

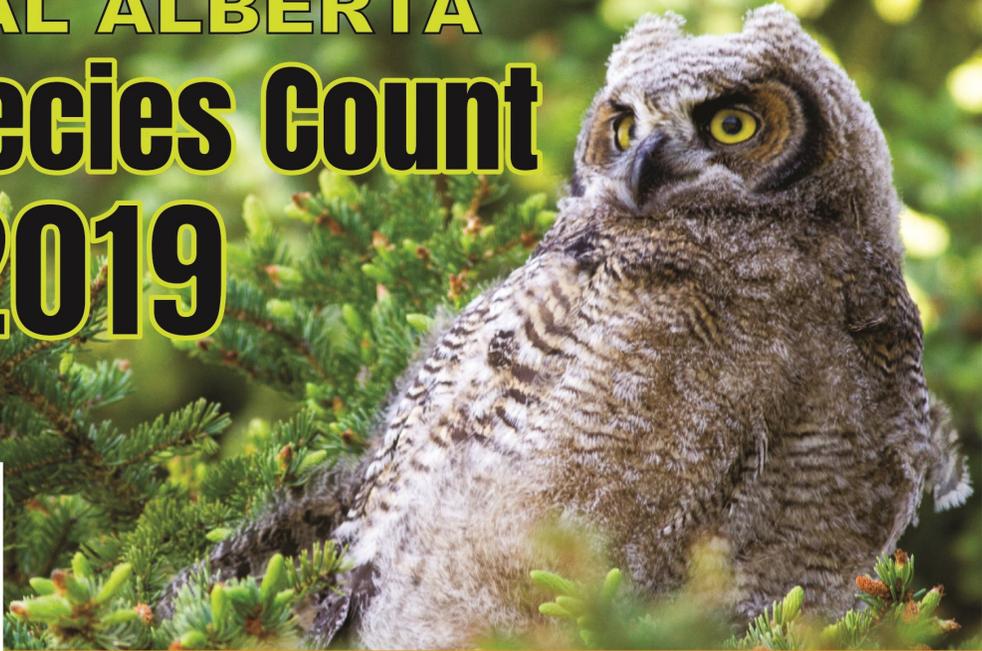


The Red Deer River Naturalist

EDITORS: MYRNA PEARMAN, SUSAN VAN DER HOEK AND JUDY BOYD

MAY, 2019

CENTRAL ALBERTA May Species Count 2019



Saturday May 25 and Sunday May 26

We invite you to help us document animals and flowering plants in Central Alberta! You can count in your own backyard, in a nearby park or natural area, or even by driving the backroads. We are interested in everything, from insects and spiders to amphibians, reptiles, birds and mammals. This is a great family event!



Photos by Myrna Pearman & Doug Pedersen

**For more information and
to register, please call
Judy Boyd at 403-358-1098**

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Red Deer River Naturalists



www.rdrn.ca

SEASONAL SIGHTS AND SOUNDS OF ALBERTA: SONG AND THE SEASONALLY FLEXIBLE BIRD BRAIN

By Dr. Sally Stuart

Each April for the past five years, I have eagerly awaited the arrival of the sparrows. Some people love warblers but I must say I look forward to spring and sparrows. My particular favourite is the Song Sparrow, *Melospiza melodia*. It may look deceptively drab, but it produces a series of as many as 10 to 11, complex unique clear songs. It is assumed that sexual selection is responsible for their large repertoire. All songs play the same role: they advertise fitness of the male and the larger the repertoire, the greater the male's reproductive success.

