VOLUME 36 | NUMBER 1 | SPRING 2006

Nature Alberta

ALBERTA'S NATURAL HISTORY REVIEW

RED SQUIRREL BERTHA FORD
PHOTOGRAPHED ON JUNE 20, 2005 USING A FUJIFILM S5000 DIGITAL CAMERA

feature article

Winter Ticks:
a S-*tick*-y Problem for Moose

FEDERATION OF ALBERTA NATURALISTS

COYOTE RAYMOND TOAL
PHOTOGRAPHED IN 2005 USING A CANON 20D DIGITAL CAMERA AND 300MM F4L LENS

Contents

NATURE ALBERTA VOLUME 36, NUMBER 1, SPRING 2006

PUBLISHED QUARTERLY BY THE FEDERATION OF ALBERTA NATURALISTS, 11759-GROAT ROAD, EDMONTON, AB T5M 3K6

PHONE.780.427.8124 **FAX**.780.422.2663
EMAIL.fan@fanweb.ca

SUBSCRIPTION $20.00 PER YEAR

EDITOR.**BRIAN PARKER** 11759 GROAT ROAD, EDMONTON, AB T5M 3K6
EMAIL.**NA@FANWEB.CA**
EXECUTIVE DIRECTOR.**GLEN SEMENCHUK**
EXECUTIVE ASSISTANT.**KAREN RIMNEY**

PRINTING PERCY PAGE CENTRE ISSN 0318-5440

NATURE ALBERTA DEADLINES ARE:
SPRING ISSUE.**FEBRUARY 14**
SUMMER ISSUE.**MAY 15**
FALL ISSUE.**AUGUST 15**
WINTER ISSUE.**NOVEMBER 15**
CONTRIBUTOR COOPERATION IS GREATLY APPRECIATED.

PRESIDENT'S PAGE

Spring!!!

BY SANDRA FOSS

Well, this time of year, I would be normally be thinking SPRING! However, we have had a very long spring already, and almost no winter.

My resident "gophers" (Richardson's Ground Squirrels), were digging out mid-January, and appeared at the end of that month. The tree squirrels never really went away. Poplar trees outside my window were budding out in January as well.

I usually start my day walking along the Bow River in Cochrane, and there is always something interesting to see. Today, it was a Merlin, and a pair of Bald Eagles. Often, I see deer with young on the far shore, Coyotes or occasionally a Moose. One day I saw a young pelican, somewhat off course. It was able to fly back into the river, and make its way downstream. A bear passed through one night or early morning. On the coolest and iciest of days, a flotilla of mergansers is usually seen, making their way upstream, doing some fishing. Bald Eagles began patrolling early this year. We had a mid-winter drama - a Coyote chasing a White-tailed Deer into the river, repeatedly. I don't think it ended well for the deer. There can't be a lot to eat for the deer, with all the grasses being terribly dry and brown. However, the mice should be fairly accessible for the Coyotes.

The area I walk is supposed to be "developed" soon - homes for 10,000 people, to be built mainly in the flood plain. Then we won't have the pleasure of watching the Osprey dive for breakfast and the geese with their nests and goslings.

The June 2005 monsoons washed islands and chunks of riverbank away, as well as a water intake for a gravel mining operation. The monsoons cleaned a lot of sediment from the river bottom, and made some areas good for trout spawning beds (redds) again. Big rocks, and strategically placed materials for fish habitat didn't move though, in spite of the pathways being washed away.

My dog, the motivator for my twice-daily riverbank strolls, is a good "snake dog". She locates snakes, where they certainly aren't obvious, and so I discovered the sunning spots for the local garter snake population. I wondered how many had gotten into trouble when the river rose, and filled their holes along the bank. Where did they go? Were they able to navigate to higher ground safely? The river ran very high, with debris reaching up the hillside, where in the dark of winter, the ice floes pile up. This year there were no "ice floes" only bits of ice on the river some mornings.

In February, the Bow River was running at the lowest levels I have seen in the 30 years I have lived here (and at the highest last June). Environment Canada has erected a monitoring station by the old bridge in town. When I enquired, I was told that the station will record the river flow at 30 second intervals, and will detect any "water thefts" by the petroleum industry. From this comment, I deduced that this must be a problem.

From my office windows, I have a panoramic view of the Bow valley, overlooking Cochrane. I can see the Rockies to the west and to the south most days, but it really depends on the weather. There has been little snow gracing the peaks this winter. It comes, then vanishes within days with the warm conditions we have had. Grass fires are happening all around,

PRESIDENT'S PAGE

and the view from my window is brown….brown hills and grasses.

We have been fortunate to find enough snow to cross country ski, up near the Divide.

The chinook winds have dried out everything, and blown anything loose on into Saskatchewan. They have kept temperatures warm…..often warmer than what we enjoy mid summer. It is truly a strange part of this very varied country.

Watching the sun rise (or the moon set) over the river is a great way to start the day. Enjoy the longer days now!! Get out and plant your gardens. Do a little 'naturescaping' to attract birds and butterflies, and other creatures. Get out your binoculars, if you ever put them away. The birds are returning, and building nests. If you are out banding, take appropriate precautions. Volunteer for a natural history club, and meet new friends. Most of FAN's member clubs need help on their Boards, to make the clubs even better!!

Congratulations to all the wonderful volunteers that keep things going - read about a couple in this issue. Enjoy SPRING!!

ADOPT-A-PLANT (APA)

WORKSHOPS – SPRING 2006

In 2006, Adopt-a-Plant Alberta (APA) is launching its first year of operation with the presentation of three rare plant workshops.

The first one will be a joint APA/ANPC Workshop and ANPC Annual General Meeting on Saturday, **April 8th at the Red Deer College in Red Deer**. The APA/ANPC workshop will provide an overview on rare plants and lichens, where they occur, how priorities are set for data collection, and the Adopt-a-Plant Alberta program. This workshop is suitable for all ANPC members and others interested in rare plants, and is also considered the first training session for APA volunteers. A nominal registration fee will be charged for the APA/ANPC workshop.

The remaining two workshops are identical hands-on, technical sessions devoted to training registered APA volunteers and are scheduled for **May 13th at the University of Calgary** and **May 27th at the Devonian Botanic Garden** (located a short distance west of Edmonton). At both technical sessions, participants will choose a vascular plant, bryophyte or lichen to 'adopt', and learn how to collect valuable rare plant data by developing key skills such as:

- accurately reading maps and air photos
- using a GPS to record plant locations
- applying sound rare plant survey techniques
- filling in ANHIC (Alberta Natural Heritage Information Centre) data forms

Since the training will be the same in both sessions, volunteers may select the location and date that is most convenient. These workshops will be free of charge.

