



# MarkHitsTheRoad

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## **Great Plains Parks and Museums Road Trip (R25A-2) North Dakota, Montana and Wyoming**

For this year's annual trip out to see my dad, I planned on a route heavy on Great Plains parks and museums. I had passed through the Kansas City area several times over the years without stopping, so I spent a few nights in the Kansas City/St. Joseph, Missouri area, I spent two nights in Bismarck, North Dakota as part of visiting a number of sites in the state, three nights in Montana, and a handful of other stops.

When I finished up in Bismarck itself, I had finished with the museum-heavy portion of the trip. Although I did visit some more museums during the rest of the trip, my sightseeing became much more outdoors-focused at this point, with some national park and several state historic site visits.

In the Bismarck area, there are a number of Native American archaeological sites. I visited those at Knife River Indian Villages National Historic Site, Menoken Indian Village State Historic Site, Double Ditch State Historic Site, Fort Clark State Historic Site, and Chief Looking's Village, a Bismarck park. Houses and lodges at these sites were generally constructed by digging out about 18 inches of dirt, installing wooden support posts, and then framing the building and covering it with branches, sod and animal skins.



This structure at Knife River gives you some sense of what the building techniques were like.

The villages were usually built on the edge of a bluff above a river or creek. The bluff provided protection from that side. Palisades of standing logs were built along the outer edge of the village, and a ditch was dug along the outer wall of the palisade, offering more protection.

The wood is now long gone, but earthen mounds and depressions mark the locations of buildings at these sites, and are more easily seen from the air than from hiking trails through these sites.



The National Park Service provides this picture of Knife River's Awatixa Village site from above. Depressions where buildings once stood are clearly visible.



Here's the view from the ground, where I was standing near the center-top of the National Park Service's photo.

Historians believe that Awatixa Village is where Sacagawea was living when the Lewis and Clark Expedition reached the area. She and her husband Toussaint Charbonneau joined the expedition.



The Double Ditch site was first occupied in the late 1400s, and two of the four palisade ditches that surrounded the village are still visible. Why four ditches? Native Americans did not have any natural immunity to smallpox and other diseases that Europeans brought with them, and several village members died because of that, resulting in increasingly smaller villages at the site before the site was ultimately abandoned.



The Fort Clark site villages were different in that the Mandan village of Mih-tutta-hang-kusch was built here in 1822, at the same time an American trading post was established here. This facilitated trade between the two cultures. But in 1837, a steamboat brought smallpox to the area, which killed more than 90% of the Mandan, and the survivors left. The Arikara then occupied the abandoned village site, and established their own village called nuunesawatuunu. The picture shows the base of a lodge house they built.

As these sites were along the Missouri River and some tributaries, Native Americans in the area encountered the Lewis and Clark Expedition as it followed the river towards the northwest. In fact, the expedition spent the winter of 1804-5 in this area at a small fort it built which it named Fort Mandan.



Replica of Fort Mandan at Fort Mandan State Historic Site



Historical marker at Fort Mandan Overlook State Historic Site, a few miles up the Missouri River

The actual location of Fort Mandan is believed to have been between these two sites, and was likely washed away as the Missouri River has shifted its channel here a number of times over the years. The North Dakota Lewis and Clark Interpretive Center is located in the area and provides additional information about the expedition's time in what is now North Dakota.

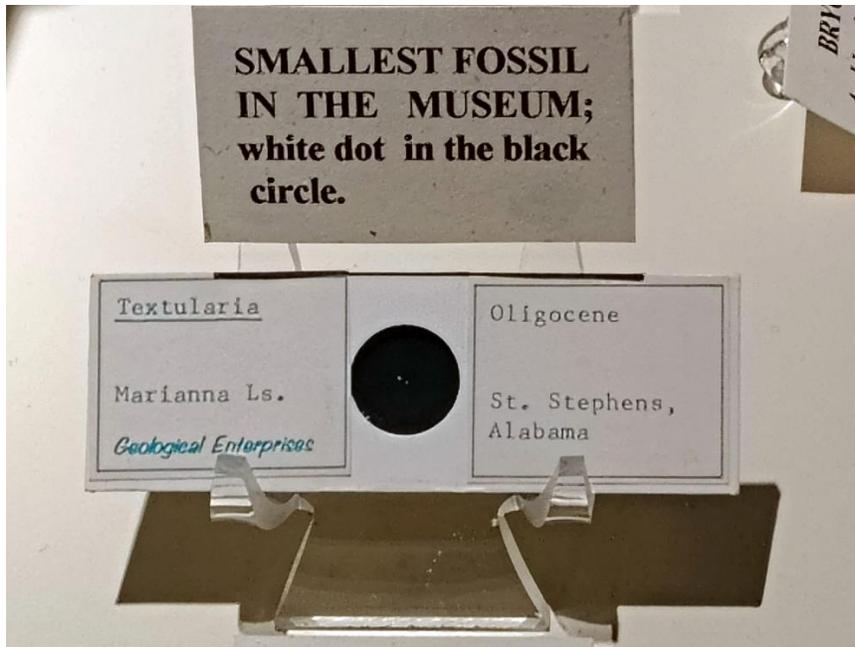
Continuing west, I stopped in Dickinson, North Dakota to visit a cluster of three museums, the most noteworthy of which was the Badlands Dinosaur Museum, which was quite good for a small museum. In addition to sea life fossils and rock specimens, it focused on North Dakota dinosaur finds from the western part of the state that was above water for the last few million years of the Age of Dinosaurs.



