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Nature Alberta

CELEBRATING OUR NATURAL HERITAGE

SEE THE FEATURE STORY (PAGE 24). RICK PRICE

feature article

Bumblebees of Alberta

A BARRED OWL PICKS AN INTERESTING PERCH; SEE STORY, PG 38. WARREN STARK

♫ SUMMERTIME, AND THE LIVIN' IS EASY! ♫ LEN PETTITT

Nature Alberta:
Celebrating our natural heritage

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SPRING ISSUE.**FEBRUARY 14**
SUMMER ISSUE.**MAY 15**
FALL ISSUE.**AUGUST 15**
WINTER ISSUE.**NOVEMBER 15**

Nature Alberta is composed of natural history clubs from across the province. The aims of the Federation are:

(a) To encourage among all Albertans, by all means possible, an increase in their knowledge of natural history and understanding of ecological processes;

(b) To promote an increase in the exchange of information and views among natural history clubs and societies in Alberta;

(c) To foster and assist in the formation of additional natural history clubs and societies in Alberta;

(d) To promote the establishment of natural areas and nature reserves, to conserve and protect species, communities or other features of interest;

(e) To organize, or coordinate symposia, conferences, field meetings, nature camps, research and other activities whether of a similar or dissimilar nature;

(f) To provide the naturalists of Alberta with a forum in which questions relating to the conservation of the natural environment may be discussed, so that united positions can be developed on them, and to provide the means of translating these positions into appropriate actions.

CORPORATE MEMBER CLUBS
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Edmonton Nature Club, Box 1111, Edmonton, AB T5J 2M1
Fort McMurray Field Naturalists Society, 152 Cote Bay, Fort McMurray, AB T9H 4R9
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Friends of Little Beaver Lake Society
Grant MacEwan Mountain Club
Heritage Tree Foundation of Canada
J.J. Collett Natural Area Foundation
Lee Nature Sanctuary Society
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Weaselhead/Glenmore Park Preservation Society
Wizard Lake Watershed and Lake Stewardship Assoc.

CELEBRATE NATURE ALBERTA
SERVING NATURE FOR OVER 43 YEARS!!!

NATURE ALBERTA

Editor's Page

BY DENNIS BARESCO

When Nature Alberta decided to join the Black Out-Speak Out campaign (see "Nature Alberta and Bill C-38," page 6), there was some concern expressed regarding NA taking part in an advocacy action that may not be appropriate for a naturalist group and possibly may be contrary to federal rules governing charities.

While the contents of Bill C-38 itself generated massive and across-the-spectrum protest, the shock and anger was hugely exacerbated, to some degree, as a result of the undemocratic process by which it was passed, but also by statements from some government politicians that attempted to intimidate and threaten any individual or group – specifically environmental groups – that disagreed with them. Environmentalists and others were slandered as traitors and enemies of the state simply for expressing their opinion – if that opinion differed from the government – on the tar sands or the Northern Gateway Pipeline. Almost unbelievably, the federal government's "Strategy on Counter-Terrorism" released in February of 2012 equates environmentalism with white supremacy and the terrorist activities in Oklahoma City in 1995 and Norway in 2011.

It should be noted that Bill C-38 does not change or impact, to any great degree, the ability of charities to become involved in political activities. Advocacy by any charitable group is not prohibited as long as some rules are followed. The rules, as set out by the Canada Revenue Agency (CRA), are sometimes complex, sometimes vague, and difficult to summarize briefly. The bottom line, though, is that as long as a charity's activities are connected and subordinate to its purpose, the activity is presumed to be charitable.

Okay, not quite the bottom line. According to CRA, "This means that a charity may make the public aware of its position on an issue provided:

1. It does not explicitly connect its views to any political party or candidate for public office;
2. The issue is connected to its purposes;
3. Its views are based on a well-reasoned position;
4. Public awareness campaigns do not become the charity's primary activity".

(Canada Revenue Agency Policy Statement on Political Activities)

Activities, according to CRA, "should be based on a position that is well-reasoned, rather than information the charity knows or ought to know is false, inaccurate, or misleading. Finally, although the Canada Revenue Agency acknowledges that material produced in support of a public awareness campaign may have

Ponderables

"Our duty to the whole, including the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose, and method."

THEODORE ROOSEVELT

some emotional content, it would be unacceptable for a charity to undertake an activity using primarily emotive material". This includes "communication with a public official or the public by a charity regarding an issue related to the charity's purpose" *(Charity Law Bulletin No. 286: Playing by the Rules: Political Activities Fair Game for Charities; by Terrance S. Carter and Karen J. Cooper)*

When making a presentation to an elected or public official, the CRA considers it to fall within the general scope of charitable activities "[e]ven if the charity explicitly advocates that the law, policy, or decision of any level of government in Canada or a foreign country ought to be retained, opposed, or changed."

As part of Nature Alberta's mandate, advocacy is at times a required activity, as it is with all naturalist and environmental groups. If we did not advocate for the conservation of nature, then who would? If you follow the activities of Nature Alberta, you will know that virtually everything NA, its staff and its volunteers do is "connected and subordinate to its purpose" – including any advocacy.

Even at that, advocacy takes up only a fraction of NA's time and resources (financial or human), and we are well within the 10% to 15% limit required by CRA (the limit is guided by an organization's annual income). Still, NA will become schooled in any CRA changes wrought by Bill C-38, and will maintain vigilance to ensure that all the rules are being followed and all the reporting required by CRA is correctly done.

Meanwhile, have a really good summer!

On the Covers:

FRONT COVER

If wildflowers are nature's laughter, as Sandra Hawkins wrote in the Spring *Nature Alberta* Cover Story, then Bumblebees must be some of the happiest creatures on earth. Bumblebees also make excellent photo subjects. The difficulty is getting sharp pictures of a Bumblebee in flight. Rick Price did it with the Summer cover photo. It's time to learn all about Alberta's Bumblebees; read the Feature Story, starting on page 24.

INSIDE FRONT COVER

Warren Stark had the good fortune to have a pair of Barred Owls nest by his front yard – which led to some interesting photos of where the owls decided to perch! See the story, page 38.

Fields of bright yellow – canola in blossom – are a common but lovely sight in Alberta. However, they're not exactly a wildlife photographer's dream…unless you happen upon a Mule Deer buck in the midst of the crop and all decked out in velvet. The result: a splendid, summer nature photo by Len Pettitt!

INSIDE BACK COVER

There is something very special about photographing insects – besides the fact that, depending on your lens size, you need to get pretty darn close to make a decent photo. *Nature Alberta* was thrilled to get the photo of the somewhat unusual (for a moth) Hummingbird Clearwing Moth from Len Pettitt and the damselflies and dragonfly from Debbie and Alan Godkin.

BACK COVER

A great story lies in the tale of Quill and his sibling Morant, a pair of orphan Grizzly Bear cubs. Quill is the subject of Rick Price's back-cover photo as well as the story on page 41.

ALBERTA ISSUES IN BRIEF

Landowner and Environmental Groups Launch Pipeline Spill Tipline

The Alberta Surface Rights Group, Greenpeace Canada, The Council of Canadians and the Sierra Club today launched an independent pipeline spill tipline to encourage people who see pipeline spills to phone the number and report them.

According to the Energy Resources Conservation Board in 2010 there were over 600 spills and leaks from energy-related pipelines in Alberta. Two of the last three major spills were undetected by the company but instead, were reported by third parties.

"With this spill tipline, every person can be a watchdog, help protect their communities and be a part of the solution," said Climate and Energy campaigner Mike Hudema with Greenpeace Canada.

Calls to the line are 100% anonymous. The pipeline spill tipline number is 1-855-23-SPILL or

1-855-237-7455. People can also submit reports online at www.cleanalbertawater.com.

Caribou in Mountain National Parks

Canadians support renewed efforts to recover threatened caribou in our Mountain National Parks – and we are willing to make sacrifices to allow that recovery to take place. This is one of the significant findings from a newly released Parks Canada report, *Conservation Strategy for Southern Mountain Caribou: What we Heard*.

In November 2011, a draft Conservation Strategy was released, and the Canadian public was asked to provide comments. Findings include:

- **97%** of respondents felt that caribou conservation was important
- **More than 90%** of respondents supported seasonal trail closures and relocation of trails or campsites to limit recreational impacts in important caribou habitat
- **Nearly 85%** of respondents support seasonal closure of secondary roads

"Canadians clearly feel that it is important to maintain endangered species in our National Parks," says Nigel Douglas, conservation specialist with Alberta Wilderness Association. "But what is particularly significant is that we understand this means we may need to make compromises that affect our own activities. And we are fine with that."

Woodland Caribou of the Southern Mountain population are found in Banff, Jasper, Glacier and Mount Revelstoke National Parks, as well as adjacent provincial lands. They are listed as Threatened under Canada's Species at Risk Act. But the fact that they live in National Parks does not necessarily mean that they are safe.

"We hope that Parks Canada will remember these findings when it decides whether or not to allow future developments, such as Jasper's planned expansion of the Marmot Basin ski hill into caribou range," says Douglas. "Ecological integrity remains the priority of Canadians, even if that means restricting development."

For more information: Carolyn Campbell, (403) 283-2025.

From an Alberta Wilderness Association press release, "Canadians Willing To Make Sacrifices to Recover Caribou in our National Parks: New Parks Canada Report; July 3, 2012."

Nesting Sites Dismantled for Powerline

As reported in the *Medicine Hat News** (July 12, 2012, by reporter Alex McCuaig), ATCO Electric dismantled thirteen Ferruginous Hawk artificial nest poles (ANP) "to help facilitate ATCO's construction of powerlines along Highway 36 between Brooks and Hanna while protecting disruption to the birds during nesting season."

The removal, in February and March of this year, of nests within 500 metres of the transmission lines, occurred without informing any Ferruginous Hawk researchers, even though the species is listed as endangered in Alberta. Lead Ferruginous Hawk provincial researcher Brandy Downey was unaware of the removal until contacted on July 11th, and other researchers had "only learned of the move in recent weeks." The removal also occurred several months before the lines were approved by the Alberta Utilities Commission (AUC) in May, though this was done "with approval from SRD [the former Sustainable Resource Development] under existing pre-construction regulations, according to ATCO."

According to a Fish and Wildlife biologist quoted in the *Medicine Hat News* article: "None of the poles were cut down. Basically, the platforms were dropped and everything was saved - (including) nest materials. …What [ATCO's] doing is putting the platforms back in original locations [once the nesting period ends on July 15], plus we're in discussions to have additional nest sites - new nest poles erected - at a safer distance from the line."

In answer to why researchers were not informed, the biologist replied in the article that "there will be better communication in the future" and that ATCO will get in touch with them this summer. Although disturbing the nests of endangered species is illegal, he felt that the laws "likely don't apply in this instance as only a few nests had been used historically and none were occupied at the time they were dismantled". Artificial, man-made nest sites, he said in the article, "fall into a different category… because we do have the option to move them out of harm's way." It is assumed that he meant the nests had never been used previously, since it would be no surprise that the nests were not occupied in February-March because the hawks were not yet back from migration.

The precautionary removal of the nests isn't the issue. The concern is the precedent set and the slippery slope of allowing development which normally would not be allowed **. The setback and timing guidelines developed by SRD have been set up to keep development activities away from key wildlife areas, not to move key wildlife areas away from development activities. The argument could be made that because the nesting poles were removed, there were no nests within the setback distance. If it happened here, it could happen again: for Ferruginous Hawks, for Burrowing Owls, for grouse leks. What precisely falls into the category of "man-made" structures that do not fit the normal definition of a nest site? Any tree planted by humans? An abandoned shelterbelt? For many species, like Ferruginous Hawks, artificial nest platforms are now the mainstay for nesting birds. The largest breeding colony of Pelicans in southern Alberta is on Scope (Hays) Reservoir, which is an artificial water body. Can we therefore meddle with the colony because the lake is artificial?

ONE DESIGN FOR FERRUGINOUS HAWK NESTING POLES. JOE SCHMUTZ

A FERRUGINOUS HAWK AT ITS "MAN-MADE" NEST SITE. JOE SCHMUTZ

The plan and SRD's approval may be well intentioned and may actually result in additional poles being established and all poles being upgraded, which ATCO has stated it is considering. But experienced naturalists are well aware of the old adage, give

* For the full article, see: www.medicinehatnews.com/front-page-news/nesting-sites-dismantled-for-powerline-07122012.html

** For the guidelines regarding setback and timing for development activities in the vicinity of Ferruginous Hawk nests, see www.srd.alberta.ca/FishWildlife/WildlifeLandUseGuidelines/documents/WildlifeLandUse-SpeciesHabitatGrasslandParkland-Apr28-2011.pdf

'em an inch and they'll take a mile, when it comes to potential precedent – and a dangerous precedent may have been established here.

Southern and central Alberta is being overrun with massive power line and infrastructure construction (which in itself has generated considerable anger, resentment and scepticism throughout the province). There's a parallel project by Altalink, approved in Feb 2012 by AUC and slated for construction in 2012-13, with a transmission line following, for the most part, directly along the west side of Hwy 36 from just south of Hwys #1 and #36 junction to Ware Junction. ATCO's project is slated for the east side of Hwy #36. The recent action to facilitate ATCO's power lines might be the inch that turns into a mile when it comes to exceptions to protecting species at risk or any species, for that matter. Nature Alberta will be following up on this issue.

Nature Alberta and Bill C-38

On June 4, Nature Alberta joined the Black Out-Speak Out campaign, along with over 500 other groups, by "blacking out" its website as one method to protest Bill C-38. Tens of thousands of ordinary Canadians, virtually the entire scientific community, past and present Government Members of Parliament and media of all stripes, also registered their dismay over this destructive Bill.

No one was under any illusion that widespread national protest – even within the governing Conservative Party – would change the mind of the power-clique in Ottawa; the government itself indicated publicly that one of the specific purposes of the environmental parts of the Bill was to open up the country for increased exploitation by industry through gutting a wide range of environmental protection measures. But Nature Alberta, along with all the others, agreed that with such a piece of legislation, "Silence is not an option."