Stay tuned for further details on these events.

To become an APA volunteer, contact:

- **René Belland** (Devonian Botanic Garden). E-mail: rene.belland@ualberta.ca or phone, (780) 987-3054 (Edmonton)
- **Dana Bush** (Alberta Native Plant Council). E-mail: cdbush@telusplanet.net or phone (403) 282-3975 (Calgary)
- **Ed Karpuk** (Alberta Native Plant Council). E-mail: ed.karpuk@gov.ab.ca or phone (403) 340-7114 (work) and (403) 340-7714 (work) and (403) 347-5723 (home (Red Deer)
- **Margot Hervieux** (Alberta Community Development). E-mail: margot.hervieux@gov.ab.ca or phone (780) 538-5603 (Grande Prairie)

Mineable Oil Sands Strategy (MOSS) Consultation Process

After an outcry from Albertans, the provincial government has established a group to guide consultation for oil sands environment and development policy. Perhaps now Albertans can have input into this process, which will have major deleterious effects, on air & water quality, as well as allowing 2800 km^2 of Alberta's boreal forest to be strip-mined. A stakeholder consultation group including representation from environmental organizations, First Nations, industry and government is being asked to revise plans for consulting on policy principles for Alberta's mineable oil sands. Martha Kostuch will represent the ENGO groups, and Rick Schneider (CPAWS Edmonton) will be her alternate. Working with the Cumulative Effects Management Association and other stakeholders, the steering group will review and recommend how consultation on policy principles for the oil sands area should proceed. "Incredible development is going on and is forecast for this area. With some $80 billion worth of projects already announced, this area is key to the energy security of Alberta and Canada," said Energy Minister Greg Melchin. "There is a need to review our policy principles, but how we engage with Albertans to develop them is equally important." The group is to deliver a final report to government by March 31, 2006.

Grizzly Bears

After a long and controversy-ridden delay, SRD Minister David Coutts announced a three year suspension of the spring Grizzly Bear hunt in March 2006, so provincial DNA-based population censuses can be completed. Coutts expressed concern over the number of human caused and female grizzly mortalities. For more information, check the government website: www3.gov.ab.ca/srd/fw/bear_management/index.html

Although there seems to be an increasing number of bear encounters, which some believe indicates high relative Grizzly Bear abundance, increased industrial activity has increased intrusions into and loss of grizzly habitat. As intrusions increase we will likely see more bears on mountain paths and foothills ranches even if their abundance falls.

The following chronicle of events was provided by Jim Pissot, of Defenders of Wildlife.

- Feb 2002 - Alberta Endangered Species Conservation Committee (ESCC) recommends listing the grizzly as threatened (based on assessment of fewer than 1000 bears). The recommendation is rejected. Instead,
- May 2002 - Province initiates population study and convenes Grizzly Bear Recovery Team
- Oct 2003 - Grizzly Bear Recovery Team recommends

Grizzly Bears…continued

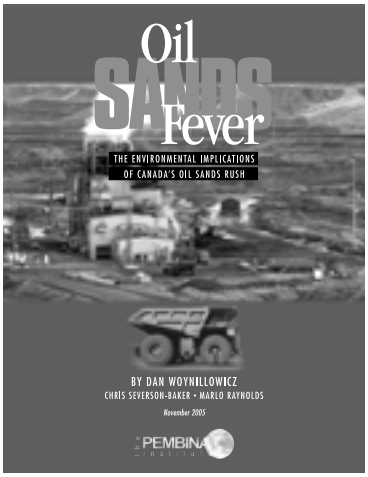
that 2004 spring hunt be suspended; Province rejects recommendation.

- Dec 2004 - Recovery Team submits grizzly recovery plan to Ministry. Recommends suspension of the spring 2005 hunt based on assessment of fewer than 700 grizzlies on provincial lands. Province rejects recommendation.
- Dec 2004 to present - Official plan is not released to public.
- Early 2005 - DNA-based population study completed on first grizzly bear unit. Results withheld.
- Early 2005 - Amended Report on Alberta Grizzly Bear Assessment of Allocation (including population estimates) completed. Results withheld.
- Nov 2005 - Second DNA-based population data set completed. Results withheld.
- Dec 2005 - Alberta Fish and Wildlife, ESCC and external reviewers complete review of Recovery Plan. Results withheld.
- 2005-2006 - Grizzly population information is withheld from ESCC.
- 2005-2006 - Grizzly population information is withheld from provincial Recovery Team.
- 2005-2006 - Grizzly population information is withheld from experts asked to provide peer review of Recovery Plan.
- Jan 2006 - On behalf of the Recovery Team, chair Gordon Stenhouse requests updated population information from the Province, reiterates recommendation to suspend the hunt, and urges implementation of the Recovery Plan completed 13 months earlier. Request for information rejected.
- Jan 2006 - Gordon Stenhouse is removed from his position as the province's Grizzly Bear specialist.
- March 2006 - ASRD Minister David Coutts releases population information for the central part of grizzly range, as well as mortality tables, and suspends spring hunt for 3 years.

Pembina Institute

Although companies have been mining the oil sands since the late 1960s, little was known about how these operations impacted our air, land and water. All that changed with the release of Oil Sands Fever, Pembina's new book about the environmental implications of oil sands development. The book was launched along with their new multi-media website at www.oilsandswatch.org.

Early last year the Climate Action Network (CAN) — of which the Pembina Institute is an active member — challenged governments on the subsidies allocated to Canada's oil and gas industry. The Pembina Institute report, written for CAN, revealed that the federal government gave



Canada's oil and gas industry more than $1.4 billion in tax concessions and other subsidies in 2002. Check it out at: www.pembina.org/newsitem.asp?newsid=126&section

Government breaks policy to allow industrial use of Little Smoky caribou range

"The new sale of oil and gas land leases in the heart of habitat for the Little Smoky Woodland Caribou herd, and logging by West Fraser are contrary to the government's own policy," says Helene Walsh of CPAWS: The 1996/1997 Operating Guidelines for Industrial Activity in caribou ranges in West Central Alberta state: "Industrial activity can occur on caribou range provided the integrity and supply of habitat is maintained to permit its use by caribou."[1]

In 2004 an assessment of the caribou habitat in the Little Smoky was published by the logging companies active in the ranges, and the Alberta Government.[2] It concluded that the Little Smoky range "...does not currently provide habitat conditions sufficient to maintain stable caribou population growth..." "Therefore, the industrial development that the government is allowing in the Little Smoky range is a complete disregard of their own policy" says Walsh. "The government, West Fraser and the petroleum industry involved in the lease sale are all acting against government policy. Canfor, on the other hand, has deferred their logging activity in the Little Smoky range for two years to allow planning by the new Alberta Caribou Committee to precede more development. That is the kind of progressive action we are expecting from other industry," she says.