The fossilized arm of a duck-billed dinosaur with rare surviving skin impressions



A *Daspletosaurus wilsoni*, a member of the Tyrannosaur family. This is a *holotype*, the first known specimen of a newly discovered species. Paleontologists use comparisons to holotypes to help them identify new fossil finds. It is rare for a museum the size of this one to have a holotype in its collection, but the museum is actively engaged in paleontology research and not merely displaying local finds.



While out hiking over the years, I've kept my eyes peeled for Textularia fossils only to finally come across one on display in the Badlands Dinosaur Museum.



I had a couple stops planned in Medora, North Dakota, located at the entrance to the south unit of Theodore Roosevelt National Park, but it was such a nice afternoon when I got there that I decided to make a return visit to the park, my fourth visit over the years and first since 2021. At the south unit visitor center is the Maltese Cross Cabin, built for Theodore Roosevelt who lived and ranched in the area before he became president (why the park was named after him).



The north and south units of the park protect segments of what are commonly referred to as the North Dakota badlands. The Little Missouri River has eroded these badland across western North Dakota for a stretch that is about 100 miles long and up to 15 miles wide.



The park is known for its bison herds. The scenic drive also passes a few prairie dog towns.

Although I once again took the scenic drive, this time I also hiked three of the park's trails.



Medora, North Dakota takes its ties to Theodore Roosevelt very seriously, from business names to names of items on restaurant menus. My room at the Rough Rider Hotel was furnished with a Teddy Bear, which was named for the 26<sup>th</sup> president.

Medora is home to the North Dakota Cowboy Hall of Fame, which also includes the Museum of Western Cowboy Heritage. The museum has sections on the bison culture of Native Americans and American traders, how cowboys lived and worked as cattle and ranching became increasingly dominant, and the rodeo circuit.



Inside a typical cowboy cabin

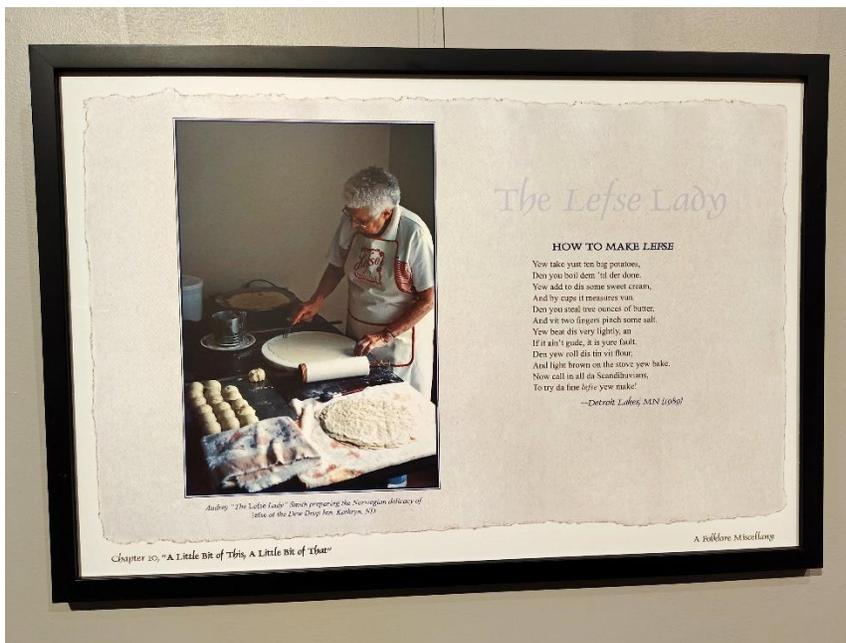


Rodeo culture, including displays of large, ornate belt buckles awarded as rodeo prizes

French aristocrat the Marquis de Morés and his wife Medora settled in the area so he could use his wife's money on assorted business ventures. He wasn't terribly successful, and they eventually left the area, but they left behind a 32-room "chateau" and a new town named after his wife. The house and related museum are now the Chateau de Morés State Historic Site, the last of nine North Dakota State Historical Society sites I visited while in the state.



