

Fossils In North Dakota

FIND is a newsletter dedicated to helping young readers (in age or spirit) express their love of fossils and paleontology and to help them learn more about the world under their feet. Each issue will be broken up into sections including Feature Fossils, Travel Destinations, Reader Art, Ask Mr. Lizard, and more!

Fall 2026 No. 61

Editor: Alex Gardner

North Dakota Geological Survey
600 East Boulevard Ave
Bismarck, ND 58505

acgardner@nd.gov

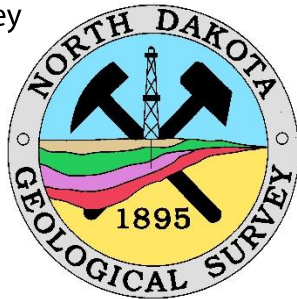
Next issue: December 2026

View past issues here, or subscribe
to future free FIND newsletters at:

dmr.nd.gov/dmr/paleontology/fossils-north-dakota-find-newsletter

2026 Public Fossil Dig Review

NDGS Paleo welcomed nearly 300 participants this season, about 2/3rds of which were newcomers, and removed a total of 83 jackets. We also set a new record this dig season: we had *zero rain days*! Save for one afternoon that required everyone to pack up a couple hours early, no digs were canceled from rain. This was likely because staff were digging elsewhere during June, meaning no one had the chance to get rained out of Medora. Regardless, we'll take the win!



Bismarck

At the end of last season, a couple jackets had to be left in the ground as there wasn't enough time to retrieve them. This time around, we were able to recover those jackets. One of them was especially large, containing a partial *Edmontosaurus* pelvis, which is now being prepared in the lab.



Above: The *Edmontosaurus* jacket in the ground with Clint Boyd about to start digging tunnels for straps underneath.

Below: The *Edmontosaurus* jacket after sediment was removed and the excess plaster cut away. It has a protected cap made out of plaster strips to keep it stable during cutting.



Some other highlights include multiple vertebrae, a few crocodile osteoderms, a couple *Champsosaurus* bones, and two *T. rex* teeth. Overall, we were able to bring home 34 jackets!



Above: An *Edmontosaurus* metapodial (a bone within the hand or the foot).

Below: Izzy showing off her discovery, a crocodile osteoderm.



Above: One of the two *T. rex* teeth recovered this summer.

Pembina Gorge

Participants returned to the Fish Quarry this season. Living up to its name, a lot of fish material was recovered. Participants found a string of articulated fish vertebrae, a partial fin and skull, a couple of partial fish jaws, and what is likely a claw from the diving bird *Hesperornis*.



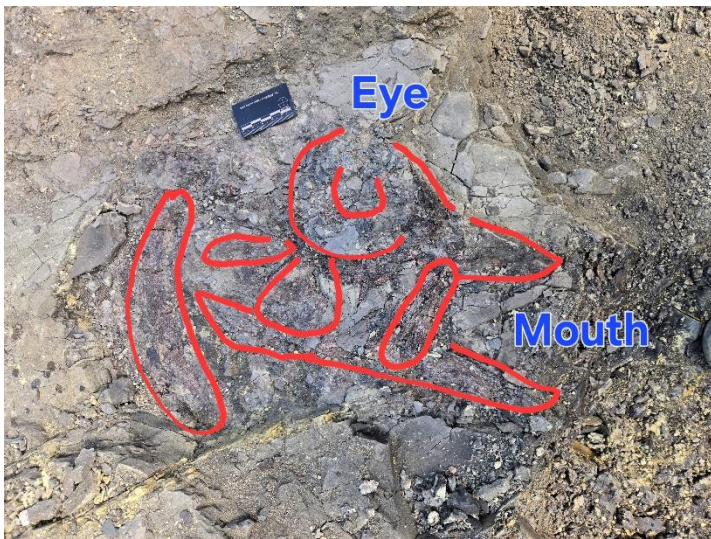
Above: Our view from the Gorge on the first morning.

Below: An articulated fish pectoral fin.



The star of the dig is an articulated, more than 6-foot long ichthyodectid fish, lovingly named Jimothy Junior (JJ for short) as it was found very near Jimothy's pit and is slightly shorter in length. Participants and staff were able to expose the skull, vertebrae, ribs, and tail. Whether or not the fins are present remains to be seen.

In terms of preservation quality, JJ may have a leg (fin?) up on that, though preparation needs to be completed on him first. In terms of distinguishing the skull bones, JJ's skull is definitely easier to discern in the matrix.