If anyone actually believed that this Act might not be as destructive as it seemed, the Minister of Fisheries and Oceans, Keith Ashfield, put that notion to rest with his June 13th response to a Nature Alberta letter expressing our concern about the changes to the Fisheries Act (the NA letter is reprinted on page 7). Ashfield's response to NA was the same as that sent to many; in it, he wrote:

> *"The pollution prevention provisions contained in Section 36 of the Fisheries Act have long played an important role in preventing pollution of Canadian waters, and remain very important legislative provisions. There are currently few tools to authorize pollution other than by detailed regulations. For example, the amended Fisheries Act will provide flexibility and establish new tools to authorize deposits of deleterious substances."*

Ashfield continued:

> *"The proposed amendments are intended to support a shift from managing impacts to all fish habitats to managing threats to fisheries by: focusing the regulatory regime on managing threats to the sustainability and ongoing productivity of Canada's commercial, recreational and Aboriginal fisheries; …The proposed amendments will support Fisheries and Oceans Canada's focus on protection efforts for fish that support fisheries that are of importance to Canadians and the threats to those fisheries."*

One could not be blamed for interpreting Ashfield's comments about the new Fisheries Act as a method to make it easier for industry to pollute and for the protection of only those fish that make money. However, "This lessening of stability and predictability for the fisheries regulatory system is the last thing investors want," stated David McRobert (environmental lawyer from Peterborough), and Douglas Macdonald and Miriam Diamond (both from the University of Toronto) in a July 6th *Globe & Mail* article entitled "How Ottawa fumbled the fisheries file".

"This law is not based on science," states the article, "because it attempts to limit protection of habitat to fisheries that are of value to humans – something our fisheries scientists tell us cannot be done…Regulators, industries, aboriginal communities and others all understood that in law and policy, it was impossible to differentiate between the habitats of fish species useful to humans and those not useful to humans. That has now been swept aside by the Harper

government's disdain for fact presented by experts."

Of course, the Fisheries Act amendments are only one part of Bill C-38; there are other equally destructive aspects for the natural world (as well as other aspects of society). As such, Nature Alberta sent a second letter to the Prime Minister on May 31st, expressing our "deep concern over the devastation of our natural heritage which this omnibus bill appears to be targeting." (That letter follows the Fisheries Act letter, below.)

Letter from Nature Alberta to the Prime Minister (31 March 2012)

The Right Hon. Stephen Harper, P.C., M.P.,
Prime Minister of Canada

Re: Potential amendments to the Fisheries Act

Dear Prime Minister Harper,

Nature Alberta represents 40 natural history clubs with over 5000 individuals in the province of Alberta. Although our primary objectives deal mainly with increasing public awareness and appreciation of the natural world, from time to time circumstances compel us to speak out for conservation.

We are deeply distressed by proposals to weaken the habitat provisions of the federal Fisheries Act. Fish and their associated habitat are a sustainable, public resource. What's more, fisheries habitat is vital to the future well-being of Canadians. Governments and industries need to be more aware of the many ways these resources contribute to our quality of life. Healthy fish habitats are synonymous with: water quality and human health; river regulation and flood protection; biodiversity; recreation and aesthetic benefits; and sustainable economic opportunities.

The destruction or degradation of fish habitat is sometimes necessary but it is never a matter to be taken lightly. The current provisions of the Act protect habitat requirements for all species of fish for a very good reason. Ecological relationships can be extensive and they are seldom well understood. No credible scientist will ever say that the habitat of any fish species is not ecologically important without careful research and analysis.

Although it might be tempting to relax the Act's requirements in order to expedite certain new developments, the overall effect would be to reduce the protection for many fisheries that are already under threat. The consequences for fish habitat, and the humans that depend and benefit from it, will be universally negative unless changes in the Act are coupled with huge increases in research and regulatory infrastructure.

The Fisheries Act is needed now more than it has ever been. Nature Alberta urges you not to tamper with it.

Sincerely,

[ORIGINAL SIGNED BY] Edmond (Ted) Hindmarch, President.
Nature Alberta

Letter from Nature Alberta to the Prime Minister (31 May 2012)

The Right Hon. Stephen Harper, P.C., M.P., Prime Minister of Canada

Re: Open Letter to Govt Regarding Concerns over Bill C-38

Dear Prime Minister Harper,

Nature Alberta represents 40 natural history related clubs in the province of Alberta. Our mandate is to educate Albertans about our natural heritage and promote conservation in Alberta. We have been doing so for more than 40 years through publications, citizen science, and programs provided for youth and other audiences.

Our desire to be able to continue to celebrate and appreciate this province's natural heritage through future generations leads us to respond with concern over the omnibus nature of Bill C-38. Having our government bury within a single bill amendments to 18 federal acts related to environmental and wildlife protection is alarming. Several changes would especially appear to be weighted towards economic prosperity to the detriment of long-term environmental sustainability.

On 31 March, we expressed to you our deep distress regarding proposals to weaken the habitat provisions of the federal Fisheries Act. Despite the concerns raised by learned Canadians from across the country, these amendments appear to be going ahead. Under Bill C-38 we are also specifically concerned with the amendments to the Species at Risk Act, the loss of habitat protected through the PFRA Community Pasture program, and the significant reduction in environmental monitoring programs. These existing protective legislations were enacted through the results of many lessons learned in environmental conservation practices and evaluation of resource mismanagement throughout Canada's past history. Changes need to be well thought through and evaluated. Biodiversity in our landscape is fragile and irreplaceable.

While we acknowledge the Federal Government's need to review and assess the effectiveness of these pieces of legislation, we have deep concern over the devastation of our natural heritage which this omnibus bill appears to be targeting. Nature Alberta is extremely concerned with the haste, lack of transparency and the process that has accompanied this legislation. Lumping so many issues into a single bill without proper consultation and due diligence in assessing the impact of such extensive legislation is fool-hardy and belies Canada's former reputation of being a world leader in managing to a high standard of social, economic and environmental outcomes.

For the sake of all Canadians, we hope Bill C-38 will not become one of this country's most notorious acts of legislation placing us on an unrecoverable road to environmental devastation.

Sincerely,

[ORIGINAL SIGNED BY] Edmond (Ted) Hindmarch, President, Nature Alberta

Copy to: Peter Kent (Federal Minister of the Environment), Keith Ashfield (Federal Minister of Fisheries and Oceans), Joe Oliver (Federal Minister of Natural Resources), Alison Redford (Premier of Alberta), Diana McQueen (Alberta Minister of Environment and Sustainable Resource Development).

Alberta Fish & Wildlife No Longer Separate Division

Premier Alison Redford recently announced that the two departments, AB Environment and AB Sustainable Resource Development, will merge into one department: Environment and Sustainable Resource Development (ESRD). Its new mission is: "ESRD as proud stewards of air, land, water and biodiversity will lead the achievement of desired environmental outcomes and sustainable development of natural resources for Albertans."

As part of the restructuring, ESRD will have seven Divisions: Strategy; Policy; Operations; Corporate; Integrated Resource Management Planning; Forestry; and Transformation and Integration. Note that the Fish & Wildlife Division (F & W) is absent. Responsibility for Fish and Wildlife will be delegated somewhere in that mix, but at time of writing, where it will be and what role it will play is unknown.

Everyone is hoping that F & W will maintain or increase its role in conservation. However, there have been differing points of view on this restructuring. In a July 4th press release, Alberta Fish & Game Association (AFGA) stated its concern that none of the seven internal divisions "directly include any reference to fish or wildlife."

AFGA has many questions: "This re-structuring creates many unanswered questions such as who looks after fish and wildlife, who enforces the Wildlife Act, how and who will monitor populations, will each of the divisions have a small part of fish and wildlife management and if so how well will they communicate with each other? The list goes on.

Said AFGA President Conrad Fennema: "We, as the Alberta Fish and Game Association, hope with all sincerity that these changes will keep fish and wildlife in the forefront and that it will be a better way of doing business, however at this point in time the fact that no mention is made of these two important resources provides us reason for grave concern."

A legitimate concern, certainly, by AFGA. Yet on the other hand, Nature Alberta Executive Director Petra Rowell is excited by the changes; she feels that "it is all positive change and I look forward to more details as they emerge!"

Petra added: "It is also great to see the list of Assistant Deputy Ministers heading up the new divisions – all great people with a lot of experience and a lot of vision of where we are trying to move as a province. As for the division titles, I wouldn't be too concerned about what is listed and what is not. All of the functions that were managed before will continue to be managed; the new department is just figuring out how best to do that. I am not concerned that there is no "Water Division", as I know that like biodiversity, this is still a function of the new department and will be dealt with at the appropriate policy, strategic, and operational levels."

Petra has worked in both the merged departments and seen that they "have been working more and more closely together to move beyond 'silos' towards an integrated, place-based, performance-driven management approach for air, land, water and *biodiversity*."

Greg Wagner, President and Senior Wildlife Biologist with Athene Environmental Limited and who is well known to naturalists in Alberta, agrees with Petra that this is "potentially very positive! Premier Redford sounds like she is taking us back to where we should have been all along."

One does not wish to jump to conclusions, in either direction, and as Greg Wagner said, "it is important to hear from as many informed sources as possible." Nature Alberta will be keeping up-to-date on this issue.

Community Pasture Program: R. I. P.

"The [federal] Community Pasture Program is the Prairie Farm Rehabilitation Administration's (PFRA) largest and longest-running contribution to soil conservation on the prairies. Created in the 1930s to reclaim badly eroded areas, the program has returned more than 145,000 hectares of poor-quality cultivated lands to grass cover. It currently encompasses in excess of 900,000 hectares of productive rangeland.

"The mandate for the Community Pasture Program is to conserve the land resource, protect it from future deterioration due to drought while utilizing the land primarily for the grazing and breeding of livestock. The program uses cattle grazing as the primary tool, supported by the latest range management science, to maintain a healthy, diverse landscape, which is representative of the natural functional prairie ecosystems.

"Allocation of grazing space is based on a number of factors, the most important being an assessment of need. The formula used to allot grazing space is designed to benefit small producers by allocating grazing privileges in inverse proportion to land owned, leased or rented by clients. Approximately 3,100 producers use the pastures each summer, grazing about 220,000 head of livestock and utilizing over 3,000 bulls in the pasture breeding program. Fees are charged for all services provided on the pastures."

The above is from the Agriculture and Agri-Food Canada website (www.agr.gc.ca). The PFRA has now been absorbed into the Agri-Environment Services Branch (AESB) of Ag-Canada.

In a guest post on Nature Alberta's website, well-known Regina SK writer and naturalist Trevor Herriot said: "Hidden within the federal government's omnibus assault on Canada's environmental well-being is a single item that will seem small compared to the layoffs at Environment Canada and the evisceration of the Fisheries Act. With climate change research and environmental regulation under attack, it was easy to miss the Harper government's decision to divest itself of millions of acres of some of the rarest habitat on the continent.

"These [lands] are some of the last large chunks of grassland bird habitat in North America. More so than any other landscape – in national or provincial parks or on private land – the old PFRA pastures are vital to the remnant populations of 31 species at risk, including some of Canada's most endangered birds. Botanists and Grassland birders will tell you that these pastures contain almost all of the best remnants of mixed-grass prairie in Canada – because they have been well-managed and grazed sustainably under federal funding.

"The lands will be handed over to the respective prairie provinces where the pastures are located," stated Herriot. "However, the provincial governments have already made it clear that they have no interest in taking on more community pastures." As a result, the provinces may just put the land up for sale. However, many agriculture producers and conservation organizations are working together, and with the provinces of Saskatchewan and Manitoba to try to ensure the lands remain available for grazing and wildlife habitat. Whether the feds attach any caveats to the transfer is unknown; in fact, very little is known about most of this whole project except that the feds will be carrying it out regardless.

One important question from the conservation community is: does removing this massive chunk of land from federal control and management mean no more protection under the federal Endangered Species Act "for some of the most endangered habitat in Canada and its declining species"?

Trevor Herriot's blog, Grass Notes, is at trevorherriot.blogspot.com.

MALE RUBY-THROATED HUMMINGBIRD. DEBBIE GODKIN

Nature Diary: Summer Hummies!

BY DEBBIE AND ALAN GODKIN

RUBY-THROATED HUMMINGBIRD

As much as I anticipate the return of the Robins and Sparrows each spring, it's the Ruby-throated Hummingbird that has me marking off days on my calendar, and putting out sugar water days in advance of their expected arrival, should they return earlier than normal and, upon finding no food, move on.

Having the hummies here for the summer is therapeutic. They are my refuge of sorts when I am having a bad day. Just watching this ¼ ounce (or less) of boundless energy at the feeder, or in the garden, as it darts from flower to flower faster than the human eye can follow, helps me to relax.

I've seen the hummie dazzle children and adults alike. The look of awe on their faces is priceless when they spot the little metallic green jewel at the window feeder. And understandably so. Blessed with wings that beat an incredible seventy times a second, allowing it to hover while it drinks nectar from a flower, or fly up, down, sideways or backwards with relative ease is impressive to say the least.

Not to mention its fearless attitude. I've seen it chase away a Yellow-bellied Sapsucker to get at the delicious sap and relentlessly dive bomb a Merlin until the Merlin had enough and flew off. Maybe it's all of these qualities bundled up in such a tiny and colorful package that makes it a favorite.

RUFOUS HUMMINGBIRD

I hung out the feeder on May 18th knowing that I could expect the Ruby-throated Hummingbird to return between the 19th and 23rd, as they had always done for the past five years.

Within half an hour of putting out the feeder, I noticed a flash of color streak by the window. I immediately retrieved my camera from the kitchen table and wheeled out onto the deck. I spotted the tiny bird in the apple tree, just before it flew off to the mature spruce by our garage.

FEMALE RUBY-THROATED HUMMINGBIRD. DEBBIE GODKIN

MALE RUFOUS HUMMINGBIRD. DEBBIE GODKIN

Its coloration didn't look right for a Ruby: no metallic green and its throat was more orange than red. Dare I entertain the thought that it could be anything but a Ruby? Before I disregarded the thought, the hummie was hovering at the feeder. It took one long drink and then flew back into the apple tree. "That's a male Rufous," I said to myself in disbelief. I had read that it's not unheard of for a Rufous to be this far east (Westlock area) but not that common either.

I didn't have to wait more then a few minutes before it returned. I took two frames before it flew back to the apple tree. This little jewel of a bird honoured me with his presence four times over the next hour.

Right when I was ready to call it a day, a male and a female Ruby-throated Hummingbird showed up at the feeder. The Rufous became very territorial and wasn't about to put up with any competition. The aerobatics show was on. The two males did several fly-bys as the Rufous chased the male Ruby about the yard. Meanwhile the female seized the opportunity to sneak in for a drink at the feeder. As suddenly as the show began, it was over. The buzzing stopped and the Rufous was back in the apple tree, and the Ruby-throated Hummingbirds had left.

The next morning I was surprised to find that the Rufous was still here. He was easy to spot in the tree. His flaming scarlet-orange patch of iridescent feathers covering his throat, shone like a beacon in the sunlight, plus he had a preference for one particular branch in the apple tree he had called home for 2 ½ days.

