The Tumbler Ridge Dinosaurs

Charles Helm

It all started in 2000 with a discovery by two young boys with perceptive eyes. Mark Turner (10) and Daniel Helm (8) were tubing down Flatbed Creek just below Tumbler Ridge, when they fell off in some rapids. Determined to try again, they walked back up the bedrock, and correctly identified a dinosaur trackway.

Undeterred by the skepticism of adults, they contacted Dr. Phil Currie of the Royal Tyrrell Museum of Palaeontology, who put them in touch with University of Alberta PhD student Rich McCrea, who is one of North America's dinosaur footprint authorities. They persuaded McCrea to visit in the summer of 2001, and he confirmed that they had found the longest currently accessible dinosaur trackway in the province, and that the tracks had been made by an ankylosaur (longer trackways had been inundated by the waters behind the dams on the Peace River). Adjacent to the tracks, and in the same bedding plane, he also found BC's second dinosaur bone.

The " Famous Trackway".

McCrea has been a valuable friend of, and asset to, the community ever since. He taught the boys and their families and friends what to look for, and a new passion was born in this corner of northeastern BC. The Tumbler Ridge Museum Foundation was formed, with one of its lofty aims being the creation of a Museum and Dinosaur Centre. While that goal is still years away, the rate of progress and discovery has been astonishingly swift. Dinosaur footprints and trackways have now been discovered in nine canyons as well as in the alpine, including a rare pathological footprint, numerous skin impressions, theropod claw impressions, and prints comprised of oyster shells. Footprints have been found in five distinct geological formations, spanning the Jurassic-Cretaceous boundary to the lower part of the Upper Cretaceous.

The most unexpected find came in 2002 during a museum field trip, with the fortunate discovery of BC's first (and by far western Canada's oldest) significant accumulation of dinosaur skeletal material. Over $30,000 was raised, so that the province's first dinosaur dig could take place. The excavation was led by Rich McCrea and Lisa Buckley (a BC-born paleontologist studying at the South Dakota School of Mines and Technology) over a six-week period during the summer of 2003. The hard nature of the enveloping rock made it essential to fly a 25000W generator and two large air compressors into the deep canyon by helicopter, so that air hammers and air scribes could be used to meticulously take apart the bone-bearing blocks.

It is now evident that this is not a single skeleton, but rather a bone-bed. Seventy-five bones (some of which were identified as ornithopod by Dr Phil Currie) were found, of which fifty were removed and transported to the Museum Foundation's Palaeontology Field Station, on the outskirts of town, where they await preparation. A turtle shell, turtle jaw, ankylosaur and crocodilian armour, a fish scale and an as yet unidentified tooth were also identified and removed. An estimated twenty

summers of work lie ahead for the site to be fully excavated, and fundraising is already in progress for the 2004 season.

The "High Five Trackway".

It was previously thought that the acidic groundwater in the estuarine Cretaceous environments that characterized the area 93 million years ago, while favourable for dinosaur footprint preservation, would have rapidly dissolved bones. Dr A. Guy Plint, stratigrapher from University of Western Ontario, who has researched the area each summer for decades, suggests that in this particular case, following a major marine transgression, brackish water may have allowed for bone preservation. He points to the abundant presence of oyster shells alongside the bones. These shells would have been intolerant of fresh water, and may have buffered the vulnerable bones from acidic environments, allowing them to be safely preserved.
These discoveries occurred at the time of a major downturn in the local economy with the closure of the coal mines (legacies in their own way of the Cretaceous forests in which the dinosaurs roamed). Tourism, while down 20% in the province this year, has risen by over 500% in Tumbler Ridge, due in large part to the excitement generated by dinosaurs. The Museum Foundation has opened two footprint sites to the public, which can also be visited by means of unique nocturnal lantern tours. In conjunction with the Northern Lights College, Dino Camps were launched for kids aged 7-12, taught by paleontology student Marisa Gilbert, and were a huge success, with plans for expansion in 2004. A weekly paleontology lecture series drew regular crowds of over 100.