The Little Smoky herd has been designated by government committee as at "immediate risk of extirpation," and the newly established Alberta Caribou Committee is supposedly focusing first on the recovery of this and adjacent herds. Meanwhile the government is undermining the efforts of this committee by permitting logging and new petroleum leasing in a caribou range that is already inadequate for caribou.

FAN and other Alberta and national conservation groups have filed a petition (see fanweb.ca and look under News) asking the federal government to declare an emergency order under the Species at Risk Act (SARA) to protect Alberta's remaining Woodland Caribou and their habitat

"It is this kind of failure by the Alberta government that supports the conservation groups petition to the federal government asking them to step in under SARA and ensure the survival of the Little Smoky herd and others in Alberta," says Glen Semenchuk, Executive Director of FAN. "The new lease sale is just one more indication that the Alberta government is out of step with the public on the environment," says Cliff Wallis, past president of the Alberta Wilderness Association. "In the Its Your Future survey, Albertans ranked environment almost as high as education and health in priority. The government promised to listen to Albertans, but it seems they are not," says Wallis.

For more information contact:

David Samson, Alberta Wilderness Association, (403) 283-2025
Glen Semenchuk, Federation of Alberta Naturalists, (780) 427-8124
Cliff Wallis, Alberta Wilderness Association, (403) 271-1408
Helene Walsh, CPAWS Edmonton, (780) 922-0908

[1] West Central Alberta Caribou Standing Committee. 1996. 1996/1997 Operating Guidelines for Industrial Activity in Caribou Ranges in West Central Alberta.

[2] ANC Timber, Canfor, Weldwood, Weyerhaeuser, Alberta Fish and Wildlife. 2004. Caribou Habitat Assessment in the Little Smoky/ A La Peche Region, West Central Alberta. 43 pp.

Yellow-Bellied Sapsuckers 2004

BY DEBBIE GODKIN

The deliveryman spotted my pellet gun sitting on the table as he rolled our new fridge in through the back door. "Shooting those damn sapsuckers are you?" he asked.

ADULT MALE SAPSUCKER DEBBIE GODKIN

Before I could tell him that I used it to scare off Coyotes, he added, "I winged one that was pecking on my apple tree, but before I could finish it off, my dog got to it first and bit its head right off." I wanted to tell him that the sapsucker was only doing what instinct dictated it to, unlike us humans, who have free will to choose our course of action. But before I could reply, he asked, "Where do you want this fridge?"

I marked the day (May 7) the sapsuckers returned to our property, as I do for every species of bird that I spot in our yard during spring migration. I always seem to hear them drumming on a branch, proclaiming their territory, before I see them. A pair had excavated a hole in a live poplar tree down at the far end of our horse pasture. A few days later we found that they had abandoned the site and had drilled a new hole in another live poplar not far from the first.

On June 15, I noticed the sapsuckers had drilled orderly rows of small, square wells through the bark of two saskatoon bushes on the edge of our lawn. The following day I wheeled across the lawn and parked some 20 feet away from the closer of the two bushes, with the intent of taking a few pictures. The female appeared first, with an insect protruding from her beak. She collected some sap and flew off in the direction of the nest. She returned within 5 minutes and repeated the process. I realized that the young had hatched, and she was packing food to them. The male showed up about a half-hour after the female's appearance. He was more wary, and landed on the bush farthest from me to collect sap.

The next day the male came three times in an hour, landing on the bush closest to me. I took advantage of his proximity and the good light and took several frames. The female continued to come at 3-5 minute intervals. I noticed that they always caught an insect before collecting sap. I spent an hour every day for the next two weeks, weather permitting, observing the sapsuckers. During this time the female continued to come for sap every 3-5 minutes, while the male was more elusive and only came 2-3 times an hour. For the female that's 12 trips an hour, from about 5 am to 8 pm, or roughly 180 trips a day. What busy parents these birds are!

A squirrel found the sap wells and helped himself to it daily, as did a few chickadees, two nuthatches, and one female hummingbird. When the squirrel stole sap from one bush, the sapsuckers collected from the other. On one occasion the female landed on the same bush as the squirrel. The squirrel made a dash for her, getting uncomfortably close. They were only inches apart before she flew to a safer branch.

ADULT FEMALE SAPSUCKER DEBBIE GODKIN

Yellow-Bellied Sapsuckers 2004. . .continued

On July 1, I went down to the nest and took a picture of the male. He came several times to feed the young in the half-hour that I was there. Where was the female? I returned to the saskatoon bushes to look for her. An hour went by, then two, but still no female. I feared the worst. Maybe a squirrel, hawk, or our barn cat had killed her. I wondered if the male could raise the young on his own. The next afternoon I observed him again. He flew off as I arrived, but returned within minutes. He had picked up the pace and was collecting sap every 5-10 minutes.

On July 12, I was sweeping the deck when I heard a ruckus. I looked through the binoculars and saw the male feeding an immature female. It was cool, and the mosquitoes were swarming, but I couldn't resist. I followed the trail across the lawn, parked in my usual spot, and scanned the trees. In a few minutes the male came, and the incessant cries of the immature revealed its location. It had been in plain sight, but I couldn't see it when it remained still, its dusty brown color blended in with the gray and brown branches. The male ignored its cries and made another trip to the nest before he fed the immature female.

The next day, a second immature followed the male to the feeding shelf. The pale red on its crown and throat identified it as a male. I knew there had to be another young one, as the male continued to pack food to the nest site. Several days later, I spotted the third immature. It was another male, but with better-defined markings. I was amazed at how well the adult male kept track of his young. He always knew where each one was, and whose turn it was to be fed. I never saw him feed the same one twice in a row. I suspected there was yet another youngster, as the male continued to pack food, but used a different flight path than before. I assumed the last youngster was doing a lot of moving around.

