The Red Deer River Naturalist

January 2023 Editors: Myrna Pearman & Susan van der Hoek

RED DEER RIVER NATURALISTS

ANNUAL GENERAL MEETING

REPORTS, ACHIEVEMENTS, BOARD NOMINATIONS, ELECTIONS AND MUCH MORE!

26 JANUARY 2023

7:00 PM
KERRY WOOD NATURE CENTRE
RED DEER

SPONSORED BY

RDRN
Red Deer River Naturalists

All are Welcome
Only Members can Vote

Photo by Ben den Engelsen
Red Deer River, Lacombe County

Board Notes

Rick Tallas, President

- As 2022 ends, it is a time for refection. For me personally, it was a very challenging year with some major health issues which I am happy to say with the help of family, friends, and incredible doctors, I have overcome.
- 2023 for me brings me hope that, with governments finally committing to protect 30% of our lands and oceans by 2030, we will see major benefits to wildlife, nature and people. Hopefully we can get that commitment raised to 50%.
- Our combined voices worldwide are getting louder and louder. Hopefully, corporations and governments will be forced to rethink how they do business. Grassroots efforts are creating a tsunami that will go a long way towards world peace as well as to protecting our lands for future generations.
- RDRN continues to be a voice for the environment. We also provide a range of programs.
- Be sure to visit our website, which is in the process of being ungraded.
- We are still looking for board and committee members. Feel free to contact us if you are interested rdrn.nature@gmail.com

IN THE ALBERTA WILDERNESS: The Snowshoe Hare

By Don Auten

The Snowshoe Hare is common throughout most of Alberta and is well known for turning white in the winter. The white coloration provides camouflage, which offers some protection from the hares' many predators. If the camouflage fails and they have to run for their lives, their big snowshoe feet allow them to move quickly and efficiently on top of the snow. To offset the fact that they are a favoured prey species, Snowhoe Hares are prolific breeders. They can have three litters per year and up to seven young per litter. It is a well-established fact that their population fluctuates on a roughly ten-year cycle. On a peak year, their numbers can be as high as six hares per acre, then the population can crash and their numbers can decrease by 95%, all within a one-year period. From my observations we are now in a peak year or close to it. There are so many hares this year!

DID YOU KNOW *By Susan van der Hoek*

A group of American Badgers (*Taxidea taxus*) is called a "cete." American Badgers are medium-sized fossorial (burrowing) carnivores in the weasel (*Mustelidae*) family. They can be gray to tawny brown and have distinctive white stripes from their face to their mid-back. They also have fluffy ears, giving them the appearance of wearing ear muffs! Their short front legs have strong claws perfect for digging. American Badgers prefer to live in wide open spaces and are found in native grasslands and uncultivated farm fields but also can be found in early seral (disturbed) forests and forested corridors. American Badgers feed on small rodents, small birds, reptiles, amphibians and large invertebrates, but will also consume carrion. Preferred prey is the ground squirrel. They are mainly active at night or in the morning and are solitary animals. They live in dens with elaborate tunnel networks and chambers. American Badger burrows provide a key habitat element for Burrowing Owls and Swift Foxes. They breed in summer but females delay implantation of the fetus until February. Litters arrive in early spring, then leave the den in June or July to find their own territory. Although they're not true hibernators, American Badgers decrease their metabolism and activity level to conserve energy during the coldest months. The American Badgers status is listed as "sensitive" in the Alberta Wild Species Status List due to dependency on fluctuating ground squirrel populations.

