VOLUME 37 | NUMBER 4 | WINTER 2008

Nature Alberta

ALBERTA'S NATURAL HISTORY REVIEW

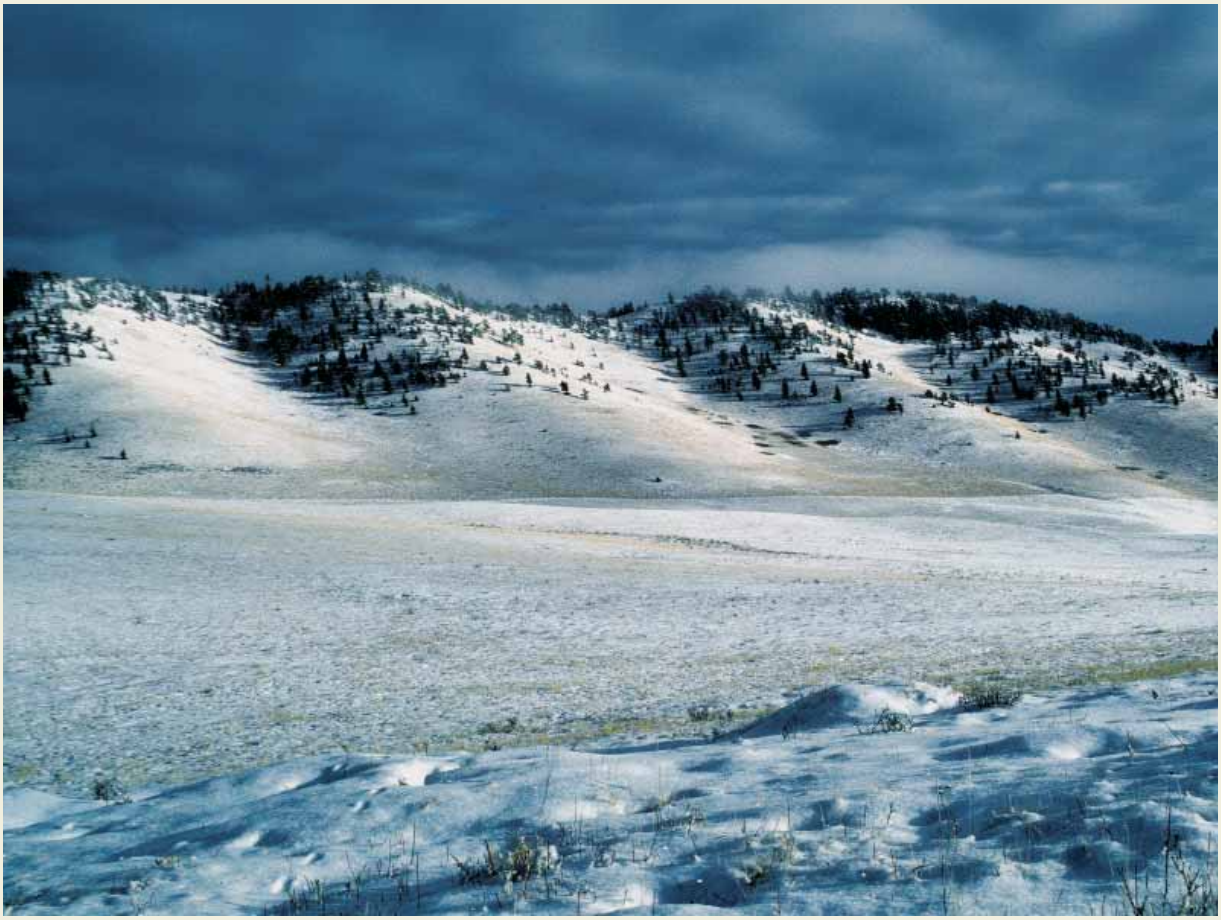
SNOWSHOE HARE IN WINTER PELAGE, BANFF NATIONAL PARK ROBIN AND MARIAN WHITE

feature article

Will Beaverhills Lake ever regain its former greatness?

FEDERATION OF ALBERTA NATURALISTS

CROW'S NEST MOUNTAIN RAY TOAL



WHALEBACK RIDGE, BOB CREEK WILDLAND PARK
IAN GARDINER
NIKON F3HP, NIKON SERIES E 75-100MM ZOOM; KODACHROME 64.

Nature Alberta:
Celebrating our natural heritage

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WANT TO SUBMIT ARTICLES OR PHOTOS?
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NATURE ALBERTA DEADLINES ARE:
SPRING ISSUE.**FEBRUARY 14**
SUMMER ISSUE.**MAY 15**
FALL ISSUE.**AUGUST 15**
WINTER ISSUE.**NOVEMBER 15**

The Federation of Alberta Naturalists 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.

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PRESIDENT'S PAGE

Natural Capital

BY SANDRA FOSS

What is natural capital, and why should we account for it? By way of explanation, I will quote extensively from two documents produced by the Pembina Institute and the Canadian Boreal Initiative.

Natural capital is the value of our natural world – whether it is grasslands, forests, wetlands, peatlands, bogs, fens or tundra – "which combined provide ecological goods and services: water filtration, carbon storage, pest control by birds, pollination of food crops, climate regulation, cultural and recreational benefits, and opportunities for a wide range of land users… .[1]

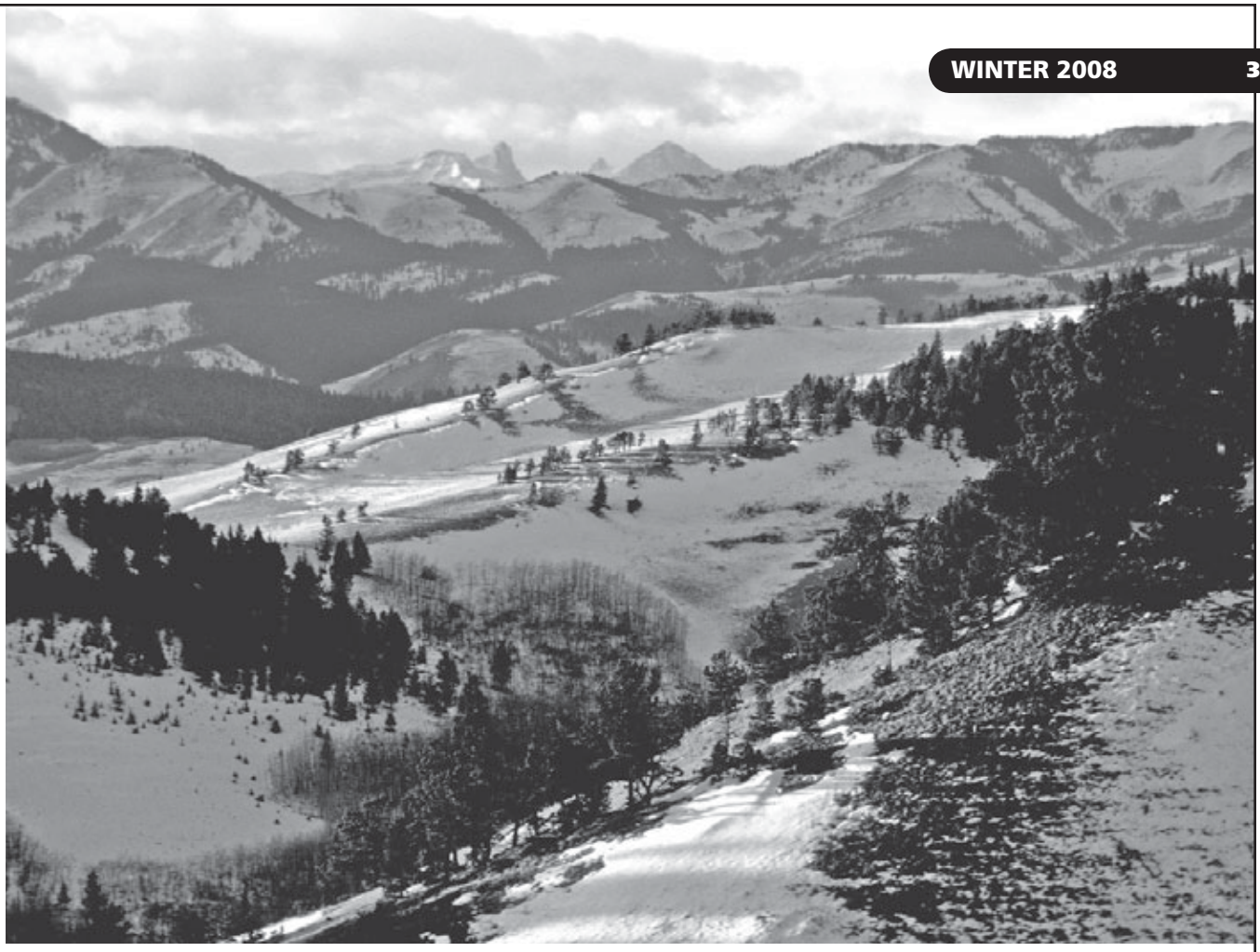
"Natural capital accounting helps to bring ecosystem values more fully into decisions relating to development, and onto national and provincial balance sheets. Operating without natural capital accounts is akin to a major energy company operating without an account of its oil and gas reserves.

"In conventional economics a natural asset such as a wetland is often considered valuable only…if its ecological services are so degraded that human infrastructure is required to replace the original services provided free by nature. For example, often we must build water treatment facilities to clean our water – a service that was once provided free of charge by wetlands. …[1]

"Natural capital accounting challenges us all to make decisions within a context of the full costs and benefits to drawing down that natural capital. For example, let's look at the value of carbon in today's economy. Over the past 100 years, Alberta has expended over 30% of its above-ground forest carbon capital – which in terms of the global social cost of carbon equates to a **$9.6 billion loss**. Boreal ecosystems store more carbon in their peatlands, soils, and trees than any other land-based ecosystem, including tropical rainforests. In a carbon-conscious world, our decisions for the future need to better reflect the broader natural capital values ..."[1]

"The conversion of ecosystems for other uses, including forestry, mining and energy industries, residential development, roads, and other industrial development, has led to the loss of ecological connectivity and ecosystem services. Resource management decisions and investment decisions are largely influenced by consideration of the monetary costs and benefits associated with the market values of natural capital, which tend to favour forestry, agriculture, and mining activities. Unfortunately, the activities affect the non-market values of ecosystem services. However, because ecosystem services have not been given a market value, rarely have they been accounted for in resource policy decisions."[2]

Currently, governments place NO value on the resources we extract, or the ecosystem resources the landscape provides. It is imperative that we all start taking into account the full costs of our actions. This DOES include governments. It is blatantly obvious that we must choose those governments much more carefully than has been done in recent years, so that the costs of natural capital will be factored in when evaluating whether any project should proceed.



IS IT WORTH SOMETHING? OF COURSE IT IS! IAN GARDINER, JAN/00; NIKON F3HP, NIKON SERIES E 75-150MM ZOOM; KODCHROME 64

When governments do not take the value of natural capital into account, it is as if a large business decided not to bother showing inventory or assets on its balance sheet. There are two kinds of values we must consider. First is that of renewable and non-renewable resources found in grasslands, forests, fish and wildlife, wetlands, peatlands, lakes and ponds, protected spaces, soil resources, mineral and subsoil resources, water and waste production. Second, there are the ecosystem functions – carbon storage, carbon sequestration by forest biomass and soil, watershed services etc. – through to the value of pest control by birds. What is the value of a Species at Risk – the unknown medicinal properties, biological and genetic diversity? The bottom line is: the market value of ecosystem services may be worth more than the value of natural capital extraction. When you calculate the value of natural capital extraction, costs like government subsidies, polluting emissions, and carbon emissions due to fossil fuel use must be included.

Statistics Canada and the UN have each developed a way of accounting for some of these ecosystem functions and values but to date, our provincial and federal governments have done nothing to make use of the information. Please urge them to do so, at every opportunity, and, at election time, ask the question: Why have they not used natural capital/ecosystem-type of accounting?

The human race is facing the greatest challenge it has ever faced as a species. It is imperative that governments immediately start taking natural capital into account. For further information:

The Pembina Institute
www.pembina.org

The Canadian Boreal Initiative
www.borealcananda.ca

PRESIDENT'S PAGE

The Value of Natural Capital in Settled Areas of Canada (2004) Dr. Nancy Olewiler, for Ducks Unlimited Canada: www.ducks.ca

Global Forestwatch Canada www.globalforestwatch.ca

United Nations, Millennium Ecosystem Assessment Synthesis Report (New York: United Nations, 2005)

NOTE: In November/07, the Federal government announced a half million dollars in support for an Ecological Goods and Services (EG&S) pilot project, in partnership with Ducks Unlimited Canada and led by Saskatchewan's Lower Souris Watershed Committee (LSWC). This is great news for groups that have been urging the federal government to help producers achieve environmental outcomes on their lands without compromising their economic well-being. This is a tiny beginning.

REFERENCES

1 *The Real Wealth of the Mackenzie Region*, by the Canadian Boreal Initiative, and the Pembina Institute

2 *Counting Canada's Natural Capital*, by the Canadian Boreal Initiative, and the Pembina Institute.

On the Covers:

FRONT COVER

By Robin White. Capturing a scene as vivid as this winter Snowshoe Hare takes an incredible amount of patience combined with some luck. Robin and Marian White – explorers, photographers, writers and educators – have captured the essence of winter in Alberta. Watch for a review of their excellent new book, *Wild Alberta at the Crossroads* (available at the FAN Store, www.fanweb.ca), in the Spring *Nature Alberta*.

INSIDE FRONT COVER

Winter scenery is equal in spectacle to any season, as the photos by Ian Gardiner and Raymond Toal beautifully illustrate. Ian's "Whaleback Ridge, Bob Creek Wildland Park" instills a sense of surreal-like winter calm, while Raymond's "Crow's Nest Mountain" projects a sunlit grandness.

INSIDE BACK COVER

Alberta's Leporids (rabbits and hares) can survive winter weather quite well; it's the predators – like Dave Fairless' not-easily-fooled Red Fox – that are the problem! White-tailed Jack Rabbits – which are hares, not rabbits – are of the open fields, turning winter white for camouflage and having great speed. Nuttall's Cottontails (rabbits) stay close to the shelter of brush; thus, staying brown is the best camouflage. Photos of both Leporids are by Ian Gardiner.

BACK COVER

By Robin White. Pronghorn are not overly shy, but neither are they overly predictable. So a truly "picture perfect" shot of the group glancing back at Robin is testament to the photographer's ability to "snap" at just the right instant. While this photo is from Yellowstone, Pronghorn have delighted many Alberta naturalists in every season.

EDITOR'S PAGE

Three Reasons Why

BY DENNIS BARESCO

Your Editor has occasionally been queried on why Nature Alberta *doesn't focus more on issues – those ecological transgressions that are destined to complete the turning of Alberta into a duplicate of a meteorite crash zone.*

Good question, that – and, as usual, I've got a good answer! Actually, several answers, because there are several (main) reasons.

First, the focus of *Nature Alberta* is to celebrate our natural heritage. That's what most of our articles reflect: the wonders of nature, the sheer thrill of natural experiences – like Jean Van Wert's "Coyote Carousing" (pg 38), Margot Hervieux's new column (pg 24), and the second leg of Sean and Don Gordon's canoe trip (pg 34). Research articles, like the Turkey Vulture update (pg 14), are also celebratory. Presenting such articles in a science-based format is simply another method of providing an exciting learning experience through greater detail of, in this case, one of Alberta's more fascinating avian species.

Of course, "fun" articles do have a message, even if it's not stated overtly. For example, you can't help but be thrilled when reading John Warden's Fulton Marsh story (pg 39), and you hope that the next generation will be able to feel the same experience. I don't think it's necessary to state the obvious: no Fulton Marsh equals no more Fulton Marsh experiences!

WOLVES PHOTOS.COM

EDITOR'S PAGE

Second, *Nature Alberta* does examine what's happening in our natural world and seeks to explain why (knowledge = power!). In that vein, Robert Alison provides us with a good look at McCown's Longspur (pg 45). Dick Dekker analyzes the historical and present situation at Beaverhills Lake (Winter Issue's Feature Story, on pg 26), plus looks at the ecological impact of lead shot (pg 42). These are stories of profound interest to naturalists, because they directly affect what naturalists love. In effect, they are stories designed both to inform and to motivate naturalists to care for that which they care about.

Third, there are any number of places to get more detailed information on issues that affect nature. One of the best in Alberta is *Wildlands Advocate*, published by the Alberta Wilderness Association. There are many websites, including FAN's and a new one, Alberta's Dirty Secrets (see pg 10). There are many environmental groups and environmental activists, all of which are more than willing to share their knowledge and expertise.

In fact, there are so many ways and places to get information that, for the most part, anyone who is interested in nature, and the issues affecting nature, can quite easily become informed; to say "I didn't know that was happening" is a very short term, temporary excuse. As well, there are so many opportunities to help nature that no one can honestly say, "I can't do anything about it." (If you have doubts about that, check out the name "Bob Wisecarver" on the internet to see what one person can accomplish.)

Those two statements, however, bring up a whole different subject based on human emotional and spiritual weakness: the subject of denial, cognitive dissonance, avoidance – the "I don't really want to know" syndrome. Quite frankly, if someone deliberately doesn't want to know (and almost all "not knowing" effectively becomes deliberate), not much is going to persuade them – certainly not an article in *Nature Alberta*.