The chateau was closed for the season, but the museum provided a nice overview of the history of this corner of the state. It also had a temporary exhibit on North Dakota traditions, folklore and folk art.



Like making lefse

On to Montana. I planned on a stop in Billings to see the Western Heritage Center, which proved to be quite limited and rather disappointing, the Yellowstone Art Museum, which proved to be closed on a day when its website said it would be open, and to check out Historic Montana Avenue, which was not nearly as interesting as downtown Livingston, Montana. So, there wasn't much to highlight from this overnight stay.



From the Western Heritage Center's current exhibit on people living with disabilities, which had taken over most of the center

I headed for Bozeman next. Its Museum of the Rockies is regarded as one of the top dinosaur fossil museums in the country. Montana has been a huge source of a variety of dinosaur fossil finds because a lot of the state is covered by Morrison Formation and Hell Creek Formation deposits.



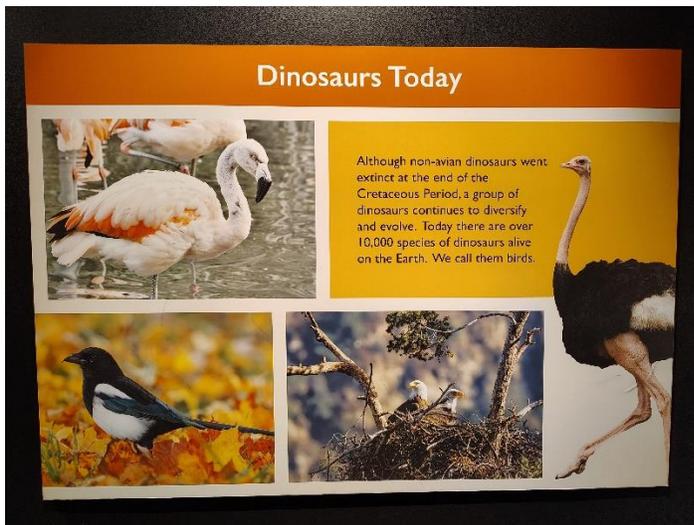
A collection of skulls from Tyrannosaurus rex dinosaurs at various ages lets visitors get a sense of how the skull developed as the dinosaur matured.



T. rex Big Mike greets visitors in the museum's main dinosaur exhibit

T. rex fossils are especially common in the Hell Creek Formation, which straddles the Montana/North Dakota border.

Although some partial skeletons have been found in North Dakota, much of that state was underwater for most of the Dinosaur Age. More – and more complete – T. rex skeletons have been found in Montana for that reason.



Although non-avian dinosaurs were wiped out about 66 million years ago when a giant asteroid crashed into Earth, it is now generally accepted that avian dinosaurs survived, evolving into today's birds.

How the mighty have fallen!

The dinosaur exhibit was indeed excellent. As for the rest of the museum, they recently removed their *Enduring Peoples* exhibit on Native Americans after deciding that the 30-year-old exhibit was “outdated, inaccurate, and not respectful...” of Native Americans. A new exhibit on Native Americans is currently in development.

Its exhibit on the settlement of the region was rather skimpy and mundane.



The museum’s exhibit on the military in Montana. Given that Custer’s last stand and the Nez Perce War were among the more noteworthy military engagements in Montana, and you can see why “skimpy and mundane” came to mind.

And surprisingly, the museum’s last major exhibit space was given over to an exhibit on Jane Goodall’s work with chimps in Africa. Interesting and important work, to be sure, but it had absolutely nothing to do with the Rockies.

Nearby was the American Computing and Robotics Museum. This was a surprisingly good computing museum in a fairly small space, although it probably could have skipped the robotics part as that display featured mostly just movie “robots”.

The museum took visitors through the history of writing, printing and ways to give machines instructions, to the early computational machines with actual artifacts dating back to a Sumerian clay tablet.