Above: JJ's head with the bones outlined in red.
Below: JJ's tail fully exposed, outlined in red.



Above: JJ before (top) and after (bottom) being jacketed. As you can tell, we draw nothing but the most scientifically-accurate fish here at NDGS Paleo.

Dickinson

After resting for a couple years, the dig in the Dickinson area (Oligocene rocks within the White River Group about 32 million years old) was quite productive. We let the area "rest" because we typically let the fossils naturally weather out of the rocks.

Cathy Lash led a number of participants at the Rhino Quarry to excavate – you guessed it – rhino (*Subhyracodon*) material. While the rest of the participants simply surface collected fossils, diggers at the rhino quarry relied on more traditional methods, using hammers and chisels to remove the bones. They were able to remove 3 jackets this season, comprising of ribs, a scapula, and a femur.



Above: A view of the active Rhino Quarry.

Jeff Person and Alex Gardner led participants around various sites on the ranch. A great many fossils were found, including rodent teeth, lizard jaws, frog bones, rhino bones, and even some fish vertebrae. Staff were especially excited for the discovery of a *Merycoidodon* (a sheep-like animal) skull and some alligator fragments. The presence of fish and alligator tells us that the White River deposits here in North Dakota were much wetter than those in the South Dakota Badlands.



Above: Though it may just look like a pile of bone fragments, this photo shows the *Merycoidodon* skull in place in the ground. Intern Anna and participant Katy worked all day to excavate this jacket. Anna is now working on this fossil in the lab.

Below: This bone is rather small and may seem unremarkable. However, the dimpled texture along the surface of the bone tells us it's alligator – a very exciting find for the White River!



Above: A wee rodent jaw! Believe it or not, this is not the smallest rodent jaw found this season.



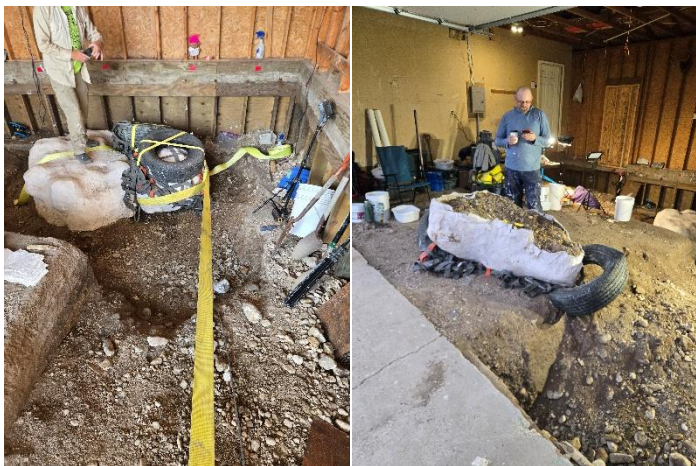


Above: Field work is not complete without a visitor or two. Say hello to this tiny garter snake!

Return to the Mammoth Dig

In the previous issue, staff were only just getting started digging in Powers Lake under a garage for mammoth fossils. Since then, staff removed more than thirty jackets in June and returned for one week in September to remove a very large jacket from the garage.

In June, staff and interns were able to dig out more than two dozen meter grids within the garage. Doing so revealed a large pile of bones in the northeast corner. This pile resulted in two large jackets that required staff to return at a later date. In September, staff were able to retrieve one of these jackets which now awaits preparation in the lab.



Above: The large jacket recovered in September before removal from the pit (left) to just after removal from the pit (right).

In addition to the many jackets recovered in June, staff and interns were able to wet-screen sediment on-site in order to collect concentrate. Concentrate is matrix that has had the finer sediment (like silt and clay) washed away. What's left are larger sediment grains (sand) and microfossils. This concentrate is then picked for microfossils back at the lab. About 1,000 pounds of concentrate was brought back to Bismarck!



Above: Interns Anna and Theo wet-screening.

It's hard to talk about the mammoth dig without mentioning Dan Aird. Dan is a retired science teacher who has been helping NDGS Paleo in its efforts to excavate the mammoth in Powers Lake. Dan was the person that construction staff contacted back in 1988 when the mammoth bones were first found while the garage was being built. Dan has helped staff dig, dry- and wet-screen, and haul buckets. He also likes to greet the day with his bagpipes, so on more than one occasion we got to hear him play.