There is a perfect example of willful blindness going on right now in Alberta: the slaughter of wolves with, among other Machiavellian methods, helicopter gung-ho ships. Yes – it's illegal. The morality of it all – not much to wonder about there. Given the complex social society of wolves, cruel is a good word (SPCA, where are you?) As for justifiable – raucous peels of laughter here. In the words of Charlie Brown: "Good Grief!"

Ahh – but here's a great challenge! It would be a giant step forward for nature if the government staff planning and carrying out this…whatever it is…would "JUST SAY NO" – and if other Alberta civil servants openly and conscientiously stood behind them. Think about how fast and dramatically things would change if they all found the spunk to shout in unison: "We're mad as hell, and we're not going to do it anymore!" Now that's an issue *Nature Alberta* would salubriously celebrate!!

SUFFIELD HEARING ANNOUNCED

The Joint Review Panel has announced the public hearings into EnCana Corporation's attempt to drill 1,275 new wells in the Suffield National Wildlife Area.

The formal hearing is set for Calgary, starting March 10/08. Less formal hearings will be held in Medicine Hat March 25/08 and in Calgary at a date to be determined. **Deadline for intervenor submissions is Feb 18.** For more and updated information, check www.naturecanada.ca.

Your letters commenting on any aspect of Nature Alberta or its articles are welcome! Email them to na@fanweb.ca.or mail/fax to addresses on pg 1, under "Contents".

LETTERS TO THE EDITOR

Thanks

Many thanks for sending along the *Nature Alberta* magazine. I've shown it at our weekly staff meeting -- it's a great magazine. And we loved the review [of *Ladybugs of Alberta*]. Cheers,

CATHIE CROOKS, SALES/MARKETING MANAGER
UNIVERSITY OF ALBERTA PRESS

Wrong Salamander

I have been making my way through the last *Nature Alberta* and enjoyed your article on tiger salamanders [Fall pg 16]. One wee correction, though. The population of salamanders north of Grande Prairie (mostly near Fairview) are actually long-toed salamanders.

MARGOT HERVIEUX

EDITOR'S NOTE:
A University of Alberta website www.biology.ualberta.ca states (erroneously) that there is an "isolated population near Grand Prairie" of Tiger Salamanders – which just goes to show that even reputable internet sources can be wrong occasionally!

Well Done

I just received my [Fall] copy of *Nature Alberta*. Wow!! You used quite a few of my photos. Inside cover, back cover, and the article. It all looks really good. Thanks!!! Well done and good job. I also enjoyed your commentaries in the issue as well. You are doing a really great job and I think that you have found your niche as editor with *Nature Alberta*.

JOHN WARDEN

Mitigation, etc!

Faulty reasoning and bureaucratic process may destroy native prairie that is critical to survival of endangered species. I would like to ask readers to write to the Canadian Environmental Assessment Agency to identify that 'mitigation' to land after industrial use is not the same as preserving land! Comments can be emailed to: comments@SuffieldReview.ca; or by contacting:

Marie-France Therrien,
Panel Co-Manager, Canadian Environmental Assessment Agency

160 Elgin Street
Ottawa ON K1A 0H3
Tel.: 613-957-0324
Fax: 613-957-0941

The National Wildlife area at Suffield was set aside to preserve a piece of unique and rapidly disappearing native prairie. EnCana has shallow gas wells in the Wildlife Area now. Currently visible evidence of gas production on the landscape include a crisscrossing of roads that become deeply tracked over time, so new tracks are made. Mud from drilling is spread across native prairie, burying native grasses beneath and rendering it useless to the natural ecosystem. There is a large industrial yard within the Wildlife Area where cast-off well parts are stored. The destruction by private industry is already visible on these 'protected public lands'.

LETTERS TO THE EDITOR

EnCana is not satisfied with current production levels from their gas wells. They want to speed up production by adding 1,275 new well heads in a National Wildlife Area! Rather than identify that this is public land set aside as a public trust, the Canadian Environmental Assessment Registry is involved in a process of determining whether EnCana's 'mitigation plans' are acceptable! Where is the public trust in this reasoning?

Through efforts of Alberta naturalist clubs, concerns over the proposed industrialization of the Suffield Wildlife Area was highlighted. There is currently a Panel Review process. EnCana has identified how it plans to 'mitigate' its destruction of native prairie, and the Environmental Impact Statement identifies gaps in EnCana's plans to 'restore' the prairie. All of the documents presented to the panel review are available at: http://www.suffieldreview.ca/site/spip.php?rubrique3&lang=en

As you review these, keep in mind: "What is the meaning of the term Wildlife Area?" When was industrial development deemed compatible with such a designation as long as 'remediation' is satisfactory? The implication is that man can destroy and then re-create the same habitat as God…a scary presumption.

I found some of EnCana's responses to the EIS concerns quite interesting: for example, the dumping of waste from the drill sites will be spread over previously disturbed prairie (hectares of it) but will have 'negligible' environmental impact because it will be spread over Crested Wheat Grass. I wonder if research has been done on whether the muddy messes we saw as a result of similar spreading of mud does anything other than destroy what little native species are left. When we looked at these sites, it seemed to me that the only grass that was not smothered and destroyed was the occasional patch of undesirable Crested Wheat Grass. Rather than resolving an issue around invasive species, it seems that the mud spreading has the opposite effect.

If this is a done deal and it comes down to the nitty gritty of what 'mitigation' EnCana will be responsible for, we might as well ask for another piece of native prairie to be set aside as a Wildlife Preserve, and that EnCana be accountable for using their resources to solve the problem of managing Crested Wheat Grass invasion. Perhaps we can request the fringe area around Cypress Hills, as well as major drainage systems that extend from the park, be purchased as a Wildlife Area.

Please excuse the rant of an over tired, over emotional GNer who is frustrated with the power of global economics and embarrassed by the short-sightedness and arrogance of humanity.

VAIDA SIGA, PRESIDENT
GRASSLANDS NATURALISTS

ANSWERS TO CROSSWORD PUZZLE #3 (IN THE FALL *NATURE ALBERTA*)

ACROSS

1. SNOWY PLOVER
9. ADRENAL
10. CHEER
12. EMISSION
14. EXCISE
16. DOUGHY
18. GLOWERED
19. BALI
22. EMBED
23. RED NAPE
24. ARCTIC TERNS

DOWN

2. NORMA
3. WING
4. PALOMA
5. OCCASION
6. EYE-RING
7. CATTLE EGRET
8. IRON PYRITES
13. ASCEND IT
15. CROWBAR
17. FERRIC
20. AGAIN
21. EDGE

Note that contact numbers for all MLAs, MPs and political parties are easily available on their websites.

ALBERTA ISSUES IN BRIEF

STILL WAITING: Grizzly Plan

Will the Minister accept the entire Grizzly Bear Recovery plan as proposed? The grizzly DNA work (to identify how many bears are out there) will continue in 2008 and expand to the areas north of Highway 16. We encourage the Minister to ensure that sufficient resources are made available immediately to actually implement the plan. We also urge him to continue the moratorium on hunting…which really should be a no-brainer, given the 95% decline over the last century or so.

We continue to have concerns about who will be involved in the implementation of the plan and hope that it does not follow the path of the Woodland Caribou Recovery Plan that has accomplished very little in two years of implementation, due to under budgeting and lack of strong leadership by Alberta Sustainable Resource Development. (ASRD)

Local ranchers continue to shoot grizzlies – in case they might bother cattle. The petroleum industry has drilled at least 40,000 wells in grizzly habitat over the last 20 years. The EUB issues drilling permits without consultation. Vehicular access (for industry and recreation) into grizzly habitat spells doom for the bears.

It is imperative that the Grizzly Bear be declared a Threatened Species in the Alberta Wildlife Act. Because of the rapid transformation of the landscape by industry, and no additional legislated protected areas for critical habitat, this bear is under extreme threat! For more information: www.srd.gov.ab.ca.

NEW STUDY: The Horror at Fort Chip

A new study by Dr. Kevin Timoney shows there IS cause for concern regarding serious health problems in Fort Chipeywan - despite the government's shameless protestations to the contrary, and the firing of the local Medical Officer of Health for daring to report concerns.

FOR FREE! Government giveaways

Whether it is water licences, carte-blanche approvals for Energy projects (Bill 46), continuing to give away our natural resources without appropriate compensation (the new Royalty regime), or selling off Alberta government-owned lands without consulting the owners (i.e. Albertans) – the government seems very anxious to give away the province to a very select group of friends and supporters. FAN expressed concerns when the Public Lands Act was changed in 2003, and now our worst fears are coming true. Valuable prairie lands are being sold off or given away, to be dug up for potatoes, etc. And, Public Lands states emphatically that Albertans will NOT be consulted! This is governing?

BURROWING OWLS ARE JUST ONE SPECIES THAT MAY WELL BE EXTIRPATED IF ALBERTA GOVERNMENT PRACTICES CONTINUE TO PLACE LITTLE VALUE ON NATURAL LANDSCAPES. KEN KILCULLEN

ALBERTA ISSUES IN BRIEF

FOR PARKS: No Public Consultation

With well over a hundred staff in government communications services, why does Alberta Parks choose not to communicate? They avoid public input and slide changes by us. A number of Wildland Parks have become Wildland Provincial Parks…… some with hunting allowed, and some not.

One of the areas near Bragg Creek, formerly called Allen Bill Pond, is a prime example, along with the controversial web cam installation at High Island in Lac la Biche, and the sell-/trade-off without public consultation of the Astotin-Bruderheim Natural Area.

Allen Bill Pond, stocked with trout, used to be a positive family fishing experience. After the berm at one end washed out, Parks decided to do "bank armouring" instead of replacement, paved the parking lot, put up a new kiosk – all without public consultation. The armouring destroyed Bull Trout redds (spawning beds). Bull Trout are being caught and killed by folks fishing from the banks who were not aware this was now part of the river, where fishing with bait is not allowed. They didn't know because "Fishing Regulations" were not posted for 2 years. The Elbow River Bull Trout population is being decimated – while Parks staff observe from their vehicles.

This department MUST start consulting the public.

CUTS: Environment Canada & CWS

The US government spends $12.61/hectare to protect National Wildlife Refuges. The Canadian government spends a miniscule 19 cents/hectare to protect National Wildlife Areas & Migratory Bird Areas. News reports reveal that Canada's Migratory Bird Program budget has been cut by more than 40%. Funds for the Canadian Wildlife Service have been frozen, so current work cannot be done. Biologists can't even put gas in their trucks. A press release by John Baird (Environment Minister) was a classic example of "confirmation by denial". It should be noted that this methodical and focussed gutting of agencies responsible for wildlife is straight out of the Alberta playbook.

PUTIN-ESQUE: Bill 46

Bill 46 passed into law in December. In essence, the Bill eliminates the rights of Albertans to know about or have a say in what happens on, under, over or adjacent to their property, takes away their rights to object and provides industry with a carte-blanche approvals process. The Bill can remove the public from any role in opposition to pipelines from the Arctic to the USA, and remove any public debate/approval process on nuclear power plants. Bill 46 may well be one of the most corrupt, dictatorial Bills ever passed into law in Canadian history.

NEW: Website for Concerns

Albertans worried about how their public resources and lands are being managed now have a way to document their concerns. A new website offers to post information on the destructive practices of industry in Alberta. The site is called Alberta's Dirty Secrets (http://albertasdirtysecret.com.) and serves as a moderated open forum for the posting of information and personal stories documenting the impacts of forestry and oil and gas activities on the landscapes of Alberta. There are already some secrets posted — check it out.

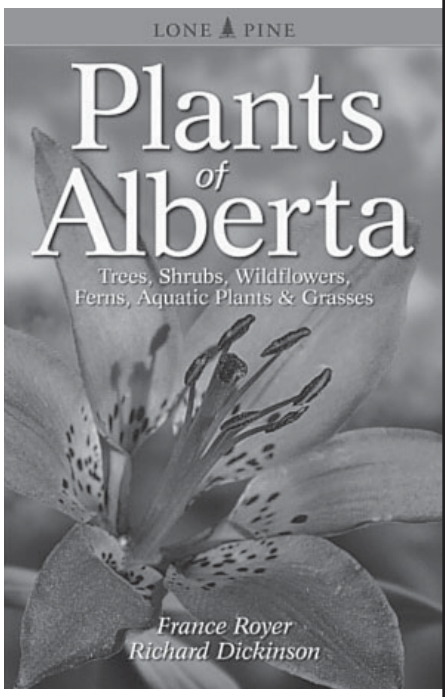
BOOK REVIEW

Plants of Alberta:

Trees, shrubs, wildflowers, ferns, aquatic plants and grasses

REVIEW BY: CATHY LINOWSKI

The range of habitat covered in this new book by Royer and Dickinson covers Alberta from alpine to grassland and everything in between.



France Royer and Richard Dickinson.
Lone Pine Publishing 2007

More than 1000 color photos are included plus notes on habitat, range, native and historical uses plus the origin of plant names. Nice features of the book:

- Photo keys to identify individual plants and plant families
- Good-sized glossary supplemented with some illustrations to explain plant terms or structures.
- Family keys – flower photo at front of book linked to more detailed description with often a line diagram immediately preceding representative plants.
- Listing of plant societies, organizations and botanical gardens or arboreta in Alberta
- Extensive reference list of books, booklets and websites.
- A good selection on common ferns, grasses and aquatics.

Pictures – some are close ups of just the flower head but not the rest of the plant. Photos are at times more artistic in style than useful for identification (flower in focus but leaves are not or leaves are very dark). At times more than one photo and inset for a plant is included. Some photos are of pressed plant specimens – color is not representative nor is the flower which is usually deformed during pressing. Photos lack size perspective. Identification features such as photos of bark or buds are often lacking.

Plant descriptions - Beginners will have to make use of the index and glossary to become familiar with the terms used. Some terms may require additional reference books to explain.

Picture keys – Unless you are trying to identify an aquatic plant you must have a flower or cone to use the picture keys. A more detailed taxonomic key is not provided – you find your plant by matching the photo to what you are looking at.

Weeds, escaped and invasive plants are included with the native plants – a good addition, since it is not uncommon to come across them. Awareness of the aggressive nature of some of these invasive plants is needed to prevent accidentally transporting seed or plant parts resulting in native species being out competed. Only some of the noxious weeds are identified as being noxious.

Some plants mentioned (eg. Sand Verbena) are not identified as being rare or endangered (SR1 or 2). A temptation for people is to collect a sample of a plant and not just take a picture.

Overall rating: A field guide is just that – a book that is of a size to easily take with you when you are out exploring. The ease of use and information contained must outweigh the energy wise cost of hauling the book along with you. After test driving this field guide on a few nature walks, I would recommend it as a nice supplementary resource for the average level-of-experience person interested in identifying plants. A beginner to identifying plants may find the lack of identification features other than flowers or cones frustrating. If flowers (or cones) are present, flipping through the pages of photos would allow a beginner to at least get an idea of what plant they are looking at or what family they might be in. More advanced or knowledgeable plant i.d. folks will find the lack of detailed taxonomic keys a challenge or impossible in regards to distinguishing similar plants. This new field guide is a nice addition to the range of other field guides already available.

Cathy Linowski's interest in plants began as a child playing in the bush near her Burnaby B.C. home. During under- and post-grad studies at Simon Fraser University, her interests blossomed into the areas of botany, ecology, horticulture, landscape design and plant pathology. Cathy worked for Alberta Agriculture, has been a regular on the CBC Wildrose Forum gardening show, and teaches horticulture classes throughout southern Alberta. In the community, she raises awareness of environmental issues, especially of endangered wild flowers. She and her husband Ron are instructors at Medicine Hat College and both love hiking and photographing native wild flowers.

 (Adapted from an article by the author originally printed in the Sagebrush Chronicle, Vol 10, #1)

Wildlife! Starring… Snow!

BY JO-ANNE REYNOLDS

Snow seems to just lie there – inert, lifeless, sterile, cold, uninviting. Don't believe it!

Snow has many forms and is constantly changing from the time it hits the ground. It may start out as a light, fluffy blanket, but as it ages, its crystalline structure changes, causing it to compact. Each successive layer of snow is exposed to different temperature and wind conditions, and may have different characteristics than layers immediately above and below it.