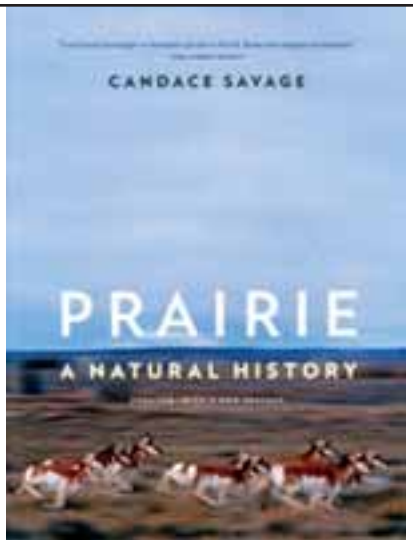
Since that first sighting in 2005 I have had a Rufous at my feeder on two more occasions.

Like many naturalists, Debbie and Alan Godkin, from Westlock AB, have numerous stories of their experiences with nature – stories they love to share with other naturalists in this "NATURE DIARY" series!

BOOK REVIEW

Prairie: A Natural History

REVIEW BY: BOB MUTCH



By Candace Savage. Greystone Books, 2011, 2nd Edition. Paperback: 320 pages. ISBN-10: 1553655885; ISBN-13: 978-1553655886

Chapter 1 of this book begins: "There are people who think the prairie is boring…"

I was one of these people. I had no interest in visiting these flat uninspiring plains and when I did visit, in the words of Candace Savage, I had a "burning desire to be somewhere else". Then, in 1983, I moved to Medicine Hat AB to work, and slowly but surely my attitude began to change.

Now I am eager to learn more about the environment in which I currently live; in *Prairie: A Natural History* I have found an informative, stimulating guide. This well-written book, liberally and effectively illustrated with colour photographs (by James R. Page), black and white illustrations (by Joan A. Williams) and maps, educates the reader on all the principal elements of the prairie environment and on the conservation of the latter.

Although packed with scientific information, it is an easy and enjoyable read. Partly this is because the author refrains from using scientific names in the text (they are provided in an appendix), but mainly it is due to her captivating writing style. She addresses many complex processes, such as the relationship between climate and ecoregions or grazing and grasslands and explains the fundamentals clearly and concisely. Her accounts of species functions (and there are many) in the ecosystem are fascinating. She seems equally at ease and enthusiastic writing about all of the following: how grasses manage moisture, how dung beetles contribute to soil fertility, how prairie dogs creating a living space for an astonishing array of creatures, how a Coyote and Badger cooperate in the hunting of rodents.

Candace uses the first seven chapters of the book to introduce the prairies and describe and explain the principal aspects of this vast ecosystem: geology and geomorphology, soil, climate, grass, flora and fauna, water and woodlands. Then in chapter eight she outlines the history of farming on the prairies and how the spread of agriculture has resulted in a dramatic loss of native grassland and species diversity. In this chapter she also examines the potential of croplands as a wildlife habitat.

Chapter nine, the final chapter, deals with conservation efforts past and present and examines future possibilities.

Throughout the book there are highlighted text panels, which feature various subjects including all sorts of information on the life histories of prairie species and engaging Native American stories. Readers with a thirst for more knowledge will be glad to learn that Candace provides a selective list (it is still extensive!) of written sources which she used in the preparation of this book.

In the concluding paragraph of her book Candace writes: "…we can shape the course of events by engaging fully, deeply and passionately with the present". She is unequivocally engaged and through this impressive book she will engage others in prairie conservation.

Dr Robert "Bob" Mutch is the former Dean of Science (ret'd) at the Medicine Hat College. He is also a geologist and ecologist who has spent a considerable amount of time hiking and skiing the Rockies.

Nature Alberta NEWS

Thanks, BLN!

A sincere "thanks" to the Buffalo Lake Naturalists, which donated $400 to Nature Alberta. Buffalo Lake Naturalists is one of the eight original Corporate Club members of the Federation of Alberta Naturalists, which is now known as Nature Alberta. Club representative on the Nature Alberta Board of Directors is Claudia Cameron.

For more on the great and active Buffalo Lake Naturalists, see the "Club Page" in the Spring 2012 edition of *Nature Alberta* (Vol 42, #1).

Wedding for Cheyenne!

Cheyenne Kean and Justin Lemery are married! Justin and Cheyenne, who is Nature Alberta's Communication Specialist, exchanged vows in Drumheller on June 24th. A big congratulation from all of us at Nature Alberta!

Great News, Exciting Times

BY KELSIE SHARUN, YNC PROGRAM COODINATOR

Young Naturalists Club (YNC) is sure having a busy summer, full of fun nature events. This season, YNC is reaching more families then ever through collaborations with likeminded organizations and individuals, who aim to encourage families to enjoy Alberta's natural spaces.

In conjunction with the Edmonton Science Outreach Network (ESON) and The City of Edmonton Community and Recreation Services Branch, YNC is hosting nine Family Nature Nights (FNN) in Edmonton, all at a different natural area. These events are weekly in July and August, free and open to the public. YNC hopes that FNN will encourage Edmonton families to visit more natural spaces all over the province.

YNC is also providing free public nature education specifically to families who are new to Canada. This initiative is propelled by the 2011 grant received from the Edmonton Community Foundation. So far we have recruited 50 immigrant families to join YNC through the Edmonton Immigration Services Association (EISA) and the Edmonton Mennonite Center for Newcomers. This means that we are a third of the way to our goal of recruiting 150 newcomer families and that there are now 200 more people learning about Alberta's natural history and sharing their nature experiences with others!

YNC would like to thank Kevin Cantelon from Alberta Parks for the amazing support he has provided for both FNN and for connecting YNC with newcomer families. Readers can look forward to a complete list of all FNN volunteers and details of each event in an upcoming issue of Nature Alberta or readers can come out to a FNN themselves and see what it's all about! For more information about YNC or FNN please visit our facebook page: www.facebook.com/YNCAB.

Don't forget Nature Alberta Family Memberships include a YNC membership so your family can have fun and learn about nature at the same time!

Thanks to Casino Volunteers

BY VID BIJELIC

The 2012 FAN/Nature Alberta Casino was once again a grand success! As a first time organizer of the Casino, I wasn't entirely sure what to expect. In the end, it turned out to be a pleasant and eye-opening experience. Without question, the highlight of the fundraiser was the commitment and dedication of the many volunteers who made it all possible.

I cannot say enough about our volunteers who worked tirelessly while maintaining good spirits. What a wonderful gift to receive the valuable time of our volunteers!

We would like to express our gratitude to a core group of faithful volunteers whom we have come to rely on. People like **Pat Clayton**, **Dick Clayton**, **Lu Carbyn**, **Jaynne Carre**, **Jim Lange**, **Ray Cromie**, **Shirley Cromie**, **Dave Ealey**, **John Woitenko**, **Lavonne Adams**, **Diana Barager**, and **Allan Hingston**. From everyone at Nature Alberta, please accept our sincere thanks.

Christine Brown and **Glen Semenchuck** did an amazing job of recruiting our amazing volunteers. They worked to keep each volunteer prepared and informed. Christine and Glen were also an invaluable resource. I thank them both for their patience as I bombarded them with questions!

Our permanent staff (**Petra Rowell**) and summer staff (**Dana Stromberg**, **David Puinean**, **Elynne Murray**, and **Marissa Gutsch**) went above and beyond their regular office duties when they signed up to help with the Casino. Our Living by Water summer student Dana Stromberg even recruited her significant other **Jordan Betteridge** to help as a chip runner. David Puinean, our IT summer student, rescheduled his driving lessons from the end of June to July just to be able to help out with the casino.

Despite preparations for surgery, Nature Alberta President **Ted Hindmarch** volunteered for both Casino days as a general manager. Ted's commute takes him north of Gibbons each day. He worked until the end of the 3 AM Casino shifts and had to deal with traffic from people going to and from Boonstock music festival on his commute home. Now that is real dedication! Thank you Ted.

Lisa Priestley drove all the way from Tofield, leaving at home two small children and her hardworking husband (Chuck Priestley, Nature Alberta's past president).

We are expressing our thanks in this article to Glen Semenchuck and his family. This includes his wife **Rosa Semenchuck**, son **Michael Semenchuk** along with his girlfriend **Lisa Mutch** and the Semenchuck's son-in-law **Adam McCormack**. Thank you for your support!

Special thanks and recognition goes to **Christine Kenning** who volunteered all the way from Fort McMurray!

We couldn't have been successful without all the volunteers who were able to step in on short notice: **Dean Dragic**, **Bob Gerlock**, **Marijana Bijelic**, **Allan Hingston**, **Terry Brauner**, and **Sama Noone**.

Thank you also goes to our Royal Alberta Museum core supporters **Bruce McGillivray** and **Tom Thurston**; they are always there when we need them.

A huge thank you from Nature Alberta to all Volunteers!

Ponderables

"Anything else you're interested in is not going to happen if you can't breathe the air and drink the water. Don't sit this one out. Do something. You are by accident of fate alive at an absolutely critical moment in the history of our planet."

CARL SAGAN (AMERICAN ASTRONOMER, ASTROPHYSICIST, COSMOLOGIST, AUTHOR, SCIENCE POPULARIZER, AND SCIENCE COMMUNICATOR)

Eyes on IBAs

Fifth in a Series

Killarney, Dillberry and Leane Lakes

BY ERIN CAMPBELL

The Killarney, Dillberry, and Leane Lakes Important Bird Areas (IBA) is located close to the Saskatchewan border, near the towns of Provost AB and Macklin SK.

Situated partially within the borders of Dillberry Provincial Park, the area contains a range of terrain, which in turn attracts a variety of activities.

The area is significant for a few different species of birds, either because of their abundance in the area, or because of their conservation status. Nesting Piping Plovers (*Charadrius melodus*) in the area, notably, are recognized as a nationally endangered species. Large concentrations of Stilt Sandpipers (*Calidris himantopus*) have been recorded here: 5,000 – which is perhaps 5% of the global population.

As part of the IBA Caretaker program, Iris Davies has been involved with the Killarney, Dillberry, and Leane Lakes IBA since 2005, when she started doing reconnaissance surveys in the area on behalf of the Vermilion River Naturalist Society. Although not directly involved in maintaining the IBA, her experience as caretaker has nonetheless given her a first-hand view of some of the challenges and triumphs this IBA has seen.

According to Iris, an understanding of the issues in the area, such as increased oil extraction and recreation, are key to the success of the IBA program, so the more informed the caretaker is, the better the system can function. Iris voices her concern over the inevitability of the farm land changing hands, and the responsibility of the farmers in the area, as well as conservation efforts like the IBA program to educate future land-owners. Because of the recreational and residential pressure on Dillberry Lake, this is Iris' main concern. When the area was designated an IBA, the farmers with land in the area already understood its importance. The challenge will be to instill the same awareness and respect for the land moving forward.

Because IBA status does not provide federal or provincial protection in the way that a provincial park status would, education and monitoring really is up to the caretakers and residents in the area. Although parts of the Killarney, Dillberry, and Leane Lakes IBA are protected within Dillberry Provincial Park, there is no

IBA COORDINATOR ERIN CAMPBELL.

AMERICAN AVOCET AT KILLARNEY LAKE.

CHRIS OLSEN

PIPING PLOVER, AN ENDANGERED SPECIES, AT KILLARNEY LAKE. CHRIS OLSEN

official IBA legislation that enforces or even regulates responsible activity in the area, something that Iris feels is important for conservation efforts in the long-run; this task has so far been left largely to the farmers and other inhabitants in the area. Despite this, Iris has noticed that people visiting the area for recreation seem to be respectful, but increased traffic for recreation is still a concern for the shorebirds that inhabit the area, particularly during nesting season.

Perhaps most concerning to conservation efforts is the increase in residential and commercial development in the area, as well as oil extraction, which has the potential for the most destruction to the ecosystem in the short-term. No stranger to the controversy surrounding resource extraction, Alberta has many sites across the province that are in one way or another dealing with the balance between conservation and industry, and the Dillberry area is no exception. Education will undoubtedly be key in managing this while keeping an eye on the ecosystem, and this is really where the importance of the IBA designation comes in, Iris believes.

Through her work with the Vermilion River Naturalists Society, Iris has been treated to a number of unique and memorable experiences, ones that continue to inspire her interest in conservation. As caretaker, she has traveled many times out to the area, and has witnessed different species of birds during their migrations and mating seasons. She recalls seeing the feverish antics of adult shorebirds trying to divert herself and her companions from the location of their nest, and hearing the calls of Sprague's Pipits (*Anthus spragueii*) in the sky. In addition to the birds in the area, she enjoys being outside with the other "critters", as she refers to them.

The main goal for Iris in the near future is working with the Vermilion River Naturalists Society in becoming more familiar with the caretaker role, a goal that will necessitate continual involvement and education.

Works Cited:

Ibacanada.com/site.jsp?siteID=AB032&lang=EN – general info about the Killarney, Dillberry, an Leane Lakes IBA

Ibacanada.com/iba_program.jsp?lang=EN – info about the IBA program

Important Bird Areas (IBAs) is a program of BirdLife International (BLI); the Canadian BLI partners are Nature Canada and Bird Studies Canada. Nature Alberta, as Nature Canada's provincial affiliate, is the IBA lead in Alberta. The three pillars of the IBA program are identification, conservation and monitoring,

Nature Alberta's IBA is possible because of the tremendous support we have received from our partners. Our most recent (2011-2012) supporter is the **Alberta Conservation Association**. Other partners and contributors have been Alberta Sport Recreation Parks and Wildlife Foundation, Bird Studies Canada, Nature Canada and TD Friends of the Environment Foundation.

IBA Excitement – Pelicans at Joseph Lake

BY LEN PETTITT

July 9th was a fine day to accompany my friend Petr on a short trip to Joseph Lake and in hope of being able to photograph American White Pelicans.

We took the back road leading to the Ministik area and parked at the beginning of a foot trail leading to the east side of Joseph Lake. I was very warm as we hiked this trail in and then back out. We saw many crescent butterflies and some White Admirals, also one Ruffed Grouse and a Blue Jay.

On our return trip we could see many American White Pelicans on the large island to the west side of Joseph Lake; thus we parked and walked in not quite to the water's edge and hunkered in the reeds and weeds with the hope of some photos. While here, we spotted four Marbled Godwits flying back and forth, and also many California Gulls and a few Franklin's Gulls.

Our wait in the area paid off as some of the Pelicans would lift off and head across our area, appearing to catch thermals and circle high up – some eventually disappearing in the lazy clouds or the blue yonder. It was a very warm but fine afternoon!

Joseph Lake is part of the Ministik, Joseph and Oliver Lakes Important Bird Areas.