FLOWER FOCUS: Lilies of the Field

with Don Wales

Wednesday, January 18
10:00 AM @ KWNC

Seasonal Sights and Sounds of Alberta: Common Ravens—Highly Intelligent, Vocal and Innovative Corvids

By Dr. Sally Stuart

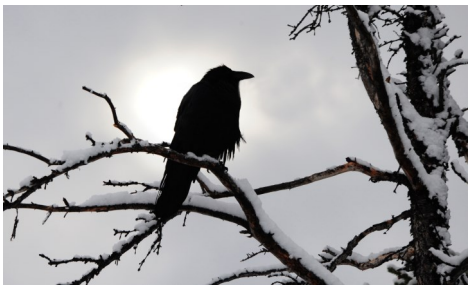
I often see road-killed moose or deer while driving to and from Sylvan Lake during the winter. Feeding on the carcass are invariably a collection of birds, the majority of which are small flocks of Common Ravens (*Corvus corax*). Ravens belong to the Corvidae family comprising 135 species (IOC World Bird List). The genus Corvus—many of which are known for their ingenious feeding techniques—evolved from the core corvids about 17 MYA. New Caledonia Crows even craft and use tools. According to John Reilley (*The Ascent of Birds*), such innovative feeding methods may have arisen as they evolved in response to deteriorating environmental conditions. Rob Dunn coined the phrase "inventive intelligence" to describe how corvids can change their behaviour to develop new ways of accessing food. Indeed, ravens have developed unique feeding skills.

Magnificent birds, corvids have been revered throughout the centuries by many different cultures, and the intelligence of these birds, especially ravens, is well known. Compared to other birds, corvids have remarkable cognitive skills.

Memory: At the best of times, ravens are suspicious of humans and are difficult to approach. However, if they are abused, they will never forget the experience nor their abusers. How? Bird brains are necessarily small, since weight is at a premium. However, ravens have a high density of neurons in their forebrains (exceeding that of some primates!). Dense, small neurons with a large surface area to volume are thought to enable faster transmission of information, since signals do not have to travel far.

Calls: Acoustically, ravens produce an extensive repertoire of sounds. Little wonder many ancient cultures assumed them capable of human speech. Oral communication is of great importance to them, and their sounds attract me when I am walking on our land. These sounds include the raucous "caws" as they fly overhead, the courtship rattle sounds (often compared to downy woodpeckers drumming), and the bell-like call that they will give while perched atop high trees. Between 1985 and 1990, Richard Connor studied the vocalizations of Common Ravens in southwestern Virginia. He recorded 1,200 vocalisations from which he was able to identify 18 different call types. When flying, perched or disturbed at the nest site, ravens emit the typical "caw." They also emit growls and whines (frequently made by birds quarrelling over roosting spots) as well as distinctive courtship sounds. Adults also produce a "kow" sound (which, according to Connor resembles the high-pitched honk of a Canada Goose) and give "cluck" calls when their young were disturbed at the nest. Most raven calls, which he found to be in the frequency range of 250 to 2,300 Hz, travel long distances. Behavioural posturing—such as neck arching, bill pointing and the ruffling of leg and neck feathers—often accompanies these calls.

Social Behaviour: Ravens form long-term monogamous relationships and mate for life. Their average life span is 17 years, although in captivity they may reach 60 to 70 years of age! Like all intelligent birds, young ravens require a long development period. Offspring remain with their parents for six months after fledging, an important learning period. Although breeding birds establish and defend territories, they are social birds, often living in social groups and roosting together at night. They engage in allopreening (one bird preens the feathers of another), a behaviour that is similar to social grooming in primates. This behaviour serves to help reduce the stress that comes with living in social groups. How exactly the mechanism works is unclear, but the nervous and endocrine systems are intimately connected. Some evidence from a study by Stowe et al (2008) studying raven nestlings suggests that the stress hormone corticosterone plays a role. Although essential for normal development, chronically elevated corticosterone levels have a negative effect on growth, body condition and even immunity. Stowe found that allopreening resulted in lower levels of corticosterone in both birds that participated in this behaviour. Interestingly, the hormone reduction may involve disturbing the filoplume feathers. These inconspicuous feathers, which are anatomically different than contour feathers, are scattered throughout the birds' bodies. Filoplume feathers have a typical feather shaft, but with few side branches. Sensory receptors, called corpuscles, are found in the skin at the base of each filoplume feather. These corpuscles generate nervous impulses when the feathers are displaced, which in turn seems to reduce the endocrine response to mild stress.