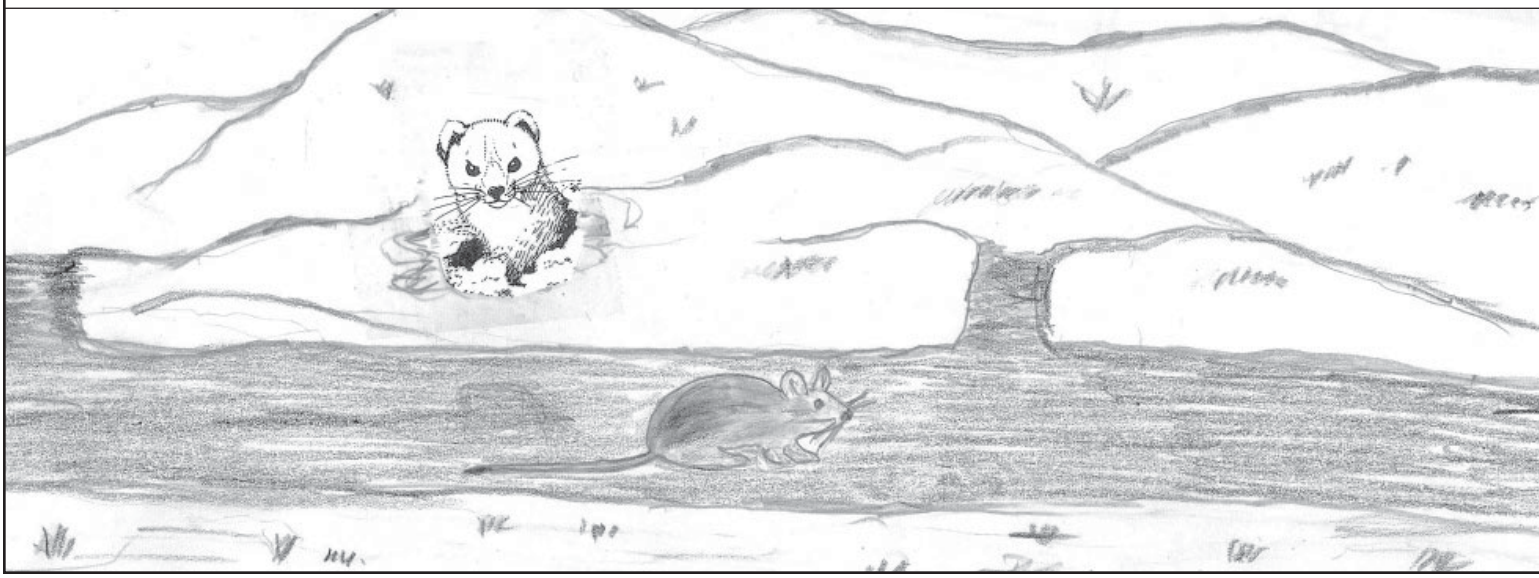
Once at least 10cm deep, snow is a good insulator. Heat from the ground melts the bottom few centimeters, creating what is called a *subnivean* (under snow) space. In this space, air temperature stays relatively constant, between about -9˚ and -4˚C, regardless of the air temperature above.

Snow can be a help or a hindrance to animals, depending on their size. Small mammals, such as shrews, mice and voles, are active all winter in the subnivean space. Being so small, they cannot grow a long, thick winter coat and are thus poorly insulated. Their heat-producing body mass is not large enough in proportion to their heat-dissipating surface area, therefore they cannot survive long when exposed to extremely cold temperatures. The relative warmth of the subnivean space is crucial to their survival. The time between the onset of cold weather and the build-up of adequate snow cover is a challenging one for small mammals. Areas where snow cover is very shallow, patchy or intermittent, such as windblown shortgrass pastures, are not suitable winter habitat.

As the winter months pass, carbon dioxide starts to build up in the subnivean space. So, to allow fresh air in, mice and voles sometimes dig ventilation shafts to the snow surface. These shafts can be useful to predators such as foxes, who can catch scents and listen for the sounds of activity under the snow – then pounce through it to get a meal. Smaller predators such as weasels can easily slip under the snow and capture small mammals in their tunnels.

Late in the winter, pocket gophers will tunnel through the snow, lining their tunnels with soil excavated from their burrows. When the snow melts, the soil castings remain on the ground surface, showing where tunnels were located.

ROSE BARESCO



A PATIENT RED FOX LIES IN WAIT DAVE FAIRLESS

Larger animals, such as hares, cottontails, grouse and ptarmigan are large enough to be able to remain active above the snow, although they may use it for insulation when bedding down. Hares and ptarmigan are especially well adapted for winter, camouflaging themselves by moulting their brown fur or feathers for a coat of white. The timing of this moult is not within these creatures' control and is independent of actual snow cover. Thus, there may be times when they are white, but the ground is not, particularly in the case of the White-tailed Jackrabbit, which inhabits the grassland. At these times, their "camouflage" is at a severe disadvantage.

Being fairly light in weight allows these animals to walk on top of the snow, unless it is very soft. Some even have snowshoes! Ptarmigan have feathered feet, and grouse grow pectinations – comb-like structures on the edges of their toes. These serve to increase the surface area of the birds' feet. The Snowshoe Hare, as its name implies, has large, furry hind feet, and spreads its toes as it moves, giving it a characteristic snowshoe-shaped footprint. As the depth of the snow increases, rabbits and hares can reach further up into shrubs to obtain fresh supplies of food. As well, these "snowshoes" can give them an advantage over larger predators such as Coyotes, who sink farther into deep snow and cannot travel quickly. This advantage is lost if the snow crusts over, or if it drifts hard enough for the Coyotes to travel on top. Lynx, however, have oversized, furry feet as well, and can pursue Snowshoe Hares across the top of the snow.

Deep snow can be a serious hindrance to large mammals, especially ungulates like deer, Elk and Pronghorn. Their hoofs are small and cannot support their weight on top of the snow. They must "wade" or leap through areas of deep snow, or avoid them if possible. Belly-deep snow is enough to severely impede them. The effects of the energy drain resulting from moving through deep snow are compounded by the scarcity of food. When the snow is deep, deer tend to utilize the same trails regularly to keep them trampled down. Moose and caribou are better adapted for mobility. Caribou have very large, splayed hoofs that act as snowshoes. Moose move their feet vertically – like pistons – as they walk, pulling them up out of the snow and setting them down again; this method uses less energy than pushing their legs through the snow.

Crusty snow is also a problem. If the crust is thick and icy, it is difficult to walk on, and a crust that is thin enough to break through can cut an ungulate's legs. Large areas of hard, crusty snow are especially difficult for Pronghorn, who must break through it to feed. The diets of deer change in the winter to buds and twigs that are accessible above the snow.

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Exploring Nature in Winter, by Alan M. Cvancara

The Mammals of Canada, by A. W. F. Banfield

Turkey Vulture Studies in East-Central Alberta, 2003-2007

Turkey Vulture Update

BY R. WAYNE NELSON, FLOYD KUNNAS, AND DAVID MOORE

By following up on numerous reports of flying or perched vultures, we increased the number of active vulture nests that we visited from nine in 2003 (Nelson et al. 2004) to 19 in 2006 and 2007. The vultures had many interesting stories to tell.

VULTURE DISTRIBUTION

Our study area is roughly north of Highway 11 (through Stettler) and east of Highway 2 (through Edmonton). The actual area with known vulture nests in east-central Alberta widened considerably during this 5 year period, but still was a very rough triangle, from the Saskatchewan border near Chauvin, to Edmonton, then northeast to Fork Lake and east to Cold Lake, and south along the Saskatchewan border to near Chauvin. One additional nest in 2006-2007 was east of Stettler. We received no reports of vultures anywhere near the nest sites of the early-mid-1900s at Ministik, Miquelon, and Astotin Lakes. Our farthest west nest site was between Star and Waskateneau. Our farthest north nest was located in 2006 near Fork Lake, at about the same latitude as the previous most northerly reported vulture nest in North America, in the late 1970s in Cold Lake Provincial Park (Richard Klauke, pers. comm.). A number of vulture sightings were in the Lac La Biche – Athabasca area, especially at cormorant and pelican nesting islands; colleagues checked many old buildings in that area but found no nests – yet. Possibly some vultures are nesting in the brush and nettles on those islands; if found, they would shift the boundary of the breeding range considerably northward. Sightings strongly suggest that nesting also occurs east of Viking, near Provost, and in or near Cold Lake Provincial Park, plus at several other "in-fill" locations amongst the mapped nesting sites.

NEST STRUCTURES

All of the nests that we found were in abandoned houses or farm buildings, usually in the attics or lofts, although two were in ground-level mangers with access via windows. In 2006, FK may have located a non-manmade nesting site when he found large, white, down feathers, probably from a near-flying vulture nestling, at the entrance to a tunnel into a tall, dense tangle of stinging nettles and fallen-logs on a cormorant nesting island; we plan to check this site (very carefully!) in 2008.

Although they are huge and sometimes very conspicuous birds, adult vultures are extremely secretive near their nest sites. (However, a landowner saw 4 vultures on the roof of his nest building on June 4, while incubation was still underway -- what was going on there?!) None of their nest buildings were visible from active farmyards or houses. Several nests were within 100m of, and visible from, active rural roads and even busy highways. However, vultures were rarely reported by others or seen by us at those locations, despite their courting in the spring, flying to and from their incubation duties

OPEN-WINGED THREAT BY AN APPROX. 54 DAY OLD NESTLING. 2 SEPTEMBER 2007, SW OF UKALTA WAYNE NELSON

and feedings of nestlings, or practicing flying skills in late summer and fall. Discovering new nest sites was very difficult and relied almost entirely on chance observations and reports from the public and Fish and Wildlife staff.

NEST PRODUCTIVITY

Table 1 shows the known history and production of each nest for 2003 – 2007. Productivity per successful nesting pair was 1.78 young (n=67). We found no broods of three. About half of the nests were visited only once, relatively late in the nestling phase. The other half of the nests were visited more than once, but only very rarely was a nest visited during incubation. Table 1 indicates nests where (1) an abandoned egg was found later in the season, i.e., the incubating pair failed, (2) a clutch of two broken eggs was found in August, (3) a brood was reduced to one just after hatching (probably due to a rainy week), and (4) another brood was reduced to one just after hatching (probably due to that same rainy week) and then to zero when the first-hatched nestling died at roughly 4 weeks old (probably due to starvation; carcass found in August). Perhaps these are only hints of the numbers of pairs that tried but failed completely and left no evidence before our usually late-season visits. At our visits to most of the previously-active nest sites, we were able to search for freshly molted adult feathers or fresh nest scrapes (if the substrate was soft, e.g., shavings) that might indicate that vultures were present earlier in the current year, but even that evidence did not tell us whether vultures actually started a nesting effort there, or simply checked out that building but nested at an unknown location nearby, or…. As a result, no figure could be estimated for "productivity per nesting pair".

The nesting season of 2007 had fewer nestlings per brood and numerous vacant nests. For 2003 to 2007 the ratios of broods

Turkey Vulture Update…continued

TABLE 1 Turkey Vulture nests in east-central Alberta. Occupancy and productivity, 2003 – 2007

Number of young (Y) produced to near, or past, fledging age.

Known loss of young (Y) or eggs (E) is indicated by arrow (->). Failure indicated by 0.

Blank = nest unknown, or not checked in that year.

----- = checked, but no eggs or young .

Shaded = building first used (from amount of 'whitewash', or information from neighbors)

Location\Year	2003	2004	2005	2006	2007
Fork Lake			2Y	2Y	2Y
Sandy Rapids				2Y	1Y
Beaver River	2Y[a]	2E->0	-----	2Y	1Y
Ft. Kent					1Y[a]
Ernestina Lake	2Y[a]	2Y	1Y[b]	2Y	1Y
Angling Lake	2Y	2Y	2Y	2Y	-----
Hoselaw	prob. occupied	prob. occupied	2Y	1Y	2Y
Bonnie Lake					2Y[a]
Chickenhill Lake		2Y	2Y	2Y	2Y
Hamilton Lake			2Y	-----	-----
N of Star		1Y	1Y	2Y	2E->0
SW Ukalta				2Y	2Y
Fern Chapel	prob. occupied	prob. occupied	prob. occupied	2Y	1Y
Spring Park	2Y[a]	2Y	1Y->0	-----	-----
Therien Lake					1Y
Armistice		0[c]	2Y	2Y->1	2Y
S Brosseau[d]	-----	-----	-----		-----
E SPGR	-----	1Y	-----	1Y	-----
Tulliby Lake		-----		-----	2Y
Hairy Hill	2Y	2Y	2Y	2Y	2Y
N Sask. River	2Y	2Y	2Y	2Y	2Y
Death River[e]	-----	-----	-----	-----	-----
Primula			2Y[a]	2Y	2Y
S Two Hills	unk Y	2Y	2Y	2Y->0	-----
N Wainwright	1Y	E->0	-----	-----	-----
Chauvin 2	2Y	-----			-----
NE Chauvin[f]	2Y	1Y	-----	2Y	-----
NW Chauvin[g]				2Y	2Y
Halkirk				2Y[a]	2Y
Yng /successful sites	17 / 9	17/ 10	22 /12	33 /18	30 /18

[a] Not the first year of use for this building.

[b] One fledgling flew from roof as we arrived, possibly another unseen nearby.

[c] Two vultures regularly seen here in early summer; no evidence of nesting.

[d] Occupied 1994, nestlings died. Not occupied 1995, 1999, 2001, 2002.

[e] Report of 2 eggs and dead adult in 2002, 2 adults in 2004. Fresh feathers in 2005 and 2006.

[f] Probably occupied in 1999.

[g] Occupied 1987, and apparently most of 1990s and early 2000s.

of two nestlings to broods of one were 8:1, 7:3, 10:2, 15:3, and 12:6; 2005, and especially 2007, had many broods of one. From one earlier year to the next, one, four, and two active nests went vacant, and from 2006 to 2007, four nests went vacant; 2005 and 2007 had numerous vacancies. Stuart Houston and colleagues in Saskatchewan (pers. comm.), with their much larger sample size of vulture nests, similarly in 2007 had numerous nests with only one nestling and numerous vacant sites. Perhaps the poor showing by our vultures in 2007 was related to poor spring weather and somehow related to the very poor production in 2007 of Peregrines on the northern Queen Charlotte Islands, B.C. (RWN pers. obsn.), and of Peregrines and Spotted Owls near the Washington coast (T. L. Fleming pers. comm.). Over the long term, these sorts of data from our vultures might be shown to be connected to El Nino or the Pacific Decadal Oscillation.

NEST SITE TENACITY, POPULATION INCREASE, AND POPULATION SIZE

One to four of the active sites from each year was/were not occupied in the following year. Some were re-occupied in subsequent years. For, example, the Beaver River nest failed in 2004 during incubation as a result of a leaky roof and soaked substrate, was vacant in 2005, but was productive in 2006 and 2007, and ESPGR had a gap in production of a number of years, then produced

ONE NESTLING RECENTLY HATCHED AND STILL WET, AND ONE EGG PIPPED. 13 JUNE 2006, NEAR ARMISTICE WAYNE NELSON

a single youngster in 2004, then was vacant, again had a single youngster in 2006, and was vacant in 2007 (perhaps because of a leaky roof). In two cases in Table 1, from one year to the next the vultures were found to have moved 200-300m to nearby abandoned farm buildings. In the years with no production shown in Table 1, were those vultures nesting in unknown alternate nest locations somewhere nearby? These gaps in nest use may represent several scenarios: early nesting failures that are undetected by our late visits, the loss of a member of the breeding pair perhaps during migration or early in the season, a shift to an alternate (unknown to us) nest site nearby, or the pair "taking a year off" because of very bad spring weather or other causes.

At four productive sites that were new to us in 2007, two of the sites had copious amounts of "whitewash" that showed that they had been used by vultures in one or more previous years, whereas the minimal amounts of "whitewash" from the nestlings at the other two sites showed that those buildings had not been used by vultures before. At one site that we became aware of, the nearby landowner reported that the site had been used by vultures regularly for at least 10 years. Table 1 shows that in most years 2-3 new nest sites are found that have not been used by vultures previously. These nest site occupancy data, plus other observers' more frequent observations of vultures in recent years and our own more frequent observations in our relatively routine travels, suggest that this vulture population is expanding.

It is tempting to speculate on how many nesting pairs there might be in our study area. At the end of the 2007 nesting season, we think it is presumptuous to suggest that we now know of one-quarter of the active nests of this secretive species in this huge study area. If that is indeed the case, then this study area might contain 80 or more pairs of vultures, a very sobering, humbling number for any field-naturalist to contemplate!

NESTING SEASON PHENOLOGY

Turkey Vultures' spring arrival in east-central Alberta was in early-mid April (April 13 was our earliest report). In late summer we have evidence that several broods continued to use their home buildings as night roosts for 3-4 weeks after they fledged, and perhaps until they migrated. Although still poorly recorded, most vultures seemed to leave this area on their long southward migration to Central and South America in late September or early October.

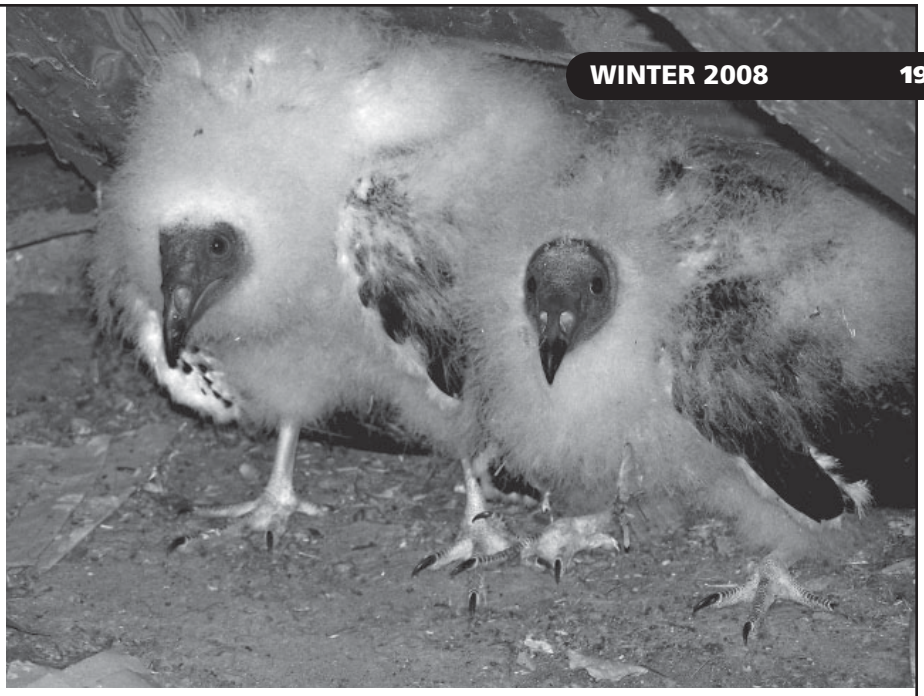
Turkey Vulture Update…continued

However, we had one reliable report from near Vilna in mid-November and another from just north of Lac La Biche (on a road-killed deer) in mid-February!