JOHN WARDEN

Close to Home: Nature Photography in Alberta

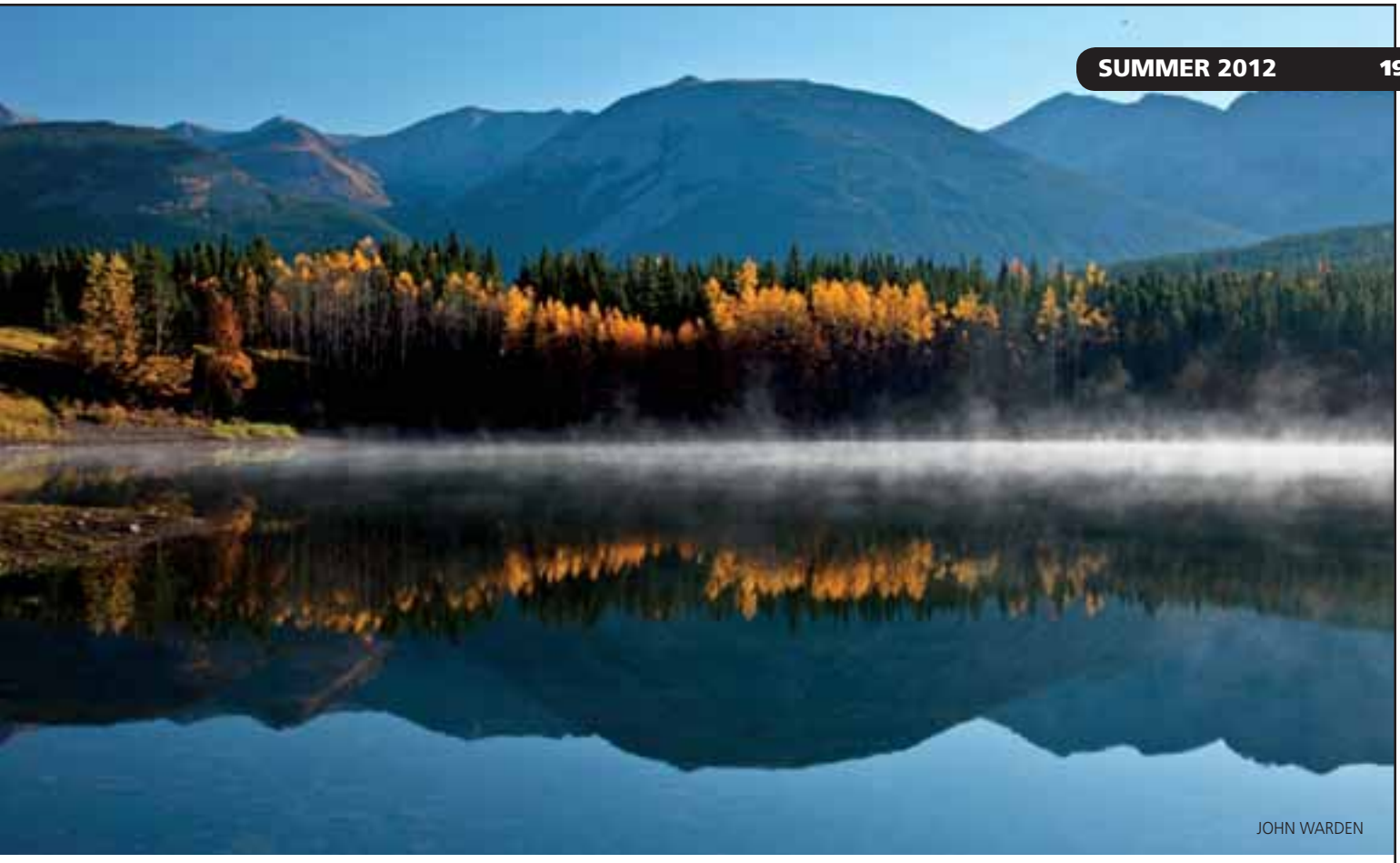
Mysteries of the Mist

BY JOHN WARDEN

Coming down from the Clapperton Creek summit on the Coquihalla Highway in B.C., we were into the clouds.

I remarked to my wife Debra that at least the rain didn't have far to fall. And fall it did, in sheets and torrents. The windshield wipers were 'slapping double time' as brake lights and headlights probed through the rain and traffic slowed. Away from the highway though, the landscape was an amazing smoky blue black, highlighted in clouds of wispy white and transcendental silver. The misty breath of the mountains surrounded us in the rain.

JOHN WARDEN



JOHN WARDEN

I asked Debra, "What is it about mist that is so intrinsically appealing to us?" "We like the mystery," she replied. And she was right of course. Around us was evidence of the mystery. Rocks, trees and mountains had been transformed into soft shadows, blending and revealing, then hiding again. The mist was a soft swirl, a suggestion of reality, a blend of the abstract with a hint of the mystical. Very beautiful. Too soon though, we were out of the rain and on the long downhill run into Merritt, but it got me thinking about cool misty mornings back in Alberta.

We don't usually get the heavy all-encompassing layers of cloud and fog like the wet coast, but we do get our own - delicate I would say - prairie pond mists. I'd had a taste of that kind of mist only days earlier at Elk Island National Park, standing on the shore at Long Island Point. Swirling brush strokes of mist, burned orange and yellow by the rising sun, created, just for me, a new day. Awash in the colour and light, I was there for the beginning of time in that moment. Such majesty, so close to home and all I had to do was be there. Coyotes on the far shore howled their approval of the new day as the sun silhouetted Mink Island in thoughtful reflection.

Self-reflection was the order of a different day at Wedge Pond. If you've traveled in Kananaskis Country, you know Wedge Pond. Everyone stops there because it's just…so beautiful. It was a cool fall morning, and the scenery was laid out for me like an 'en plein air' canvas. An Alberta blue sky, the mountains, the colours of autumn and a soft and subtle mist were all reflected in the stillness of the pond. The mist, drifting on the lightest of breezes was elusive, mysterious and wonderful. Mystery, as Thoreau discovered at Walden Pond, creates wonder. Wedge Pond is like that, a wonderful place.

Another morning and another wonder was Vermillion Lakes near Banff. I'd left Edmonton very early, driving to Banff for the morning sunrise on Mount Rundle. My timing was off just a bit though. I'd arrived about 45 minutes too early. Parking the car by the shoreline, I closed my eyes for a few minutes, but it was only moments later that I awoke to a

JOHN WARDEN

flurry of excitement. A Canada Goose was very upset with the proximity of my car to its nest and was waddling around the car, flapping its wings and squawking, trying to get the car and me to leave. And that's when I noticed the mist on the lake. Really, more cloud than mist, but at water level, the cloud had opened up, creating a window to the trees on the far shore and their reflection in the lake. Tendrils of mist hung down from the cloud and floated across Vermillion Lakes through this ethereal portal. It was an entry point to a place where quiet beauty and solitude had touched the earth. And then the goose started 'beaking off', poking at my legs and the spell was broken. The window closed. I know it wasn't a dream, because I have the photograph, but it was like a dream, soft, mystical and wonderful – except for the goose. Yin and Yang.

The building blocks for mist are a cool morning when the air is saturated with moisture. Add a touch of sunlight and you have art. The mysteries of the mist though, are experienced in the breath of the mountains, the swirling colours of creation and in mystic portals that take us to new places of tranquility.

John Warden's website (www.jwardenphotography.com) is definitely worth a visit for excellent photos of wildlife and landscapes in Alberta and beyond. John also posts articles on his blog (http://jwardenphotography.blogspot.com/) from previous *Nature Alberta* magazines.

Drop in and say hello!

EDITOR'S NOTE: This article is a condensing of Ryan's June 1, 2012 blog; to read more, plus his past walks through ecology, see http://akayokaki.blogspot.com.

AKAYO'KAKI A'PAWAAWAHKAA

BY RYAN HEAVY HEAD; SIKOOHKOTOKI, KAINAISSKSAAHKOYI

My Walk through Ecology, Dreams, Natural Education and Experience in Blackfoot Territory.

CONCLUDING MAY COUNT (30 MAY 12)

15:26. Pitsiiksiinaikawaahko - I was all set to relax after a long day at the office, but there were a couple little nagging reminders playing at my thoughts. The first said, "Hey, you've been sitting in chairs all day. You sat down to drive the two-hour round trip to work, and you sat in front of a computer most of the time in between. A lot of daylight has been wasted in this stasis. You need to go out and stretch those legs." The second reminder told me, "Tomorrow is the last day of the official Spring Count of flowering plants and birds for Alberta. Get off your butt." So here I am.

18:24. I begin by making a thorough survey of plants on the coulee rim. Actually, I'm hoping to encounter a rattlesnake, since I logged one on the count last year, but there's a bit of a chilly wind, and none turn up. There are many other presences to note though.

For starters, the rim is alive with the songs of meadowlarks and field crickets. Somewhere far below, I can also hear a chorus frog. As at Sspopiikimi, the dandelions here are in seed, or have already dispersed them. Prairie parsley and both local varieties of musineon are near to seed as well, with the flowers of narrow-leaf milkvetch, early yellow locoweed, and goldenbean all beginning to fade. In full bloom are a wild vetch, butte marigold, and prairie groundsel, with prairie onion nearly there as well. The marigolds in particular are being visited by pearl crescent butterflies, and I see several inornate ringlets clinging to the grass. Still other plants are just beginning to open flowers, including bastard toadflax, yarrow, two-grooved milkvetch, and Drummond's milkvetch. The two-grooved milkvetch is being pollinated by large Nevada bumblebees.

18:58. Moving down the slope, as far as the rattlesnake hibernaculum (about half way to the river-bottom), I see more of the same plant complex. The only additions, in terms of new bloomers, are black medick, Colorado rubber plant, and blue penstemon. In contrast to those on the rim, the yarrow down here are in almost full flower, which is similar to how the goldenbean works (the growth rate of these plants must depend more on water than sunlight). The wavy-leaved thistle has flower buds, but is not yet opening. All along the way, I scare starlings up out of the grass, maybe six or seven in all. And at the hibernaculum proper, I encounter a single, cold, docile snake; all

MILKVETCH. RYAN HEAVY HEAD

the others have disbursed for the season.

19:23. I don't think it's necessary to go all the way down to the floodplain, as most of the plants and birds there are the same found at Sspopiikimi. However, I will say (without need of verification) that the prairie crocus and yellowbell flowers are played out. I know this, because I observed them two weeks ago at this site, and actually collected seeds of the latter.

Just above the rattlesnake hibernaculum is a long, sloping ridge, and I figure it best to include this area in my survey, to maintain consistency with last year. On the ridge and its slopes, I find blanketflower, flixweed, Indian breadroot (or prairie turnip), and scarlet gaura, all with flower buds. There is a very small yellow mustard in full bloom here, a plant I noted for the count last year as well, but have never identified to my satisfaction. The early yellow locoweed and goldenbean here are quite a bit further along in their cycle than those of the rim above. Here, they both have their seed pods, and the locoweed in particular are already drying and starting to rattle in the wind. Just before I'm back on the main trail to begin my ascent, a common yellowthroat flies past.

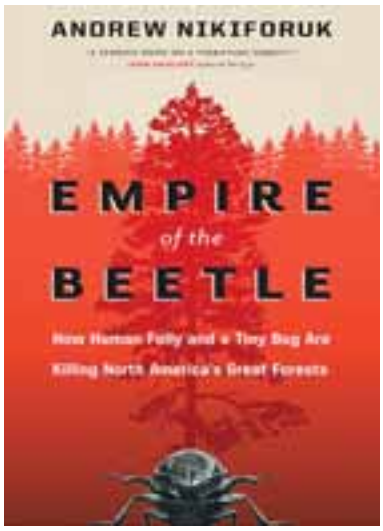
19:45. The hike back up the coulee slope is without further event, but I do keep my eyes open for morning glories, moss phlox, and yellow violets, finding none. The morning glories have not emerged yet, to my knowledge, though they're usually flowering in this moon. The yellow violets may have already played-out, which is a bit early. Overall, compared to last year's survey here – which was conducted very near to the same time in both the solar and lunar sequences – many of the plants seem to be further along in their development this go'round. This is especially the case with dandelion, early yellow locoweed, and goldenbean, all of which were in full bloom last year, and are at present mostly seeding.

Ryan Heavy Head and his wife Adrienne are caretakers of a Beaver Bundle for the Blood Tribe of southern Alberta. He works as the coordinator of Kainai Studies at Red Crow College, on the Blood Reserve, where he teaches field courses in phenology and traditional foods.

BOOK REVIEW

The Empire of the Beetle

REVIEW BY: SANDRA FOSS



By Andrew Nikiforuk. David Suzuki Foundation, Greystone Books. ISBN # 978-1-55365-510-7

I think this slender tome may be Mr. Nikiforuk's best work. We have all heard that insects rule the world, and this book gives good insight as to how that is happening!

Andrew Nikiforuk is a meticulous researcher, and he has found some diverse and interesting information. With a 350 million year history, *Coleoptera* have been around much longer than people. All natural constraints gone, the beetle is advancing!

Mr. Nikiforuk documents several beetle epidemics around the world. He also gives a snapshot of "beetle history", where insects were taken to court, ladies wore beetle-wing skirts and other interesting facts. He tells us about the three individuals who have done research into the development of audio deterrents that may slow beetle progress.

Climate change, long term fire suppression, misguided politicians, bureaucrats and public policy have each added to the catastrophic insect outbreaks in North America.

Bark beetle populations exploded across western Canada, driven by many years of fire suppression and planting of monocultures. Human arrogance and ignorance set the stage, resulting in drastically changed watersheds, carbon balances, and local temperatures.

Beetles have been managing forests for millennia, by taking down some old trees, and opening up the forests for new growth. So the beetles compete directly with the current forest industry. Recently many things have converged to create a most unusual happening… in places, 80-90% of mature trees are being taken. Some beetles are hatching twice a year.

Logging attempts to stop beetles has actually prolonged outbreaks, destroyed watersheds and killed fish. Because of climate change, lake levels fell, ponds became grass patches, peatlands are invaded by trees and the tree line moves up mountains. Beetles are now being found much further north, flying over mountains, catching "drafts" to help their flights.

Temperature records (showing warming minimums) correlate with beetle-killed acreage. Tree stress caused by warming made the trees more susceptible to the beetles. Beetles are a natural phenomenon, and have lived with trees forever, but government plans (logging and now fires) are more damaging than the beetle itself.

Beetles and fungi work together. Mr. Nikiforuk likens the beetles to buses, carrying a large number of passengers…viruses, bacteria, nematodes, mites, fungi etc. The beetles work better with the help of benevolent fungi, some helping with food and some with reproduction. Some don't help, but precipitate other responses; trees have many defences – pitch, resin full of toxic hydrocarbons, etc – so many beetles prefer blowdown.