I managed to get a few frames of the three immature sapsuckers over the next 11 days. I was surprised how unconcerned they were with my presence. Only when I raised my arm fast to slap a mosquito did they retreat into the bush and even then they resumed feeding on the sap within a few minutes. The male continued to feed them at 5-10 minute intervals.

I don't know how the immatures managed to survive the squirrel's attempts on their lives. The squirrel showed up between 2 and 4 pm most days, and would chase after the young repeatedly, not allowing them to return, until it had filled up on the delicacy. I saw a squirrel decapitate a Pine Siskin once, and get close enough to a Downy Woodpecker to pull a few feathers from its wing! A second squirrel also found the sap to be irresistible. But squirrel number one wasn't about to let the intruder get near the sap and pursued it relentlessly.

July 24 was hot and muggy. I didn't feel like checking on the sapsuckers, but headed outside anyway: the month was nearly gone and the sapsuckers would be leaving soon. I took my camera along hoping to get a few more pictures. I was glad I went, because it was the only time I would see all four immatures and the male together at the same time. A second immature female had joined the rest of the family. She was clinging to a dead poplar tree with her wings spread and talking constantly. The male ignored her complaints, and fed one of the two males before he fed her. She continued to

JUVENILE MALE SAPSUCKER DEBBIE GODKIN

Yellow-Bellied Sapsuckers 2004. . .continued

complain and I wondered if she was stressed out because of the heat, although the other sapsuckers seemed unaffected.

Over the next week I saw all the immatures around the yard, except for the noisy female. She seemed intent on staying hidden. The male returned to feed her every few hours throughout the day. The sap appeared to have stopped flowing and the male hadn't drilled any new wells. The female remained vocal, but grew quiet whenever I approached and circled to the back of the tree. She stayed in the saskatoon bushes until the last day of July. By August 1 the male had left, but the young could still be seen about the yard until August 7.

I was going to miss them. But the fall migration had started. There were over 50 Pine Siskins, the largest number I have ever seen here, and several warblers in the maples. I spotted a Canada, and a Black-throated Green Warbler, neither of which I had seen in the yard before. It promised to be a great fall for an obsessive birder.

Sneaky Sharpie & Scared Sparrows

BY DENNIS BARESCO AND PHIL HORCHA

Well known birders Ben Velner and Phil Horch live on opposite ends of Medicine Hat, but both are reporting continuous visitations of a Sharp-shinned Hawk supping at their bird feeders in the past month.

Ben believes that his long-time over-wintering Mourning Dove may have become prey to the Sharp-shinned Hawk. However, the largest male Eurasian Collared-Dove, one of seventeen of this species that has been frequenting his backyard this winter, does not seem to be intimidated. In fact, it has actually chased the Sharp-shinned Hawk away.

Meanwhile, Phil reports that his 80 or so House Sparrows and House Finches and his single White-Throated Sparrow have all disappeared from his feeder since the Sharp-shinned Hawk has become a regular visitor. On two occasions, he has observed the hawk capturing House Sparrows. The hawk will perch deep inside a lilac bush and pretend to fall asleep; but as soon as a sparrow shows up, it explodes from the bush and pounces. It's all over in a second.

On another occasion Phil observed the hawk perched on his fence when three magpies landed beside it creating a great racket. The closest magpie then started edging sideways closer and closer to the hawk until they almost touched, at which point the hawk flew up, dove toward the magpie - then flew away without actually making contact.

The Sharp-shinned Hawk is our smallest Accipiter, a woodland hawk that feeds primarily on birds. Very few over-winter in Canada, but judging from reports coming from across the country, they are becoming more common.

BLOOD-ENGORGED ADULT FEMALE WINTER TICK, ~1.5 CM IN LENGTH
PHOTO COURTESY JOHN AND LEAH VUCETICH

Winter Ticks:

A S-*tick*-y Problem for Moose

BY BILL SAMUEL

Moose in Alberta are host to a unique and amazing pest known as Winter Tick. Moose may host large numbers of ticks with some Moose populations averaging well over 20,000 Winter Ticks per Moose.

Die-offs of Moose associated with, or attributed to, Winter Ticks are widespread and have occurred since the early part of the last century. In Alberta there have been several die-offs of moose in the last 25 years. Thousands of Moose died in the winters of 1981-1982 and 1998-1999; those Moose were, for the most part, covered with Winter Ticks.

This raises the question of whether conditions are right for a die-off this winter? Will it be a good or bad year for Winter Ticks on Moose? How many Moose will die? Because it has been a dry and mild winter through mid-February, when I write this, it is tempting to predict that Alberta's Moose will do well this winter regardless of the number of ticks they are hosting. Moose have not had to work hard acquiring forage. Thus, they should be entering the last stages of winter in good physical condition, which will help them deal with attacks from ticks.

Before getting into more detail on the interactions of Moose and Winter Ticks, here is a short primer on Winter Tick biology. The Winter Tick, *Dermacentor albipictus*, parasitizes all Moose populations in Canada and the United States except for those in Alaska, Newfoundland and far northern Canada. In Alberta, Moose, elk and deer are the main hosts. Every individual of these host species likely becomes infested every year of its life. In relative terms, deer suffer little because they carry the fewest ticks (usually in the hundreds), elk have moderate infestations (up to a few thousand ticks), and Moose may host many thousands. Other animals such as caribou may become infested, along with the occasional horse that pastures in areas with Moose or elk.

Winter Ticks differ from all other ticks in Canada in that they complete their entire life cycle on one animal. All three blood-feeding stages, larva, nymph and adult, feed on the same individual animal over winter. After the ticks attach to Moose in late summer and autumn, each life-stage feeds on blood. The larva takes a small meal on acquiring a host in September or October. Nymphs take a larger meal of blood, primarily from late January through March, and adult females consume a very large meal, primarily in late March and April. After adult females feed they drop from their hosts to lay eggs in the layer of decomposing vegetation that lies on the ground. Host animals are free of ticks over the summer as the young ticks develop on the ground, but tick larvae climb vegetation and re-infest hosts in late summer and autumn. The cycle is completed year after year on each host animal.