Ritter (1988) provided a basic set of known-age photos of a brood of three nestling Turkey Vultures from a nest in California. Those photos compared favorably with those that we had from most of our 100+ nest visits. Our visits and photos included three nests in which we knew the exact dates of hatching of one or both nestlings. Also, we obtained more than one set of aging photos from about half of the nests because our first visit was far in advance of fledging and a follow-up visit was needed to confirm the number of near-flying-age nestlings that were produced. We believe that, with care, our set of known-age photos allowed us to age nestling vultures within +- 2 days.

AT ABOUT 60 AND 62 DAYS OLD, THESE NEW FLEDGLINGS WEREN'T STRONG ENOUGH YET TO FLY BACK UP TO THEIR ATTIC WINDOW, BUT A DOWNSTAIRS WINDOWSILL WOULD BE A SAFE PLACE TO SPEND THE NIGHT. 15 AUGUST 2005, NEAR HAIRY HILL. WAYNE NELSON

By back-dating using known-age photos of nestlings, we calculated the hatching dates and egg-laying dates, and projected forward to estimate the fledging dates. At the three broods that we observed at hatching, the second nestling appeared to, or did, arrive two days after the first. This asynchronous hatching appeared to occur throughout our area. In 28 broods of two nestlings, there was a conspicuous difference in feathering between the brood-mates that corresponded to two days of development. Eight broods deviated from this – the second nestling was one day behind (n=1), three days (n=4), four days (n=2), and six days behind (n=1). In order to make estimates, we assumed that Egg 1 and Egg 2 were separated by about two days, and we used 40 days as the time required for incubation of each egg (eggs laid one to three days apart, 38-40 days for incubation - Kirk and Mossman 1998). In one instance a vulture made its first flight from its nest building by 60 days of age. A number of recently fledged vultures were found in nearby low trees or on the roof of buildings by 62 and 64 days of age. Others, at the same state of feather development, were still inside and clearly had not yet made their first flights. In contrast, in a few buildings we found very well-feathered young vultures, with extremely little or no down visible on their bodies.



SHOWING OFF THEIR DOWNY FINERY, AT APPROX. 41 AND 43 DAYS OLD. 21 JULY 2005, NEAR ANGLING LAKE. WAYNE NELSON

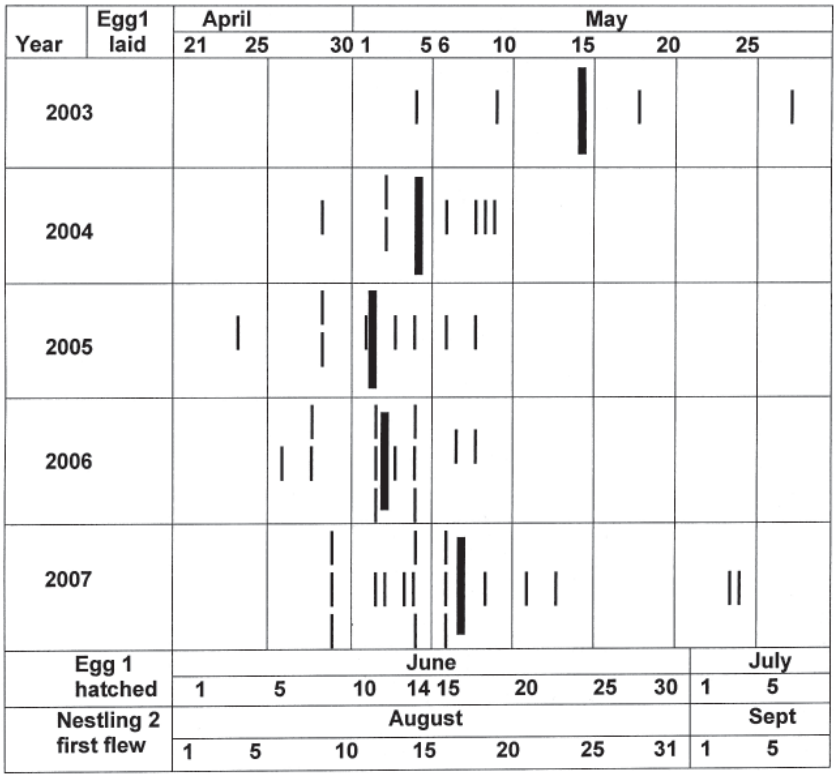
Some of these buildings had high windows and may have been difficult to exit until the nestlings were older and very fully feathered, but in two cases we probably arrived at the building and temporarily trapped an already-flying young bird that by chance was paying a return visit inside its home.

Figure 1 shows the considerable variation that occurred in the estimated dates of laying for Egg 1 at the vulture nests. The estimated hatching dates for Egg 1 occurred 40 days later, followed in two more days by the hatching of Egg 2. Figure 1 also shows the earliest possible fledging dates (at 60 days old) for single nestlings (if a nest had only one) or for the second-hatched nestling. Through the five years, clutch initiation averaged May 5 (range April 24 to May 27), hatching of Egg 1 averaged June 14 (range June 3 – July 6), and fledging of the second nestling (at the earliest, 60 days) averaged August 15 (range August 4 – September 7). From the laying of Egg 1 until the earliest possible fledging of the second nestling took at least 102 days!

While from Figure 1 it appears that, on average, egg-laying began slightly later in 2007 and much later in 2003, the

FIGURE 1 Estimated laying dates of Egg 1, hatching dates of Egg 1, and earliest fledging dates of Nestling 2, at Turkey Vulture nests in east-central Alberta, 2003-2007.

Each small bar shows the estimated date of the event at one vulture nest.
The large bars show the average date for each year.



Turkey Vulture Update…continued

two latest clutches in both of those years provide interesting speculation. In 2003, the clutches initiated on May 18 and 27 were in buildings that, because of minimal whitewash, had not had vulture broods previously. Assuming the same females were present in the next three years, the clutch initiation dates for those nests shifted from May 18 at Angling Lake to 10, 20, and 14 days earlier, and from May 27 at Hairy Hill to 17, 22, and 29 days earlier. In contrast, however, the Chickenhill Lake and Armistice sites also were observed in their first year of occupancy of those buildings, but in the next year those sites showed no such dramatic shift to earlier nesting. Based on these limited observations we speculate that at least some female vultures in their first year of breeding lay their eggs very late. In 2007 the two very late clutch initiation dates similarly may represent first-time breeders, but at previously occupied sites. The Beaver River site produced its 2007 clutch 22 days later than in 2006, and the SW Ukalta site produced its 2007 clutch 27 days later than in 2006. Observations of marked or otherwise recognizable vultures will be required to prove that such very late nestings are by first-time egg-laying females.

When those four extremely late nestings are excluded, in 2003 – 2007 almost all of the clutches were initiated during the last five days of April and the first ten days of May.

In May and June in several years, we had reports of good sightings of vultures with black or dark gray heads, often perching with vultures which had the typical red heads of adults. This suggests, contrary to the best literature (e.g., Henckel 1981, Kirk and Mossman 1998, Wheeler 2003), that not all Turkey Vultures' heads turn to pinkish or reddish during their first winter or spring.

FUTURE STUDIES

We plan to continue our vulture investigations for a number of years. **We encourage naturalists and others to report all vulture sightings in central and northern Alberta, whether flying, perching, feeding, adults courting on rooftops in the spring, or fledglings in windows or on rooftops Aug-Sept. Please report all sightings (date, location, activity) to your local Fish and Wildlife office for forwarding to us, or to the authors directly (information below).**

ACKNOWLEDGEMENTS

We are most grateful to the public and Fish and Wildlife Division staff for their numerous reports of vulture sightings. We are especially grateful to the many landowners and lessees for permission to search their old buildings for vulture nests, and for allowing those unique pieces of wildlife habitat to continue to stand.

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Turkey Vulture Update…continued

Sightings of green wing-tagged vultures (tagged in Saskatchewan): report date, exact location, and the white ID # to:

C. Stuart Houston, 863 University Drive, Saskatoon, SK S7N 0J8.
Tel: 1-(306)-244-0742 before 9 p.m. CST.
E-mail: stuart.houston@usask.ca.

Sightings of red, and light blue, wing tags (tagged in our winter in Venezuela): report date, exact location, ID#/color, left or right wing, circumstances of observation (e.g., bird alone, in group, flying, perched, feeding, roosting, etc.) to:

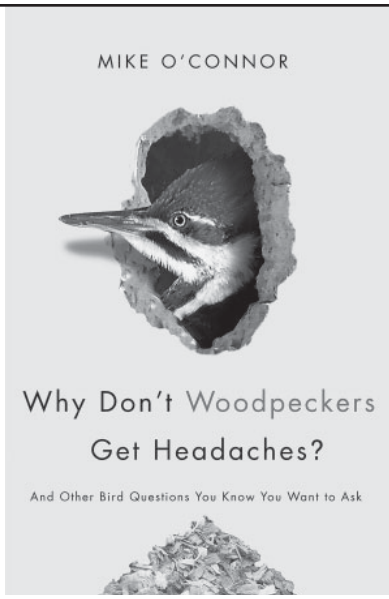
Keith Bildstein, Hawk Mountain Sanctuary Acopian Center for Conservation Learning, 410 Summer Valley Road, Orwigsburg, PA 17961. Tel: 1- (570)-943-3411 ext. 108.
E-mail: bildstein@hawkmtn.org.

BOOK REVIEW

Why Don't Woodpeckers Get Headaches?

REVIEW BY: GARRY NEWTON

Mike O'Connor owns a bird-watching store on Cape Cod, Massachusetts and writes a popular birding column appearing in several newspapers. This engaging volume is a collection of questions posed by enthusiastic readers, and Mr. O'Connor's frequently amusing and invariably informative replies.



Mike O'Connor. Fitzhenry & Whiteside. 2007

Most of the questions fielded by the author were evidently submitted by ordinary people who were curious about the birds visiting their gardens and their seemingly inexplicable behaviour, or who wished to know how to attract and protect birds. Many of the questions are elementary. Some of the most curious and provocative were sent in by children. Nearly all these writers, I suspect, genuinely needed to know the answers, and I found myself hoping that Mr. O'Connor would help them out and turn them into naturalists. Judging by his continued popularity, that is exactly what he has done over more then twenty years. Well done, Mr. O'Connor!

Mr. O'Connor presents his facts and theories clearly and enthusiastically, with the confidence of a very knowledgeable man. He is also very patient and will tackle a seemingly frivolous question with the same close attention as any other. Obviously many of his readers are not yet birders, but I suspect his educational skills have already boosted the number of birders in his area. Such people are invaluable. His subjects range from flight speeds, roosting behaviour, moulting, Christmas Counts and the Brylcreem Gland, to bird box maintenance, what to put in your backyard feeders and why some very proper Bostonian dowagers founded the first Audubon Society, in the late Nineteenth Century, an accomplishment that continues to benefit us all to this day.

But this book isn't only for novices. Any well-informed birder or naturalist will find plenty here to interest and occasionally surprise. The volume is attractively produced, and reasonably priced at $14.95 (Cdn). It has been illustrated by Catherine E. Clark, whose graphite drawings closely complement many of the letters/replies.

One of the reasons for the popularity of Mr. O'Connor's newspaper column must certainly have been his light-hearted and occasionally wicked sense of humour. He enjoys poking fun at some of his readers' questions, and also at some of his own responses. He is breezy, sometimes a little sarcastic, and often very folksy. Why does he like chickadees so much? "They are so stinkin' cute." Such a whimsical approach may be terrific in a weekly column, but is less successful in a compilation of this kind, where it tends to wear thin with repetition. But that's my only objection, and it's a mere quibble. This is a book to browse through for pleasure and insights, perhaps three or four letters at a session, and to share Mike O'Connor's unbridled enthusiasm for birds and his very wide-ranging expertise. Why Don't Woodpeckers Get Headaches? would make an excellent gift for a novice birder or a full-fledged twitcher.

Garry Newton is an artist, writer, birder, wit, raconteur – not necessarily in that order – and producer of Newton's Occasionally Cryptic Crossword, found in each issue of Nature Alberta.

In Memoriam

BY STAN GOSCHE AND TERRY THORMIN

DAVE NADEAU "BIRDING FOR WARBLERS"; AUG 2007

Dave will be missed and remembered for many years to come.

Dave Nadeau

*Dave's love and enthusiasm for **birding** rubbed off on us all.*

David Daniel Nadeau, of St Albert AB, left us suddenly November 4, 2007.

He led many field trips for the Edmonton Nature Club, and introduced throngs of birders to the St. Albert and Big Lake areas. He greeted everyone with a smile, and engaged all those he met in the field with genuine conversation. He had a natural ability for making everyone feel comfortable, regardless of their abilities, and always found time to share his knowledge and expertise. Dave was everyone's best friend.

Dave's love for the outdoors, especially birds, took him all over the U.S.A. and Canada, as well as trips to Germany, Mexico and Costa Rica. His pride though, was in adding to his Alberta life list, and challenging himself and others in pursuit of yearly and seasonal lists. From Cold Lake, to Cypress Hills and Waterton, he covered Alberta every year, looking up friends all along the way.

Dave was a proud supporter of many aspects of nature, including:

- The Federation of Alberta Naturalists
- Bird Studies Canada
- Christmas Bird counts in Edmonton, St. Albert and Lake Wabamun
- Edmonton Nature Club
- Big Lake Environmental Support Society
- The Wildbird General Store's Junior Birders Program
- Sir Winston Churchill Park,
- Lac La Biche May Species Count

Our Hero Ruth!

In the January 2008 edition of the Readers Digest, FAN Appointed Director, Ruth Kleinbub, from Fort MacMurray, was acknowledged as one of the "Heroes for 2007." Ruth recently returned from Bali where she represented FAN at the International Climate Change Conference. She will be submitting an article to *Nature Alberta* on the conference.

Up Close Naturally:
Keeping Warm

BY MARGOT HERVIEUX

With winter now securely settled, I got thinking about how animals, from chickadees and squirrels to ravens and Moose, manage to stay warm in this weather. Insulation of some sort is important but a variety of other tricks are used as well.

The most obvious strategy for keeping warm is to increase the amount of insulation. A thick, fluffy coat of fur or feathers traps more air and does a better job of keeping heat in. Mammals and birds add extra fur and feathers for the winter. Also, you will notice that birds fluff up on cold days to make their insulation thicker.

Humans don't have much insulation, except perhaps a bit of fat, so we borrow from other creatures. Peoples in cool climates have always used fur but we also fill coats and quilts with the down feathers of waterfowl and create sweaters, hats and mitts from the wool of sheep, goats and Alpaca.

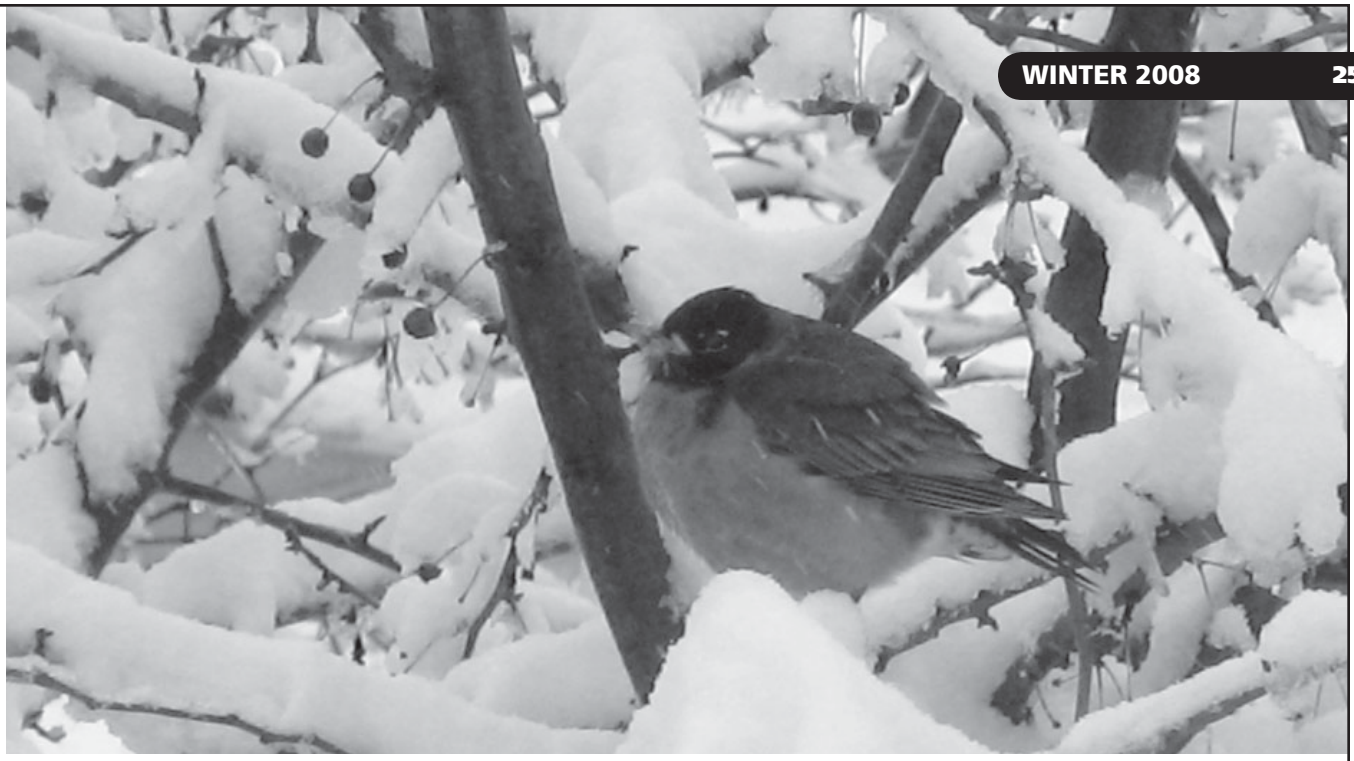
In addition to keeping heat in, animals also have strategies for making heat and keeping that heat where it is needed most. Body systems change with the oncoming winter, increasing an animal's ability to produce heat. Animals also eat more often and choose high energy foods as the weather gets colder.