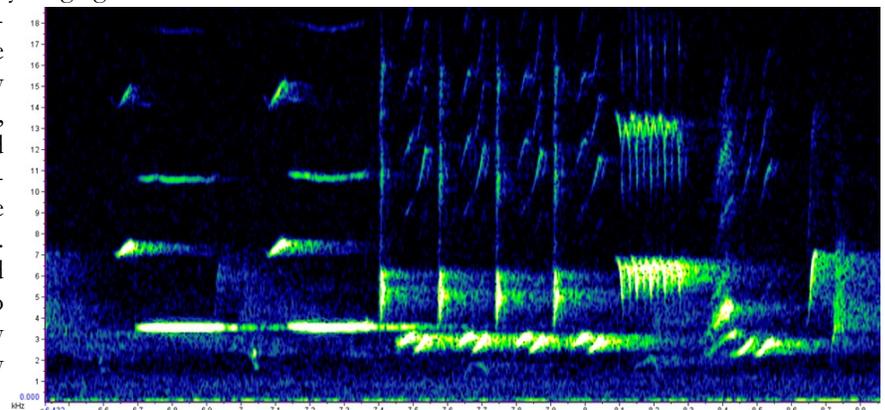
A single song is shown below. The intricacies of bird song are evident only when the songs are slowed down and transformed into a sonogram. The Song Sparrow song starts with a series of whistles, followed by either four or five double notes, a trill, then a descending cascade. The frequency ranges from 1.9 to 18.7 kHz, with a predominant frequency of 3.6 kHz. Each song lasts about 2.3 seconds. Singing is a complex mechanism with sounds physically produced by muscles in the syrinx, controlled by nerves in the brain. One area of the brain controls song production while other areas control song learning and recognition. The areas of the brain which control singing develop early in life. Songbirds usually learn the songs from parents or other birds of the same species; this is known as the critical learning period. Learning to sing is so crucial to birds that Frank Gill (American ornithologist) reports that the heart rate of young Song Sparrows increases the first time they hear members of their own species sing! This critical learning period is followed by a "silent period," when the young bird stores the syllables it has memorized. There is then a practice period and finally there is a period of crystallization, as the bird continues to practice but perfects the songs. However, the situation is complex as all Song Sparrows do not sing the same songs! Research was conducted on a group of resident Song Sparrows in Washington State whose territories bordered each other. It was discovered that where they overlapped, they shared some of the same songs. Young birds moving into the area copied whole songs from their future neighbours. Adjacent males sang loudly in the spring, with neighbouring males replying either by singing the same song or a different song from their repertoire. A same-song reply indicated a high degree of aggression and the situation escalated. If they replied with another song from their repertoire, the situation was de-escalated. Males that shared songs seemed to live longer and keep their territories longer. However, other studies have since shown intraspecific geographical variation occurs. For example, in Pennsylvania, young birds copied only parts of songs, which they then combined to produce their own adult songs. At best they may share segments of the songs. The difference may

because these birds migrate and so do not occupy territories year-round. On rare occasions, female Song Sparrows may also sing, although their songs are fewer and less complex. Apparently this behaviour is due to aggressive interactions with other birds centered on the protection of territory.

The size of the male bird gonads and hence testosterone production changes throughout the breeding season. Likewise, areas within the brain can also vary in size as the neurons which make up this area enlarge during the breeding season. Testosterone also increases both the length and branching of a part of the neuron called the dendrite. The brain space controlling song is therefore flexible; birds with larger song repertoires have larger brains. Studies found that inadequately fed young birds were unable to sing complex songs, a disadvantage since females choose high quality, fit males based on the complexity of their song.

The auditory area of a bird's brain is also important as they must be able to both hear themselves and others. This area of the brain must selectively filter background noises, such as insects, as young birds must learn the songs of their species whilst avoiding other sounds. The size of the auditory area of the brain and the birds' ability to hear is also subject to change with the seasons. A fascinating study by Jeffrey R. Lucas and others in 2007 looked at the seasonal response to sound in different North American bird species. Results showed that the acoustic acuity of Carolina Chickadees increased in the spring while White-breasted Nuthatches (whose hearing covers a narrow range of frequencies) improved in the fall/winter—a time when White-breasted Nuthatches are feeding on exposed tree trunks and during a time when food resources are scarce. Increased acuity enables them to hear approaching predators.

It was April 14th this year when I heard the first Song Sparrow, advertising his territory sitting in a willow bush on the edge of the marsh. Fascinated, I listened to his songs, wondering if his neurons were well developed, and if he was going to attract a female and thus pass his genes to the next generation.