Each year in Alberta, about this time, Moose begin to show the telltale signs of infestation with Winter Ticks. As the ticks begin to bite Moose in earnest in late January through April, Moose experience a huge

MOOSE BEGIN GROOMING IN RESPONSE TO TICK BITES IN JANUARY WITH THE FIRST BROKEN AND LOST HAIR APPEARING ON THE NECK. NOTE THE CLUMP OF SEVERAL THOUSAND TICKS JUST BELOW THE BALD AREA (ARROW) PHOTO COURTESY PARKS CANADA, ELK ISLAND NATIONAL PARK.

BY MID TO LATE MARCH, GROOMING AGAINST TICKS CAN DESTROY MOST OF THE WINTER COAT, AS SHOWN BY THIS THIN 'GHOST MOOSE' PHOTO COURTESY LEAH AND JOHN VUCETICH.

sensation of itch. Humans scratch in response to the itch caused by a biting mosquito, but Moose respond to tick bites with a repertoire of grooming behaviours including scratching with hind hooves, rubbing against woody vegetation, and licking and chewing. Initially, grooming against ticks causes little damage to their winter coat, but in years with high numbers of ticks, the end result can be much damage to, and loss of, the winter coat. These "ghost moose", with their coat in tatters, or mostly gone, are potentially in big trouble. They may suffer anemia from loss of blood, other physiological effects, spend less time feeding as grooming time increases, have reduced stores of body fat, and experience hypothermia (if Moose, particularly calves, experience severe cold and snow in late winter or spring).

A combination of factors contributes to a die-off of a Moose population. Severity of winter, numbers of Moose, quality and quantity of food, and numbers of ticks on moose are mentioned most often. Weather and Moose density are probably the two most important factors controlling tick density in the environment. Moose acquire their ticks in late summer and autumn when the youngest life stage climbs vegetation, forms in clumps and ambushes Moose as they pass by. The transmission period normally runs from mid-September through the beginning of cold and snowy weather in October or November. This past autumn, with its mild temperatures and little snow, tick larvae were alive and active on vegetation well into December, thus extending the window of transmission by almost 2 months. Ticks benefit if autumn is warmer than average.

Weather at winter's end is also important for ticks. Blood-fed adult female ticks drop from Moose in late March and through the month of April, in order to lay their eggs. If females drop onto snow, they tend to die before getting to the duff layer next to the soil. Thus, a cold, snowy late winter and spring should result in decreased survival of female ticks, while warm weather at this time should result in increased survival and more tick larvae to attack Moose the next autumn.

A colleague in Prince George, British Columbia, where Winter Ticks cause lots of problems for Moose, has found that Moose die-offs tend to occur in years following low snow cover in the previous late winter-spring period. In Alberta, there was little snow during the winter-spring preceding the die-off winter of 1998-1999, suggesting that Moose entered the winter of 1998-1999 with many ticks. Also, there were widespread die-offs of Moose across North America from 1988 to 1990, and in 1992, all attributed to high numbers of Winter Ticks, the increasing numbers of which were thought to be driven by warm weather in the preceding winter-spring periods.

TICK LARVAE CLIMB VEGETATION IN LATE SUMMER AND AUTUMN, FORM IN CLUMPS AND ATTACH TO PASSING HOSTS SUCH AS MOOSE.

Winter Ticks: A S-*tick*-y Problem for Moose. . . continued

Changing climate may affect tick-moose interactions in the future. I am no expert on climate change, but we have all observed that recent winters have been milder than those in decades past. Average dates of snowmelt have advanced into March, when they used to occur in April. More research needs to be done, but shorter, milder winters appear to increase survival and transmission of ticks to Moose.

Tick numbers are also known to track Moose numbers; as Moose numbers increase, so does the numbers of ticks. Over a 10-year period, when tick and Moose numbers were monitored in Elk Island National Park, there was a 1-year lag in tick numbers tracking increasing Moose numbers. When densities of Moose approached 3 Moose km^2, the average numbers of ticks approached 50,000 to 60,000 per Moose the following year, when die-offs of Moose occurred.

Another Moose density related factor likely involved in Moose die-offs is the lower availability of forage for Moose when Moose numbers are high. Moose at low densities have access to abundant vegetation on which to feed, but at high densities, Moose saturate their environment, from a food perspective, as they also saturate the environment with ticks. It gets even more complicated if we remember that biting ticks cause Moose to groom, thus distracting them from eating at winter's end. In the end, Moose body condition and health decline because of deteriorating food supply and high numbers of ticks.

When Moose die-offs occur, they usually are spread over two winters. Many ticks that occur on Moose in the first year of the die-off drop from both living and dying Moose and lay eggs that will become a large crop of young ticks over summer, to then attack Moose in the second winter.

As for predicting Moose losses this winter, in the Edmonton region we know that autumns 2004 and 2005 were mild with no snow (good for ticks and Moose), and there was snow on the ground in March and April 2005 (bad for ticks). This winter has been mild to date (good for Moose). Moose densities appear to be high, but time will tell if Moose will fare well or not. Several things are certain: (1) tick problems are not likely going away anytime soon; (2) tick-related die-offs of Moose will occur periodically, and (3) problems for Moose might increase given the current trend toward milder winters.[1]

FOOTNOTES:

1. For more information on this subject see Samuel, Bill. 2004. White as a Ghost: Winter Ticks & Moose. Volume 1 Natural History Series. Federation of Alberta Naturalists, Edmonton, Alberta. 100 pages.

Glen Semenchuk

Honoured with the Alberta Centennial Award

BY ELAINE GORDON

In January 2006, the Honourable Gary Mar presented Glen Semenchuk, Executive Director of FAN, with the Alberta Centennial Medal for his many years of dedicated work on behalf of natural history in Alberta.

This prestigious award celebrates Alberta's first 100 years by paying tribute to Albertans whose achievements have benefited their fellow citizens, their community and their province.

Glen has made an outstanding contribution to the Province of Alberta and the growth of FAN as an influential and well-respected organization. Under Glen's leadership and guidance, FAN has gained respect and recognition as a provincial organization with a balanced and moderate viewpoint and as an advocate for wildlife and wild spaces. He has been a coach, mentor and educator for the organization and the general public. There is no one more deserving of recognition for his dedication to teaching the preservation and conservation of wildlife in Alberta.