Our fingers and toes get cold first because our bodies are trying to keep our vital organs warm. Many birds go one step further and actually have a heat exchange system in their legs. The arteries and blood vessels that go in and out of the legs pass close to each other so that the heat in the blood heading into the feet can be transferred to the returning blood rather than being lost.

Creatures like Moose would lose a lot of heat if they tried to keep their feet warm; frozen fat and tendons don't move well. Moose solve this problem by increasing the amount of unsaturated or liquid fats in their feet so that everything stays mobile. Neat's-foot oil in cattle feet plays the same role.

Taking advantage of shelter is also an important way to stay warm. Many animals spend the night in dense brush or conifers while others, like the Red Squirrel build winter nests. Around town you will also notice birds sitting on chimney tops and around building vents. Ravens and Snowy Owls also like to sit on top of lit street lights, and finding a sunny spot first thing in the morning also

Up Close Naturally will be a regular feature column by Margot Hervieux, the FAN director for Peace Parkland Naturalists and Visitor Services Specialist for Alberta Parks. Her column first appeared in the Peace Country Sun. Archived copies of past columns are available at www.peacecountrysun.com.



FLUFFING OUT FEATHERS TRAPS HEAT, KEEPING EVEN SUMMER BIRDS, LIKE ROBINS, WARM BONNIE MULLIN

helps to get over that night-time chill.

Roosting together is another way that birds can conserve heat. During the winter, chickadees will spend the night huddled together in an old woodpecker hole while Ravens will snuggle side-by-side on a sheltered perch. Some small birds, including chickadees, will also lower their heart rate and body temperature while they sleep to reduce the amount of energy they use.

Every year there are reports of summer birds spending the winter in northern areas instead of heading south. Insect-eaters and water birds have more trouble finding food if they accidentally stay the winter but fruit-eaters like Robins and seed-eaters like sparrows and blackbirds usually manage quite well, especially near cities and towns.

It is hard for us to imagine living outside all winter, but our native wildlife has been thriving for thousands of years. Surviving our winters can certainly be a challenge but, thanks to a variety of adaptations, people and other animals make it work.

FEATURE ARTICLE

Will Beaverhills Lake ever regain its former greatness?

BY DICK DEKKER

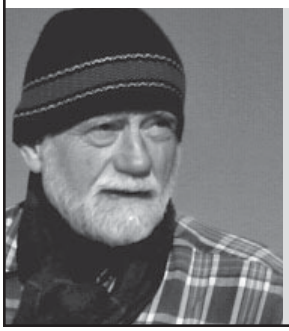
Beaverhills Lake has been known to fluctuate ever since the region was settled a century or so ago, but its water levels have never been as low as during the past decade. By September 2006, the once 140km² lake had dried up completely.

In the spring of 2007, a bigger than average snow run-off brought the lake back up to about one third of its former size. However, due to its shallowness the evaporation rate has remained high, and during the past summer the lake gradually shrank back, exposing a wide margin of mud.

As in past years, I have monitored the water levels from early April onward, taking my clue from a large boulder on a stony point along the east shore. In May 2007, the 40 cm high rock was totally submerged. By late September, the water had dropped enough to expose all of the stone.

What the lake will do next is a matter of interest to many, including the owners of shoreline pasture, waterfowl hunters, and birdwatchers, who used to come from far and near to enjoy the Tofield Snow Goose Festival. Most local conservationists seem to think that one or two additional wet years will bring the lake back up to what it was like in the 1970s and 1980s. But I have my doubts, because quite apart from the climatic factors, this internationally acclaimed wetland has been damaged by 35 years of upstream water diversions.

To restore the lake, some people have suggested that upstream water permits should be cancelled. Another idea is to bring in a pipeline from the North Saskatchewan River. Apart from these, no doubt controversial, initiatives, the only way Beaverhills Lake can ever regain its former size is through a winter with fencepost-deep snow followed by a monsoon summer. This ultimate solution is up to Mother Nature, in her own time and in her own unpredictable and often heavy-handed way. It happened in the past. There were major floods at the turn of the last century. In 1899 and again in 1915, the North Saskatchewan River rose thirteen metres over normal. Historic photos show the Edmonton communities of Walterdale and Cloverdale under one metre of water. In 1912, Beaverhills Lake was brimful



Dick Dekker was born and educated in Holland. At the age of seventeen, he began writing – and selling – stories about wildlife in his native country. Dick emigrated to Canada in 1959. He is an internationally well-known writer on wildlife issues, with 225 titles in Dutch and 175 English titles (including many on Beaverhills Lake) in a great variety of print media, as well as four scripts for television documentaries. He has canoed northern Saskatchewan and the Yukon (where, on a wilderness trip, he almost lost his life) and studied the large mammal system in Jasper National Park for over forty years. His observations of Beaverhills Lake have been ongoing since 1964. He is currently writing a doctoral thesis on the hunting habits of peregrine falcons at the invitation of a Dutch University (see pg 30).

ON SEPT 1, 2006, THE LAST SHALLOWS HAD FALLEN DRY BRIAN GENEREUX

to overflowing. Long-time Tofield reeve John Warner relates how his immigrant parents, driving a horse-drawn wagon, had great difficulty finding the bridge that crossed the outlet at the north end, which was inundated by the spring flood. The lake stayed high during the 1920s, when a steamboat plied its vast expanse and local farmers caught wagonloads of pike and whitefish in the creeks connecting Beaverhills to Hastings, Cooking, and Miquelon Lakes.

Could it happen again? Or are today's precipitation levels much below those of earlier years? To determine how much the Edmonton area receives in the form of *aqua pura* – this most precious and elemental natural resource – I researched the records listed on Environment Canada's website and going back 124 years to 1883. The data for the most recent years, 2006 to 1961, are from the meteorological station at the Edmonton International Airport. For pre-1961 information, I had to rely on the records collected at some point within the city. Over time, the expanding metropolis has undoubtedly affected its own ambient temperature as well as urban precipitation, but the earliest Edmonton weather should be much the same as its rural environs.

Of course, daily amounts of rain and snow can vary a great deal between localities only a few miles apart. There is also a bit of uncertainty about old records on account of the methods used to convert snow into water. As a rule of thumb, ten centimetres of the white stuff equals one centimetre (ten millimetres) of liquids, but in actual fact the moisture content of snow varies, making visual estimates imprecise. Nevertheless, the occasional small mistake is levelled out in the long series of data amassed by the professionals and volunteers working for Environment Canada.

124 years of Edmonton weather records show that annual precipitation and temperatures have not changed much if at all.

Environment Canada's website includes annual precipitation totals for Edmonton from 2006 down to 1883. The all-time mean is 454 mm per annum. From year to year, the data differ significantly, with the highest amounts at 745 mm and the lowest at 207 mm. Both of these extremes were measured a century ago, respectively in 1900 and 1889. Apparently, the weather was just as capricious then as it is nowadays.

The data also show that precipitation levels of the most recent years were indeed on the low side. In fact, the second lowest annual total of only

Will Beaverhills Lake ever regain its former greatness?. . .continued

267 mm fell in 2002. This is the year Albertans remember as the bad one, with withering crops south and east of Edmonton, trees dying, and pastures turning to dust. Moreover, precipitation in 2001 and 2003 was also below average.

Before concluding that the recent years have been unusually dry from a long-term perspective, I organized the records into twelve blocks of ten years each. The differences are now insignificant and all ten-year precipitation averages are close to the long-term mean of 454 mm per annum. Furthermore, seven decades received more than 454 mm, and five a bit less. The highest amount of 517mm dates from 1900-1909. But the preceding decade, 1890-1899, had the lowest annual precipitation, namely 427 mm.

The most recent ten years, 2006-1997, received a below average of 436 mm per annum. This is more than in the 1890s and 1920s and only 3 mm less than during the 1960s. The conclusion is clear and unequivocal: the most recent ten years were dry but not exceptionally so.

The 124 years of precipitation data were analyzed statistically by a mathematician. He reports that the regression line is flat with three cyclic highs, roughly 40 years apart, and the current period is on the down side. Of course, there are other factors that can worsen a drought, namely wind speed and temperature, which influence evaporation rates. Were the recent summers perhaps hotter than in the past? In view of the current focus on global climate change, the topical question here is this: Has central Alberta's weather actually become warmer?

For an answer, I again resorted to the meteorological records for the past 124 years as listed on the Environment Canada website. They give the average minimum and maximum daily temperatures for each month and each year. Here are the data for the most recent ten years, 2006-1997, recorded at the Edmonton International Airport. The mean minimum was 2.7˚C, and the mean maximum 9.1˚C

This compares to 2.8˚ and 8.9˚C for the fifty earliest years that have complete

IN 1982, THE CANADIAN NATURE FEDERATION DECLARED THE LAKE A NATIONAL NATURE VIEWPOINT; BRASS SIGNS WERE PLACED AT FOUR ACCESS POINTS. ABOVE: THE SOUTHEAST BAY, VIEWED FROM THE DAM WHICH WAS BUILT ACROSS THE AMISK CREEK INLET BY DUCKS UNLIMITED CANADA. MUD FLATS BEGAN TO APPEAR IN THE LATE 1880S. DICK DEKKER

THE SOUTHEAST BAY WAS A FAVOURITE DESTINATION FOR BIRDWATCHERS UNTIL IT BEGAN TO FALL DRY DURING THE 1990S. TODAY, ALL YOU SEE HERE IS A VAST EXPANSE OF REEDGRASS. DICK DEKKER

records, beginning in 1890. The differences are minuscule, respectively just one-tenth and two-tenths of one degree. Evidently, based on these official and unassailable data, the most recent decade was definitely not warmer than a century ago.

The above findings suggest that there must have been additional reasons why Beaverhills Lake dried up completely in 2006 – reasons that have to do with the human uses of upstream water, that were superimposed on the drought, and implemented without due consideration for the downstream losses to the lake.

FROM FAMOUS TO FORGOTTEN

In its better days, Beaverhills Lake received a lot of acclaim. In 1982, the Canadian Nature Federation designated it a National Nature Viewpoint. In 1987, the Alberta government declared it a Wetland for Tomorrow in the context of the North American Waterfowl Agreement. In the same year, the lake was added to the prestigious Ramsar Convention as a Wetland of International Importance. Its status was raised another notch in 1996 when it was added to the chain of Western Hemisphere Shorebird Reserves. One year later, BirdLife International ranked it as an Important Bird Area of Global Significance.

These designations came with the responsibility for wise stewardship on the part of the signatories. The tragedy is that government and private agencies alike have let the lake down, literally and figuratively, blaming its current decline simply on drought, and excusing the upstream water withdrawals as "negligible."

During its recent decline, I have had discussions with representatives from various conservation groups, including Ducks Unlimited Canada (DUC), Canadian Wildlife Service, Alberta Environment, and the Edmonton Nature Club. I have published articles in the *Edmonton Journal*, *Tofield Mercury*, *Nature Alberta*, and *Edmonton Nature News*. I have also given PowerPoint presentations at meetings with officials of the Alberta Water Branch, the Beaver Hills Initiative, and the Sherwood Park Fish and Game Association. Unfortunately, most if not all people I've approached shrugged off my concerns, either unwilling or unable to understand the arithmetic explaining the lake's demise.

The available data are straightforward. There is no doubt that the cause of the severe drop in water level was related to a regional drought, but it was aggravated by upstream water impoundments constructed with the well-intended (but in my view misguided) objective of restoring former wetlands. The

Will Beaverhills Lake ever regain its former greatness?. . .continued

total volume withheld per year, calculated on the basis of data provided by DUC and Alberta Environment, is 1.6 million cubic metres of water. This amounts to just over one centimetre of the water level of the main lake at its former size of 140km2. This loss may seem very minor. Just a good day's rain, you might say. But since 1973, when the first of 19 DUC dams and weirs were built, the deficit has accumulated to 34 x 1 cm = 34 cm, or just over one foot of water. Furthermore, as the lake shrank in size and became shallower, annual water losses increased proportionally and accelerated the rate of evaporation.

My fact-based calculations are modest compared to a recent assessment by the DUC habitat manager for Alberta, who was quoted in the August 2007 issue of *Birder's World*, which featured an article entitled *Alberta's Parched Wetland*. This is what he (Barry Bishop) said: "The annual average impact of DUC's water control projects is very small, about one inch over the area of the lake."

At this rate and over the 34 years since dam construction, the water losses should have accumulated to a minimum of 34 inches. This is most incriminating, for the average depth of Beaverhills Lake in the 1970s was roughly one metre (40 inches).

The same magazine article included an opinion from a consulted scientist with the National Water Research Institute of Environment Canada: "In the drying-up of lakes, climatic changes that have lengthened summers and shortened winters appear to play a major role." This scenario is evidently not applicable to Beaverhills Lake and contradicted by Environment Canada's own data, as detailed in the above article.

Acknowledgement

Curt Dixon of Environment Canada, Edmonton office, was consulted for expert advice.

Dutch Doctorate for Dekker

The University of Wageningen is a very old and highly regarded institution, specializing in agriculture, forestry and wildlife ecology. The Dutch have done much original work on shorebirds and have quite recently become interested in the effects of predation on shorebird behaviour and physiology.

BRIAN GENEREUX

This interest was sparked by the big return of the peregrine falcon. However, the Dutch never studied peregrine predation – which is where Dick Dekker comes in.

In Canada, Dick has observed a couple of thousand hunts by peregrines on waterbirds, with some 470 prey seen to be captured, in six different habitats and over all seasons. The data were published under 12 titles in six different professional (refereed) journals. That experience led to an invitation from two of the University's ecology professors to do a comparative study on the coast of the Wadden Sea in Holland, in 2006 and again in 2007.

Dick's body of work – peregrine predation on waterbirds – is the subject of his doctoral dissertations. Thus, he will not have to attend lectures and will write his thesis at home. It is to be written in English (the universal language of science these days) with a Dutch introduction and synopsis.

The invitation from the University of Wageningen is a great honour for Dick Dekker, and the Federation of Alberta Naturalists is very proud to have him as a consistent contributor (33 articles so far) to Nature Alberta and its predecessor Alberta Naturalist. We salute you, Dick! (His articles in this issue are on pg 26 and pg 42.)

Wetland Management?

BY BRIAN GENEREUX

Who really benefits and at what price?

On March 28/07, I attended Dick Dekker's power point presentation to the Sherwood Park Fish and Game Association. There were many different groups at the meeting with various levels of involvement on the topic of the lake's disappearance.

This included representatives from Ducks Unlimited Canada (DUC), Canadian Wildlife Service (CWS), the Alberta Water Branch, the Beaver Hills Initiative and other government people who could have a say in implementing future solutions.

No doubt, Dick Dekker had spent more time at Beaverhills Lake than anyone and shared his honest and unbiased observations concerning its future. On top of that, he also spent a lot of time and research in the creation of this excellent presentation.

Dick's talk was about his concerns on the drying up of an internationally recognized bird lake. He showed a Sept/06 photo of the lake completely dried. What remained were huge expanses of mud flats with large, deep cracks. Dick said he watched as winds during the summer would push the remaining water inland into these cracks. When the wind direction changed, the same thing would happen on the opposite side of the lake. This process greatly speeded up the evaporation rate. The lake was essentially drinking itself dry! His explanation for the original drying and slow recovery of the lake was two-fold: Nature [primarily the drought of 2002]; and the cumulative withholding of inflow waters by DUC since 1974. He showed the historical high and low levels that the lake experienced

SNOW GEESE RISE OFF BEAVERHILLS LAKE DICK DEKKER

Wetland Management? Who really benefits and at what price?…continued

in the last 100 years. Dick also pointed out that there is no proof the lake was ever as low as today. Although he believes the lake can recover through a very high precipitation year, he feels proper stewardship is still necessary.