"The beetles have parlayed their relationship with fungi into becoming the most successful insect on the planet. If they didn't have these fungi, they would not be known to us," states Diana Six, entomologist at the University of Montana. "All in all, the bark beetle story weirdly combines science fiction with comedy and chaos theory. It's striking that a bug that can undo a forest, can be squashed by a thumb."

Beetles may have been an accident millions of years ago, but they have been working with trees ever since, managing forests. "If nothing else, the beetles should remind us we are all part of nature:" As David Dunn states, "New evidence from paleoclimatic records show climate changes and ecosystem responses are not always gradual, but can occur abruptly over a few decades or less…they change gradually or not at all until a threshold ("tipping point") is reached, and then they change dramatically."

There are startling implications for the outcome of the current beetle plague including loss of forests and wildlife (many species). Mr. Nikiforuk's research has led him to some terrifying conclusions. This book is a must read for everyone!

Sandra Foss was a dedicated Director of Nature Alberta (including on the Executive) for many years until April 2012 and still actively volunteers in several capacities. She has long been interested in forests, forestry and the issues that confront them.

FEATURE ARTICLE

Bumblebees of Alberta

BY DENNIS BARESCO

NEVADA BUMBLEBEE.
COURTESY OF © R. BERCHA,
WWW.INSECTSOFALBERTA.COM

How did Bumblebees get their name?

"Bumble" is thought to come from the Middle English word "bomblen" which means to boom. "Bumble" has two dictionary definitions:

1. To move or act in a clumsy, unsteady or incompetent way;
2. To make a low humming or droning sound.

While Bumblebees may appear to be clumsy and unsteady, they are definitely not incompetent; the "low humming or droning sound" is more appropriate.

It's easy to like Bumblebees! There they go, buzzing about amongst the flowers, gathering pollen and nectar. Beautiful, colourful and truly gentle creatures, they are.

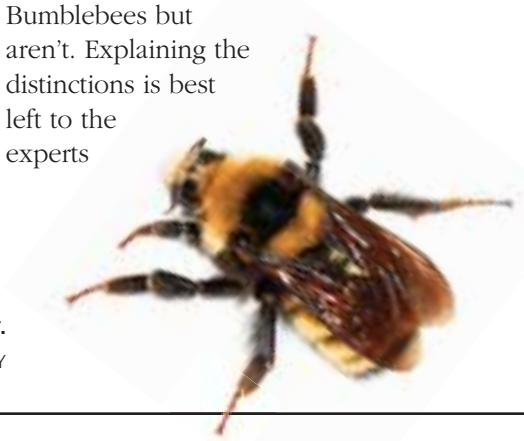
Considering all their attributes, the considerable number of species in Alberta and their great importance in the natural and human world, Bumblebees do not get nearly as much publicity and attention as they deserve. It's time…to celebrate, to get to know Bumblebees! Hint to publishers: "Bumblebees of Alberta" – what a great book that would be!

LOOK – A BUMBLEBEE!

Most of us, when we see a big, fuzzy, roundish, black and yellow bee, think: "There's a Bumblebee" rather than, "there's a Golden Northern Bumblebee!" That is just as well, because it is not easy to tell many of Alberta's thirty-five or so Bumblebee species apart. In fact, it's often not easy to tell individuals of the same species apart. Seasonal changes mean that early workers often look different than the larger high-summer workers (all the workers are female). Males (drones) look different again. Queens – the first Bumblebees seen in the spring – are also different, though usually considerably larger. Of course, identifying a Bumblebee to species is far less important than the experience of seeing one and excitedly saying, "Look – there's a Bumblebee!"

Regardless of the species, though, you can tell males from females. Females collect pollen and stuff it into pollen baskets on their hind legs; as the baskets get fuller, they are very easy to see. Males, though they too feed at flowers, do not collect pollen for the hive and thus have no baskets.

It is very easy to tell Bumblebees – which are all in the Genus *Bombus* – from wasps, hornets, honeybees and other bees. However, there are some non-bumblebees that look like Bumblebees but aren't. Explaining the distinctions is best left to the experts



BOMBUS BOREALIS.
WWW.DISCOVERLIFE.ORG / T. MURRAY

LOOK! THERE'S A BUMBLEBEE!
JAN SCOTT

or complex identification guides. To paraphrase an old saying: "If it's biggish, roundish and fuzzy, it's a Bumblebee unless otherwise identified."

WHERE ARE THEY?

The short answer to "where are they?" is – everywhere in Alberta as long as flowers, including blooming trees and shrubs, grow there, too. Uniquely for an insect group, the diversity of Bumblebee species increases as you go north, as does the size of these insects with a built-for-cold-weather fur coat.

Nests are often either underground in abandoned mouse burrows or just above the ground in leaf litter, but they may also use old birdhouses or artificial "bee houses". Bumblebees are social insects (except for Cuckoo Bumblebees). Like yellowjackets and hornets, Bumblebees form colonies, and the whole colony (including the old Queen) perishes with the coming of winter – except the new, fertilized Queens, which go underground and emerge in the spring.

Come spring, the new Queen does all the work herself: constructing brood cells, laying the eggs, tending to larvae by feeding them pollen and honey made with nectar collected from the flowers she visits. The first brood is small, sterile, female workers, and they take over all the chores of the hive: nest building, cell construction for new larvae and honey storage, foraging and feeding duties. As the summer progresses, the workers become larger and more numerous.

One big difference from yellowjackets, hornets and honey bees is the size of the nest. Bumblebee nests are very small compared to the others and a really big nest would only contain a hundred or so members; the other three groups could have nests or hives with a population in the thousands. Plus, Bumblebees do not swarm like honeybees.

THE STING

Bumblebee-watchers have few worries when it comes to getting stung. Bumblebees' gentleness and tolerance of people means that, though the sting can be quite painful, you have to really, really irritate them to provoke a stinging.

Like wasps and hornets, Bumblebee stingers are not barbed so they can sting you more than once. However, it is indisputable that one would rather get stung by a Bumblebee than a wasp or – heaven forbid! – a Bald-faced Hornet. Wasps not only sting more than once, but they

BOMBUS AURICOMUS.
WWW.DISCOVERLIFE.ORG / R. BARTH

BOMBUS GRISEOCOLLIS.
WWW.DISCOVERLIFE.ORG / J. ASCHER

BOMBUS TERRICOLA.
WWW.DISCOVERLIFE.ORG / T. MURRAY

Mr. Congeniality

"If all birds dropped dead tomorrow, only chicken farmers and academic ornithologists would be inconvenienced. If all bees died out, there would be worldwide food shortages and perhaps one-quarter of the human population would starve." That's what I said to an ornithologist, in public, at an international biodiversity meeting sponsored by the Food and Agriculture Organization of the United Nations. (I'm very good at making myself popular with people.)

–DR LAURENCE PACKER, FROM HIS WEBSITE

can also sting in quick, repeated jabs, which add substantially to the pain. Hornets, because of their larger size, produce more venom and thus cause more pain. Then there are the velvet ants: somewhat small wingless wasps that look just like a bright red, fuzzy ant (but they're not ants); a hint to the ferocity of their sting is in their other name: the Cow Killer.

Honeybees have a barbed sting, much like a fishhook. Unfortunately for the honeybee, once it stings you both the stinger and a part of its abdomen are ripped out and left behind, so the bee dies – thus it can only sting you once. The honeybee's sting is probably the least painful. Fortunately, all of them sting only as a measure of self-defense – though it often seems, especially in the fall, that wasps and hornets lay in wait to specifically target you without provocation! Good thing female velvet ants can't fly.

THE POLLINATORS

Bumblebees are great pollinators! A flower garden, meadow, blooming fruit trees, blooming shrubs are complete only if they host pollinators, Bumblebees among them. The simple fact is that pollination is vital to our survival and the survival of almost all ecosystems on earth. Eighty percent of the world's crop plants depend on pollination. They are essential to the fibers we use, for medicines, and for over half of the world's diet of fats and oils. Without bees and other insects, we would not have cherries, blueberries, apples, peppermint, and worst of all, no chocolate.

Of course, many animals pollinate: birds, bats, and a host of insect groups, plus the wind. However, all of the pollinators are important – more than important, they are all vital. World-wide, there is a collapse of bee colonies.

***BOMBUS FERNALDAE* (FERNALD CUCKOO BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

BOMBUS FLAVIFRONS.
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

BOMBUS FRIGIDUS.
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

***BOMBUS VAGANS*.**
WWW.DISCOVERLIFE.ORG / J. ASCHER

***BOMBUS BIFARIUS*.**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

***BOMBUS [FERVIDUS] CALIFORNICUS* (GOLDEN NORTHERN BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

Everywhere, Bumblebee numbers are in substantial decline; natural habitat loss and pesticides are major problems, potentially along with climate change.

Fortunately, the issue has been receiving considerable attention in recent years, though what exactly to do about it is still a matter of great discussion and research. For the average person, this is one of those global issues in which everyone can help out.

A WELCOME SIGN FOR BUMBLEBEES

The most obvious action we can take is to attract Bumblebees to our yards by planting flowers, fruit trees and fruit bushes that are attractive to them, and then keeping our yards pesticide-free. The added benefit of that is the opportunity to Bumblebee-watch! In fact, these same plantings will likely attract butterflies, bees, hummingbirds, and other pollinators to our yards. Bumblebee houses are another method; many building plans are available on the internet. On a broader level, there are many possibilities, such as supporting or even initiating projects to grow flowers in public places (urban and rural), and encouraging municipalities to continue the movement to reduce pesticide use.

There are almost unlimited resources available on plants, gardening, and pollinators. One place to get started is the website www.pollinator.org, which is full of information, activities and merchandise. Start planning now for your 2013 "Bumblebee estate"!

You may want to get even more directly involved in conserving insect pollinators and their habitat. Seeds of Diversity's Pollination

Humblebees?

Prior to World War I, "humblebee" was the most common name used, even though "bumblebee" was in use as well. The Oxford English Dictionary (OED) cites the term humblebee as being used first in 1450, and Darwin used the term in *On the Origin of Species*. Bumblebee, according to the OED, was first used in the English language in 1530. Since World War II, however, the use of humblebee has virtually disappeared.

***BOMBUS HUNTII* (HUNT'S BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

***BOMBUS LUCORUM* (WHITE-TAILED BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

***BOMBUS MELANOPYGUS* (ORANGE-RUMPED BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM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Canada program now provides you with the tools to make a difference. Join this new citizen science program that engages the Canadian public to participate in Canada's largest survey of insect pollinators.

The heart of the program is actual monitoring of insect populations and diversity. By observing pollinators in gardens, local parks, along country roads, basically anywhere flowers are growing, and then sending in these observations, you can help scientists to better understand the crucial relationships between pollinators, ecosystems, plant diversity, and human activity.

The Pollinator Observer's Manual and other training material are offered free of charge on the Pollination Canada website at www.pollinationcanada.ca.

A BUMBLEBEE BY ANY OTHER NAME

Honeybees get all the publicity and are the most well-known of the bees, mostly because of what they produce. But unlike honeybees, which are introduced, Alberta's Bumblebee species are all native.

Readers will notice that common names are not indicated for most of the species illustrated. Generally, common names are not much use, especially since the same name may apply to several species, or there may be many names for the same species (one species has over 130 common names!). Of course, it might be fun to simply make up a common name, perhaps going by the Latin; eg., *Bombus terricola* = the Earth Bumblebee (terricola being Spanish for earth). Which means you could add to the considerable confusion that common names, regardless of the animal, have caused!

WEBSITES:

There are many websites with information on Bumblebees. An excellent site, which goes well beyond just bees (as its name indicates) is www.insectsofalberta.com; it's well worth a visit, with many photos of insects. Nature Alberta thanks Robert Bercha for the complimentary use of his photos for this article.

Two other good sites are www.discoverlife.org and www.bumblebee.org

Cuckoos

There is a group of Bumblebees, the Cuckoo Bumblebees (in the *Psithyrus* subgenus), that are "cleptoparasites." Rather than go through the standard process, a female Cuckoo Bumblebee, although it feeds from flowers, does not collect pollen or store its own food. Instead, it invades a normal Bumblebee colony, kills or subdues the queen and forces the workers to become slaves, feeding her and developing her young. The young female Cuckoo Bumblebees leave that colony, then go on to mate and look for other nests to start the process all over.

***BOMBUS INSULARIS* (INDISCRIMINATE CUCKOO BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

1 ***BOMBUS SYLVICOLA*.**
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2 ***BOMBUS APPOSITUS*.**
WWW.DISCOVERLIFE.ORG / D. WILSON

3 ***BOMBUS RUFOCINCTUS* (RED-BELTED BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

4 ***BOMBUS PERPLEXUS* (PERPLEXING BUMBLEBEE, CONFUSING BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

5 ***BOMBUS TERNARIUS* (TRI-COLOURED BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

6 ***BOMBUS MIXTUS* (TRI-COLOURED BUMBLEBEE, ORANGE-BELTED BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

7 ***BOMBUS NEVADENSIS* (NEVADA BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

8 ***BOMBUS POLARIS*.**
WIKI COMMONS / SILVIO SORCINI

9 ***BOMBUS OCCIDENTALIS* (WESTERN BUMBLEBEE).**
COURTESY OF © R. BERCHA, WWW.INSECTSOFALBERTA.COM

10 ***BOMBUS BALTEATUS*.**
WWW.DISCOVERLIFE.ORG / D. WILSON

Prairie Returns to Lethbridge

BY LORNE FITCH, P. BIOL.

They loaded up our lawn in a truck and hauled it away; we couldn't have been happier. No more watering, fertilizing, fighting Dandelions, mowing and pimping up a rectangle of exotic Kentucky Bluegrass that gave my wife and me no joy or pleasure.

I suspect native grasses have been absent from our Lethbridge residential lot, north of the hospital, for over a hundred years. Under a neighborhood canopy of elms, spruce, birch and lilacs and other non-prairie flora it's hard to conjure up the scene that persisted here for thousands of years – a sun-scorched, wind blasted, droughty grassland on an undulating plain above the Oldman River valley. But that is what it once was. We are slowly coming to respect and pay homage to native prairie by reestablishing in our front yard plants that naturally belong here, or at least are tolerant of drought.

Of grasses says Tony Rees, an Alberta historian, they are "the plains perfect tenants". Trees cannot compete with grass and they are here because we do not like to live without them. They are generally something from a more well-watered land.

Trees, wrote one pioneer, showed that "real homes" could be built on even the "bald-headed" prairie. They were a shield against prairie space, that frightful immensity of seeming nothingness. To plant a tree was to confer order and control, to make an adjustment from the open grassland. On early farms, PFRA, the then reclamation arm of the federal department of Agriculture, felt tree and shrub planting was necessary to ensure people stuck to their homesteads. Anything, it was thought, to make the place more attractive and appealing.

