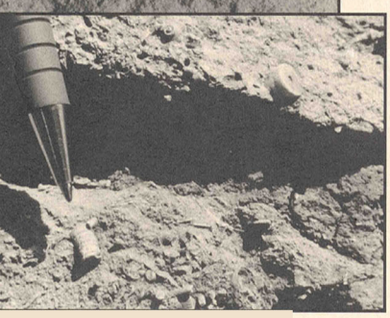
Explore the Milford Lake Spillway

The flood of '93 exposed several million years of geology like a deck of cards spread on the table. This is your opportunity to walk through time and look for evidence of the life found here about 280-290 million years ago.

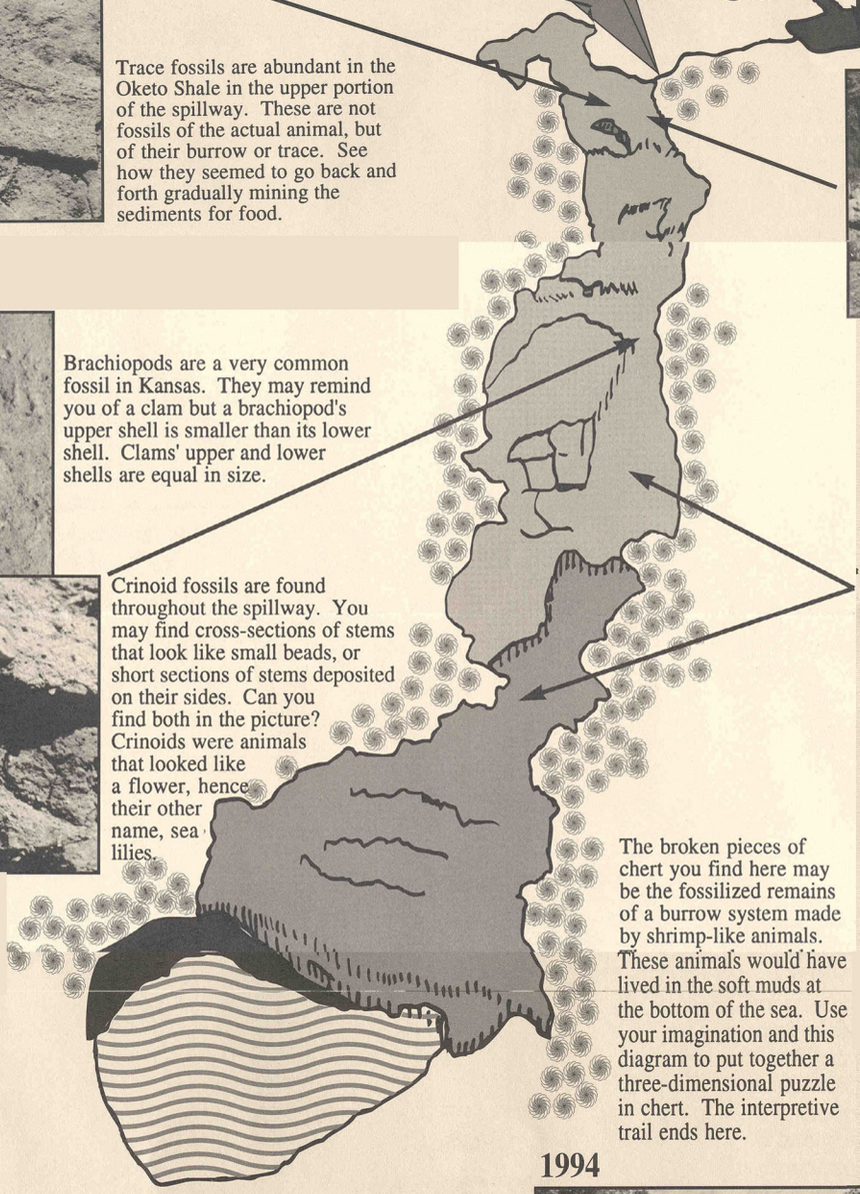
To enter the Milford Lake Spillway, begin at the Spur 244 parking lot and follow the trail to the edge of the canyon. There your exploration begins. The interpretive sites inside the canyon are marked with orange circles. A magnifying glass or hand lens may help make your visit even more enjoyable.

Trace fossils are abundant in the Oketo Shale in the upper portion of the spillway. These are not fossils of the actual animal, but of their burrow or trace. See how they seemed to go back and forth gradually mining the sediments for food.

Brachiopods are a very common fossil in Kansas. They may remind you of a clam but a brachiopod's upper shell is smaller than its lower shell. Clams' upper and lower shells are equal in size.



