Waterton Lakes NP to Dinosaur Provincial Park, AB Jul 4-6

Our planned route today (Wed Jul 4) takes us northeast along Hwy 5 to Cardston, AB. There's a library there and we have a few online "chores" to attend to. The wifi was really fast – I downloaded a number of Netflix movies while we were at the library. Thanks Cardston!

After coffee we ventured north to Lethbridge. Save-on Foods has a store there on the west side. We're running low on a number of bulk items.

Driving in from the south, neither of us realized how big Lethbridge is. Our usual route through Lethbridge,in the past few years, has been east to west or vice versa.

After gassing up, we pointed Alfie north up Hwy 23 to Vulcan, AB. If you're a "trekky", you know Vulcan. Dr. Spock of Star Trek fame was a Vulcan. The streetlights on the way to the tourist centre are distinctly Star Trek.

The tourist centre also has a lot of Star Trek memorabilia. There was an original series film running on a large screen TV. I don't know about you, but I never really got into the original Star Trek starring William Shatner. Perhaps it was early years for Star Trek, but I thought some of the story lines were a little hokey. The later Star Trek series and spinoffs were much more interesting.

We found the Vulcan muni campground – small, 5 sites. Three were occupied, but that's okay we liked the look of site #1. No site services, but washrooms, water, and a sani-dump were onsite. And free for the first 3 nights! Alright!

Before dinner, we drove into Vulcan and had a wander around. Five p.m. and most every store is closed.

The next morning, Thu Jul 5, we headed north east towards Dinosaur Provincial Park. Jen wants to see the

dinosaur exhibits.

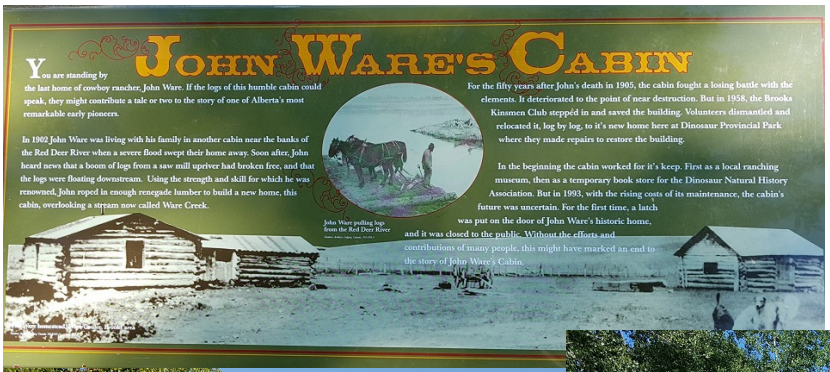
In Bow City, as we drove over the bridge over the Bow River, we pulled into the municipal campground and made our morning coffee. Too bad we are still a distance away from our destination; this is a nice campground.

As we continued our travels, we thought we might find a campground in Patricia, AB but I guess they didn't want to compete with Dinosaur Provincial Park.

We're in the badlands of Alberta. Not as pretty colour-wise as south of the border, but very dramatic nonetheless. We were able to get a site (with power) for 2 nights. That's good because tomorrow is supposed to be very hot. (As I write this entry Friday afternoon, it is sunny and 32C outside!).

The camping area is down in the valley. Lots of cotton-wood trees but unfortunately none at our site. Thank goodness for our air conditioner!

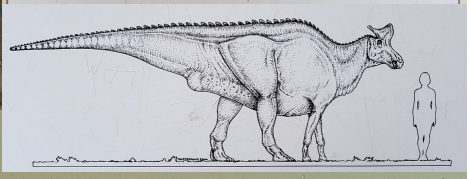
During our walks around the park, we noticed this old log cabin. Quite the story.



Friday morning we drove the 3 km Public Loop Road and stopped at both Fossil Houses. We would have loved to have done more, there are a couple of handicap accessible walks, but with temperatures in the low 30s, not today.

How did this skeleton become fossilized?

The reason we have so many fossils at Dinosaur Provincial Park is because of the high sedimentation rate in the Late Cretaceous Period. Dead animals were buried quickly, before they were scavenged by other animals or destroyed by erosion and decay, preserving the skeleton intact so that it could be fossilized.



Permineralization

The hadrosaur bones in this display are no longer of the same composition as when the animal was alive. Over millions of years, spaces around the bone crystals were filled with new minerals such as silica, calcite or iron pyrites from water seeping through the rocks. This is called permineralization and makes the bones harder and heavier.