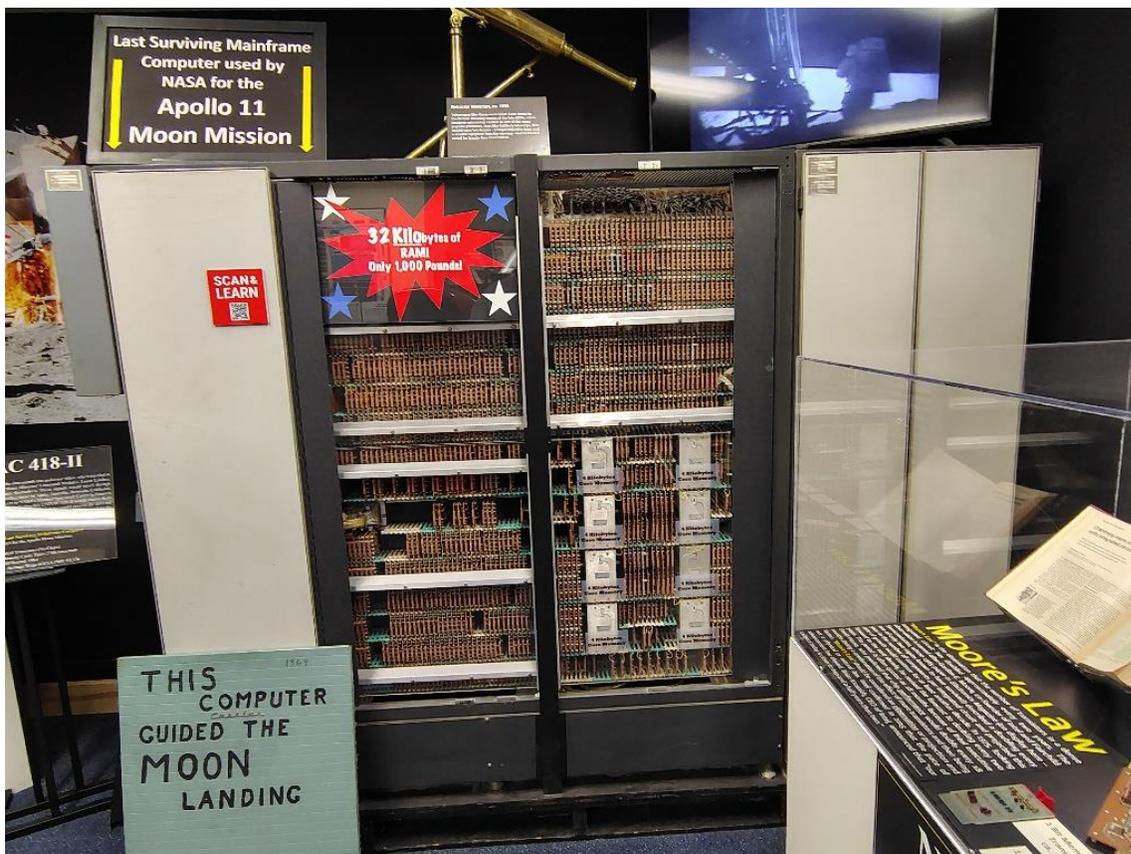
A replica of the first binary computer created for the museum by the original inventor



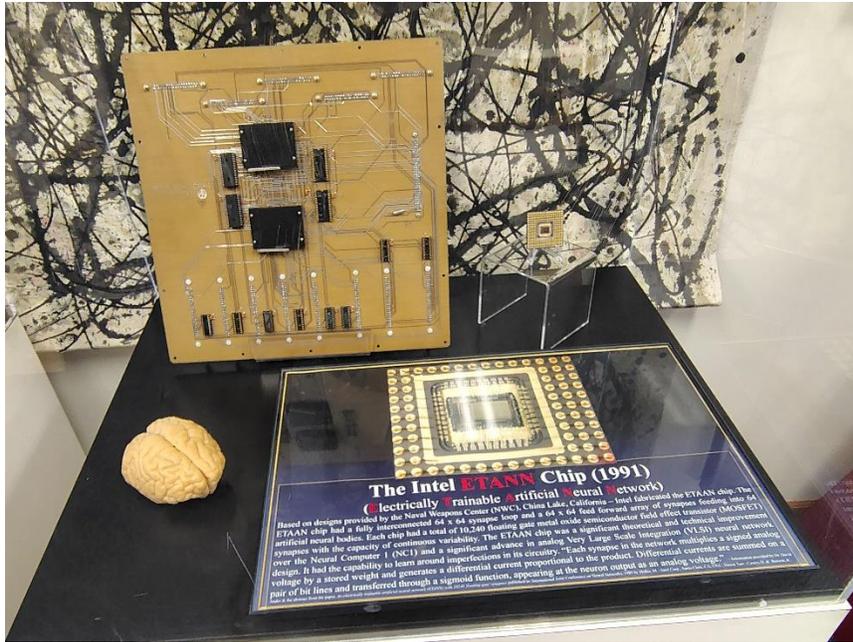
The University of Pennsylvania's ENIAC is regarded as the world's first programmable digital computer, created back in 1946. As the docent walked me through this part of the museum, she noted that in 1996, U Penn recreated "ENIAC on a chip" as part of its 50<sup>th</sup> anniversary celebration of ENIAC. Which allowed me to share that in 1996, I was leading a collaborative R&D project with U Penn on behalf of my employer, and my employer co-sponsored an ENIAC celebration-related workshop that I participated in, so I was certainly familiar with this. Of course, I've been around for punch cards and Radio Shack's TRS-80, too, also featured in museum displays. But not Sumerian clay tablets.



