

The Red Deer River Naturalist



February 2024

Editors: Myrna Pearman & Susan van der Hoek



The Evolution of North American Bison



An adult wood bison bull



An adult plains bison bull

Photos by Johane Janelle

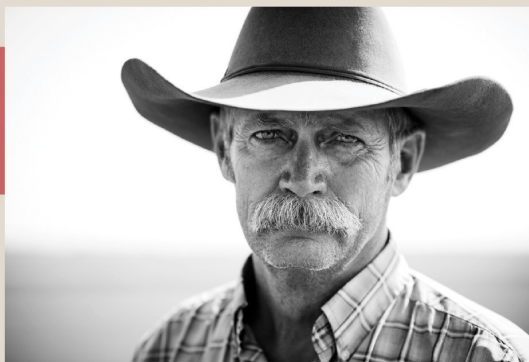
Bison, in one form or another, have graced this planet for more than 3 million years. Join artist, author and retired National Park Warden Wes Olson for this intriguing and visually captivating presentation about the evolutionary pathway these 14 ancient bison species followed, from their first appearance in the geological record, through to the plains and wood bison of today. The presentation includes a discussion about climate change and the evolutionary impacts it is having on modern bison.

This presentation is graced with the stunning photography of Johane Janelle.

Ever since Johane's childhood in the small Quebec village of Cap Sante, on the north shore of the St. Lawrence, Johane has loved being in nature and capturing special moments and places on film. This passion for wild places brought her west on a backcountry horse trip in 1983, and from then on she was hooked on the west.

Her photography has graced the covers of dozens of equestrian magazines from across North America, in Journal articles, in books and museums. Her first collaboration with Wes was the publication of their first book, *Portraits of the Bison* in 2005, and then *A Field Guide to Plains Bison* in 2012. www.johanejanelle.com

Wes grew up in Black Diamond, along the east slopes south of Calgary. Wes has been drawing and painting from an early age, but writing is a talent he began to explore only later in life. Following a 40 year career working with wild species in wilderness areas he has been provided with a lifetime of experience upon which he draws inspiration for his art, books, and presentations. He and Johane travel extensively to give presentations to a wide range of audiences, with the goal of helping people understand the complexities of nature, and how inter-related all wild beings are to each other, and how incredibly important it is for us to help protect these places and the species that inhabit them.



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February 2024

7:00 PM
KERRY WOOD
NATURE
CENTRE
RED DEER

All are
Welcome

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SEASONAL SIGHTS AND SOUNDS OF ALBERTA: UNRAVELLING THE ORIGINS OF FEATHERS WITH DR. SALLY STUART

As we enter January, the temperature plummets, with the temperature on some nights dropping to -40 C or lower. Outside our window, woodpeckers surround the fat feeder. Four Downy Woodpeckers line up on the tree trunk awaiting their turn, eager to consume the high energy food source. Meanwhile the somewhat larger and aggressive Hairy Woodpecker wrestles his way in.

Birds are endotherms, meaning they maintain a relatively stable body temperature using internally generated metabolic heat. According to Palmer and Fowler (1975), the Hairy Woodpecker maintains a body temperature of 40.6 C, somewhat higher than our own 37 C but within the typical bird range of 38 C to 42C. Being endothermic has obvious advantages because it enables animals to remain active even in colder weather. The question is how it is possible to preserve body temperatures which are essential to survival when the ambient temperature plunges.

Birds have behavioural, physiological and anatomical mechanisms to help them thermoregulate. Obtaining sufficient food is key to powering metabolism. Woodpeckers utilize specialized beaks and tongues. Even in the depth of winter, larvae of wood boring insects reside deep within the tree. Interestingly they also use and, in some cases, construct overnight shelters (roosting cavities).

Physiological mechanisms include torpor (sometimes called “relaxed endothermy”), in which body temperature drops slightly to conserve energy. Downy Woodpeckers almost certainly do this overnight for limited time periods, having been observed in nestboxes in a semi comatose state. In 2020, researchers found that a species of Andean Hummingbird living at extremely high altitude dropped its body temperature to 3.2C! Even if Alberta species could survive such a decrease in body temperature, such a strategy would not work in this climate due to the energy required to warm up in the morning.

The most important anatomical structure which enables birds to survive during the winter are their feathers. Fluffed up, feathers trap layers of insulative air.

Feathers are complex, complicated structures. They are not

unique to living birds, as feathers evolved millions of years ago. *Sinosauropteryx*, a small theropod dinosaur and active predator from the Cretaceous era (145-65 MYA), was the first feathered dinosaur to be discovered in 1996. In 2018, new research

conducted by Zixiao Yang et al. looked at the hair-like structures (pycnofibres) in the fossils of flying reptiles called Pterosaurs. They identified several distinct types of feathers, although none were suitable for flight. Pterosaurs were neither birds or dinosaurs, although they descended from the same ancestor about 250 million years ago in the early Triassic. Thus, it has been concluded that feathers evolved twice.