The hadrosaur bones seen here are permineralized - as are most fossilized bones. They were brushed with a glue hardener to give them strength and prevent splintering, sometimes caused by frost- cracking in the winter.

Petrification

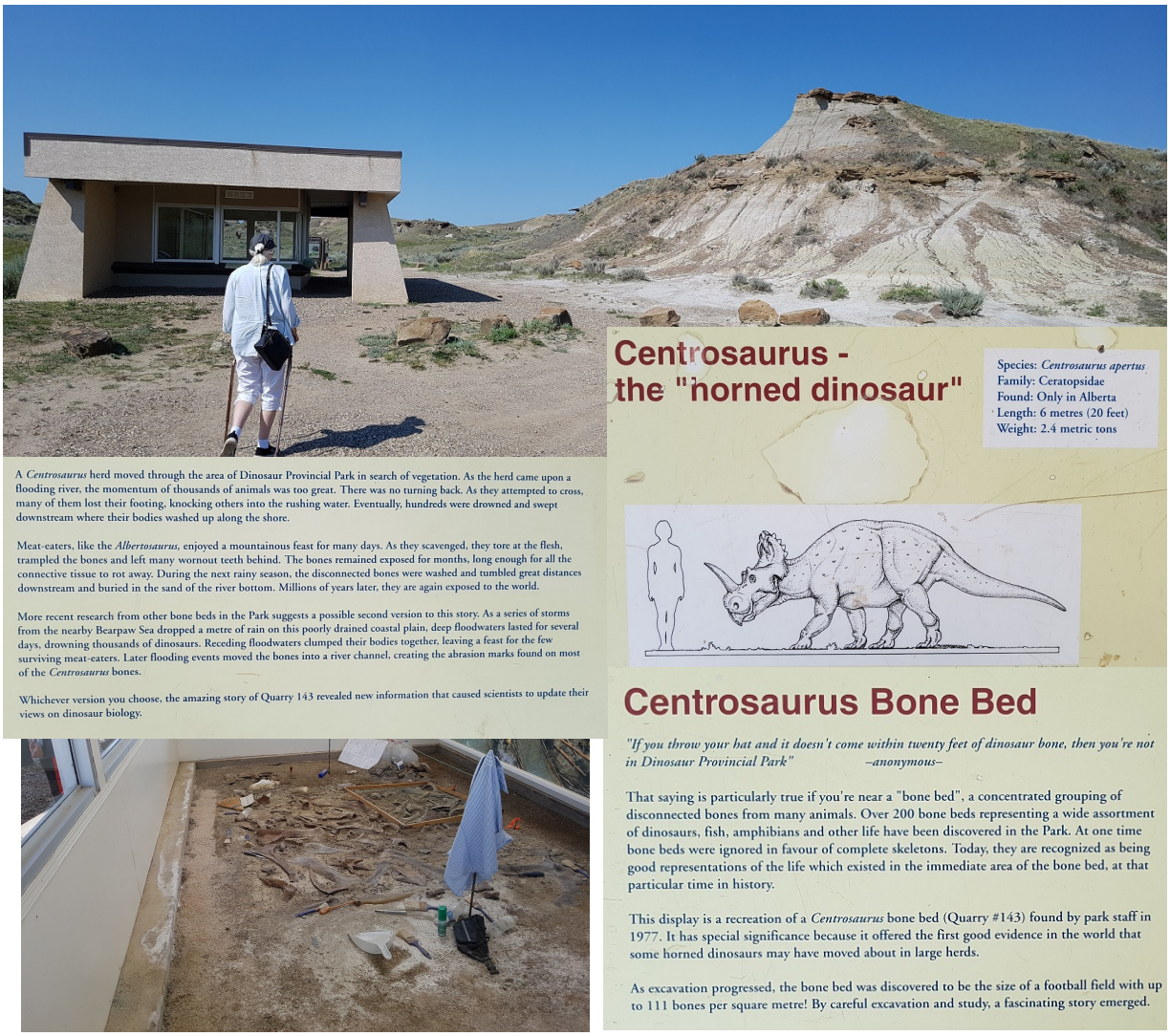
Sometimes all the original bone is replaced by minerals in the percolating ground water. This is called petrification (turned to stone).

Natural Cast

If the bone is completely dissolved, it sometimes leaves a hollow mold (mold fossil). If it then fills in with minerals, a natural cast is formed.

The Headless Hadrosaur

Hadrosaurs, also known as duck-billed dinosaurs were large plant eaters weighing as much as four metric tons. Very abundant 75 million years ago, they account for approximately one-half of all known dinosaur fossils from Dinosaur Provincial Park. One of the Park's most common dinosaurs was *Lambeosaurus*.



