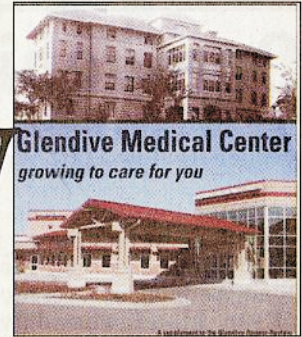


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Graduate student presents at first campfire event

By Cindy Mullet
Ranger-Review Staff Writer

University of Wisconsin-Milwaukee graduate student Mike Kennedy, who is working in Makoshika State Park with Professor of Geology John Isbell and six university students, presented Makoshika State Park's first campfire program of the 2010 season Thursday night.

Isbell, who also works with Peter Sheehan of the Milwaukee Public Museum and David

Fastovsky of the University of Rhode Island, has been coming to Makoshika to study the critical interval in earth history defined by the transition between the Cretaceous and Tertiary periods or the K-T boundary. He and Kennedy visited Makoshika last year and targeted sites they considered important for their research. This summer they are studying those sites more carefully, Isbell said.

Their research is testing the hypothesis of extinction as a

cause of environmental disruption at the K-T boundary and should help them understand how and why the landscape changed as evidenced by differences in the sediment above and below the K-T boundary, Kennedy said.

Scientists generally agree the impact of an asteroid significantly altered life on earth and caused a mass extinction in which 70 percent of all species was lost. This is demonstrated by the fact no dinosaur bones are found

above the layer of coal separating the Fort Union and Hell Creek formations, he said.

Coal is composed of compressed plant matter. The existence of such a distinct layer points to a sudden devastation of plant life, he added.

In testing their hypothesis the researchers are looking at differences in sediment above and below the K-T boundary. Above the boundary they find variegated beds of yellows and

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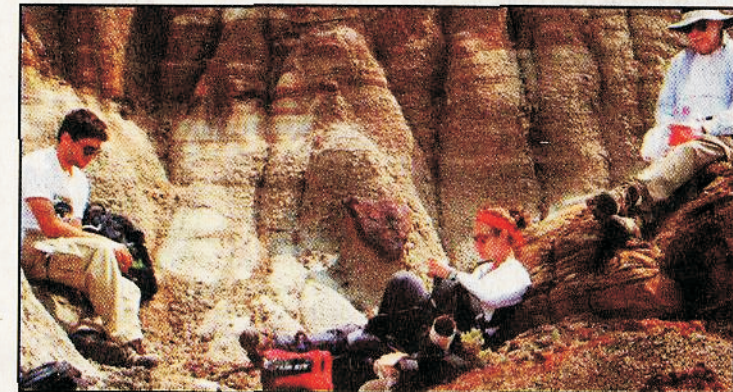


Photo courtesy of University of Wisconsin

Mike Kennedy and Danielle Sieger of the University of Wisconsin-Milwaukee and Peter Sheehan of the Milwaukee Public Museum pause for lunch in Makoshika State Park during a research trip in 2009.

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brown and layers of white which are probably from stream deposits. Below are dull gray soils, he said.

This dramatic change may have been caused by a rise in the sea level to the east of Makoshika and a resulting rise in the water table producing swamping. Another theory relates the change to an uplift in the mountains to the west. The third explanation is from a sudden devastation of plant life, he said.

Some scientists speculate that a large thermal pulse following the asteroid impact caused tremendous wild fires in many parts of North America. These led to the decimation of plant life and lots of erosion. They are testing this hypothesis in their studies in Makoshika, he said.

While the massive fires may have decimated plant life, even without them, the global darkness resulting from the dust and opaque gases following the asteroid impact would have had led to the loss of plant life and the extinction of creatures, such as dinosaurs, that were dependent on plants for their food, he said.

Smaller mammals and some insects that could feed on the decaying plant material were

able to survive. With the extinction of the dinosaurs, they were then able to flourish, he noted.

The loss of plant cover also led to massive erosion as plant growth no longer stabilized banks of streams and rivers and sediment clogged streams leading to forming ponds. Some of these effects can be seen on a smaller scale after a major forest fire, he said.

Makoshika is a key point in their studies, Isbell said. The canyons give a three-dimensional view that is not found in many other places and gives the researchers exposure to much greater variety of zones. "Makoshika is perfect for that," he said.

Isbell, Kennedy and the group of students finish this summer's studies in Makoshika on Sunday. The rain during the week they were in the area made for some slippery climbs up and down gullies and they had to resort to walking to reach their most important site but still had a successful week, Isbell said.

Reach Cindy Mullet at crmullet@midrivers.com.