The large disk above the blue sign held 8 megabytes of memory, enough memory for about two MP3 songs. To the left of the sign is a more recent drive that held a terabyte of memory. It helps you understand why it took a while for MP3 players to take off.



This is the last surviving mainframe computer used in the 1969 Apollo 11 mission that first landed men on the moon. This 1,000-pound computer came with a whopping 32 kilobytes of memory that you can see in the eight 4K memory modules in the lower right.



The size and budget constraints of a small museum started to show when we got to its exhibits on artificial intelligence and quantum computing. It had a nice overview of neural networks and neural computing, but I didn't find any mention of deep learning or the more recent large language models, etc., and its discussion of quantum computing was limited to a few posters, so both felt dated.



What to read – as sold in the museum's bookstore

Bozeman put me in a good location for a return visit to Yellowstone National Park if the weather held. I was at that park just last year, but I missed some of the park destinations I wanted to see because parking was overflowing at many of them, and some were closed for other reasons. It used to be that I'd take my road trip vacations in September because families with kids would be back home for the school year, freeing up the parks some. But summer national park crowds now last well into fall.



Hiking the trail at Artists' Paintpots



A mud pot and spring at Artists' Paintpots



Beryl Spring and a steam vent



Gibbon Falls



The Midway Geyser Basin area is one that filled up last year – and the parking lot was overflowing by the time I left this year – because of the popularity of colorful Grand Prismatic Spring. Pure blue water is surrounded by a rainbow of bacterial mat colors. But from up close, you really don't get to see Grand Prismatic Spring in all of its glory, and even less so on a cloudy day.



During last year's visit, I hiked the Fairy Falls trail to the Grand Prismatic Spring overlook, which gives a more complete view of the spring than you get when standing at its edge. And the sun came out, too, which really brought out the color. The red arrow shows about where I was standing when I took the top photo on this trip.



Cliff Geyser at Black Sand Basin. Black Sand Basin was closed off when I was here last year.



Bacterial mats provide a lot of the color we see around geysers and springs



A pair of duck cracks at Isa Lake. Isa Lake straddles the continental divide. During spring snow melt, it overflows with water down both sides of the divide, one of those rare lakes whose outflow reaches both the Atlantic and Pacific Oceans.



The geysers, hot springs, fumaroles, mud pots and other geothermal features at the West Thumb Geyser Basin sit along the edge of Yellowstone Lake, the largest high-elevation lake in the country.



Lakeshore Geyser at West Thumb



Colorful bacterial mats and algae line the path that water follows from Black Pool as it flows into Yellowstone Lake



Surging Spring. The blueness of the water when the sun is out is an indicator of how pure the water is. The heat kills whatever may be in the water, keeping the water pure, but when it hits the ring of crust around it, it cools down enough for bacterial mats to start growing.



A fisherman tries his luck at Lewis Falls

When you leave Yellowstone through the south, you immediately enter John D. Rockefeller, Jr. Memorial Parkway, and a few miles later, you enter Grand Teton National Park. As I covered those last year, I didn't have any plans for them this year other than to enjoy the scenery as I drove. But I did make a photo stop at Grand Teton's Oxbow Bend, which wasn't on last year's route through the park.



From there, I took Highway 287 to Lander, Wyoming, where I would spend the night at my regular hotel there. I hadn't taken that road before. The route featured beautiful scenery as it climbed through snow-covered mountains to the continental divide (my fourth time crossing the divide today), and then down to some colorful exposed Morrison Formation landscape near Dubois.



Along Highway 287 near Dubois, Wyoming

After spending the night in Lander, it was basically a two-day drive home. I thought about making it a three- or four-day drive with a little more sightseeing along the way, but this had become a more-than-three-weeks-long trip as it was, so I pretty much stuck to driving at this point.

Well, except for one stop.



The Clawson (Utah) UFO Landing Site. I have to say that having been to a number of UFO landing and crash sites, I found this one to be a bit disappointing.

I still hope to someday get to the mother of all UFO crash sites – the 1947 Roswell crash site. Alas, that one is on private property, and access to the general public has been restricted for now.