

The Communicator

Published by The Central Nebraska Public Power and Irrigation District

Father's Day Fossil Find at Lake McConaughy

A typical Father's Day weekend trip to the lake turned out to be a not so typical adventure for a family of four last summer.

The Mues family of Culbertson, Neb., was fishing from their kayaks on the south shore of Lake McConaughy when they noticed what appeared to be a cow skull on the bank.

After getting a closer look, they determined the skull was not from a cow and reported their discovery to Ashfall Fossil Beds State Historical Park, a cooperative program between the University of Nebraska State Museum and the Nebraska Game and Parks Commission.

Ashfall then contacted State Museum Highway Paleontologist Shane Tucker, who went to the site for an initial inspection.

After covering the fossil for protection, Tucker and museum staff decided to wait until the lake was at a lower level near the end of irrigation season to begin excavation activities. In the meantime, Tucker obtained an excavation permit from Central.

Once the lake level was low enough to allow excavation, Tucker and his team began by removing as much material as possible from around the



Teleoceras Skull — The skull is shown here after the excavation crew began forming the “island” around the skull while removing it from the Ash Hollow rock formation at Lake McConaughy and moving it to the Nebraska State Museum for further inspection and proper restoration.

skull creating somewhat of an “island.” The fossil was embedded in sandstone, which is a sedimentary rock of medium hardness, but had a fairly high concentration of calcium carbonate deposits that had attached themselves to the fossil, making it harder to extract.

To remove the fossil intact, the crew placed tissue paper over the fossil and then covered the paper in a plas-

ter jacket that hardened and held the fossil together to make it easier to transport.

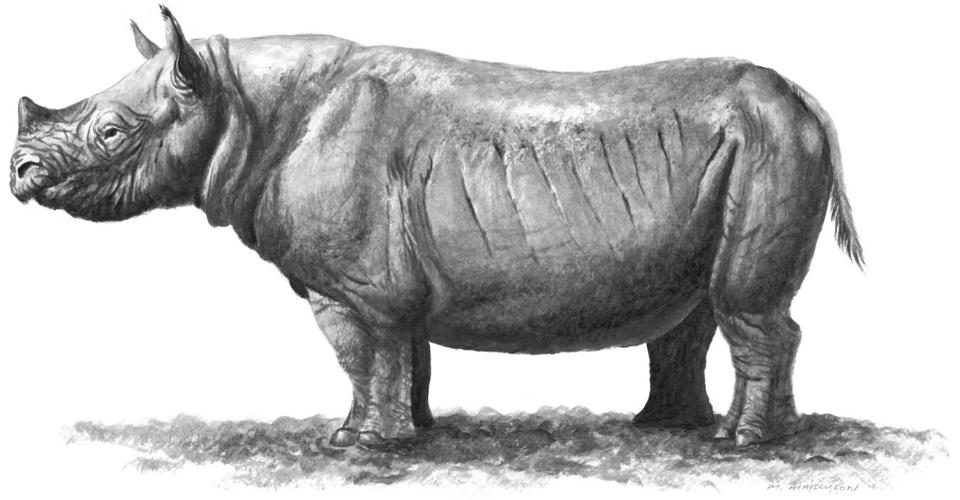
Tucker identified the fossil as a prehistoric Barrel-bodied Rhino or *Teleoceras* (pronounced tee-lee-OSS-ur-us). Although the body shape of the rhino is very similar to today's common hippopotamus, it was similar in appearance to an African black rhino. At the time of its existence,

(Cont. on p. 2)

Fossil Find (continued from page 1)

which Tucker estimated to be nine to 11 million years ago, Nebraska's climate was similar to that of an African savannah. The teleoceras disappeared from North America about five million years ago at a time when paleontologists say that colder temperatures and a change in forage grasses were taking place.

Tucker estimated that the rhino most likely shared its habitat with four-tusked elephants, camels, primitive horses, lions and a canine species called epicyon (also known as "Top Dog"), one of the largest prehistoric dogs to ever live in North America. Epicyon was approximately five feet long and weighed about 500 pounds, which made it similar in size to an African lioness. Fossil remains of the "Top Dog" were also recovered from Lake McConaughy's shoreline several years ago.