Scientists prefer the least complicated explanation. In this scenario, feathers were present in the shared ancestor of birds, dinosaurs and pterosaurs, making them about 70 million years older than previously thought. Since Triassic temperatures were generally high, feathers may not have been used for insulation, but perhaps for alternative roles such as sexual signaling or camouflage.

Despite birds being resilient, how well will they be able to cope with possible future extreme temperatures? Feathers, which are an asset in cold weather, may become a liability in hyperthermic conditions. In 2020, scientists studying the Red-billed Quelea in Africa found that body temperatures rose in response to increased environmental temperatures. Remarkably, it took body temperature in excess of 49.1 C before the birds started to suffer from severe heat stress. It is impossible to predict how weather conditions in Alberta might change due to climate change, but there is no doubt that birds will have to deal with more extremes. Will such extremes exceed the limits of avian physiology for certain species?



IN THE ALBERTA WILDERNESS! BY DON AUTEN

Although Deer Mice are the most common mammal in North America, they are seldom seen in the wild because they are strictly nocturnal. I have made trail cam sets over the last few years to capture photos of these mice as well as species of mice and voles. Of the thousands of Deer Mice images I have captured, only a few have been daytime photos.



Deer Mice can be found in every habitat in North America and because of their large population, they are a very important food source for predators. However, when they decide to take up residence in buildings, they can be a problem, causing damage by chewing and the risk of spreading hantavirus to humans.

Deer Mice like to use logs as highways to quickly travel through their home ranges and I have had lots of luck setting up trail cams on logs. Most of the video and photos are poor quality because they move so quickly, but once in awhile I get a great photo that makes the effort worthwhile!

IN MEMORIAM

Dean and Myron Bjorge

MYRON BJORGE: TRIBUTE BY JUDY BOYD

April 16, 1945—November 3, 2023

We lost a good friend in November 2023 - Myron Bjorge. I met him in 2006 when he reported a Steller's Jay coming to his feeders. The Monday Bird Focus Group went out to their house to see it. Myron and Karin were wonderful hosts. They fed us and gave us tea/coffee/pop while we sat at their kitchen table. From that point on, the Bird Focus Group often visited them, especially on cold winter days. A variety of feeder birds were guaranteed to be seen while we ate and drank in the Bjorge's warm kitchen.

In 2011, Myron told us that he wanted to share the Turkey Vultures nesting in his grandparent's abandoned home east of Meeting Creek, so we decided to host a summer outing, in conjunction with a Bjorge family gathering, at the Ferry Point campground. The field trip grew in popularity, with approximately 70 family members and nature enthusiasts attending last summer. The popularity was mostly due to Myron, who kept a contact list of past attendees and phoned them with the event details. He also lined up experts to share their knowledge about birds, geology, prairie grasses and plants, garter snakes, etc. He and Karin were very generous hosts, providing water, pop, sandwich meats and each year provided an ice cream cake (Editor's Note: this was always a birthday cake for Judy!). RDRN provided buffalo burgers for the Saturday evening BBQ. We only missed one field trip because of COVID but we intend to continue with the Ferry Point Field Trip as a tribute to Myron.

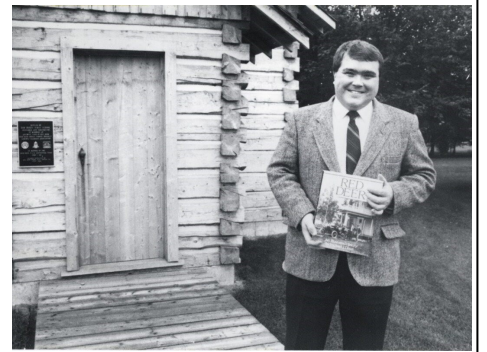


MICHAEL JOHN DAWE: TRIBUTE BY ROD TRENTHAM

March 7, 1956—December 24, 2023

Michael Dawe, Archivist, Historian, Writer, Civically immersed, was also a Member of the Red Deer River Naturalists since the latter half of the 70s. Michael was very close to his uncle Wellington Dawe—Kerry Wood's best friend. As an "old Soul" from a young age, he remembered everything. With honours across the Board, he could have been anything he wanted to be but he loved history. He also loved natural history, especially botany. He was an amateur botanist. This is a watershed moment in Red Deer's history; it is hard to even comprehend the community treasure we have lost.