Even though his graphs showed us the lake experienced average to even above average precipitation in the four years that followed the drought of 2002, the lake still dried up! With another graph from a study done on a similar lake in the United States, he was able to show how the evaporation rate doubled as the lake levels were halved. In other words Beaverhills was simply evaporating water out faster than what was coming in. Because of restriction on inflow waters, Dick feels the lake has been seriously damaged. This leaves only two possibilities for the lake to recover: either above average precipitation, or stop impediment of inflow waters.

DUC's defence has been that the amount of withheld waters is negligible. I personally do not believe they have the figures to back that up, especially if the impediment effects need to be calculated over a period of 34 years after the weir and dams were built.

After the talk, a discussion followed. Dick generously said he would be happy to read a headline in the news papers on how DUC was working for the recovery of Beaverhills Lake. Another topic was brought up and that was to pump water into the lake from the North Saskatchewan River. That led to lots of input from various groups of people. Another person talked at length about further studies and different considerations. I would like to offer my own opinion on this issue.

I am a birdwatcher, photographer and concerned observer of our changing natural world. The unique position I think I might have is that I'm not involved with any government position or organization that might restrain my view.

Prairie precipitation is generally low and comes in the form of "hit or miss" abundance. This scarcity seems to worry the farmers every summer and in the case of the local Chipman farmers (where I live), for a good reason. In 2006, there was a number of crop failures in the region due to an extended dry period in June. When this scarcity is combined with human manipulation (always for monetary gain), the results on wetlands are often very negative in the long term.

I have spent a lot of time watching birds in three watersheds that are within a half-hour's drive from my home. Whitford Lake, Chipman wetlands and Beaverhills Lake are three major staging areas for migrating birds as well as nesting birds. All three of these beautiful wetlands have been altered as stated above, for monetary gain. And all three have suffered because of it (Beaverhills the most because of its large size).

LEAVE IT TO BEAVER

In the case of Chipman, a drainage canal was installed by DUC in 1989 to moderate high water levels in the slough. This benefits only one or two farmers who can flood their pastures in the spring and open the canal in summer to lower water levels, thus gaining more pasture land for cattle in late summer and fall. Effectively, this prevents the slough from ever attaining abnormally high water levels in wet years, leaving no safety margin if the following year should happen to be low. As a result of this practice, I watch (almost every year) shorebirds like Avocets and yellowlegs in August standing in 3" inches of water…in the middle of the slough! I have also seen years where the drainage culvert is left unregulated and wide open.

Another local farmer who is not too fond of the canal, said there were always much higher water levels in the past. There were even years when fish could be found in the slough-- something unheard of now!

So my question would be: Is it logical to expedite the drainage of a relatively scarce commodity – water – off our prairie surface, into the Saskatchewan River and finally into Hudson's Bay for such a small gain?

Another interesting problem that seems to appear in the canal every year comes from a champion of running water – the beaver! The beaver has a "hard to rid" perseverance and seems to show up every year. The beaver is a master of drought management and in a matter of a few weeks is quite capable of slowing down

Wetland Management? Who really benefits and at what price?…continued

waters destined for some distant ocean. Sadly, I see, almost every year all their hard work fall victim to a backhoe or dynamite. Even the builders are sometimes shot (which I think is illegal). If I could respectfully offer my solution to DU, it would be this: Why not strike a deal with the farmers to leave the beavers to do their work in creating new wetlands (the same business you're in) and pay farmers compensation for lost acreage?

Whitford is another lake where I have spent a lot of time watching and photographing birds (25-30 spring days for 3 years before the lake dried). I consider it a world class lake like Beaverhills. It had an island that hosted possibly fifty thousand Franklins Gulls, and in spring one could see almost as many Snow Geese stopping over during migration. I've also seen rare visitors like Whooping Crane and Black-necked Stilt, while others have reported Piping Plover.

Whitford has suffered a double blow! Inflow waters have been impeded by Prairie Farm Rehabilitation Association (PFRA) to create upstream wetlands, and a drainage canal was dug to prevent high water levels. Again, the canal would benefit the farmers that surround the lake, giving them more acreage. Also, it possibly would help the oil and gas industry who have well sites that seem to be close to, or in, the former lake basin. Like Beaverhills, this lake is also slow to recover and when it does (by a major weather event), it should also receive better stewardship. To this issue, I would like to add a little human irony about Whitford Lake. The town of Andrew boasts having the world's largest Mallard in celebration of a great waterfowl habitat. After many meetings, the town voted on digging a canal to drain high water levels into the Saskatchewan River and again, it was for monetary gain!

To conclude, I feel there is a need to re-evaluate our practices of water usage. I feel DU and other groups believe they are doing the right thing by creating upstream habitats with water impediment. I personally believe this could work, but only when water levels are at a very high surplus. Otherwise, we end up doing just what Dick Dekker says: "we're stealing from Peter to give to Paul!"

INSECTS START

KEN KILCULLEN

Heated Discussion!

In mid-summer, Grasslands Naturalists (GN) brought to the FAN Board a suggestion for developing a policy on insect collecting – or rather, over-collecting – particularly of *Lepidotera* (butterflies and moths).

The plan was to devote a few pages of *Nature Alberta* to the discussion. However, the idea brought a storm of lengthy, detailed emails and letters from Alberta entomologists attempting to explain and justify collecting by amateurs and professionals. It was just too much to use in *Nature Alberta*.

As a result, FAN's website will become the venue for this discussion. While the entomologists perhaps mis-read the intent of GN's suggestion, the ensuing dialogue is – and will be – a highly positive exercise, as analyses and evaluation of our activities in nature always are. The discussion will be educational, informative and a reminder of scientific ethics that everyone, from the curious to the professional, should enjoy considerably. Check www.fanweb.ca and join the conversation!

FAN is continuing to work with GN on honing a policy which should be ready for Board perusal by the April AGM.

South Saskatchewan River Trip 2007 PART 2

BY SEAN GORDON AND DON GORDON

In Part 1 [see Fall 2007 Nature Alberta], Sean and Don Gordon told us of their June '07 canoe trip, starting at the head of the South Saskatchewan River (where the Bow and the Oldman Rivers meet), to their stop on the fourth day in Medicine Hat. We pick up the trip as they prepare to leave the city.

After re-supply, we continued downriver, passing by the Great Blue Heron rookery near the Medicine Hat sewage treatment plant. At least I'm pretty sure it was, given the racket they were making back in the trees. We also spotted a pair of Bald Eagles about a kilometre downstream of the rookery. Another kilometre downstream of that, we felt we were far enough out of the city to start looking for campsites again. We stopped at an island that looked promising, and when scouting around, I spotted a Mule Deer fawn, which quickly disappeared into some bushes. As the island was not ideal for camping, and not wanting to stress out the fawn and doe, we moved on.

I noticed that the river itself had changed quite significantly in nature downstream of Medicine Hat. We were seeing much more in the way of sheer sandstone cliffs and slumps, closer to the water, and much less of the green rolling hills that had characterized the banks upstream of the 'Hat. The upper part of the South Saskatchewan existed prior to the ice age, with the result that we were essentially canoeing two completely different rivers.

We finally made camp 4 on a nice sandy bank at km 115 across from a large cattle operation. Not ideal, but after pulling 16 km further than planned, we were very happy to get in and relax. Some clouds moved in

SEAN AND DON GORDON

SEAN AND DON GORDON

that evening, but the sun broke through just prior to setting, and I managed to get some amazing sunset pictures with my Nikon. We had a Beaver constantly swimming back and forth by our campsite. Maybe he was annoyed at us having camped in a particularly good spot, but too bad for him.

Day 5 dawned very hot and humid. Fortunately, because we had covered extra distance the day before, we had a very short day planned. Therefore, a scant 10 km downriver, we once again were looking to set up. We found a nice sheltered spot, on a high bank, under some more of our beloved cottonwoods. They truly are remarkable trees. They provide tremendous shade, but at the same time are open enough to allow good air circulation. Plus having used cottonwood driftwood for cooking fires at times, it is incredibly dense and makes for superb coals, meaning that you don't need to use much. We quickly reached the point where we wouldn't even consider camping, unless there were some cottonwoods around (something that would haunt us later on). Dad went for a swim and a bath, and I discreetly got some pics of the Great River Beast emerging from the water.

Day 6 picked up weather-wise, right where the previous day left off. I managed to get a forecast on my phone and it predicted a humidex of 46 for Medicine Hat. Not good at all, but that's life on the river. This day proved to be long, hot, and difficult. We didn't see much wildlife, with the exception of a very well-fed looking Coyote down on the bank at water level.

We once again had some difficulty finding a good campsite, but the weather was unbearably hot and humid, and we really wanted to get in somewhere. Therefore we settled on a spot which had plenty of trees, but a very high, steep climb up from the water (km 160). I went barefoot for better grip, and relayed the gear up to the meadow above. Once the haul was finished, I was feeling pretty much done in, as I don't do very well in humid conditions. My limbs felt like they weighed 400 pounds each, and sure enough, I came down with a mild case of heat exhaustion. Dad got the tent set up back in the trees without the fly for maximum air flow; I took in a litre of water, and lay down for a nap. That evening we caught the edge of a massive thunderstorm, and fortunately it broke the oppressive humidity. I wasn't entirely sure how I would rebound from the heat exhaustion, with the amount of work we put in on a canoe trip. Seeing as how we had 4 more days planned, we made the decision to cut the trip short by a day. I was able to connect to a tower with my phone, so we made arrangements to take out at Sandy Point instead of Estuary. I regretted

South Saskatchewan River Trip 2007 (Part 2)...continued

not seeing the confluence with the Red Deer River, but I think it was a sensible choice under the circumstances.

The next day, I felt fine, and fortunately the humidity stayed down with some nice scattered clouds keeping the heat down, too. It was exactly what I needed. Of course, the wind came back up, mostly in our faces, but after the previous day, I was not complaining at all. As we passed the Bullpen meander (km 172), we saw a pair of Bald Eagles. It was a difficult day paddling-wise, as the winds came up to the point where we had four to six inch wind-driven waves going upstream! I've never seen that in over a thousand kilometres of river canoeing. I suppose given the famous winds of Southern Alberta, it shouldn't have been all that surprising, but it isn't every day that you have to paddle into whitecaps on a river.

We made camp 7 just short of the CFB Suffield guard post and the Koomati restricted area. For the next 23 km, both sides of the river are restricted from camping, which really limits your options, but that's something you just have to plan around when canoeing the South Saskatchewan. This time it was Dad's turn to feel under the weather, so after setting up, he lay down for a nap. The banks continued to get higher and steeper, and happily increased our sense of isolation.

SEAN AND DON GORDON

Day 8. We spotted a pair of Swainson's Hawks at km 190 and a Prairie Falcon eerie high up in a sandstone cliff face at km 195. There were two fledglings in the nest that looked close to being ready for flight. We also spotted a huge nest (currently unoccupied from what we could see) in a dead cottonwood right across the river from the eyrie. This day took us into some amazing sandstone canyons. The canyons were an estimated 100 m high and made for some very compelling scenery throughout the day as we continued through them. We also spotted areas where there must be water seeps or underground streams, as there were pockets of poplar trees and other foliage. These were almost like separate little ecosystems in the middle of the semi-arid and arid canyons.

We spotted a beached and abandoned boat (pale yellow with a small black outboard) at km 220. It looked like it had broken loose and been carried downstream in high water conditions, given its position high on the bank, with no real access to the river through the deep canyon at that point.

This was the most difficult day for finding a campsite. The weather was very hot and dry, which while much preferable to high humidity, still zaps a fair bit of energy out of a person when on the water. That

SEAN AND DON GORDON

said, it is never a bad thing being on a river. We spotted a pair of Golden Eagles at km 235 (just upstream of where we eventually made camp). However, the canyons, while spectacular, largely meant the end of the cottonwoods. Therefore, after going about 7 km further than we planned, we finally gave up on our dream of camping under those excellent trees. Later on after we made camp, Dad mentioned that the book--Prairie River--stated something about cottonwoods being scarce over this reach. I believe my response to the scarcity was a tad off-colour – I may have been a little cranky at that point! We set up camp under the tarp, high on the bank under some great badlands and hoodoos. We had an amazing moonrise that night, which cast some fantastic shadows off the hoodoos stretching up above our campsite. Note to self: next time bring a tripod and an extra battery for the Nikon.

Day 9. Having covered much more distance than planned on our cottonwood hunt the day before, we decided to pull for Sandy Point that day, which would allow us to relax and be lazy all the next morning, while waiting for our ride home. After much prompting from Dad, who spotted storms heading our way, we got on the water in record time. That was a good thing though, as the storms chased us for most of the day.

As usual, we saw some interesting things as the canyons continued. We noticed that the number of beaver lodges increased over the last couple of reaches, including a spot where there had clearly been a flash flood which looked to have wiped out a lodge completely. We also spotted the exoskeleton of what appeared to be a very large crayfish on the bank. It was difficult to tell whether it was a native species or something that had been discarded after someone's dinner, and simply washed up on shore.

On the last leg of the trip (about 8 km upstream of Sandy Point) we made a remarkable sighting. There were two Moose standing high on the north cliff face watching us pass by (see photo, previous page). The last thing either of us expected to see in this arid land was Moose. But we learned later that they like a lot of the specialty crops grown in the area and that was attracting a fairly substantial population.

We finally reached Sandy Point and the Hwy 41 bridge. It was all in all, a tremendous experience, and something that I would definitely like to do again, given the opportunity. The sandstone canyons and rolling hills of the South Saskatchewan River are truly unique and need to be seen by canoe to be truly appreciated.

First Hand:

Coyote Carousing!

BY JEAN VAN WERT

A crisp, sunny, December morning yielded a view of Ross Creek Coulee meandering through the snowy hills: subdivision on one side and grassland on the other.

This view I had observed daily, and lately with the added pleasure of watching a Coyote family in the broad, valley creek area. When I noticed they were heading for the upper banks of the grasslands, I grabbed my binoculars for a better look.

I became aware of a few more Coyotes….another family, now both on the upper banks and trotting towards each other. They stopped a short distance apart, with the 'lead' coyote from each pack stepping away and coming together. They 'nosed' and circled each other. Then suddenly, the other three Coyotes from each pack ran together and began to play. I watched this on and off for about 30 minutes when I suddenly felt there were more than just eight Coyotes. I counted. It seemed there were now twelve! I counted again…. there were SIXTEEN! I had to recount again…twice!

Indeed, there were now sixteen coyotes on the hills directly across the coulee from me. They were running up and down the hills, sliding on the snow banks, rolling, jumping up and spinning around each other! No one was still! I watched this for the next three to four hours…this Coyote carousing! I have lived here at the edge of Medicine Hat above Ross Creek Coulee for almost thirty years and have never seen sixteen Coyotes in full play on the coulee hills! What a special treat!

Then as suddenly as it began…. all were gone! Except the family that lived in the valley. I saw them later that day…a short distance from the creek…resting! THE PRAIRIES….how could you not love them!

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.

DAVE FAIRLESS

Close to Home:

Nature Photography in Alberta

BY JOHN WARDEN

JOHN WARDEN

Fulton Creek Marsh

I usually associate nature photography with a zen-like connectedness with the environment. But the aggressive, rapid-fire action shots of Canada Geese at Fulton Creek Marsh this past spring was closer to combat photography and, as the pictures attest, the feathered combatants like warriors defending treasured territory.

Fulton Creek Marsh is located in the southeast corner of Edmonton at 17th St and Whitemud Freeway. I've driven by it hundreds of times traveling back and forth between Sherwood Park and Edmonton. The marsh is actually a storm-water management pond. A feature of the pond is the island created in the middle to provide a naturalized and protected nesting area.

Driving by in early April, I could see migrant geese landing on the frozen marsh. Maybe there would be an opportunity for some action shots. In fact, for the next month there was so much action and aggressive behaviour from the Canada Geese nesting there, I came to think of the marsh as 'Serengeti North'.

I soon learned just how aggressive Canada Geese are in protecting and defending their nesting territory as I watched them stake out the island in the middle of the marsh. Transient migrants who landed on the island or furtively approached from the water were repeatedly and furiously driven away by one or both of the pairs of geese that had claimed nesting rights. Even neighbouring geese on the island that took time out to go for a swim or feeding were aggressively chased and chastised if they happened to trespass on their way back to their own turf.

With a bit of Internet research, I was able to discover that the term for this very aggressive behaviour is 'agonistic', from the Greek, to 'champion a cause'. Agonistic behaviour that I observed at the marsh ranged from foot chasing on land, to feather pulling air-to-air combat, to all out wing-clubbing, bill-striking battles reminiscent of 'ultimate fighting championships'. In such pitched battles, spectator geese gather round the combatants to hoot, holler and honk on their encouragement in an absolute cacophony of sound.

The melting marsh also offered opportunities for comedic shots as geese crashed through the thinning ice as they chased each other 'off the island'. In

JOHN WARDEN

the words of my wife Debra, "it sounds like before they make love, they make a lot of war". I shot thousands of images in the 6 weeks of spring at the marsh and got some of my 'best-ever' shots. By mid May the agonistic behaviour was subsiding. By early June, layers of full body protective mosquito netting was the only way to venture into the marsh.