Barrel-bodied Rhino (Teleoceras major)

found in the Ash Hollow formation, which consists of river and floodplain deposits. When living, the barrel-bodied rhino was about three and a half feet tall at the shoulder and more than 10 feet long. Adults likely

weighed more than 2,000 pounds.

The excavation project was a joint effort, as Tucker and his staff were also assisted by the Mues family, as well as Central's staff members Nate Nielsen and Gabe Wilson.

Central also provided a boat, which was re-

quired to reach and transport items to and from the site as there were no roads near the fossil location.

Tucker said the species will likely be used as a teaching tool at the Nebraska State Museum inside Morrill Hall on UNL's campus. A special teach-

ing lab is being prepared for opening in 2019 and the teleoceras fossil is a candidate to possibly be one that could be cleaned, preserved and researched in a setting that allows the public to watch the process.

"The collaboration among the various Nebraska agencies was important to the recovery of the specimen," Tucker said. "Such discoveries are not uncommon around Lake McConaughy, although it's more rare to find them on the south side of the lake."

"It's important to let people know that if they find similar fossils, they're encouraged to contact the State Museum," he added, "so that the fossils can be properly excavated and Nebraska's past can be preserved, rather than having someone carry them off and put them in their garage or basement."



Mues Family and crew — Pictured left to right are Drake Mues, Jen Mues, Gabe Wilson, Shane Tucker, Dustin Mues and Daelyn Mues standing around the rhino skull before extraction at Lake McConaughy.

At the rhino excavation site, other fossils were found including teeth and possibly the remains of a skull from a three-toed horse.

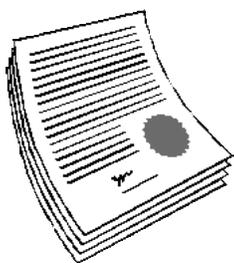
The rhino skull itself was approximately three and a half feet tall and weighed about 200 pounds. It was

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Published by The Central Nebraska Public Power and Irrigation District
415 Lincoln St., P.O. Box 740
Holdrege, NE 68949-0740
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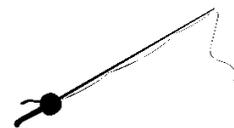
Editor: Jeff Buettner. Writer: Holly Rahmann
The Communicator is published by CNPPID to inform its customers and interested parties of District activities and issues.
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On the Lakefront



Johnson Lake alternate lease signings were due January 15th. If you have not yet signed your alternate lease and you plan to switch

from your old lease, please contact the Land Administration office ASAP at 308-995-8601.



If you plan on doing work to your dock, structures on your lot, or other construction projects this spring, please check your permitting procedures for guidelines and contact



Central's Land Administration team to secure all necessary permits before your projects begin. Tree trimming and other vegetation projects are not regulated until April. After April, you must have a permit for those projects as well.

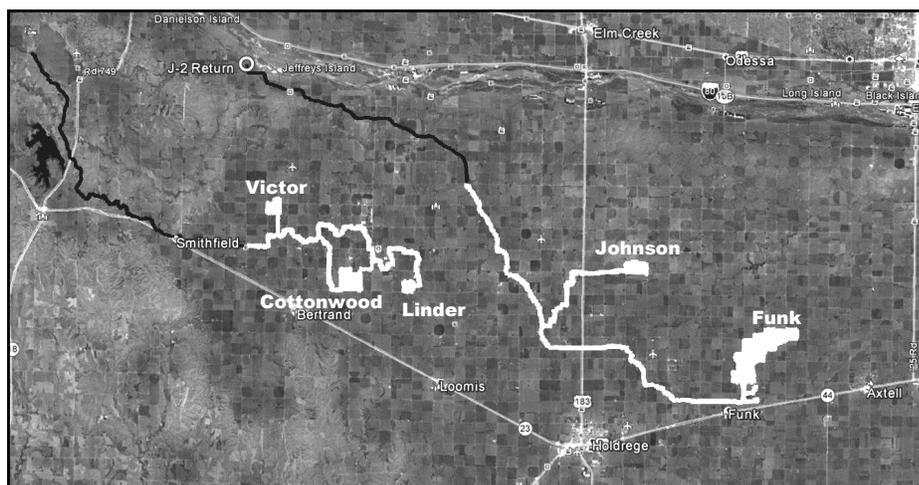
Rainwater Basin Recharge Projects on the Horizon