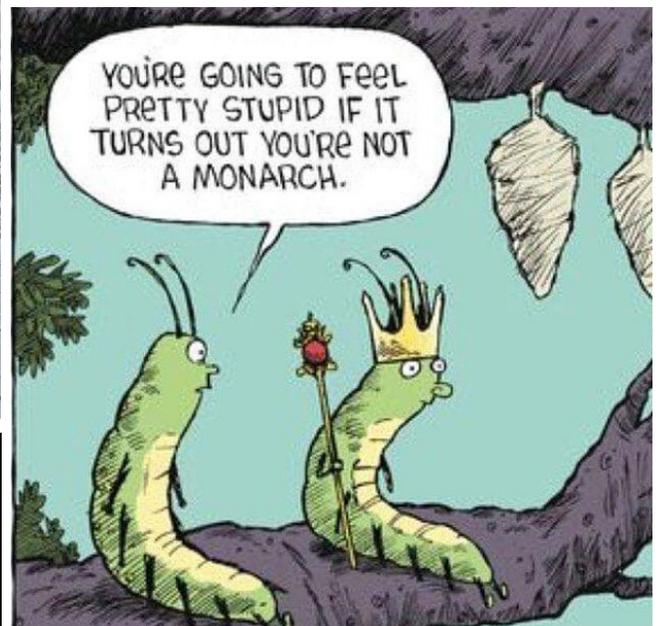
SUMMER OUTINGS

May 18-19: Brooks/Lake Newell May Species Count: Tillebrook Provincial Park is the traditional count headquarters but all evening meetings will be held at the Brooks Legion Hall (235 - 3 St. W.). Local hotels are a few minutes drive away; reserved camping is organized. Contact Judy at 403-358-1098 for further details and to confirm attendance.

May 25-26: Milk River/Writing-on-Stone May Species Count: Count participants can use Writing-On-Stone Provincial Park campground as headquarters or motel facilities at Coutts and Foremost. Contact Judy at 403-358-1098 for further details and to confirm attendance.

May 25-26: Central Alberta May Species Count. Count all species – birds, flowers, mammals, butterflies, amphibians, etc. etc. Contact Judy Boyd at 403-358-1098 to let her know where you will be counting to avoid duplication. Bird tally sheets will be mailed out with the May RDRN newsletter or can be picked up at KWNC.

June 22-23: Bjorge Farm in the Battle River Hills. Call Judy at 403-358-1098 to confirm attendance. You can go out on Saturday and camp overnight at the Ferry Point Campground. (Some tents will be available if you don't have your own). Bring your own food and sleeping gear. There is a minimal cost for the campsite. The other option is to meet at Meeting Creek (approximately a two-hour drive from Red Deer) at 10 AM on June 22 or June 23. Please bring insect repellent and sunscreen.



DID YOU KNOW?

By Susan van der Hoek

A group of fish is known as a shoal, run or school.
OXFORD LIVING DICTIONARIES

BIRDING TRIP SCHEDULE

By Keith Kline

Meet at the event site at 10:00 a.m. Trips are usually two hours but may be longer. Dress for the weather. Bring your camera and binoculars. Everyone welcome, you do not have to be an RDRN member to attend.

April 20: Kin Canyon Park - Meet in the Rotary Park parking lot

April 27: South of Red Deer College - Meet in the southwest parking lot beside the weather station

May 4: Nova Chemicals Community Nature Trail - <http://www.lacombetourism.com/wp-content/uploads/2017/01/Nova-Nature-Trail.pdf>

May 11: McKenzie Trails Recreation Area - Meet in the main parking lot

June 1: Ellis Bird Farm - www.ellisbirdfarm.ca

June 8: Aly Seymour's farm - Call Keith (403-347-6883) for details

June 15: Kuhnen Park - <https://www.lacombecounty.com/index.php/parks-and-trails>

July 6: Michael O'Brien Wetland - Meet in parking lot by Safety City

July 13: Heritage Ranch - Meet in the first parking lot

July 20: Springbrook Community Park - Turn on Hwy 2A into Springbrook (Red Deer Airport). Park in the small lot on the right just before the road bends to the terminal

July 27: Gaetz Lakes Sanctuary - Meet in KWNC

August 10: Maskapetoon Park - Meet at the playground on the west side of Kerry Wood Drive

August 17: River Bend Golf & Recreation Area - Meet in the first parking lot on the right at the bottom of the hill

August 24: Three Mile Bend Recreation Area - Meet in the first parking lot by the ski ramp

September 7: 20th Ave. Red Deer - Meet at the very end of 22nd Street East past Lindman Ave.

September 14: Hazlett Lake - Hwy 11A west. I will be standing at the entrance, located 200 m before exit to QE 2

September 21: Heritage Ranch - Meet in first parking lot

September 28: Slack Slough and PCRAP - Meet at Slack Slough parking lot

October 5: River Bend Gold & Recreation Area - Meet in the first parking lot on the right at the bottom of the hill

October 19: Gaetz Lakes Sanctuary - Meet in KWNC

October 26: Maskepetoon Park - Meet at the playground on the west side of Kerry Wood Drive

November 2: Bower Woods - Meet across the street from 37 Selkirk Blvd. in the green space

November 9: McKenzie Trails Recreation Area - Meet in the main parking lot



INSECT FOCUS KWNC • 10:00 AM — 12:00 PM



MAY 15: FIELD TRIP (WEATHER PERMITTING)

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 7:30 p.m. on the fourth Thursday of most months at the Kerry Wood Nature Centre, 6300-45 Ave., Red Deer, AB. 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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