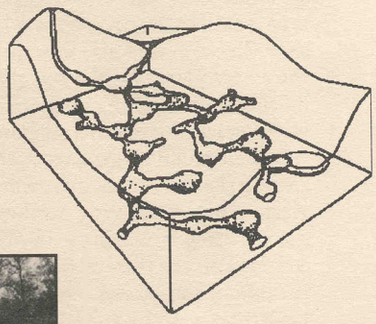
Crinoid fossils are found throughout the spillway. You may find cross-sections of stems that look like small beads, or short sections of stems deposited on their sides. Can you find both in the picture? Crinoids were animals that looked like a flower, hence their other name, sea lilies.



Stone from the Ft. Riley Limestone formation was locally a very popular historic building material. As the name implies, many of the original structures on Ft. Riley, as well as area homes and public buildings, were constructed of the material

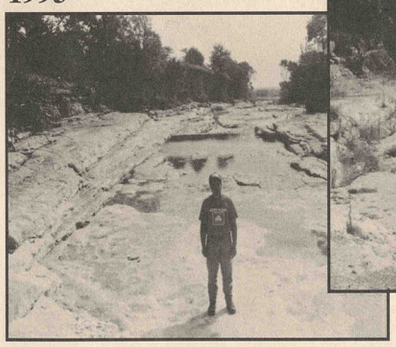
Chert is another name for flint. Its abundance in this region gives rise to the name Flint Hills. Chert's hardness and chipping qualities made it a good material for making arrowheads and stone tools. Chert deposits are commonly found in another limestone formation known as Florence Limestone.

The broken pieces of chert you find here may be the fossilized remains of a burrow system made by shrimp-like animals. These animals would have lived in the soft muds at the bottom of the sea. Use your imagination and this diagram to put together a three-dimensional puzzle in chert. The interpretive trail ends here.



Warning: For your safety, please follow the painted trail markers. The spillway area can be dangerous. Surfaces are uneven and will be slippery when wet. Do not climb on the exposed plant roots and dirt banks. And remember, it's against the law to collect fossils on federal property.

1993



1994

Freezing and thawing, the roots of plants, and the effects of flowing water are constantly changing the spillway. Nature is a continuing process of change, with no real beginning or ending. Compare these photos taken a year apart – just after the flood in 1993 and a year later in 1994. Enjoy this unique opportunity while it lasts.

