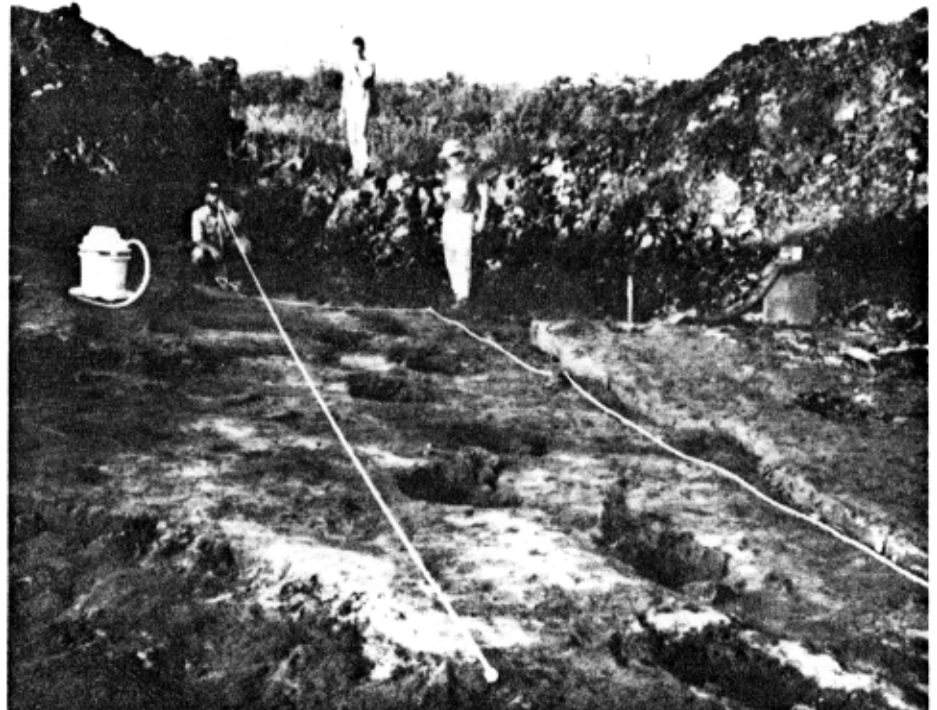


Some mighty big footprints. . .

Roughly ten thousand years ago, a mastodon slogged slowly through shallow water near the shore of one of the many lakes that dotted Michigan's late Ice Age landscape. As it walked, it left behind a trail of footprints in the firm sand of the lakebed. This trackway was recently discovered by University of Michigan paleontologist Daniel Fisher and his team of assistants at the Brennan Site near Saline, Michigan. It is by far the largest and most complete mastodon trackway ever found. Fossil trackways are an important window to the past, because they give us clues to the behavior of long-extinct animals.

By comparing the mastodon tracks with those of live African and Asian elephants, Fisher determined that the trackway was made by a slow-walking individual. When walking slowly, an elephant places its hind-foot in the spot where its front-foot has just been. Thus, a slow-walking elephant leaves a double impression, with the hind foot-print superimposed on the front foot-print. A fast-walking elephant places its hind foot in front of the front foot's last print. The mastodon trackway very closely resembles ones made by slow-moving modern elephants.

Mastodons and mammoths both lived in Michigan until their disappearance about ten thousand years ago. Fisher was able to show that the trackway was made by a mastodon based on the spacing between consecutive footprints, relative to their size—in mammoth trackways, the prints are closer together. Based on the size of the footprints, he was also able to estimate the size and sex of the mastodon that made the trackway. Skeletal remains of mastodons show that adult males were nearly 20% larger than adult females. Given the massive size of



Dan Fisher (holding the string) and his team of dedicated assistants at work on the mastodon trackway in the Brennan Site near Saline, Michigan.

these footprints, the individual that made them was a very large male, probably about nine feet tall at the shoulder and weighing approximately six tons.

Because the trackway was made in sand, it was too fragile to excavate and bring back to the museum. However, since it is such an important find, it was vital to preserve it in accurate, three-dimensional detail for display and future study. To solve this problem, Fisher and his assistants made a forty-foot mold of the trackway by pouring liquid plastic over it. The plastic hardened and was reinforced with fiberglass and a frame of plastic pipe. The reinforced plastic mold was lifted from the ground, and a cast

identical to the original trackway was then made from the large mold, again using liquid plastic reinforced by fiberglass. For a realistic finishing touch, some of the sand from the excavation site was imbedded in the cast's surface.

A portion of the cast of this impressive mastodon trackway went on exhibit in March. The completed exhibit will be installed soon. Visible from the third floor exhibit area's balcony, the footprints of this vanished Michigan resident are a unique link between the third floor's exhibits on Michigan wildlife and the second floor's displays on evolution and prehistoric life.

— James Ahern and John Klausmeyer