With this and all of our clever engineering and ingenuity, most of the prairie grasslands were long ago transformed and molded into something else to meet our economic strivings and our misplaced sense of how the landscape should appear. Perhaps it was a function of heritage: those of us not born to the prairie or whose parents, grandparents or earlier ancestors came from and wanted to replicate the green, lush, shaded landscape of a forgotten homeland. Mostly those landscapes exist only in our dreams.

It was recognized very early in Alberta's history that settling the prairies would be challenging. An 1890 editorial in the *Medicine Hat News* observed, "It would be criminal to attract people here." But the great vacant land did beckon, perhaps sparked by the colonization dreams (and lies) of the federal government and the railroad. For the last century and a bit, we have been engaged in an unceasing endeavor to change the grassland, to make it into something else rather than to learn to appreciate its inherent qualities.

Native prairie grassland represents a treasure hidden right under our feet. Grasslands are marvelously adapted given their 10,000 year evolution under arid conditions. Nothing else rivals their drought tolerance, nutrient recycling, resilience, moisture conservation and ability to support wildlife. Molded in a crucible of change for at least 10,000 years in this place, and longer given their pre-glacial history of distribution, prairie grasses are stickers and have much to teach us about adapting to our changing climate. Though their time in southern Alberta isn't deep time, prairie grasslands are at least a hundred times

Lorne Fitch is a Professional Biologist, Adjunct Professor with the University of Calgary and a retired Alberta Fish and Wildlife Biologist. He is a well-known speaker, writer and photographer, living in Lethbridge AB. "Prairie Returns to Lethbridge" is the sixth in a series of articles by Lorne.

BLUE GRAMA TURF: "...AVOID THE GOOFY TASK OF MOWING LAWN." CHERYL BRADLEY

BLUE GRAMA: TOUGHNESS, YET LOOKS SOFT. CHERYL BRADLEY

EARLY PIONEERS CALLED IT PRAIRIE WOOL. CHERYL BRADLEY

older than the mere century of most of our recent human time.

That's a bit of background for our curious endeavor to exchange our Kentucky Bluegrass lawn for one of native Blue Grama grass and other similarly drought adapted species. What might need some more explanation is that our motivation was not only to recapture some of the past prairie history of Lethbridge but also to avoid the goofy task of mowing lawn.

Lawn care is an activity that perpetuates an alien landscape in the aridity of southern Alberta. It is wasteful of water, which is poured on foreign grass species that never evolved under dry conditions. The care of it creates greenhouse emissions, especially from most gasoline-powered lawnmowers. The product, grass clippings, has no commercial value and worse yet is routinely discarded to add to landfills. To keep this turf green, pristine and matching the contemporary neighborhood standard requires, according to the lawn care experts, routine applications of fertilizer, herbicides and pesticides. The excess chemicals and water run off and taint our rivers and possibly ground water supplies. Ironically, after all this cost, effort and impact we spend less time using this space than any other part of our homes.

Our tyranny of greenery is an artifact of different geography and economic status. The moist, damp climate of maritime Western Europe, especially Britain, made lawns possible to grow and manage. Lawns began as pastures, common areas surrounding villages for grazing sheep and cattle. They evolved into a symbol of status for the aristocracy and the gentry. Only the rich could afford the labor cost to manage a lawn before mowing machines became available. What these expansive lawns and parks created was an image, carried with immigrants to North America, which became a symbol of the middle class dream – to own a home surrounded by green lawn.

With images of sweeping green lawns planted firmly in the imagination, it has become part of our civic duty to maintain this anomaly in the arid environment of southern Alberta. Perhaps it's an obsession, so prevalent and pervasive we can't imagine anything else. It is a distraction, an artifice to trick us into thinking we live somewhere else but a place with scant rainfall.

The front yard my wife and I have created attracts attention. People stop and look at it, almost as if it is exotic, which now it is. Native grasslands have been reduced in scale, are invaded by non-native species and are removed from most people's consciousness to the point that what was once native is now the unusual.

But that's not to suggest the Blue Grama grass lawn isn't striking, in its own way. It grows close to the earth, a desirable trait for a grass in a windy, sun-drenched and dry place. What it lacks in height it makes up for in curls; the blades roll, kink, twist and coil. Early pioneers called it prairie wool although the term could fit any number of low growing native grasses that formed a dense mat over prairie soils. When Blue Grama goes to seed the head resembles a small toothbrush. When the seed heads wave in the wind they look like hundreds of tiny toothbrushes busily scrubbing the air.

Prairie grasses, over time (and they've had a lot of it), have evolved mechanisms to strengthen themselves, to provide a plant version of a spine probably in response to wind. They incorporate, into their cellular structure, minute quantities of

OUR PRAIRIE URBAN GARDEN IS A GRASSLAND HOME COMPANION. CHERYL BRADLEY

silica as a stiffening agent. It means that grazing animals don't get a free lunch as eventually the tough prairie grasses grind down the teeth of those that eat them.

Despite this built-in toughness the Blue Grama looks soft. Two young women stopped to admire the lawn and commented on how soft it looked. I invited them to kick off their sandals and try it. They did and giggled at the pleasing texture and caresses on their bare feet.

Corralled by driveway and paved street, Blue Grama still manages to look wild – not tamed, a little disheveled and undomesticated. When it greens up in the spring, later than other lawns, it retains a subtle, pale shade, muted and not glaringly showy like the grab-your-eyes, deep green of Kentucky Bluegrass. In the autumn Blue Grama wisely senesces and goes dormant early, leaving behind a tan mat of wool with occasional seed heads poking skyward.

I've given away our non-motorized push mower. It made a pleasant clicking noise as the spiral blade cycled around, and it was good for a little exercise every week or so through the summer. But like tossing one's crutches aside at Lourdes, it's gone. The neighbors are probably curious how we are going to deal with the lawn. No one has asked, but if they do I'll remind them that in the natural world prairie grasslands were subject to either fire or grazing. It's their choice – we can either torch the lawn periodically or get a buffalo in to graze it down.

A tiny patch of native Blue Grama grass doesn't seem like much of a statement against a backdrop of a highly artificial, much manipulated city landscape. But, I suppose, the first footprint of European immigrants to the grasslands of southern Alberta wasn't initially very significant either. To recognize where we live, with the constraints of the landscape, is a faltering step to make. Ours is a tiny step of reversal but one we hope others try. Our prairie urban garden is a grassland home companion.

PRAIRIE URBAN GARDEN:

Growing Beautiful Gardens in a Semi-Arid Environment

"Prairie Urban Garden" is an initiative of the Oldman Watershed Council's Urban Team. Its goal is to demonstrate the beauty and benefits of having a xeriscaped garden in southern Alberta.

Xeriscaped yards fit in with the dry prairie environment that we depend upon and allow homeowners to enjoy a beautiful landscape at home.

For lots of information on making your own prairie garden, go to: www.prairieurbangarden.ca.

BY DISCREETLY POSITIONING THE CAMERA LENS OUT THE BOTTOM OF THE PHOTOBLIND, I WAS ABLE TO PHOTOGRAPH THIS HOUSE FINCH AT EYE LEVEL. JAMES BROHMAN

Fun in a Photoblind

BY JAMES BROHMAN

For avid wildlife viewers and photographers, encountering wildlife is a magnificent experience. However, getting close enough to achieve high quality photographs is often very challenging because of the nature of the subjects (especially birds who are small and skittish).

Esteemed wildlife photographers such as Fitzharris (2007), Coster (2010) and Peterson (2011) recommend using 400 mm to 600 mm Nikon supertelephoto lenses, which cost between $6,000.00 and $10,000.00 to get frame-filling images of birds!

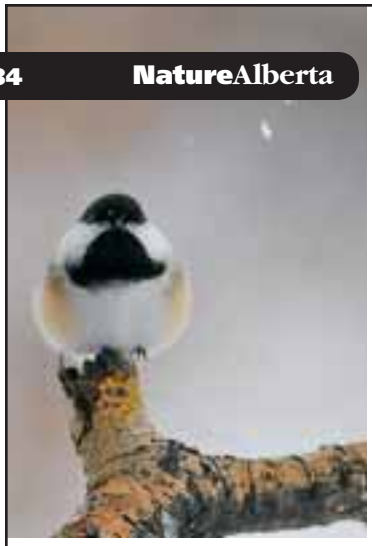
THE BLUE JAY PROCEEDED TO FEED WITHIN 5 METERS OF THE PHOTOBLIND SINCE MY PRESENCE WAS UNDETECTED! JAMES BROHMAN

Alternatively, for less than $100.00, one can purchase a photoblind which allows you to achieve close up shots of birds going about their natural behavior (feeding, courtship display and mating) undetected for the most part while you utilize shorter, less costly lenses.

The photoblind sets up in seconds, has enough room for a small stool to sit on, and has windows on three sides. Photoblinds can be set up in a variety of locations including in close proximity to road kills, near ponds and near the backyard bird feeder. Photographing birds on the feeder is fine, but photos of birds on the ground or perching are more natural. I simply set a dead log on end, drill out a few holes and add branches (with a dab of glue) to serve as perches or cavities to stuff peanuts into in order to entice Blue Jays. For a homogenous backdrop I string a drop sheet along the fence and reposition the photoblind to accommodate the changing light conditions.

To help ensure sharp, dramatic pictures, Sahlin (2011), a professional wildlife photographer, offers the following photographic tips:

- Use a tripod.
- Position the photoblind so that the



FOR THIS PHOTOGRAPH OF THE CHICKADEE, I USED A LARGER F-STOP TO TRY TO INCLUDE THE FALLING SNOW. JAMES BROHMAN

THIS BEAUTIFUL TREE SWALLOW'S PLUMAGE REALLY STANDS OUT IN THE EVENING SUN! JAMES BROHMAN

THIS SLATE-COLORED JUNCO WAS PHOTOGRAPHED AS IT PERCHED ON ONE OF THE FABRICATED PERCHES BELOW THE FEEDER. JAMES BROHMAN

birds are are illuminated by the early morning and late afternoon sun.

- Focus on the bird's eye.
- Use aperture priority and a low F stop (e.g.2.8) if you want to blur the background.
- Use a shutter speed of at least 1/250 of a second.
- Turn off the "beep" that sounds where your camera achieves autofocus.

A photoblind is a fun and effective way to view wildlife. The all important "wildlife viewing and photography code of conduct" applies to the utilization of this device as well. The following code of conduct is strongly recommended:

- Wildlife should be viewed from a safe distance (if the animal interrupts its natural behavior, then you are too close).
- Never force an animal action, e.g. stimulating animals to run or fly.
- Never encroach on dens or nests since disturbance can lead to predation.
- Learn to recognize wildlife alarm signals.
- The welfare of the subject and habitat are **more important** than the photograph!

Note: All photographs in this article were captured by the writer using a digital camera, in my backyard, with the exception of the Tree Swallow which was photographed just east of Edmonton.

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"Big Day" Records Back to Alberta!

BY YOUSIF ATTIA

On June 4, 2012, Stu Mackenzie and I completed an Alberta Big Day starting in the Cold Lake area, through the prairies, and ending in Waterton Lakes National Park.

This was our fourth attempt along this route since 2004 and we enjoyed near perfect weather conditions as well as an opportunity to scout the route a couple of days in advance.

We cleaned up the boreal species at Cold Lake with profound efficiency and found a surprise Dickcissel just west of the provincial park. Both Yellow-bellied and Olive-sided Flycatchers were on territory in the boreal and we lucked into a vocal Great Gray Owl north of Cold Lake. A single Ross's Goose and eight Snow Geese lingered near Cold Lake and we picked up the Red-headed Woodpecker in Vermilion enroute to the prairies.

A rain system the previous day worked in our favour and grounded a number of migrant shorebirds including Red Knot, Sanderling, White-rumped Sandpiper, and Black-bellied and Semipalmated Plovers, among others. We also found all provincial regularly-breeding warblers including Nashville Warbler at Cold Lake and Yellow-breasted Chat in the badlands. Despite the lateness of this date, migrants were evident with a calling Yellow-bellied Flycatcher along the Red Deer River valley and a Gray-cheeked Thrush in the Cold Lake Area.

The total of 226 species detected represents a new Canadian and provincial Big Day record, besting the previous 218 set in Alberta in 2011. This total also represents the highest Big Day total for the month of June in North America. Special thanks go out to Teresa Dolman, Ted Hindmarch, Milt Spitzer, Cyndi Smith and Nancy West for their generous assistance this year and in the past.

This effort is also a registered Baillie Birdathon, supporting bird research at migration monitoring stations in Alberta and bird conservation in Canada. You may donate by following this link and sponsors will receive a detailed account of this notable effort:

www.gifttool.com/athon/SponsorAParticipant?ID=1914&AID=1845&PID=297030

The above is from a post on AlbertaBird. To read about Yousif's 2011 "Big Day in Alberta," where they tallied 210 species, see the Spring 2012 edition of Nature Alberta *(Vol 42, # 1).*

First Hand: Close Encounters of the Bison Kind!

BY JAMES BROHMAN

Elk Island National Park is a wildlife jewel located 50 km east of Edmonton AB, with a healthy population of Woodland and Plains Bison, Moose, Elk, Deer, Coyotes, Beaver and many species of birds (including Trumpeter Swan, which was successfully reintroduced to the park).

The park is part of the Beaver Hills of Alberta, so the landscape holds a unique combination of mixed-wood forests, hills, small lakes and ponds, making it an ideal habitat for wildlife and a place where nature enthusiasts and photographers (like myself) can thrive as well!

Last fall while photo-hiking on the Moss Lake trail with Seamus, my Wheaten Terrier, we encountered an elderly bull bison who was foraging on the lush grass in front of us. He was a large bull with a crippled hind right leg so he walked with a prominent limp and had tremendous wasting of the muscles in his hind quarters. He had a massive head with worn down horns, so obviously was quite an elderly fellow. He took up most of the path because of his size and we could not easily pass him as he inched along because of dense bush on either side of the pathway.

So I patiently followed approximately 30 meters behind, and Seamus followed behind me tied to my belt and uncomfortable about the large critter in front of us! From time to time the bull would stop walking, turn slightly toward us and look back at us causing us to stop as well and wait for him to resume walking…which he would. This stop-start routine and snail-like progression went on for about 30 minutes.