Glen's involvement with FAN began in 1988 when he represented the Alberta Sport, Recreation, Parks & Wildlife Foundation on the Management Committee of The Atlas of Breeding Birds of Alberta Project. He took on the task of Editor for the final year of this enormous project and, as such, he brought the project to successful completion including the publication of The Atlas of Breeding Birds of Alberta in 1992. Glen was subsequently hired as our Executive Director. Although he was paid on a half-time basis, Glen worked in a full-time capacity, volunteering a tremendous number of hours. In addition to his administrative skills, his accomplishments include the following:

1. He was a founding member of the Alberta Conservation Association (ACA) and served as its Chair for its first 3 years.
2. He is Chair of the ACA's Grant Eligible Committee.
3. He was Chair of the Edmonton Community Lottery Board Grant Committee.
4. He served on the Board of Alberta Ecotrust.
5. He represented FAN on numerous Government committees studying threatened and endangered wildlife (Caribou and Grizzly Bears) and forest management issues.
6. He supported the hiring of students for summer employment, providing them valuable experience in the completion of their studies.
7. He is instrumental in guiding the project leaders and volunteers of the Update of the Atlas of Breeding Birds of Alberta, the Important Bird Areas Project, Living by Water Project, Alberta Birdlist Program, Prairie Nest Records Scheme, Provincial Bird Species List, and Opportunities for Birders
8. Glen encourages the initiation of conservation and wildlife management projects by teaching courses on effective fund-raising techniques.
9. He raised over $2 million towards and worked in conjunction with the Royal Alberta Museum (RAM) to complete the new wildlife gallery, Wild Alberta.

Glen Semenchuk Honoured with the Alberta Centennial Award. . .continued

10. He presently is working with the RAM in the planning and building of its expansion, including a Resource Room that will be facilitated by FAN and the ACA
11. He has made natural history publications a top priority of FAN, thereby contributing to the education of the general public on conservation matters and wildlife.
12. Glen co-authored The Federation of Alberta Naturalists Field Guide to Alberta Birds (1998)
13. FAN has received the Premiers Award of Excellence (1998 & 2004), the Emerald Award (1992), the Bighorn Award (1990), and the ESSO Volunteer Recognition Award.

Glen Semenchuk is known as the voice of conservation in Alberta, and has gained the respect of a huge community.... from the RAM, to the FAN board and volunteers, politicians, industry, native leaders and the environmental community. He represents Alberta's interests with Nature Canada and has made FAN one of the strongest natural history organizations in Canada!

Glen, on behalf of all of us, Thank you for your representation and guidance over the years. There is no one more deserving of this honour!

(Thanks to Pat Clayton, Don Stiles, Petra Rowell and Sandra Foss for contributing data for this article)

> *"To laugh often and much; to win the respect of intelligent people and the affection of children; to earn the appreciation of honest critics and endure the betrayal of false friends; to appreciate beauty; to leave the world a bit better whether by a healthy child, a garden patch or a redeemed social condition; to know that even one life has breathed a bit easier because you have lived. This is to have succeeded."*
>
> RALPH WALDO EMERSON

Ian Halladay

Honorary Member of the Federation of Alberta Naturalists.

BY MIKE ROGERS AND SANDRA FOSS

Ian Halladay is a quiet and hard-working individual. His contributions to the preservation, understanding and appreciation of the natural areas of Calgary and Alberta have been outstanding.

All Albertans have benefited from Ian's efforts to preserve Calgary's cherished parks and natural areas.

Ian has been involved with Calgary Field Naturalists' Society (CFNS) since its inception over 40 years ago. In the early 60's, after joining the Calgary Bird Club in 1958, Ian helped build the club into a more inclusive organization: the CFNS. The CFNS has since helped preserve and protect valuable natural areas in and around Calgary. Ian sat on the CFNS' executive for many years (and as President for 1961-62 and 1966-67), helped with field trips and study groups, compiled data for the society's publications and was always friendly and helpful. He was co-editor of Pica, which documented natural history events and happenings in the area, for several years. In recognition of his service, Ian was named the second honorary member of the CFNS.

Ian was the local co-ordinator of the annual Audubon Society Christmas Bird Count in Calgary for 30 years beginning in 1968. These counts, which have been held across North America for almost 100 years, provide information on the size and distribution of winter bird populations. Also, for more than 30 years, he has conducted Breeding Bird Surveys across southern Alberta. It is these records which, when compiled into a continent-wide database, helped pin-point the difficulties encountered by the Peregrine Falcon in the 1970s and raised the current concerns with songbird populations.

One of Ian's early contributions was his recognition of the value of what is now the Inglewood Bird Sanctuary. Ian was instrumental in having the area declared a Federal Migratory Bird Sanctuary in 1968, and this included negotiating with bulldozers! Today the Inglewood Bird Sanctuary is the cornerstone of Calgary's natural history education programs and a major resting place for migratory and resident breeding birds.

In the late 70's, after helping to preserve and protect Glenmore-Weaselhead, Fish Creek and Edworthy parks, Ian worked for the preservation of Nose Hill Park. From its start as a dream put forward by local residents and the CFNS, Ian served on the original steering committee and the subsequent citizen advisory management committee. In recent years he has been working on yet another venture, a plan to preserve the old Cominco property in SE Calgary, between Deerfoot Trail and the Bow River, as a natural park.

Ian helped research, write and fundraise for the book "A Popular Guide to Calgary's Natural Areas", which provided income to the CFNS for many years, and led many Calgarians to discover their wonderful outdoors! Ian was also a founding member of FAN, in order to create a group to lobby the province for legislative change. He served as CFNS' elected Director to FAN in 1970, and was FAN Vice-President for 1971-72.

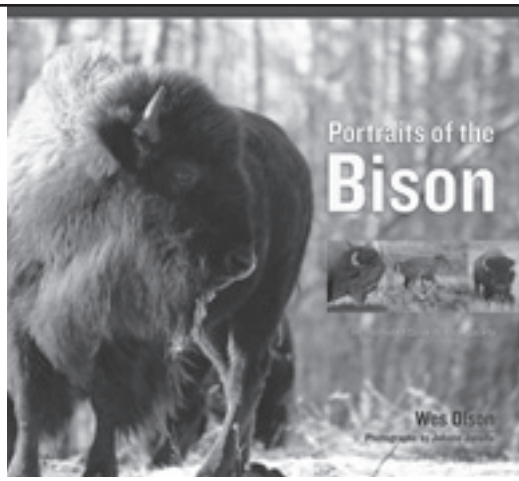
Throughout his involvement in the preservation of natural areas and protection of wildlife, Ian has shared his knowledge of nature and enthusiasm for the wonders of the natural world. He is an inspiring speaker, gifted writer and wonderful field trip leader, a truly great Calgarian who was recognized as Calgary's Environmental Citizen of the Year in 1998. Ian has made and continues to make significant contributions to natural history knowledge and the preservation of special areas of the province.

