

## PARK SCIENCE

## Rhinoceros Fossils Found at Wind Cave

*Remains of 32-million-year-old rhino give clues of area's history.*

WIND CAVE N.P., S.DAK.—When Dr. Greg McDonald looked down and saw a row of teeth protruding from the ground in Wind Cave National Park's backcountry, he knew he was on to something.

"Then I saw a skull in place and a jaw next to it," he said. "We were all thrilled to find that. It was enough to make my day, my month—and then it got better every time we moved some dirt."

Once the dirt had cleared, McDonald and his crew discovered fossils from a 32-million-year-old, cow-sized rhinoceros. Thrilling as that discovery was, McDonald and the rest of the crew grew more and more excited when they began finding other remains, such as prehistoric bones of a greyhound-sized horse, a deer, a rabbit, and a dog.

"This was more than we would have dared to hope for," said McDonald. "To find remains from the other animals helps us to reconstruct what the ancient ecosystem of the Wind Cave area was like 32 million years ago—which animals were there and what was going on."

Scientists believe that the park's cave system was much smaller and probably inaccessible to large animals when the rhinoceros roamed the area. But the discoveries will cast further light on the development of the Great Plains, which are believed to have had a climate similar to Florida's millions of years ago, as the plains emerged.

As is the case with most sites of high elevation that have experienced erosion, fossil finds are very rare in South Dakota's Black Hills, said McDonald.

"Most previous discoveries have been single bones and isolated teeth, bits and pieces," he said. "To find not only a complete skull and jaws but part of a

skeleton as well was totally unexpected and extraordinary."

The rhinoceros fossil, tentatively identified as a *Subhyracodon sp.*, is believed to be a distant cousin of today's rhinoceros in Africa. Its age was extrapolated from what is already known about the species in other areas.

"Part of what we'll be looking at is whether this site where the animal died was much lower 32 million years ago and later pushed up, or were the Black Hills already in place and this animal was living in higher elevation than we knew," he said. "If so, that would give us a better understanding of the range of habitat this animal could live in."

The crew, which began its work in July, was led by McDonald and consisted of staff from Badlands National Park, the Mammoth Site of Hot Springs, South Dakota—the world's largest mammoth research facility—and Wind Cave National Park. They worked for almost a week to stabilize the fossils and remove them.

Weighing nearly twelve hundred pounds, the fossil material, encased in sediment and plaster jackets for protection, was transported to the Mammoth Site to prepare the

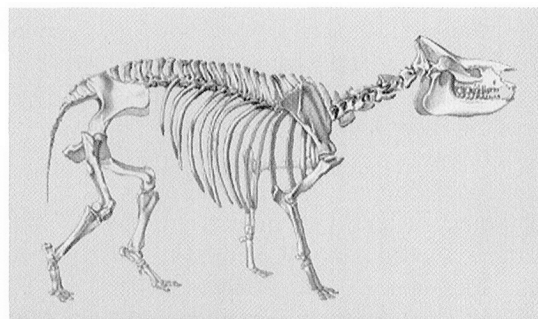
specimen. It quickly sparked interest from visitors and staff.

"We are very excited about this discovery and hope people will stop by the park to view our display on the [rhinoceros remains] and other fossils found at the site," said Superintendent Linda L. Stoll, "along with stopping at the Mammoth Site to view the work in progress."

Added McDonald: "As expected, the researchers were very excited about it. But the enthusiasm and desire of the park staff to do the project right just blew me away. There was just a lot of excitement when we told them what we had come up with.

"It really goes to show you," he added, "that you never know what types of neat, exciting resources will turn up in a park."

To learn more about the discovery and to view photos and video clips of the dig, visit [www.nps.gov/wica](http://www.nps.gov/wica).



**Dr. Greg McDonald excavates the remains of the ancient rhinoceros found protruding from the ground at Wind Cave. Above: a diagram of the rhinoceros' skeleton.**