Then just before he crested a steep hill he turned toward us (as I was snapping pictures) and charged toward Seamus and me! I grabbed my camera and tripod and ran into the deep bush for cover with my dog being pulled behind and grunting all the way (willow branches were probably snapping him in the face)! I didn't stop until I found a large tree to take cover behind and to my relief he did not follow us off the path. It was only after this incident, while downloading the images of the bull, that I could detect the annoyed look in his bloodshot eye (the importance of body language)!

Since he was now heading back toward the trailhead I felt it was safe to resume our hike. As I crested the same hill the bull had rushed us from, I encountered another bison – a gigantic young bull, far more muscular than the elderly bull – with prominent-shaped horns. I surmised he may have put the run on the elderly bull (territorial dispute) and we just happened to be in the wrong place at the wrong time. Since it was time for my dog and I to turn back and head for the vehicle, we made a hasty retreat back toward the trail head.

Within 300 meters up the trail we again encountered the elderly bull bison that had charged us! Again we followed him at a supposedly safe distance when he turned abruptly and charged us for a second time! Again off into the

FIRST THE "EVIL EYE" – THEN CHARGE!
JAMES BROHMAN

A QUICK LOOK BACK AT THIS THING FOLLOWING TOO DARN CLOSE. JAMES BROHMAN

dense bush we went and the large bison rushed by as we hid behind some large trees.

I decided to take no more chances with the trail and started to make our way through the entangled trees, willows and over all the deadfall until I was well clear of the bison, then made our way back onto the trail and returned to the trail head.

After returning home and checking on the Parks Canada website under "wildlife safety" they recommended not coming closer than 100 meters to these large ungulates! Whoops – did I learn a lesson about the importance of "personal space!"

REST OF THE STORY:

Your Editor facetiously said to Jim: "I thought for sure you'd send me photos of the big bull in full charge at you! Or, did you think that taking some shots at that time would be just a bit too much excitement?"

Jim's response: "Honestly, I moved so quickly to get behind a tree and thanked my lucky stars the bull did not follow me into the bush. I think it did spook me significantly since I had a dream recently that it was a younger bull chasing me and he did pursue the dog and me 360 degrees around the tree and sent me sailing upward with his horns! If you Google "bison attacks" on people, there is one of a man in Yellowstone who is standing on the opposite side of a spruce tree from a bull who is snorting and pawing the ground. All of a sudden the bull charges the man, hooks him with the horns and throws him way up in the air! The man lands on his back and luckily makes his escape! Currently I am reading a couple of books on the history of the demise of bison and their history at Elk Island. The authors clearly emphasize the importance of giving bison a safe buffer! Makes sense for all wildlife!

If you have a first-hand experience with nature, send it in and share it with other naturalists. After all – there are 8 million stories in the Nature City. Yours…could be one of them.

YOUNG BARRED OWL. HOLLE HAHN

Wildlife! Starring. . .

Barred Owls

In May and June of this year, Westerose AB resident Warren Stark had what he and his neighbour, Holle Hahn, considered to be something very special: nesting Barred Owls. The owls nested in a hollow tree on Warren's property, and his and Holle's photos were taken right out of his front yard.

The adult Barred Owl, said Holle, was watching every move they made and "it was especially watching the young ones stare at us!"

Lisa Priestley, Executive Director at the Beaverhill Bird Observatory, filled Nature Alberta in on these interesting Alberta owls:

> "Although Barred Owls are usually found in more continuous forests, they can nest closer to human habitation. If the disturbance is gradual and not too significant they will continue to nest in the same area provided the habitat and prey they need is still available. They require forest that contains older poplar trees for nesting and choose either a natural cavity, or bowl at the top of a broken off tree. The biggest concern about nesting in more open areas is conflict with Great Horned Owls which can outcompete (or kill) Barred Owls.
>
> "For a quick summary of breeding info you can check out my paper on Barred Owl Distribution and Status in Alberta from the *Canadian Field Naturalist*." www.beaverhillbirds.com/docs/CFNBarredOwlpaper.pdf

The Barred Owl (*Strix varia*) is a year-round resident of Alberta. A nocturnal hunter, it preys on "a wide variety of small mammals, including mice, voles, chipmunks, and squirrels; a wide variety of birds including sparrows, juncos, jays, warblers, woodpeckers, robins and swallows; fish and insects" (*Atlas of Breeding Birds of Alberta*, 1992).

This is the original "Hoot Owl". According to the *Atlas of Breeding Birds of Alberta*, "Without a doubt, this is the most vocal of all owls of North America and the owl with the widest range of calls. The most

ADULT BARRED OWL. HOLLE HAHN

YOUNG BARRED OWLS. WARREN STARK

common and often heard call is the resonant and far-carrying hoot…This call is said to sound like "Who cooks for you, who cooks for you all".

Barred Owls are also the only Alberta owls with a dark iris rather than yellow (excluding the exceptionally rare, possibly accidental Barn Owl). Alberta classifies the Barred Owl as Sensitive; the Endangered Species Conservation Committee identified it as a Species of Special Concern – a species that without human intervention may soon become threatened with extinction. It requires mature dense forests in large blocks – a habitat that is increasingly threatened in Alberta by forest fragmentation.

All in all, a very special nature experience for Warren and Holle to get such a close-up look at a family of Barred Owls.

THE ADULT BARRED OWL SURVEYS ITS DOMAIN WHILE A WHITE-TAILED DEER GRAZES NONCHALANTLY BELOW. WARREN STARK

Up Close Naturally:
Clams 'n Snails

BY MARGOT HERVIEUX

When most people hear the word "clam," they think of the sea, but we have clams and other molluscs in our local lakes and rivers.

Most molluscs, including clams, mussels, and snails, live in salt water, but there are also fresh water species and even land snails right here in Alberta.

Clams – with approximately twenty-six species in Alberta – are easily recognized by their two-part, hinged shells that protect their soft bodies. They spend their adult lives under the sand in the shallow water of lakes and rivers. Most people don't see live clams, even though they are very abundant, because they are buried but their empty shells can often be found along sandy or gravelly shores.

Clams feed by filtering edible particles out of the water with gills located along the edge of the shell. In turn, clams are eaten by muskrats and other mammals – but word is they don't taste very good to us.

Clam eggs mature inside the shell lining of the mother and then the larvae are released to either develop beneath the sand or, surprisingly, to attach to the gills of a passing fish and get carried to a new location before maturing.

Snails are also molluscs but they have a single, spiralled shell. There are a number of different species – about forty in Alberta (including slugs) – of different sizes. Some have flattened, coil shells while others have the more familiar pointed spiral. You can find snails in most wet environments with some species preferring large lakes while others are found in ponds or rivers and streams, and on land.

Snails move on a large, soft foot that they can pull into their shell when threatened. If you watch an active snail you will also notice two feelers at the head. Snails feed by scraping algae off plants and rocks using their rasp-like mouthparts.

Most snails are hermaphroditic which means that each individual has both male and female body parts. Eggs are laid in a jelly-like mass and baby snails emerge looking like miniature versions of their parents.

Snails are food to a variety of creatures including muskrats and ducks. They are also an intermediate host for the parasite that causes swimmer's itch. The parasite is a flatworm larva that normally burrows into the skin of birds and small mammals and enters their blood stream. The larvae can't survive in human skin but they do cause itchy bumps when they try to enter.

If you look very closely under rocks or fallen logs you might also find land snails. These tiny creatures feed on bits of plant material and survive the winter in the leaf litter.

Slugs are also molluscs even though they lack a shell; essentially, they are a snail without an outer shell. Like snails, they move on a soft foot but, since they live out of the water, they produce slime to keep their bodies moist. Slugs also have a rasping mouth for scraping leaves.

Many of us enjoy dining on ocean-dwelling shellfish but molluscs are also an important part of our freshwater ecosystems. Watch for both snails and clams the next time you have a day at the beach.

Margot also writes a column for the Peace Country Sun, archived copies of which are available at www.peacecountrysun.com.

"QUILL" IN 2012, WITH A TRANSMITTER IN HIS EAR. RICK PRICE

Grizzly Twins Made It

BY DENNIS BARESCO

Last May, a female grizzly named Dawn was killed by a Canadian Pacific train on the edge of Lake Louise, leaving two cubs as orphans. Would they survive the fall and winter?

That was what everyone hoped for, though the chances were certainly not good.

But survive they did. Nature Alberta contributor Rick Price was fortunate to see and photograph "Quill" on June 8, 2012 in the exact same spot where he took a photo of "Quill" back on June 20, 2011. Says Rick:

"Yesterday was a great day as I found one of the orphaned Grizzly Bear cubs from last year [photo labeled Quill on June 20, 2011] and was able to photograph him again. I am happy to report that they denned up last winter together, emerged and were first seen about two weeks ago. The twin that I photographed yesterday [June 8/12] is a male and weighs only 72 pounds. I found this out as Parks Canada had to tranquilize him [because he was limping badly]; he had swatted a porcupine, and they removed 41 quills from his right paw on May 29th. They also put a transmitter in his ear, as seen in the photos, so they can track him. The twins weren't together yesterday but they do spend time together, so I was told. Each day their chance of survival increases so I'm happy – last year I didn't hold out much hope."

"Quill" was named by John Marriott this spring, for obvious reasons. Marriott has photographed both of the orphaned bears this year. For more on Dawn and the cubs, including photos, see http//blog.wildernessprints.com.

NOTE: Living in a Canadian Rocky Mountain national park doesn't stop animals from getting steadily and routinely killed. As John Marriott reports in his blog: "From 1999 to 2008, there were a staggering 3,580 reported railway and highway animal mortalities (not including mammals smaller than a wolverine) in Banff, Jasper, Yoho, and Kootenay National Parks. But that figure pales in comparison to what the real numbers may be; as Peter Dettling describes in his book, *The Will of the Land*, reported mortalities are likely only 25-35 percent of the actual number of mortalities. That means that each decade in the Canadian Rocky Mountain national parks, more than 10,000 large mammals die on our railways and highways."

That's an average of about eighty-five per month or close to three every day, seven days a week.

"QUILL" IS THE MORE CURIOUS AND LESS RECLUSIVE OF THE TWINS. RICK PRICE

"QUILL" ON JUNE 20, 2011. RICK PRICE

ADULT GREAT HORNED OWL, WITH BADGER DIRECTLY ABOVE. KEN ORICH

Badger up a Tree!

Ken Orich was out birding east of Milk River on May 2, 2012 when, as he related, "I came across the strange sight of a dead badger about 15 feet up a tree and above a Great Horned Owl [GHO] at a nest site.

The nest itself is about 50 feet west of the carcass. A close up of the carcass shows it has been fed on, but it doesn't appear to be too recently. I can only think the badger ended up in the tree by the owls putting it there."

Ken continued: "Now the big question - can a GHO take out a badger? They are a top predator – maybe a badger's primary predator? Bob [Parsons] suggested maybe "road kill", but I didn't know GHOs were scavengers. Anyhow, I thought I'd share this unique situation with [Nature Alberta readers] to get you wondering - can a GHO take out a badger?"

Ken's query has brought about much speculation. A birding buddy of his, Del Huget from Edmonton, thought that maybe a Bald or Golden Eagle scavenged or killed the badger earlier in the year and just happened to take it to that location to eat it. Ken could "see that as being possible, but I don't know if there would be a 'conflict' with the Owls. They have been using this site for at least a couple years and can be pretty aggressive to intruders."

Your Editor thought of a Golden Eagle, as well – and there is the possibility of "conflict" even if the eagle had used the tree outside of the nesting season. Another possibility (perhaps more likely than an eagle) is a Cougar; there might still be a conflict, but an owl would have a more difficult time driving off a Cougar than an eagle. Then again, if the badger was put there outside of the nesting period, there would likely be no conflict at all, since the owls would not have been there.

A Cougar, Ken suggested, "is a possibility, but there were only a half dozen trees or so and this is east of Milk River in the middle of the short-grass native prairie and farm fields." However, that wouldn't rule out Cougars, which occasionally follow river valleys through even the most arid, treeless regions.

Lorne Fitch responded: "I suspect you will get a myriad of theories about the badger carcass up a tree. GHO prey on a variety of creatures, up to and including skunks. A young badger would be in the same size and weight range of an adult skunk, so it may be possible that an owl did in the badger. It is odd though that the badger isn't in the GHO nest, where you would expect to find such a food item. Beyond the possibility an owl did successfully predate on the badger, this has to

CLOSE UP OF THE BADGER, WHICH HAD BEEN FED UPON PREVIOUSLY. KEN ORICH

FLEDGLINGS FROM THE "BADGER UP A TREE" NEST. KEN ORICH

be an anomaly. Badgers are tough, fearsome creatures. I once had a wounded one put me up a fence post when I approached too close. I was happy to have that fence post to climb!"

Later, Ken provided more detail: "You can't see any fresh, red meat signs on the bones or flesh (which appear to be quite black – with age?) The owlet in the nest was quite small (my guess no more than 2-3 weeks old) and I think the badger was there before the owlet hatched. That may explain why it was right at the nest site – or some other predator brought it to that location earlier to feed on it." That would also explain why it wasn't in the nest, if it had been there specifically for the owlets.

Said Jocelyn Hudon: "It wouldn't surprise me that the odd Great Horned Owl could surprise the occasional badger. Who knew that octopuses could take gulls*? If it is a badger, then it is unlikely that the owl put it there (it's just too heavy). Unless, the carcass was partly eaten before it was taken there. Or an eagle put it there."

Ken was out to the location June 7th, and "two owlets were sitting in the tree where the dead badger was hanging. No trace of the badger now, so either they ate it or something else did."

Of course, we likely will never know the reality, but it sure is fun coming up with possibilities! As Lorne said: "Isn't a study of nature and natural events fascinating?"

Now it is your turn; if you have any thoughts on this "nature nugget" let us know!

* www.cbc.ca/news/technology/story/2012/05/03/octopus-seagull-fight-eating-photos.html ?!

ACA Wins!

The Alberta Conservation Association (ACA) has been awarded a $100,000 grant through the Shell FuellingChange contest for ACA's wolverine project. The grant, said Elize Smit, ACA's Communications Coordinator, "is an integral part of the wolverine project's budget, so the wolverine team will now be able to do the entire project as it was initially proposed."