BOOK REVIEW

Portraits of the Bison

An Illustrated Guide to Bison Society

REVIEW BY LAURIE L. LYWAK



by Wes Olson
Photographs by Johane Janelle. B&W drawings and colour photographs. 10.875" x 10". 120 pages, $39.95 CDN. The University of Alberta Press. Natural History. ISBN 0-88864-432-9

In leafing through this book, my first thought was it was a tribute to Olson's several decades of personal experience observing Bison and their behaviour.

His dedication to the Bison comes through in his willingness to share his accumulated knowledge of the history, social structure, and life cycle of Bison with the public. I think Olson's real legacy will be generating interest among young people who will become inspired by this book. I can think of no better way to interest a novice in Bison than to sit down with him/her and leaf through all of the colour photographs and drawings, which occupy about half of the book (although some of the photographs appear grainy or slightly out of focus). Nonetheless, this book will make a great addition to a coffee-table book collection.

A novice naturalist will find the book a good introductory, easy to read guide to Bison. The text and photographs transmit a wealth of information. Olson's line drawings complement the photographs nicely, providing the reader with a powerful reference for easy and accurate identification. The book guides the reader, step by step, through the process of determining the age and sex of Bison, bringing this ability within the reach of every novice. Olson has avoided technical jargon and translates information and technique into easily accessible form, which is helpful for the novice. And Olson doesn't stop with live animals. The back pages of the book offer a simple key for determining the age and sex of a Bison skeleton in the field or for separating cow and Bison skulls where they both might occur. In a comfortable afternoon's read, a novice should be able to use the guide to learn the basics of Bison society, understand Bison behaviour and learn how to safely watch a herd.

The author alerts naturalists to the dangers of watching Bison, which, every year, injure more people than do bears. When people get too close to Bison, and violate their aggression 'bubble', he points out that they can be charged, and in some cases injured. For an interesting and enjoyable visit between people and Bison, Olson offers tips on Bison safety: keep a safe distance away and watch for subtle changes in Bison behaviour. The author emphasizes safety education and awareness of Bison as something from which everyone can benefit. Developing a strong respect for Bison, Olson emphasizes, will keep our visits safe. It is this respect that Olson hopes to encourage and advance with his book.

I recommend this book to all naturalists interested in this amazing animal. I envisage this book in the hands of tourists, Bison enthusiasts, photographers, naturalists, young people and anyone else who admires the wonder of Bison.

"Look deep into nature, and then you will understand everything better."

ALBERT EINSTEIN

Sandpiper Researchers

Discover New Use for Snot

BY DICK DEKKER

Have you ever wondered what sandpipers eat? Those nervous little fluff balls that roll along the waterline as if they are mounted on wheels instead of legs.

THE MOST COMMON SANDPIPER IN CENTRAL ALBERTA IS THE SEMIPALMATED SANDPIPER. IT BREEDS IN THE ARCTIC REGIONS AND MIGRATES THROUGH ALBERTA IN LATE APRIL AND MAY. RETURN PASSAGE OCCURS BETWEEN LATE JUNE AND SEPTEMBER. BRIAN GENEREUX

Hyperactive, their bills going like a sewing machine, they scurry ceaselessly across wave-washed mud or sand that seems to us barren of all life. It is well-known that sandpipers pick up a variety of aquatic worms, crustaceans, and insect larvae. But could it be that they have other feeding strategies as well?

An unexpected answer arrived in January of 2003, when I attended the Western Sandpiper Conference at Simon Fraser University in Vancouver. One of the presenters was Dr. Robert Elner, a bird biologist with the Canadian Wildlife Service at Delta, B.C.

"I asked myself the same questions," said Bob. "What exactly do sandpipers eat?"

To get at the facts, he had begun by examining the stomach contents of the Western Sandpiper, a species that breeds in Alaska and migrates along the Pacific coast, but is rarely seen in Alberta. The stomachs revealed only a soup of unrecognizable material. Bob sent some bird specimens to his colleague --Dr. Peter Beninger at the University of Moncton-- who took scanning electron micrographs of the birds' bills and tongues. Enlarged a hundred-fold, the images revealed some astounding detail. The tongue was covered in a dense mass of bristles and coated with viscous mucus. "The mucus or 'snot' gave us the idea," said Bob in his slight British accent and with an amused grin. "It is the same stuff that kids get out from their noses, and as any schoolkid knows, snot sticks to snot."

So, could the combination of closely spaced bristles and mucus provide the birds with a tool to lift something equally sticky from the mud? And what could that be? A careful look at the tideflats of B.C.'s Boundary Bay told Bob little, but if he used a squeegee and cleaned off a section of mudflat, the birds quickly passed over it without much pecking. This suggested that the sandpipers were feeding directly on the surface film. Elner termed it "biofilm," a thin mucus soup secreted by bacteria and diatoms, with residues of organic matter from dead plants and animals left behind on the tideflats. Beninger found that this biofilm is essentially composed of acid mucopolysaccharide, a class of molecules characterized by high viscosity (allowing peeps to pick it up) and low solubility (allowing it to form and persist even when rained upon or covered at high tide).

THE WESTERN SANDPIPER IS RARE IN ALBERTA. THIS PHOTO WAS TAKEN AT A SLOUGH JUST NORTH OF BEAVERHILLS LAKE IN MAY 2004.
BRIAN GENEREUX

Sandpiper Researchers Discover New Use for Snot…continued

In May 2005, sitting on a stone by the shores of Beaverhills Lake in Alberta, I watched hundreds of sandpipers file by the waterline. These were Semipalmated Sandpipers, about the same size as the Western, but with a shorter bill. Delightfully tame, some of these Arctic migrants passed by no more than 2-3 m away. The up and down movement of their bills was as regular as clockwork. These birds were definitely not foraging in a hunting or searching mode. If that had been the case, they would have been stabbing right and left to selectively snap up midges, fleas or other small creatures. Instead, the sandpipers ran by on a rather straight course, their bills bobbing up and down like little pistons at a rate of 2-3 strokes per second. After the flock had flushed --alarmed by the stoop of a Peregrine Falcon-- I examined the mud and found a neat web of dotted lines where the sandpipers had been feeding. The dots were evenly spaced and about two cm apart. Mindful of my earlier conversation with Bob Elner, I realized that I might have seen additional evidence supporting his hypothesis. This species could be using its "snot" and bristled tongue as eating utensils to pick up biofilm as well. A graphic designer from way back, I understood how this could work. In those pre-computer days, artwork for printing was assembled on paper, and the usual glue was rubber cement. We used a blob of semi-dry cement to pick up and remove excess glue from the paste-up. Of course, all of this is not as strange as it may seem, licking a dinner plate with a sticky tongue comes naturally to all cats, dogs, kids and other gourmets.