A new groundwater recharge project is in the works for the area. Central has been working in partnership with Tri-Basin Natural Resources District, Rainwater Basin Joint Venture, U.S. Fish and Wildlife Service, Ducks Unlimited and the State of Nebraska to develop a new project that would provide water to wetlands across Gosper and Phelps Counties.

The plan would enable Central to divert excess flows from the Platte River — when available — to help recharge groundwater supplies and also provide water for wetland habitat.

Central would build infrastructure to aid in the delivery of water to each of the five lagoons that are in the current plan. Ideally, the pipe installed would be large enough to allow Central to deliver enough water to fill the wetlands within a one-week period.

Central has a water service agreement with the participating members of the project to deliver water ONLY when there are excess flows in the Platte River. In recent years, this has been primarily in the fall, after irrigation season has ended. Estimated water



Lagoon Map — Pictured above in white are the areas where Central's canal and pipeline would access the WPAs, which are the larger white areas listed on the map.

deliveries could amount to approximately 3,700 acre-feet of water per year.

The project would include monitoring of nearby groundwater wells so that recharge would stop when the water table reaches a certain threshold. The recharge from the project will also be modelled to determine the return flow benefits to the Platte River Basin.

The local partners will annually develop a plan for the recharge diversions and establish groundwater level thresholds that would restrict recharge deliveries when groundwater levels near the waterfowl production

areas (WPAs) approach those levels.

The estimated cost of the project is \$1.45 million with funding coming from Central and from grants through the Nebraska Water Resources Cash Fund, the U.S. Fish and Wildlife Service and Ducks Unlimited.

Long-term benefits from the project include beneficial use of excess flows, water for wetland habitat, enhanced groundwater quality and quantity, helping Tri-Basin NRD with water management plans and additional income from water deliveries to the sites.

The Central Nebraska Public Power
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South Central Water Conference

The South Central Water Conference (formerly Holdrege Water Conference) is scheduled for Tuesday, Jan. 30 at the Phelps County Ag Center in Holdrege.

The Lower Republican NRD joined the planning committee this year, along with past sponsors Tri-Basin NRD, Holdrege Chamber of Commerce, Central and Phelps-Gosper Counties Nebraska Extension. The conference begins at 9:30 a.m. and will conclude after the final speaker around 3 p.m.

This year's agenda includes the following topics and speakers:

- “Cornerstone Resources Observation Plot-Test Irrigation Project (CROP-TIP)” by Dan Leininger, Upper Big Blue NRD
- “Insights from the UNL Testing Ag Performance Solutions (UNL-TAPS) 2017 Farm Management Competition” by Daran Rudnick, UNL Extension
- “Irrigation Efficiency vs Sustainability: Confusing Productivity with Aquifer Life” by Darel Martin, UNL Extension
- “Climate Extremes in Nebraska” by keynote speaker Ken Dewey, UNL Regional Climatologist

- “Platte-Republican Diversion Project” by John Thorburn, Tri-Basin NRD
- “Water Supplies in South Central Nebraska” by Cory Steinke, CNPPID; Nolan Little, Tri-Basin NRD; Scott Dicke, Lower Republican NRD; and Craig Scott, U.S. Bureau of Reclamation.

A free lunch will be provided to attendees by the water conference sponsors.

<http://www.cnppid.com>

On the Web

Central's website has a quick links feature on the homepage where you can find the most recent information. Find the big blue buttons on the right side of our homepage.

Also, check us out on Facebook at www.facebook.com/cnppid/ for updates on current events and photos from around the District.