Relationship with Wolves: Surprisingly, Common Ravens have few unique physiological adaptions that help them survive winters. Instead, they rely on consuming large quantities of carrion. The hunting strategies of ravens have been extensively studied by many scientists, especially Bernd Heinrich and colleagues in Yellowstone National Park. This study determined that the relationship between wolves and ravens is noteworthy. Ravens not only listen for the wolf call that signals the start of a hunt, but they are present in the actual chase and arrive at the kill within seconds. He observed up to 135 ravens at one time at a kill site. Their beaks are not able to perforate thick mammal skin, but once the wolves open it up, ravens can consume an astounding amount of the carcass, eating up to one third of it. At first appearance, ravens seem to be kleptoparasites (stealing food from wolves). However, Heinrich determined that the relationship is more complex, as wolves and ravens feed together. The superior sight and auditory abilities of the ravens may serve to alert the wolves to interlopers and other hazards. Thus, their relationship is more mutualistic. The scientists also observed that their association with wolves went far beyond hunting, as ravens were observed grabbing sticks and "playing" with wolf pups. Mutualism between ravens and canids had been documented earlier: an account by Rev. Wood in a book entitled *Illustrated Natural History* (1872), refers to a raven which associated with a terrier dog for hunting expeditions. The dog would enter a covert (a thicket in which game can hide) to drive out hares, while the raven would stand guard at the edge of the woods. Emerging prey would be swooped upon by the raven, attacked and held down until the dog arrived. Apparently for rat hunting, the raven was more useful than a ferret!

Also according to the Rev. Wood, ancient Scandinavians had great respect for the "sullen bird of Odin." Seemingly Odin's two ravens had the ability to pass between worlds, informing Odin of all the incidents which had occurred on earth. Raven watching is fascinating. Treat the ravens with respect, admire their intellect, observe and be observed.

Bird Focus Group

A very successful 2022 birding season was wrapped up with a celebratory gathering at Kerry Wood Nature Centre on December 11th. Thanks to Keith Kline for arranging the gathering, and a big thanks to Chris Olsen for leading these trips. Bird walks will resume in March, 2023.

Photo by Chris Olsen

Thanks to Bob Krutchen, RDRN had a table at the Red Deer Rebels game on December 3.

RDRN Social Media:
751 Facebook Members
307 Twitter Followers
392 Instagram Followers

Nature Central Update:

Thank you Natalia Lifshitz! Dr. Natalia Lifshitz was our Interim Education and Program Co-ordinator between September 1 and December 31, 2022. Our thanks to Natalia, who was the NC Naturalist-in-Residence during the summer, for assuming this position and assisting us with updating Nature Central documentation.

Report: *Since September 1, I have had the pleasure of working as the interim EPC to continue my work on the internal Nature Central database which contains detailed information about all the sites available to the public. I compiled the data that I collected this year as well as the data collected by Shaye Hill in 2021. I added photos of most of the sites to the website (www.naturecentral.org) and worked on creating and organizing an internal photographic repository for all the sites we have visited so far.*

Welcome Caitlyn Lawrence: The RDRN is pleased to announce that Caitlyn Lawrence has been hired as the new Education and Program Coordinator. Caitlyn is an environmental professional with three years of industry experience in social and environmental monitoring, environmental research and project management. In addition to her industry experience, she has a solid educational foundation through Olds College with two technical diplomas in Reclamation and Remediation and Environmental Stewardship and Rural planning as well as a BSc Environmental Science degree from the University of Lethbridge. As a Métis woman she places strong importance on being part of a team that has a positive impact on the community. We look forward to having Caitlyn on our Nature Central team!

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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