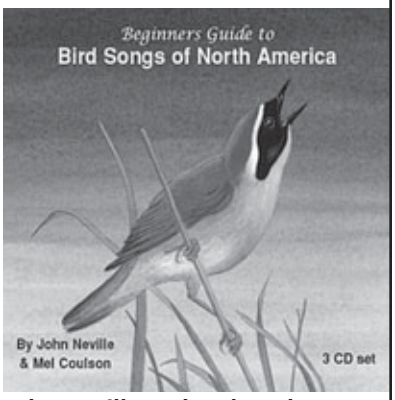
Lessons Learned:

1. Rubber boots are a must, preferably with insoles for standing on the ice or in the water.
2. The action is really fast, so the more sun the better.
3. I got great shots with my 70 – 300 mm zoom, but sometimes when the pursuits came straight at me, the action was too close and too fast.
4. Be patient, find a good spot, stand still and wait for the action.

CD REVIEW

Beginners Guide to Bird Songs of North America [CD]

REVIEW BY: BARBARA BECK



John Neville and Mel Coulson

I am really enjoying the New CD set "Beginners Guide to Bird Songs of North America" by John Neville and Mel Coulson.

As someone who records bird songs, I appreciate how difficult it is to obtain such beautiful recordings. There are long clips with pneumonics and other hints presented to help you remember the songs and calls.

I would highly recommend this CD to anybody trying to learn bird songs. If you love birds, you will want this set of beautiful recordings just to enjoy the lovely songs. Knowing the songs and calls of birds can greatly increase your outdoor experience.

One of the most powerful tools you can have is the ability to identify birds by ear if you are serious about finding and identifying birds. Your ears can hear a bird which is hidden from sight by foliage, reeds, rocks etc. Your ears can hear in all directions while your eyes only focus in one direction. Your ears can hear and identify birds calling at night or in poor light. You will never regret the time and effort you put into learning to identify birds by ear. This CD set is a powerful tool to help you learn bird songs and calls and to hone your skills.

In this set, each song or call is presented, and usually a pneumonic or some other way to help you remember the song, as well as a long clip of the bird singing. Each bird song has a separate track on the CD for easy access. There are review sections and quizzes which can be very valuable tools to help you learn to bird by ear.

One big problem facing anybody who creates a CD set for learning bird songs is how to arrange the birds on the CD – some have used field guide order, some prefer organizing the songs by habitat, and some group similar sounding birds together. On this CD, Neville and Coulson have reached a very happy compromise. In the first part of the set, the birds are presented by habitat with a quiz at the end of each section for you to review and test yourself. These sections include: Lakes, Ponds and Rivers; Marsh and Riparian; Backyards, Parks, Towns and Suburbs; Deciduous Woods; Open Mixed-woods and Thickets; Farms, Grasslands, Savannah and Prairie. One hundred and eight of the more common birds are covered in these sections organized by habitat.

After all of the birds are covered by habitat there are review sections where the birds are grouped as Warblers, Sparrows (with some regional dialects included), Flycatchers, Thrushes, Wrens, Sounds of Birds in the reeds, and a group called the "True Songsters".

A big plus for Canadians is that all of the birds on the set can be found singing in Canada. This 3 CD set can be purchased online from www.nevillerecordings.com for $33.00.

Barbara Beck is well known as a birder, lepidopterist, writer and all-round and dedicated naturalist, as well as being an instructor at the University of Alberta (Renewable Resources department).

Bald Eagles, California Condors and Lead

BY DICK DEKKER

A front-page story in The Edmonton Journal *("Wildlife group takes eagle under its wing." Aug 16, 2007) told of a flightless Bald Eagle that was picked up by the Edmonton Wildlife Rehabilitation Society. The bird was suffering from lead-poisoning, but was brought back to health after weeks of intensive and costly treatment.*

BALD EAGLE FAMILY: AT RISK FOR THE SILLIEST OF REASONS - THE USE OF LEAD SHOT UNKNOWN

This headline-making news item is of particular relevance today, when the potential health hazard of lead paint in toys imported from China has been a major topic in the media.

The accidental ingestion of lead is also an insidious peril for wildlife, particularly for waterfowl that dredge up shotgun pellets from the bottom of lakes and marshes. Less well known, however, is that spent ammunition can be lethal for birds of prey that scavenge the remains of shot animals. The most vulnerable species are our most majestic raptors, namely the Bald Eagle and the California Condor. It is quite possible that the paralyzed eagle featured in the Journal story picked up its poison from the carcasses of gophers killed with .22 bullets made of lead.

The Edmonton Wildlife Rehabilitation Society is to be commended for its successful efforts in nursing this sick bird back to health and releasing it again into the wild. This particular eagle may well be one of the small population that is now breeding in central Alberta. In 2002, a pair of Bald Eagles even nested within the boundaries of River City. But unfortunately – as reported by provincial wildlife biologist Dr. Gordon Court – a male eagle was subsequently found poisoned near the same location.

I had been watching this secretive city pair for a number of years. After the death of her mate, the surviving female has remained sterile. Even though she finally managed to attract a new companion, he too disappeared. During the past three springs, the faithful female has been going through the mechanics of preparing a huge stick nest. She spent many days sitting low on the platform of branches as if brooding, and she probably laid eggs, but her efforts have thus far been futile.

The problem of lead poisoning was and is acute for North America's largest raptor, the California Condor. During the 1980s, this heraldic thunderbird – a survivor of the dinosaur era – was saved from the brink of extinction by a team of wildlife scientists, who trapped the last wild ones and placed them in a captive breeding program. The experiment was fantastically successful and has culminated in the release of more than 200 progeny between 1995 and 2002. The winged giants are now again soaring over the rugged mountains of northern California, Arizona, and Utah.

Bald Eagles, California Condors and Lead…continued

Unfortunately, their future is still in jeopardy. As carrion eaters, condors are attracted to the remains of deer and gophers shot by hunters and left out in the field. To prevent the risks posed by swallowing bullet fragments, wildlife agencies and a small army of volunteer guardians are now providing the condors with clean food at several bait sites. However, condors range over huge areas, making protection difficult and further measures necessary.

Contaminated condors that are found flightless are taken back into captivity for lead-removing treatment. In addition, all condors are trapped two or more times per year to check their blood for contaminants. Bullets or shotgun pellets imbedded in the intestinal tract are operationally removed. Each of these patients involves a great deal of medical work and expense and added stress on the birds.

In a recent paper submitted to the Journal of Wildlife Management, Dr. Tom Cade, North America's foremost expert on birds of prey, suggests that an effective and realistic solution to stop the problem would be to ban all ammunition containing lead. This is not an impossible dream. "Recent innovations in the manufacture of non-lead shotgun pellets with superior ballistics now provide a simple way to save condors as well as many other species of wildlife. Substituting non-toxic forms of ammunition for traditional lead-based bullets is both economically feasible and morally the right thing to do." Subsequently, this past October, California Governor Schwartzenneger signed legislation to prohibit the use of lead ammunition on condor range in that state.

To those of us who are thrilled by the sight of a soaring eagle, the replacement of the lead content of ammunition may be on a par with the need to remove potentially toxic paint from children's toys.

HERE IN CANADA BY DENNIS BARESCO

A quick look at federal government Acts and regulations, and a Jan 2007 response by Environment Minister John Baird to a petition from Kevin Sinclair of Abbotsford BC, shows that lead shot is banned for use ONLY a) in the hunting of migratory game birds (except doves and woodcocks); and b) in all hunting in National Parks and National Wildlife Areas. It is legal for upland game birds and anywhere/everywhere else in shotguns and in shells like 22's. Lead sinkers & jigs have been banned only in National Parks and Wildlife Areas and only those weighing less than 50gm. The government is still stalling on all other sinker & jig use. The petition stated (and CWS confirmed) "that not only is it legal to use toxic lead shot for all other types of upland game hunting and shooting activities, which creates immeasurable contamination and mortality problems of its own, but that an unknown percentage of hunters continue to use lead shot in areas where it is restricted by law with little or no chance of being caught or punished." Even when caught, the fines are a joke: only $200-$300 maximum.

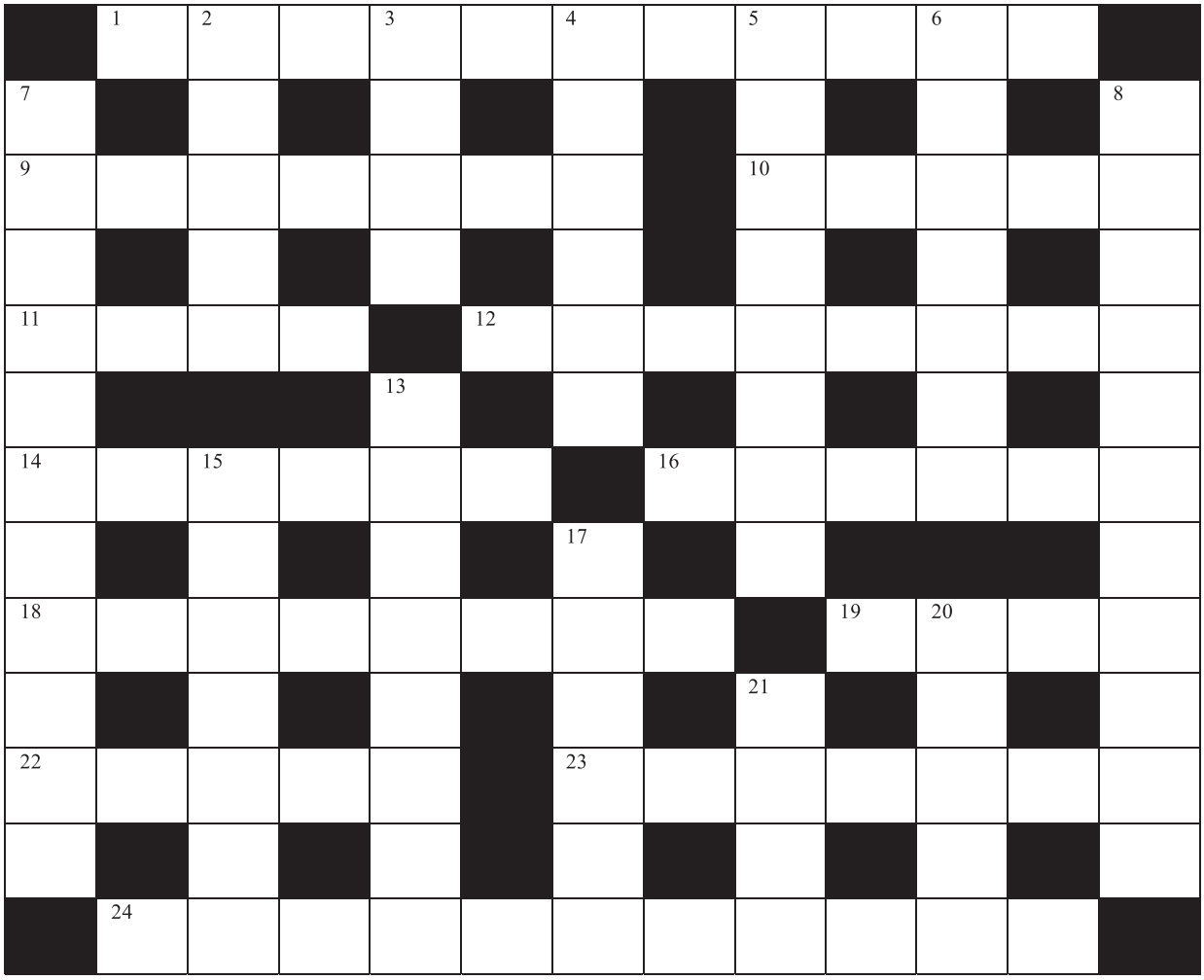
Governments know full well the enormous problems with lead. "Lead poisoning has been reported in at least 37 species of birds other than waterfowl,' reports Vernon Thomas, of the University of Guelph. "Lead shot deposited in fields and woodlands near shooting ranges and intense, upland, hunting adds an enormous tonnage of lead to environments, worldwide. This contamination is not remedied by banning lead shot use only for waterfowl hunting. Lead pellets disintegrate extremely slowly, during which time they may be ingested from the soil by wild birds, livestock, or silage-making machinery, and cause sub-lethal or fatal lead poisoning. Lead pellet corrosion products contaminate soil, surface waters, and ground waters, often exceeding permissible levels."

IT'S NOT KNOWN IF THIS IS A REAL PHOTO, OR A COMPOSITE. REGARDLESS, IT'S A PERFECT ILLUSTRATION OF HOW TOXINS, LIKE LEAD, CAN REEK HAVOC ALL ALONG THE SPECIES FOODCHAIN. UNKNOWN

As well known as the problems are, so are the rather simple solutions. The only barricade is the tendency for governments to ignore environmental issues until forced, or shamed, by people to address them. Make known your opinion: to all levels of government and to the media.

NEWTON'S OCCASIONALLY CRYPTIC CROSSWORD! #4

It's the fourth crossword. Check the answers for #3 on page 8. Pit your **nature knowledge** against creator Garry Newton's cryptic wit.



ACROSS

1. Immense trough (11 letters)
9. Angered and upset (7)
10. She sings part of the Grand Slam Aria (5)
11. It is often absolutely plastered (4)
12. More and more people need it, but it's harder and harder to find (5, 3)
14. A country which elicits a yawn or confusion (6)
16. Once a good line for sea-going tourists (6)
18. Such a fellow might be red (8)
19. Home of a disturbed rail? (4)
22. Personally, I love this colour (5)
23. # 24 certainly is (7)
24. This organism lost Darwin's Lottery: a defunct, petrified creature (11)

DOWN

2. May have put a feather in your grandmother's hat (5)
3. Might be a goat, or a bull (4)
4. A small, rounded body (6)
5. Parasitic vertebrate found in the Great Lakes (8)
6. An ideal destination for birders – and everyone else (7)
7. The difference between a meridian and magnetic north (11)
8. Mineral found between Tibey Town and Desainne (11)
13. A mammoth Pleistocene creature, sometimes found underground (4, 4)
15. His philosophy may be enough to confuse a lister (7)
17. Protect (6)
20. Mobsters do this to hawks (5)
21. Auricular (4)

Answers will be in the Spring issue – can you get them all!

McCown's Longspur

BY ROBERT ALISON

Dr Robert Alison (Ph.D. Zoology, University of Toronto) was, from 1973-1980, Ontario's chief migratory bird specialist with the Ontario Ministry of Natural Resources.

Since then, he has been an independent ecological consultant and is currently completing a long-term study of sea ducks on Hudson Bay in cooperation with Matt Perry of the US Geological Survey. Dr Alison writes regular material on parrots for Parrots Magazine (UK), on Australian avifauna for Wingspan (AUS) and on doves and pigeons of the world for Bird Talk (US). His research on wild horses was documented in a recent video put out by High Plains. As well, he writes material for the Encyclopaedia Britannica and several outdoor magazines and newspapers.

McCown's Longspur (Calcarius mccownii) seems to have a perilous future in Alberta. Historically common and fairly widespread, its numbers have collapsed by 98 percent in slightly more than 30 years. Its current status is insecure, its outlook precarious, its prospects quite bleak.

This is not merely a local phenomenon. The species is "imperiled" in North Dakota, California, Wyoming and Montana and "vulnerable" in several other states, so classified owing to dismally acute population declines in recent years. In Canada, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has recently designated this longspur as a species of "special concern" under the Species at Risk Act, a step that might not entirely reflect the actual gravity of its ongoing population collapse.

All pertinent population data confirms an extreme loss of these birds. The most conservative estimate of decline is dismal. The North American Breeding Bird Survey shows a 98 percent loss in the Canadian breeding range since the 1960's. Christmas Bird Counts on the species' wintering grounds in the United States indicate a 2.5 percent annual loss since 1966. The Grassland Bird Monitoring Program suggests a 4 percent overall loss since 1997. The population trend in Alberta, at -15.u since 1966, is among the most significant for any North

ROBERT ALISON

McCown's Longspur…continued

American bird during that period. Trends of that magnitude suggest the species could disappear in Canada within a decade or two. "They are certainly decreasing," confirmed Alberta naturalist Gus Yaki. According to the US Geological Survey, the species is on the US "Watch List", and has "a high conservation need".

"Much of the habitat of the McCown's Longspur has been lost or degraded in the last two centuries," reported biologist Michael Carter at the Colorado Bird Observatory. According to Brenda Dale of the Canadian Wildlife Service, about 57 percent of the continental breeding population occurs in Canada, and that population is of "high concern due to restricted breeding range" and habitat threats.

McCown's Longspurs nest in short-grass prairie, especially where vegetation is sparse. They prefer areas where the grass height does not exceed 5 cm, and where there are vegetation-free areas. According to the Nature Conservancy, the optimum habitat for this species is "short, sparsely-vegetated native grassland, especially heavily-grazed mixed-grass prairie."

Some researchers speculate the species evolved in short-grass prairie regions where natural fires kept grass height low. Fire suppression has had a substantial negative impact on habitat. But, livestock grazing has, to some extent, compensated for fire control in keeping grass height low.

According to biologist John Weins at Oregon State University, grassland birds typically occur in low densities. But, recent habitat changes have so dramatically reduced native grasslands that some species have expanded into marginal or inappropriate habitats. In Alberta, 75 percent of the original grasslands had disappeared by 1991 and since then, the loss has been about one percent a year. Only about 35,000km2 remain in the province and only 24 percent of it is protected. One-tenth is within the Suffield National Wildlife Area.