US Army Corps of Engineers

Milford Lake

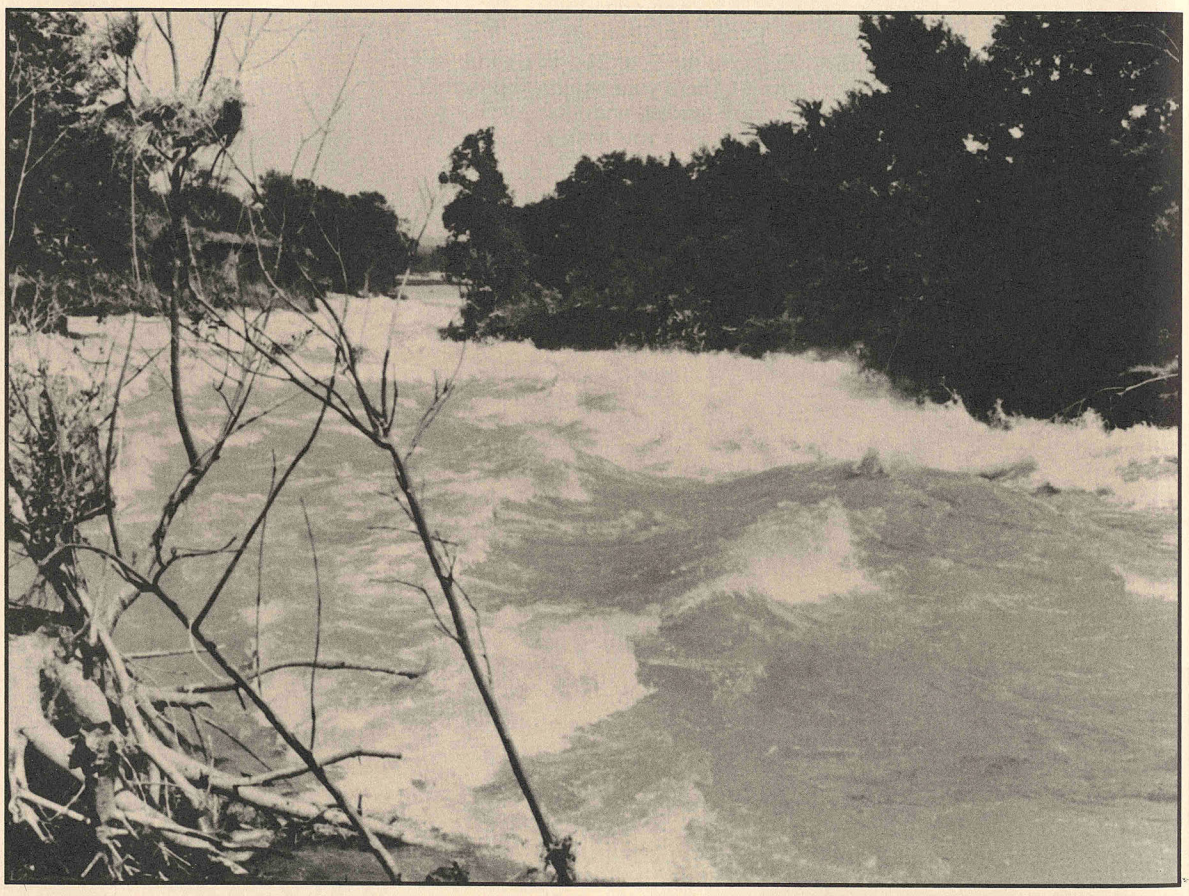
Floods, Fossils, and Finding Your Way

Flood of '93

Milford Lake got its biggest test ever in the Summer of '93, fulfilling one of its major purposes – flood control. The dam performed as designed and held flood waters back for later release, lessening the downstream damage. Finally, in late July, the lake had risen to the level of the spillway and much more water was coming. From that point on, the lake was no longer in the "flood control" business. All additional waters which flowed in, had to be released.

And a spectacular release it was. This raging torrent through the spillway performed like the overflow tube in a bathtub. The spillway was designed and built to prevent flood waters from overtopping the dam.

When the spillway flood waters subsided, the Spur 244 road had been washed out along with thousands of dumptruck loads of soil and loose rock. The surprise was the millions of years of geology uncovered for all of us to study and enjoy.



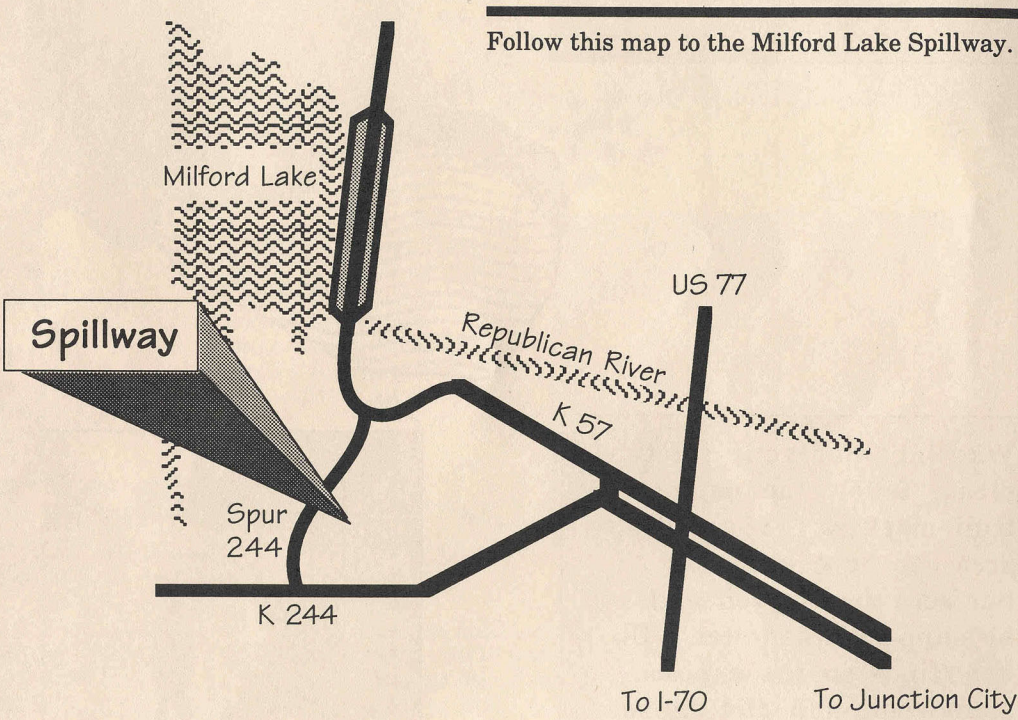
Milford Lake's Spillway during 1993's maximum outflow of 19,000 cubic feet per second

Fossils

Fossils and rock formations found in the spillway help geologists determine the age of the rocks to be about 280-290 million years old. That's long before the dinosaurs were roaming the earth. The marine fossils also tell us that Kansas was a different sort of place then. Continental drift had Kansas on the move — located at this time in geological history, nearer the equator.

The Kansas climate was tropical and the area was actually covered by a large inland sea. Glaciers were also present. During the colder periods when the glaciers were moving south, locking up more of the free water in ice, the sea was shallower. The resultant mudflats gave us the dark shales. During the warmer periods when the glaciers were retreating northward and the sea was deeper, marine animal remains collected on the bottom and contributed to the lighter limestones. In your explorations of the spillway, look for the color differences in the rocks.

Dark and light layers of shale and limestone tell us a story of ancient seas and shores.

Find Your Way

Follow this map to the Milford Lake Spillway.