



# News Release

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**Contacts:** Kathleen Hedges, New Mexico Tech, 575/835-5618  
Jose Viramontes, US Fish and Wildlife Service, 505/248-6455  
Tim Aydelott, NM Museum of Natural History and Science, 505/841-2845

## **10 MILLION YEAR OLD FOSSIL DISCOVERED AT NATIONAL WILDLIFE REFUGE**

Known the world over as a premier destination for bird watching and wildlife conservation, Bosque del Apache National Wildlife Refuge recently added an unexpected and unusual species to its list of mammals that once called the refuge home. On February 22, two geologists from the New Mexico Bureau of Geology & Mineral Resources and a student from New Mexico Tech discovered a fossil embedded in a rock face. Paleontologists from the New Mexico Museum of Natural History and Science have confirmed the fossil is from an oreodont, an extinct group of hooved ungulates that were unique to North America and lived during the Miocene era between 10 and 15 million years ago.

Dr. Dave Love and Dr. Richard Chamberlin, two geologists with the New Mexico Bureau of Geology & Mineral Resources, a division of New Mexico Tech, and Colin Cikoski, a NM Tech graduate student were conducting a geologic mapping project on the wildlife refuge when they came upon a fossilized upper and lower jaw and other fragmentary fossil bones.

“We noticed an exposed fault, and I could see a white thing in the canyon wall, which I knew right away was a fossil” said Dr. Love. “The closer we got the better it looked. We took a picture and went to let the Refuge and the museum know about the fossil.”

According to Dr. Love, the fossil was in a 10-million-year-old layer of sandstone and conglomerate of the Popotosa Formation of the Santa Fe Group. He added that the fossil is significant because it is the first known fossil discovered in this formation in the area.

Earlier this week, a team led by Gary Morgan, Assistant Curator at the New Mexico Museum of Natural History and Science, visited the site to excavate the fossil. The fossil, embedded in a steep cliff face, was carefully removed from the mix of soft sands, gravel, and rock. Before completely removing the fossil from the rock it was wrapped in plaster to protect during transport to the Museum of Natural History and Science where it will be further evaluated.

“Oreodont fossils are uncommon in the Southwest. In New Mexico, most previous records are from the northern part of the state near Española,” said Gary Morgan. “The Bosque del Apache oreodont is one of the most complete fossils and one of the southernmost examples of this group from New

Mexico. Elsewhere in the western US, oreodonts are most common in older rocks between 25 and 35 million years old in the northern Great Plains."

Morgan explained that the recent find from the Bosque del Apache National Wildlife Refuge consists of a skull, lower jaws, and part of the skeleton. The Bosque del Apache animal belongs to a group of large oreodonts that lived in the latter part of the Miocene epoch between about 10 and 15 million years ago, very late in the oreodont's reign. It had a large head, a small trunk, rather short legs on a longish body, and resembled a cross between a pig and a camel. Oreodonts were herbivores that probably browsed on leaves in streamside forests—the Miocene bosque.

"Bosque del Apache has been providing the public unique opportunities to observe thousands of migrating waterfowl every year," said Tom Melanson, Manager at Bosque del Apache. In addition to the popular *Festival of the Cranes*, the refuge offers numerous photography, hunting, and recreation opportunities throughout the year. "We have been able to do this by providing quality wildlife habitat since the refuge was established in 1939. I guess some of the wildlife found on the refuge is more unique – and older - than we ever knew," Melanson joked when told of the fossil discovery.

Through an agreement with the New Mexico Museum of Natural History and Science the fossils will be added to the museum's collection. In the future, the fossil, or a replica, may be put on display at the museum or at Bosque del Apache's Visitors Center.

The Miocene period was millions of years after the extinction of dinosaurs and millions of years before the first known humans. In New Mexico, the Rio Grande did not yet exist as a river. Instead, a series of closed basins and dry lakes stretched down the central part of New Mexico. During this time period, many volcanoes erupted along the Rio Grande Rift. In fact, it is one of these eruptions, dated at 8.6 million years ago, that helps define the age of this fossil.

The 57,331-acre Bosque del Apache National Wildlife Refuge in southern Socorro County, New Mexico, is one of 548 Refuges in the United States and is managed by the U.S. Fish and Wildlife Service. The refuge comprises arid grasslands and wetlands and provides habitat to thousands of cranes, geese, and ducks every winter.

The New Mexico Museum of Natural History and Science is the state repository of fossils found on federal and state lands in New Mexico. Paleontologists at the Museum study the fossils and geologic stratigraphy from Pre-Cambrian to Pleistocene times in New Mexico and the Southwest. Gary Morgan specializes in mammals of the Cenozoic Era.

New Mexico Tech (officially New Mexico Institute of Mining and Technology) is a world leader in many areas of research, including hydrology, astrophysics, atmospheric physics, geophysics, homeland security, information technology, geosciences, energetic materials engineering, and petroleum recovery. One of New Mexico Tech's divisions is the New Mexico Bureau of Geology and Mineral Resources, the state's geological survey office. Love, Chamberlin, and Cikoski were producing a geologic map of the area when they made the discovery.

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B-Roll of the fossil excavation available by contacting Jose Viramontes at 505/248-6455

High-resolution still images available by visiting: [www.fws.gov/southwest/refuges/index.htm](http://www.fws.gov/southwest/refuges/index.htm)