The ongoing and rapid decline of short-grass prairie has forced some McCown's Longspurs to pioneer to new breeding habitats. It is estimated that in Alberta 20-40 percent of the surviving population currently nests on agricultural land. These areas are "inappropriate and unproductive" nesting sites for longspurs. Agricultural areas do not provide suitable nesting cover. As well, Canadian Wildlife Service researchers confirm that these longspurs are vulnerable to pesticides, especially pyrethroid insectides (notably toxaphene), commonly used to control grasshoppers.

Another threat is the incursion of shrubby plants onto native grasslands. "North American grasslands continue to decline in quality and quantity," said US Fish and Wildlife Service wildlife biologist Todd Grant, adding that grassland bird species are especially vulnerable to that development. "Aspen, willow and other woody species are taking over and grasslands are now unsuitable for many of the 15 grassland bird species."

McCown's Longspurs are especially at risk. The rate of longspur nest loss is unusually high in areas where shrubs occur on grasslands. Shrub cover within one metre of a longspur

ROBERT ALISON

ROBERT ALISON

McCown's Longspur… continued

nest dooms it, researchers say; nests placed near shrubs are three times more likely to be destroyed. Consequently, the ongoing incursion of shrubby plants into native grasslands poses a real threat to nesting McCown's Longspurs. According to research by Kimberly With at the Oak Ridge Nature Laboratory, more than 50 percent of all McCown's Longspur nests are destroyed by predators, notably ground squirrels. But, over 80 percent of all nests in shrubby areas are destroyed; 75 percent of nests located near cacti are destroyed.

McCown's Longspurs usually nest in Alberta in May or June. Incubation of eggs requires 12 days, and young fledge in 22 days, but parents continue feeding fledged young for a week or more. Consequently, there is not enough time for pairs to parent two broods a season. On average, successful parents only fledge 1-2 young per brood, not enough to sustain the population.

I have been researching these birds in two areas of Alberta for over 10 years, and at both sites, losses have been so acute that it seems evident that the current official status of the bird does not reflect its true population.

The only area of Alberta where it is holding on in fairly robust numbers is the extreme southeast. A recent count tallied several hundred in the areas around Writing-on-Stone Provincial Park, but that is the only encouraging data to emerge in over a decade.

There are no reliable population figures for this species. Most of the data pertaining to its abundance derives from annual bird counts that do not focus on its main breeding range, and anecdotal information which is sketchy. But, all the existing data suggests a population free-fall.

The main management objective, according to the McCown's Longspur Species Management Abstract, prepared by the Nature Conservancy, should be to protect "heavily-grazed and moderately-grazed areas with acidic soils." The Abstract says: "In Alberta, the species prefers season-long grazed native pastures," which should be a conservation focus.

COSEWIC data confirms the McCown's Longspur has a limited breeding range in arid grasslands, the habitat that should be protected. Breeding territories average 0.5-1.0 hectares, often located in close proximity to each other. The US Geological Survey recommends that management should attempt to protect "areas of adequate size to support multiple McCown's Longspur territories." According to COSEWIC, "heavily-grazed pasture may best approximate the historical short-grass prairie", and that is why current breeding populations tend to focus on such sites in Alberta.

McCown's Longspurs recently disappeared from Minnesota. Biologists hope to prevent that from happening in other jurisdictions where the birds currently occur. A more heightened state of protection appears to be warranted to accomplish that goal, researchers say.

"Winter is the time for comfort, for good food and warmth, for the touch of a friendly hand and for a talk beside the fire: it is the time for home."

EDITH SITWELL

It's Winter!

BY DENNIS BARESCO

The Winter Solstice officially started Dec. 22, at 11:08 pm MST and lasts until the Spring Equinox, March 19, 2008 at 5:48 pm MST.

While the official start day of winter – the longest night and shortest day – was Dec 22/07, "Winter" arrives in Alberta far earlier: more like early October! Perhaps we should adopt the Irish Calendar, where the winter solstice is considered mid-winter.

It is the tilt of the Earth's axis relative to its orbit that causes winter. With the tilt causing the sun to be lower in the sky during winter, the amount of solar radiation hitting us is scattered over a greater area as well as being dissipated by the atmosphere. Ergo – less light, less heat. The opposite, of course, occurs in the Southern Hemisphere, which is why our first day of winter is its first day of summer.

Despite the "blahs" of winter and SADness (seasonal affective disorder), it is the season of the greatest cheer: the celebration of Christmas, the excitement of the New Year! And, it does provide a special calm. In the words of Ruth Stout:

"There is a privacy about it which no other season gives you…In spring, summer and fall people sort of have an open season on each other; only in the winter, in the country, can you have longer, quiet stretches when you can savour belonging to yourself."

"Winter is the season in which people try to keep the house as warm as it was in the summer, when they complained about the heat."

AUTHOR UNKNOWN

Dust of Snow

The way a crow
Shook down on me
The dust of snow
From a hemlock tree

Has given my heart
A change of mood
And saved some part
Of a day I had rued.

ROBERT FROST

"To shorten winter, borrow some money due in spring."

W. J. VOGEL

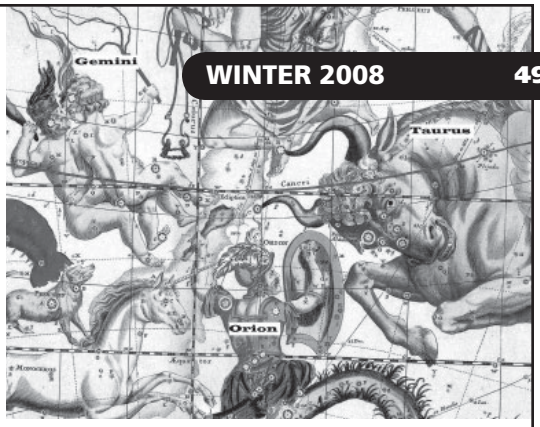
DAVE FAIRLESS

CELESTIAL HAPPENINGS

Starry Nights

Winter/Spring (February to April)

BY JOHN MCFAUL



FEATURED CONSTELLATIONS – GEMINI AND TAURUS

It is under the bright stars of winter that the majesty of the night sky is truly revealed. Sparkling Orion dominates the starry nights of winter/spring. Accompanying Orion across the celestial stage are his two beautiful companions, Gemini and Taurus.

Gemini (The Twins) is above and to the left of Orion. The hallmark of this constellation is the pair of bright stars known as Castor and Pollux. Castor lies above Pollux and is slightly fainter. In Greek mythology Castor and Pollux were half brothers. Castor was the son of queen Leda who was the wife of Tyndarus, the king of Sparta. Pollux was the offspring of a tryst between Leda and Zeus. This made Pollux immortal. The Twins were revered by ancient sailors as their protectors. When they appeared on the Argo, the ship that took Jason to the Golden Fleece, two flames were said to spring from the masts. This is known as St. Elmo's fire. When Castor died the immortal Pollux pleaded with Zeus to have both he and his beloved half brother placed amongst the stars.

Castor is a multiple star system composed of six stars in a gravitational dance. In fact the castor system provided the first proof that gravity operated outside of our solar system. It was in the constellation Gemini that Clyde Tombaugh discovered Pluto which has been recently reclassified as a dwarf planet. Currently the planet Mars can be seen glowing red at the feet of Gemini. Pollux was the first star, which can be seen with the naked eye, to be known to have an extrasolar planet. Currently there are about 250 known planets that are known to exist orbiting other stars.

Taurus (The Bull), found to the west of Gemini, is also a member of the Zodiac. These are the constellations that the Sun and planets traverse on their journeys amongst the stars. Taurus is thought to represent Zeus when he turned himself into a beautiful bull in order to win the favour of Europa, the Princess of Phoenicia. We can only see the head and shoulders of the bull as his back end is immersed in the celestial sea that represents his swimming to Crete with Europa.

The face of Taurus is formed by the Hyades a cluster of stars that represent the seven daughters of Atlas and Aethera. They appear to surround the bright red star Aldebaran which is the eye of the bull. It is a red giant star that is about 38 times the diameter of the Sun. Aldebaran at 65 light years from our Sun is more than twice as close to us as the Hyades.

In the shoulder of Taurus is the beautiful star cluster known as the Pleiades. It represents the half sisters of the Hyades, as they are the daughters of Atlas and Pleione. Being pursued by Orion they changed into doves and ascended into the heavens to escape. They are now being protected from the ardor of Orion by Taurus. The Pleiades are very young stars being less than 100 million years old. They are about 400 light years away.

Near the tip of the southern horn of Taurus is the Crab Nebula. It is the dust/gas cloud that resulted from a super nova explosion that was recorded by the Chinese and possibly by natives of the SW States in 1054 AD. The amount of energy that was released was phenomenal considering that it took place 6300 light years away but was still bright enough to be seen during the day and to read by at night.

CELESTIAL HAPPENINGS

Sun: **Rise** - Feb.1 (08:20 MDT), March 1 (07:20 MST), April 1 (07:06 MST)
Set - Feb.1 (17:15 MDT), March 1 (18:13 MST), April 1 (20:10 MST)
Note: Day Light Savings Time will start on March 9th.

Moon: **Full** - Feb 21, March 21, April 20
New - Feb 7, March 7, April 7
***On February 20th there will be a total eclipse of the Moon.** The eclipse will start about 6:45 pm and become total about 8:00 pm

Planets: **Saturn** is in Leo near the star Regulus. It can be seen in the south–east climbing higher in the night sky as the hours and months progress.

Venus is to be found low in the eastern sky shortly before sunrise. On February 1st it will be very close to Jupiter and on February 26 it will be just below Mercury.

Mercury may be visible at the end of February in the ESE just before sunrise and at the end of April low in the west just after sunset.

Jupiter will be a morning object low in the southern part of the sky.

Mars remains high in the south-west in the evening with the Moon coming very close on the nights of February 16th and March 14th.

Meteor Shower: Lyrids , April 21, 15/hour in a dark sky
The rate of meteors observed is for dark skies well away from city lights and with no Moon.

FAN CLUB PAGE

KEN KILCULLEN

Alberta Native Plant Council

BY ELAINE GORDON (FROM THE ANPC WEBSITE)

The Alberta Native Plant Council (ANPC) consists of a group of people who enjoy wildflowers.

Our membership ranges from people who are expert botanists to people who enjoy reading and learning more about native plants.

We strive to promote knowledge of Alberta's native plants, and conserve Alberta's native plant species and their habitats. Our specific objectives are to educate individuals, industry and governments about native plants, to promote awareness of native plant issues and to co-ordinate information and activities concerning Alberta's native plants.

We strive to develop briefs and position papers for special projects: for example, biodiversity, forest vegetation management, wetlands, rare species and phenology. We organize field trips and update lists of current research and conservation projects. We also preserve nature habitats and plant communities to support legisation that protects native plants, take action to establish, reserve and manage protected areas and to encourage appropriate use of Alberta's native plants.

The Council has four active committees:

1. **Education and Information**. We hold regular meetings over winter months where interesting speakers give talks on plant-related topics. In spring and summer, we run field trips and courses, and co-ordinate activities with other environmental groups.
2. **Rare Plants**. We conduct history studies and monitor populations, set priority lists for rare plants, and assist with populating the rare plant data bank maintained by the Alberta Natural Heritage Information Centre.
3. **Reclamation and Horticulture**. We compile guidelines for defining and collecting native plants, produce lists of native seed and nursery stock suppliers, provide reclamation information to interested groups, and organize field trips.
4. **Conservation Action**. We protect rare Alberta species and habitats by directing public attention to, and lobbying government on the most pressing issues, preparing COSEWIC status reports on rare, threatened or endangered species for national listing, gaining stewardship of natural areas, and monitoring how habitats are affected by development.

BOOK REVIEW

Silence of the Songbirds

REVIEW BY: GEORGE NEWTON

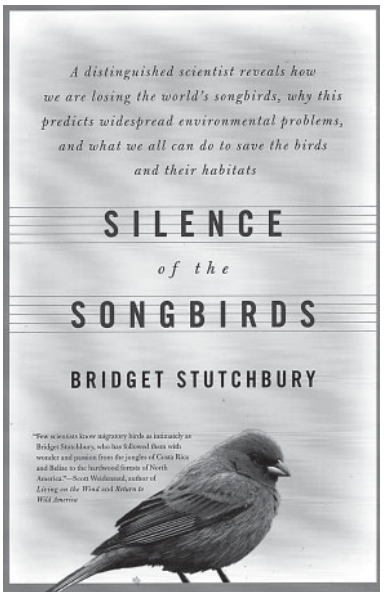
The title grabbed me and the price sold me.

But I didn't recognize the author, and wondered why this new title was being showcased in a bookshop in 'the mountain bike capital of the world', Moab, Utah. Vaguely aware we are losing our songbirds, I gathered (by the praise-filled blurbs on the cover) the book would paint me a clearer picture, and maybe even suggest some real solutions in aid of our vanishing songbirds. Always important in a book, it might also be a good read. Bingo! Bingo! Bingo!

Silence of the Songbirds is a book at once frightening and beautiful. Frightening is the decline of migratory songbird populations across the Americas—you can't read this and not feel alarm. Yet, beautiful is its execution. A professor of biology at York University and a Canada Research Chair, Bridget Stutchbury has taken pains to craft a book on songbird decline for a broader demographic, and she has succeeded.

The 250-page book is targeted for anyone curious about nature or concerned about its loss and degradation. If you happen to like birds then you're in for a real treat (notwithstanding the often-grim storyline). And you don't have to be an egghead to get it. The science is fascinating without being dumbed-down. Stutchbury's lively prose and engaging use of story, metaphor, and concrete example, brighten her whole project—her diction, to take just one example, is always spot on: "crummy" really does describe the habitat remnants some birds inherit. Complementing the info-rich text, which includes an index and detailed references, are lots of telling charts, photos, tables and graphs. Of particular note, prefacing the chapters, are the 13 illustrations by Julie Zickefoose. Each captures superbly the delicate beauty of songbirds. The Wood Thrush virtually jumps off the page! Then in the center, where the book falls open, the reader is greeted by stunning colour photographs of select "feathered jewels"—singing their wee hearts out. ("Meant to hook the uninitiated" I surmise.)

If the 'packaging' doesn't make clear Stutchbury is trying to reach a wider audience, then the content



Bridget Stutchbury. Walker & Company, New York; hardcover.

does – explicitly. And its staging is nicely planned. The first few chapters introduce us to the field of study. Stutchbury states her purpose and method early, to "unravel the mystery of the disappearing songbirds by taking a journey with them." After a taste of the fieldwork in jungles of Panama (and later in Pennsylvania) we get a crash course on songbird migration. We learn about the integral role birds play in ecosystems services, and how songbirds, as bio-indicators, are indeed our canaries in the mine. We then face the gruesome numbers, with a clear explication of how they are arrived at, what they mean, and why we can trust them (very important).

With the stage set, Stutchbury draws back the curtain and jumps to the heart of the matter. Behind the grim numbers, "[t]he threats are almost too many to count: destruction of wintering habitat, pesticides,

George Newton lives in the Mill Creek area of Edmonton in a heritage house with his sweetie Kathy, their hounddog Lewis, and sometimes their kids Elliot and Geoff. When he's not working (and often when he is), his head is buried in a book. Sometimes George paints – oil on canvas. Today, his favourite bird is a Veery.

Book Review: Silence of the Songbirds…continued

cowbirds and other predators, light pollution, and poor breeding habitat" just to name the biggies. In five action-packed chapters, Stutchbury recounts her findings. The source material is her fascinating research and that of her colleagues. But what really animates the plot are the lives of select exemplar species, and how they negotiate or, too often, fail to negotiate, their respective threats. Hooded Warblers "duke it out" for "crummy habitat" in rainforest remnants. Two TV towers in Nashville kill "more than six hundred Ovenbirds and eight hundred Tennessee Warblers, in one night." And for the songbirds in northern forest fragments "[t]he combination of high cowbird parasitism and high nest predation means that overall nesting success is often terrible".

As all this unfolds, the final curtain draws, and it becomes clear—blatantly clear—that behind the scary numbers, and behind their ugly causes, stand you and I in our happy lives. "The dangers that threaten these birds are as varied and complex as their own lives and the world we have created for ourselves." Herein lies the key. And we the readers hold it. It's all in how we choose to live.

Just as humans everywhere contribute to the compromised lives of these "feathered jewels," so too can we contribute to their recovery. Accompanying every man-inflicted assault on our birds, Stutchbury suggests alternative actions and consumer choices that spell real hope. Because "[t]here is no one size fits all" solution to helping our songbirds" the range of things we can, and must, do are many. A small sampling from her final chapter: "Buy shade coffee or sustainable coffee that is organic and fairly traded." (You'll be doing the Wood Thrush and Kentucky Warbler a big favour.) "Buy organic." "Buy wood and paper products that are certified by the Forest Stewardship Council." "Keep your cat indoors." The situation is critical. For these measures to work, a critical mass has to subscribe to them. We need all hands on deck. That means everybody. And that is whom Stutchbury is trying to reach. Recommendation: Buy ten copies and give them to your friends. I'll keep mine close to hand and refer to it often.

Ponderables

"Our well-being is tied not so much to the structure of our society and the politics that determine it, as to our ability to maintain contact with nature, to feel that we are part of the natural order."

BERN HEINRICH, FROM THE SNORING BIRD (ECCO 2007)

WHITE-TAILED JACKRABBIT
IAN GARDINER

NUTTALL'S COTTONTAIL
IAN GARDINER

RED FOX DAVE FAIRLESS

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