Michael Dawe with his first Red Deer History Book (1989) in Heritage Square in front of the Log School built to commemorate the 100th Anniversary of the Red Deer Public School Division # 104 established in 1887. For over 70 years the Dawe family was synonymous with public education in Red Deer. Photo: Red Deer Advocate, courtesy of the City of Red Deer Archives.



JAMES CAMPBELL (CAM) FINLAY: TRIBUTE BY MYRNA PEARMAN

1931—2023

The earth lost a true friend with the passing of Cam Finlay. Cam was a mentor and good friend to many, including me. He offered me my first job as a nature interpreter at John Janzen Nature Centre in 1983 and we remained in touch over the years. He donated many books to EBF and it was my great honour to visit him last year in a nursing home in Victoria, B.C.

Together with his wife, Joy, Cam was a champion for nature. He worked as the first Chief Park Naturalist at Elk Island National Park before being recruited by the City of Edmonton, where he established the John Janzen Nature Centre. In addition to maintaining a large bluebird trail, Cam and Joy together wrote several nature books and contributed a weekly column to the Edmonton Journal. They were active in the Edmonton Bird Club, the Edmonton Natural History Club and several other museum and nature associations. After Cam retired in 1991, he and Joy retired to Victoria, B.C. where he became very involved in hummingbird research and banding. Both Cam and Joy received several local, provincial and national awards for their lifelong dedication to preserving nature and natural history. From his obituary: *Cam's belief in us, and in our collective ability to make a difference will fuel and nurture us. His curiosity, enthusiasm for life, and practical, can-do attitude inspired all he came in contact with. We will honour him by staying curious and productive, and by making sure to note every bird that flies by.* In lieu of flowers, donations can be made to the Beaverhill Bird Observatory at <http://www.beaverhillbirds.com/get-involved/donate/>



BUFFALO LAKE NATURE CLUB MONTHLY MEETING
High Arctic Adventure in Canada and Greenland with Rob and Mechtild Brennen

Thursday, February 15 @ 7:00 PM

Lower Hall of St. George's Anglican Church on 4817- 51 Street in Stettler, AB.





THANK YOU JUDY! WELCOME SHELLEY-ANNE AND JOHN!

We would like to thank Judy Boyd for her many years of service as the Central Alberta Christmas Bird Count Coordinator (24 years), the Central Alberta May Species Count Coordinator (23 years) and the Alberta-wide May Species Count for 17 years (2005 - 2021). Thank you! We welcome the new Count Coordinators, John and Shelley-anne Goulet. We appreciate you stepping up to take on this important role.

Thank you WEES! RDRN has a standing invitation from the Waskasoo Environmental Education Society (WEES) to attend the January screenings of the Banff Mountain Film Festival World Tour in Red Deer. For three evenings, RDRN volunteers attend a booth to promote the organization. Our thanks to everyone who helped out this year. From left: Anto Davis, Bob Krutchen, Gemma Davis. Rick Tallas, Daryl Beck, Rod Trentham and Myrna Pearman also volunteered. RDRN appreciates the opportunity to promote our organization at such a wonderful event.



NATURE CENTRAL UPDATE WITH CATHY STEELE

We have been busy making plans to promote appreciation of conservation areas within 100km of Red Deer through Nature Central events and activities for 2024! We have two winter hikes planned—Saturday February 17th and Saturday, March 16 (10:00 AM—Noon). **The February 17th trip will be to Kelly Ranches, an NCC property for which we have obtained special permission to lead a group in. Jim Potter will be helping guide this trip. Registration will be required, so please contact Cathy if you are interested in attending: epc.rdm.nature@gmail.com. We will announce the other trips shortly.**

There will be several paddling events from May through August and we will be partnering with other organizations that will be holding events in Central Alberta.

We held our first event of the year on January 20—a chilly winter walk at Burns Nature Park on the east side of Sylvan Lake. There was fresh snow on the trails and we walked most of the trails in about an hour. We finished the walk with a cup of hot chocolate, which was perfect as the temperature was about -15 C!



RDRN Social Media:

1565 Facebook Members

311 X Followers

458 Instagram Followers

The Red Deer River Naturalists, the first natural history organization to be established in Alberta, was incorporated as a society in 1906. The objectives of the society are to foster an increased knowledge, understanding and appreciation of natural history, and to support conservation measures dealing with our environment, wildlife and natural resources.

Annual membership is \$15.00 for individuals and \$20.00 for families.

Regular meetings are held at 7:00 PM on the fourth Thursday of most months at Kerry Wood Nature Centre. Non-members are welcome.

Members are encouraged to contribute to this newsletter. The deadline is the last Friday of the month.

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