geological Survey form the Kentucky Speleological Survey to house maps and GIS data and to inform state planners of karst locations. Lee Florea and others begin surveying other caves in the possible alignment including Kneeshredder, forming the Shreddites survey group.  **June 2000:** the Kentucky Transportation Cabinet scraps plans for the southern alignment over Wells and Coral Caves and initiates a new study of possible alignments to the north.   **August 2001:** NSS Convention is held at Great Saltpeter Cave. Hydrologic field trip tours Sinking Valley. Jason Gully begins series of sump dives and surveys in Short Creek, Sinking Valley and Coral Cave along with Sam Freshour, Steve Keene and Sue Sharples.   **2002:** Planning stage for the Northern Bypass of I-66 around Somerset begins. Business and political leaders convince the KYTC to move I-66 further north, possibly threatening the Sinking Valley System. Lee Florea, Jason Gulley and others begin surveying caves of Sinking Valley with a grant from the NSS.  **2003:** Jim Helmbold, a DASS Caver, donates land including two entrances to Wells Cave to the NSS for a preserve. Chris Johns and Larry Simpson film The Caves of Sinking Valley to document caves in the I-66 corridor.  **2004:** Rockcastle Karst Conservancy Formed. Preliminary Karst identification for the I-66 proposed corridors between Somerset and consultant, Gannett-Fleming, begins London. Geologists identify karst features. Biological survey of caves by Dr. Julian Lewis begins. Bat survey by Price Sewell is begun.  **2005:** Jim Currens and the Kentucky Geological Survey begin a dye trace study of karst in the proposedI-66 corridors for the KYTC. KGS surveys Light Hole Cave.  **2006:** Preliminary phase for plans to pour a new grout curtain into bedrock 25 feet below Cumberland Dam to prevent failure of dam. The new waterpark in Somerset is damaged by sinkhole collapse shortly after the park is opened.  **2006:** Rockcastle Karst Conservancy obtains ownership of the Great Saltpetre Cave in Rockcastle County, Kentucky. |