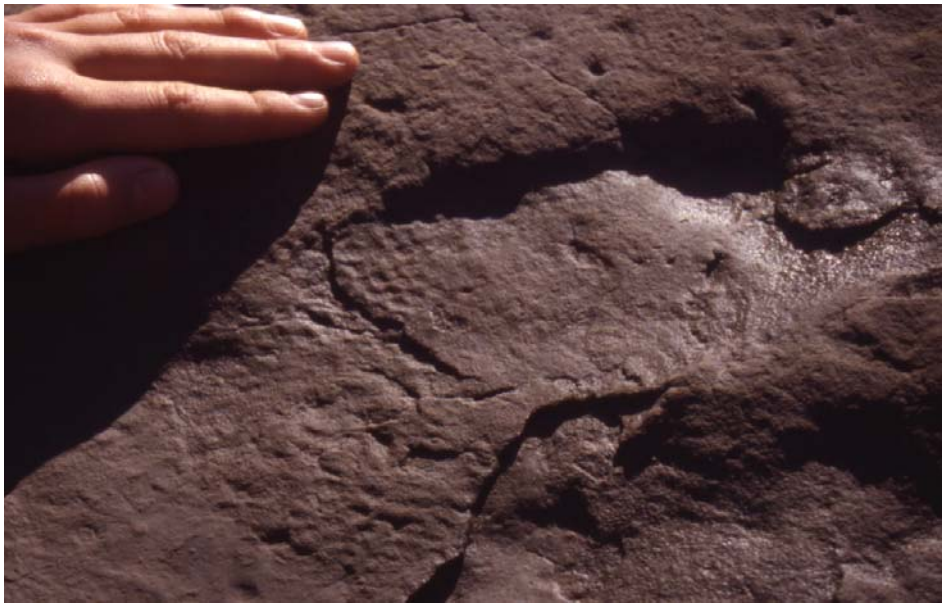
The Museum Foundation's interim exhibits were formally opened in the Community Centre in June. Although the dinosaur footprint displays remain the most popular feature, there is also a display donated by the Royal Tyrrell Museum on the exquisite Triassic fossil fishes which are found just to the south of Tumbler Ridge, as well as local collections of ammonites, trilobites, crinoids, corals, brachiopods, inoceramid clams, starfish, and cycads and other plant material. The first scientific papers are being written and the first book is due for publication in 2004.

The "Wolverine theropod Trackway".

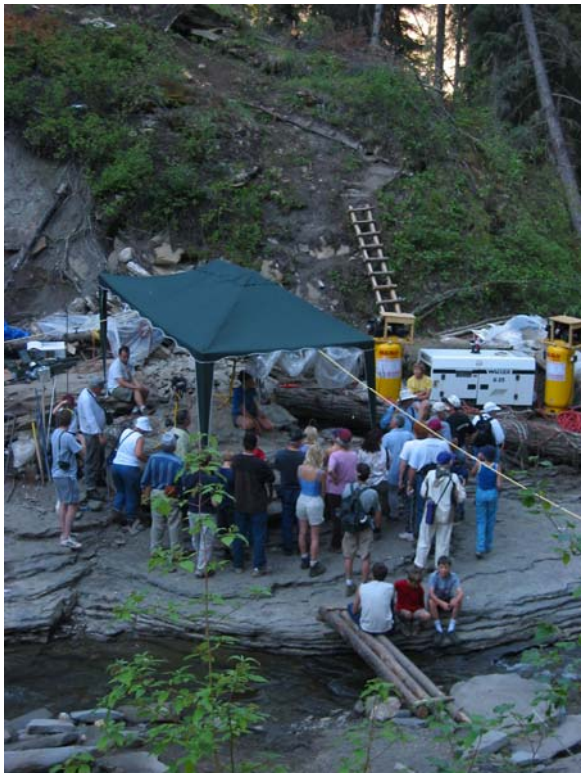
In short, dinosaur fever has gripped Tumbler Ridge, and five communities (Grande Cache, Grande Prairie, Hudson's Hope, Prince George and Tumbler Ridge) are now working out how best to offer a regional Dino Tour.

Media attention has been extensive, with footage by Discovery Channel and Knowledge Network, and numerous CBC interviews.

And what has happened to the kids? Not only did they start it all, but their enthusiasm is what spurred adults on to this flurry of activity, and the creation of Dino Camp seems a fitting way to return the favour. And adult museum members know that when they go on field trips they would be foolish not to take along those passionately keen sets of young eyes.



Skin impression in Ornithopod track.



A tour of the dig site.