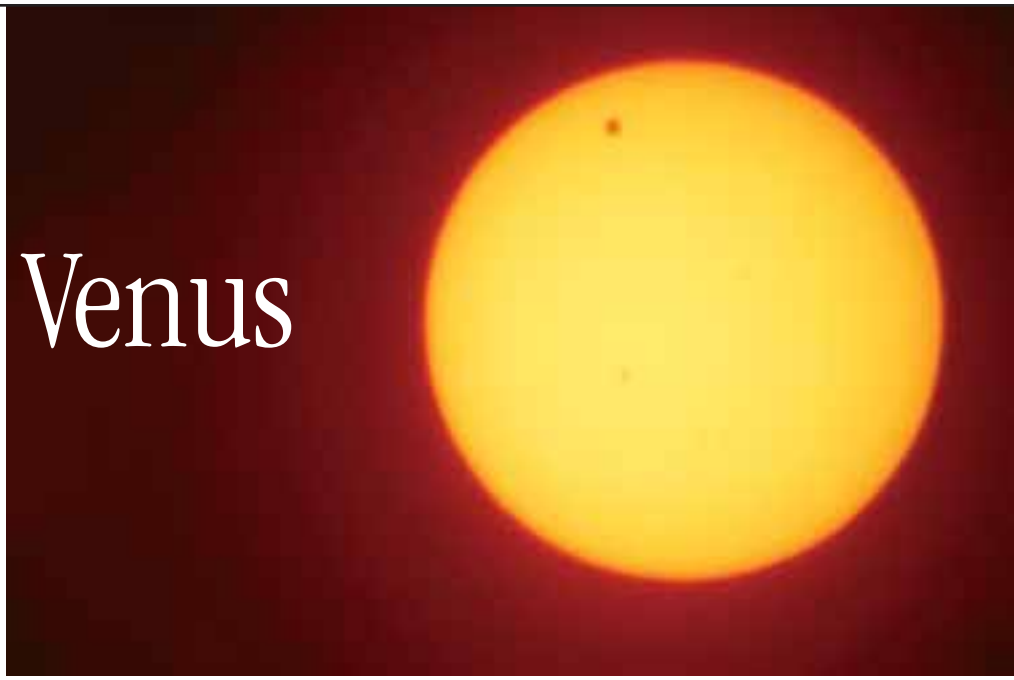
In the Shell FuellingChange press release, wildlife biologist for ACA, Robert Anderson, said: "the support we received through FuellingChange for the Wolverine project has been amazing. It suggests to me that Canadians want a say in the wild areas and species that are conserved for future generations. Winning the FuellingChange grant means we can buy remote camera equipment and pay for the analysis of DNA samples, which is critical to making this citizen science initiative a success."

Nature Alberta congratulates ACA on this vital grant for a vital species. Through a public voting process, Shell granted $1 million in this round; there will be a second $1 million giveaway later in the year. For more information, visit www.fuellingchange.com.

Spotted at Miquelon Lake

"My wife and I were walking the trail system at Miquelon Lake and happened upon an abandoned homestead. Turns out it wasn't quite empty as two long-bodied brown mammals scurried out of the trees next to the main crumbling building. Best I can figure they were Fishers. They disappeared too fast to get a picture, but a great encounter none-the-less."

Posted by Troy Colwell, July 3rd, on Nature Alberta's Facebook Wall. Check out Nature Alberta's Facebook page. Maybe post your own thoughts!



FILTERED BINOCULAR VIEW.
JOHN MCFAUL

Transit of Venus

BY JOHN MCFAUL

On Sunday June 5th, Venus transited in front of the Sun starting about 16:08 at the 11 o'clock position and slowly crossing in front of the sun over the next 8 hours. The next transit will not occur until Dec 11, 2117 so John McFaul was intent upon witnessing it this time. Reports John:

"As the predictions for Calgary were pretty dismal, I decided to drive east to see if I could find clearer skies. I went almost as far as Hanna. It was not looking very promising. I thought I could see some lighter skies NW of Hanna so I went north. It soon turned out to be a mirage.

"So I thought the jig was up and I turned south to get to Hwy 9 and return home. Approaching Hwy 9, I saw clearer skies to the south, so in the spirit of Captain Cook, I drove south . . . and miracles of miracles, I found a big patch of Alberta blue!! I quickly found a place to park and set up my telescope. Without the distraction of Tahitian maidens I managed to get a few photos."

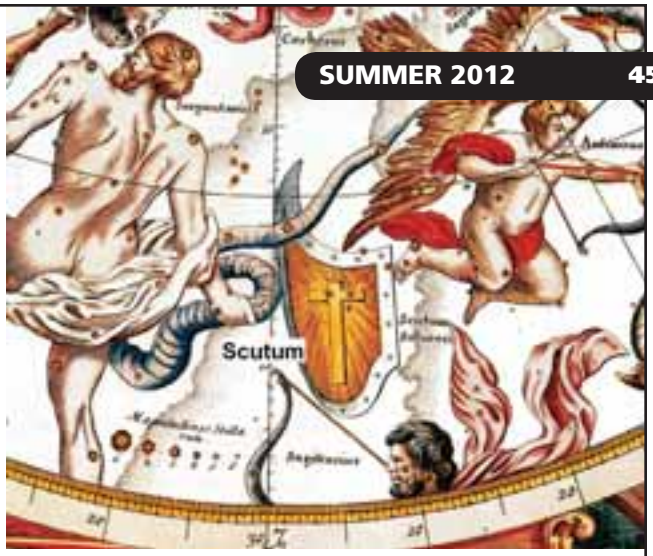
PROJECTING IMAGE FROM TELESCOPE.
JOHN MCFAUL

12 KM EAST OF DRUMHELLER. JOHN MCFAUL

CELESTIAL HAPPENINGS

Starry Nights

Summer/Fall (August to October)



BY JOHN MCFAUL

FEATURED CONSTELLATION: SCUTUM

Scutum (pronounced "skootum"), The Shield, is one of the smallest constellations of the celestial realm. It is located within the Milky Way between the constellations Aquila and Sagittarius. The Polish astronomer Johannes Hevelius created this diminutive grouping of faint stars in 1684 to commemorate the much admired King of Poland, Jan Sobieski III. Its original name was Scutum Sobiescianum (Shield of Sobieski).

In the late afternoon of September 12, 1683 the king led a cavalry charge of 20,000 horsemen against the Ottoman forces that had laid siege to Vienna. After 3 hours of battle the Ottomans retreated south and Vienna was saved. This action marked the defeat of the advancement of the Ottoman Empire into central Europe. The cross on the shield represents the Christian victory.

The most famous of the celestial objects to be found in this constellation is the star cluster M11. Upwards of 800 stars are thought to make up the cluster which to early observers resembled a flight of wild ducks. Thus it is known as the Wild Duck cluster. It is thought to be about 220 million years old and to be about 6200 light years from our solar system, about 62,000 trillion kilometers.

It would be truly magical to live on a planet within the central portions of this cluster where the average distance between the stars is 1 light year as compared to the closest star to our sun being 4 light years away. One estimate is that the night sky on such a planet would contain several hundred stars as bright as our brightest stars with a number being much, much brighter than Sirius, which is the brightest star (other than the sun) seen from earth.

CELESTIAL HAPPENINGS

Sun: Rise – Aug. 1 (05:50 MDT), Sept. 1 (06:44 MDT), Oct. 1 (07:37 MDT)
Set – Aug. 1 (21:29 MDT), Sept. 1 (20:22 MDT), Oct. 1 (19:09 MDT)

Moon: Full – Aug. 1st & Aug. 31st (blue moon), Sept. 29th, Oct. 11th
New – Aug. 17th, Sept. 15th, Oct. 29th

Planets: **Mercury** may be seen very low above the eastern horizon shortly before sunrise in mid-August.

Venus is a morning object for this time of year. It can be seen about 20 degrees above the eastern horizon before sunrise. The moon is nearby on Aug. 13th, Sept. 12th and October 12th.

Mars is accompanied by Saturn as it hovers low above the south-western horizon through mid-August, after which it is lost in the solar glare. On August 6th the Curiosity Spacecraft will land on Mars.

Jupiter appears well above the SE horizon before sunrise. On Sept. 12th it stands just above the crescent Moon. By mid-October it may be seen just above the eastern horizon in the late evening hours.

Saturn may be seen very low in the west near Mars after sunset in early August. Afterwards it quickly disappears in the solar glare as its path takes it behind the sun.

Meteor Shower: The Perseid Meteor Shower peaks in the late evening and early morning of August 12th into the 13th, 50 meteors/hour. The Orionid Meteor Shower peaks on October 21st with about 25 meteors/hour.

The rate of meteors observed is for dark skies well away from city lights and with no Moon.

State of Canada's Birds

Report Released

Bird Studies Canada (BSC) and our North American Bird Conservation Initiative partners in Canada are pleased to announce the release of the first-ever State of Canada's Birds *report.*

The report draws on 40 years of data to create a picture of the current health of Canada's birds.

Birds are crucial indicators of ecosystem health. Overall, nearly half (44%) of the species studied have declined since 1970. This is particularly true for aerial insectivores (birds that catch insects in flight) and grassland birds, which have fallen by 60% and 40% respectively. Species that migrate the farthest are experiencing the steepest declines – emphasizing the perils of migration, as well as the importance of conditions on wintering grounds.

Although many species are declining, we have learned that where conservation is applied, it works. Thanks to the efforts of the North American Waterfowl Management Plan, of which BSC is a partner, waterfowl as a group are doing well. Rebounding raptor populations are a direct result of pesticide regulations. Expensive efforts have helped restore some critically endangered species, but conserving birds before they reach "critical" status is much more cost-effective.

"This report is unprecedented. Its findings are both troubling and inspiring," said Bird Studies Canada's President George Finney. "Partnerships, Citizen Science programs, and increased investment have contributed immensely to our conservation goals for some species. We need to build on these existing efforts, as it is clear that many other species are in serious trouble. A world without birds is not an option."

The report is now available online. To obtain an electronic copy, visit Bird Studies Canada's website (www.bsc-eoc.org). Bird Studies Canada members received a printed copy of the full report in early July, with their Summer issue of *BirdWatch Canada*.

From: Bird Studies Canada Latest News, June 27, 2012

THE ALBERTA SCENE

In central and northern Alberta, the Western Boreal region provides important wetland habitat for migratory shorebirds, songbirds, and water fowl. Wetlands face many threats across the province. Due to wetland drainage for agriculture and development, pollution, invasive non-native species, and increasing droughts, it is estimated that 80 acres (about 45 soccer fields) of wetlands are lost every day. In Alberta, less than 1% of the Grasslands Natural Region lies within protected areas, despite the fact 75% of species at risk in the province rely upon grasslands habitat. The prairies are some of the most intensively altered landscapes in Canada; due to intensive use and conversion, more than 70% of native prairies and wetlands have been destroyed. Endangered grassland species such as the Greater Sage-Grouse require immediate habitat protection and restoration to prevent their imminent extirpation.

"At the highest level, the provincial government needs to do more to protect these landscapes, and sooner rather than later," said Madeline Wilson, Alberta Wilderness Association's conservation specialist . "By setting aside land to protect endangered species, like Greater Sage-Grouse, a myriad of species at risk living in that ecosystem will benefit. This report is a call to action for all Canadians to protect our wildlife and their habitat before it is destroyed."

The cause of these population declines has been mainly attributed to habitat loss and degradation due to oil and gas development, forestry, intensive agriculture, wetland drainage, urban expansion, and climate change.

For more information: Madeline Wilson, AWA conservation specialist, (403) 283-2025

Taken from an AWA press release, "Canada's Declining Bird Populations Warrant Urgent Conservation Action"; July 2, 2012

The Peace Country's Secretive Salamander

BY JOHN HALLETT, ALBERTA CONSERVATION ASSOCIATION

AN ADULT LONG-TOED SALAMANDER. WIKIMEDIA/ MARK THOMPSON

The time: 300 million B.C. The world looks a little different than it does today, with towering tree ferns waving in the warm, moist, tropical air.

Suddenly a slimy creature over 10 feet long comes waddling out of the jungle vegetation and slides into a shallow pool.

It's a prehistoric salamander, and they rule their prehistoric world millions of years before dinosaurs arrive on the scene. As we fast forward to the present, dinosaurs and ice ages have come and gone, but the giant salamander's descendants are still around and can be found right here in the Peace River valley.

The Long-toed Salamander (Ambystoma macrodactylum), barely five inches long, is hardly a giant, and is so secretive and scarce that people seldom see it. The extent of the Long-toed Salamander's range in Alberta was thought to be only in the foothill valleys and mountain passes of the Rocky Mountains. It was only in the 1990's that a small population was found in scattered ponds in the Peace River valley east of Hines Creek and south of Fairview.

Long-toed Salamanders hide underground or in forest litter during the day and emerge to hunt for worms and insects at night. In spring adults travel to ponds to breed and lay eggs attached to underwater twigs or plant stems. When they hatch, the young larvae look very different from their parents. They have feathery, external gills, and a large, flat head with an extra wide mouth. They have no limbs and use their tail to swim.

Later, salamander larvae start going through metamorphosis. Their front and back limbs develop nearly simultaneously and their gills disappear as lungs form. Once the lungs form, the larvae can go to the ponds' surface to breathe. They have to develop into their adult, land-dwelling form before the pond dries up. Most emerge as adults in late summer, and later hibernate underground for the winter.

Studies funded by Alberta Conservation Association found that Long-toed Salamanders south of Fairview preferred small, relatively shallow ponds with abundant

AN ADULT LONG-TOED SALAMANDER FROM THE PEACE RIVER VALLEY, SPRING OF 2004. JOHN HALLETT

A TYPICAL POND AND HABITAT FOR LONG-TOED SALAMANDERS. TERESA AUGUSTYN

aquatic vegetation (reeds, pond weeds, etc). Furthermore, they preferred ponds located near ravines along the Peace River that were surrounded by trees and willows. Not surprisingly, ponds or dugouts that had high cattle use were not favoured by the salamanders due to trampled shorelines, and muddy waters.

Last summer, Alberta Conservation Association surveyed several sites in the Peace River valley to determine if Long-toed Salamanders have an expanded range beyond their known locations. Salamanders were found on 4 sites near the Peace River just south of the town of Peace River suggesting that they may be expanding downstream. Further surveys this year will hopefully determine the extent of the salamanders' distribution.

The long-term future of salamanders in the Peace Country is uncertain due to their rarity and restricted distribution. However, any creature tough enough to see the dinosaurs come and go shouldn't be counted out. With a little help and understanding from us, their future in our region is bright.

For an article on Alberta's other salamander, the Tiger Salamander (*Ambystoma tigrinum*), see *Nature Alberta*, Fall 2007 (Vol 37, No. 3), page 16.

The Alberta Conservation Association is a nonprofit association working collaboratively to conserve and enhance Alberta's wildlife, fisheries and habitat through the support of hunters, anglers and other conservationists.

A SCARLET DARNER DRAGONFLY. DEBBIE GODKIN

DAMSELFLIES. DEBBIE GODKIN

HUMMINGBIRD CLEARWING MOTH ON DANDELIONS. LEN PETTITT

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Nature gallery

SO FAR, "QUILL" HAS MADE IT; SEE THE STORY, PG 41. RICK PRICE

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