Centrosaurus - the "horned dinosaur"

Species: *Centrosaurus apertus*
Family: Ceratopsidae
Found: Only in Alberta
Length: 6 metres (20 feet)
Weight: 2.4 metric tons

A *Centrosaurus* herd moved through the area of Dinosaur Provincial Park in search of vegetation. As the herd came upon a flooding river, the momentum of thousands of animals was too great. There was no turning back. As they attempted to cross, many of them lost their footing, knocking others into the rushing water. Eventually, hundreds were drowned and swept downstream where their bodies washed up along the shore.

Meat-eaters, like the *Albertosaurus,* enjoyed a mountainous feast for many days. As they scavenged, they tore at the flesh, trampled the bones and left many wornout teeth behind. The bones remained exposed for months, long enough for all the connective tissue to rot away. During the next rainy season, the disconnected bones were washed and tumbled great distances downstream and buried in the sand of the river bottom. Millions of years later, they are again exposed to the world.

More recent research from other bone beds in the Park suggests a possible second version to this story. As a series of storms from the nearby Bearpaw Sea dropped a metre of rain on this poorly drained coastal plain, deep floodwaters lasted for several days, drowning thousands of dinosaurs. Receding floodwaters clumped their bodies together, leaving a feast for the few surviving meat-eaters. Later flooding events moved the bones into a river channel, creating the abrasion marks found on most of the *Centrosaurus* bones.

Whichever version you choose, the amazing story of Quarry 143 revealed new information that caused scientists to update their views on dinosaur biology.

Centrosaurus Bone Bed

"If you throw your hat and it doesn't come within twenty feet of dinosaur bone, then you're not in Dinosaur Provincial Park" *–anonymous–*

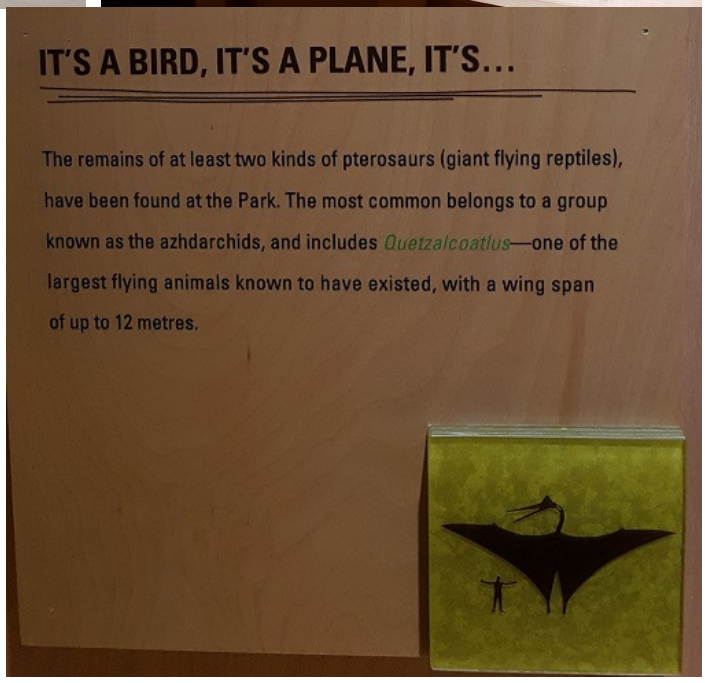
That saying is particularly true if you're near a "bone bed", a concentrated grouping of disconnected bones from many animals. Over 200 bone beds representing a wide assortment of dinosaurs, fish, amphibians and other life have been discovered in the Park. At one time bone beds were ignored in favour of complete skeletons. Today, they are recognized as being good representations of the life which existed in the immediate area of the bone bed, at that particular time in history.

This display is a recreation of a *Centrosaurus* bone bed (Quarry #143) found by park staff in 1977. It has special significance because it offered the first good evidence in the world that some horned dinosaurs may have moved about in large herds.

As excavation progressed, the bone bed was discovered to be the size of a football field with up to 111 bones per square metre! By careful excavation and study, a fascinating story emerged.

We went back to the rig for our morning coffee. Afterwards, we headed to the interpretive centre. The is a Field Station of the Royal Tyrell Museum in Drumheller. We enjoyed a number of short documentaries in the the theatre before we explored the displays.

Ever wanted to fly? Get picked by one of these and you would!



Jurassic Park anyone?

Saturday morning, we leave for Drumheller. Join us then.