This discovery was recently published in Marine Biology:

Elner, R.B., P.J. Beninger, D.L. Jackson, and T.M. Potter. 2005. Evidence of a new feeding mode in Western Sandpiper (*Calidris mauri*) and Dunlin (*Calidris alpina*) based on bill and tongue morphology and ultrastructure Marine Biology 146:1223-1234.

Acknowledgement:

I thank Dr. Robert Elner and Dr. Peter Beninger for their review of and input to the above article.

FOOTNOTES:

1. As of February 2006, additional evidence for biofilm feeding by sandpipers has been reported by ornithologists on the Canadian east coast, in France and on sandpiper wintering range in Cuba.
2. In May 2006, Dr. Bob Elner and a colleague from Simon Fraser University might visit Beaverhills Lake to study biofilm feeding there, providing the mudflat habitat is suitable to attract masses of Semipalmated Sandpipers.

FAN CLUB PAGE

The Boreal Centre for Bird Conservation Takes Flight

BY AMY WOTTON

The dream of creating the Boreal Centre for Bird Conservation (BCBC) has become a reality.

The Lesser Slave Lake Bird Observatory (LSLBO) has partnered with Alberta Community Development (Parks and Protected Areas), to build a facility in Lesser Slave Lake Provincial Park where boreal bird research and education will be put front and centre. The evolution of the partnership between these two organizations has spurred the creation of the BCBC and allowed the LSLBO and Parks to work together towards a common goal: "to create an environment that supports learning, understanding, collaboration and informed decision making with respect to conservation and sustainability of the boreal forest and boreal birds".

The building is inspired by bird flight in its overall shape and inverted roofline. The upturned roof and overhang is a stylized tribute to a bird's power stroke during migration and flight. At the right angle, the BCBC literally looks ready to fly! The Centre is located in an area of Lesser Slave Lake Provincial Park where services are limited or nonexistent. Along with a desire to design a high performance building, these facts led the partners to adopt a new standard in sustainable building design.

The LEED (Leadership in Energy & Environmental Design) system awards points for "green building" construction. Points are arranged under six categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality, and Innovation and Design Process. The BCBC is setting new sustainability standards in a government building by including:

- Commercial grade composting toilets and waterless urinals
- Rainwater capture and treatment system
- Geothermal heat pump system
- Sustainable building products such as strawboard panels

To celebrate completion of the building and the launch of our education programs, the LSLBO is preparing for the best Songbird Festival ever, which will be held at the new Centre. It will be an exciting, action-packed weekend, shared by dignitaries and politicians, native elders, visitors, and local bird enthusiasts, and offers something to every member of the family.

The festival will begin with a ribbon cutting ceremony and dedication of the building on Friday June 2 by Premier Ralph Klein. The site will be blessed by elders and everyone will enjoy a reception and a tour of the building. On Saturday June 3, the Centre will host the 12th annual Songbird Festival, which begins with a pancake breakfast. Bird banding demonstrations and guided tours of the banding lab, Boreal Bird Experience hikes, tours of the Centre, and the unveiling of the exhibit gallery and new trail system are all part of this year's festival. Children's activities at the festival include building bird houses and a human banding station. This year, entertainer Chris Fisher will also delight the kids. Sunday features the second annual Bird Run/Walk. The 5km walk is on the trails in Slave Lake, while the 10 km run starts at Devonshire Beach and ends at Northern Lakes College in the Town of Slave Lake. Tours of the BCBC will also be available on Sunday as will a birding hike to Lily Lake.

If you find yourself in the Slave Lake area, the Boreal Centre for Bird Conservation is waiting for you. Bring your family and take part in the Songbird Festival and see the amazing environmentally friendly architectural features of the new Boreal Centre and its outstanding exhibits. For driving instructions and more information on the LSLBO, the Boreal Centre and the Songbird Festival, visit our website at www.lslbo.org.

Cover Photo Submission Guidelines

Nature Alberta will accept never before published, high quality photographs of Alberta landscapes, wildlife, flora and related subjects in competition for publication, in full colour, on the front or back cover.

Nature Alberta requires contributors to include the photographer's name, street address, e-mail address (if available), location where photograph was taken, the subject and how the photograph was taken (digital/film camera/lens/filter used, etc.) with their submission. If a photograph includes identifiable persons, it must be accompanied by a signed release granting Nature Alberta explicit permission to publish the likenesses of the individuals in the photograph.

Minor digital/darkroom enhancement of images is allowable, but must be disclosed to the Editor. Composite images, such as generated by adding wildlife to a landscape image or combining two landscape images, are not acceptable. The Editor reserves the right to refuse any image and to crop images to fit the front/back cover page format. Photographs may be held for publication in future issues or, by Editor's choice, may be included as black-and-white images within the body of the magazine.

Submit images either electronically to fan@fanweb.ca or, for film format, by regular mail, to the address provided on the back cover. Although Nature Alberta staff will undertake all reasonable efforts to return original film images to contributors, Nature Alberta will not be held responsible for any failure to either receive or return images. No fee is payable for published images.

Digital photographers are advised that 5 megapixel and larger formats are recommended.

Submission guidelines for articles are available on the FAN website at www.fanweb.ca.

Nature Alberta Subscription Fees

REGULAR » $20 per year

SUPPORTING » $30 or more per year
(amount in excess of the $20 regular amount is tax deductible)

MAIL THE FOLLOWING TO:

Federation of Alberta Naturalists
Attn: Membership
11759 Groat Road
Edmonton, AB
T5M 3K6

The Federation of Alberta Naturalists

NATURE ALBERTA SUBSCRIPTION

Name: _____

Address: _____

City: _____

Province: _____ ☐ Regular SUBSCRIPTION

Postal Code: _____ ☐ Supporting SUBSCRIPTION

Total Enclosed $ _____

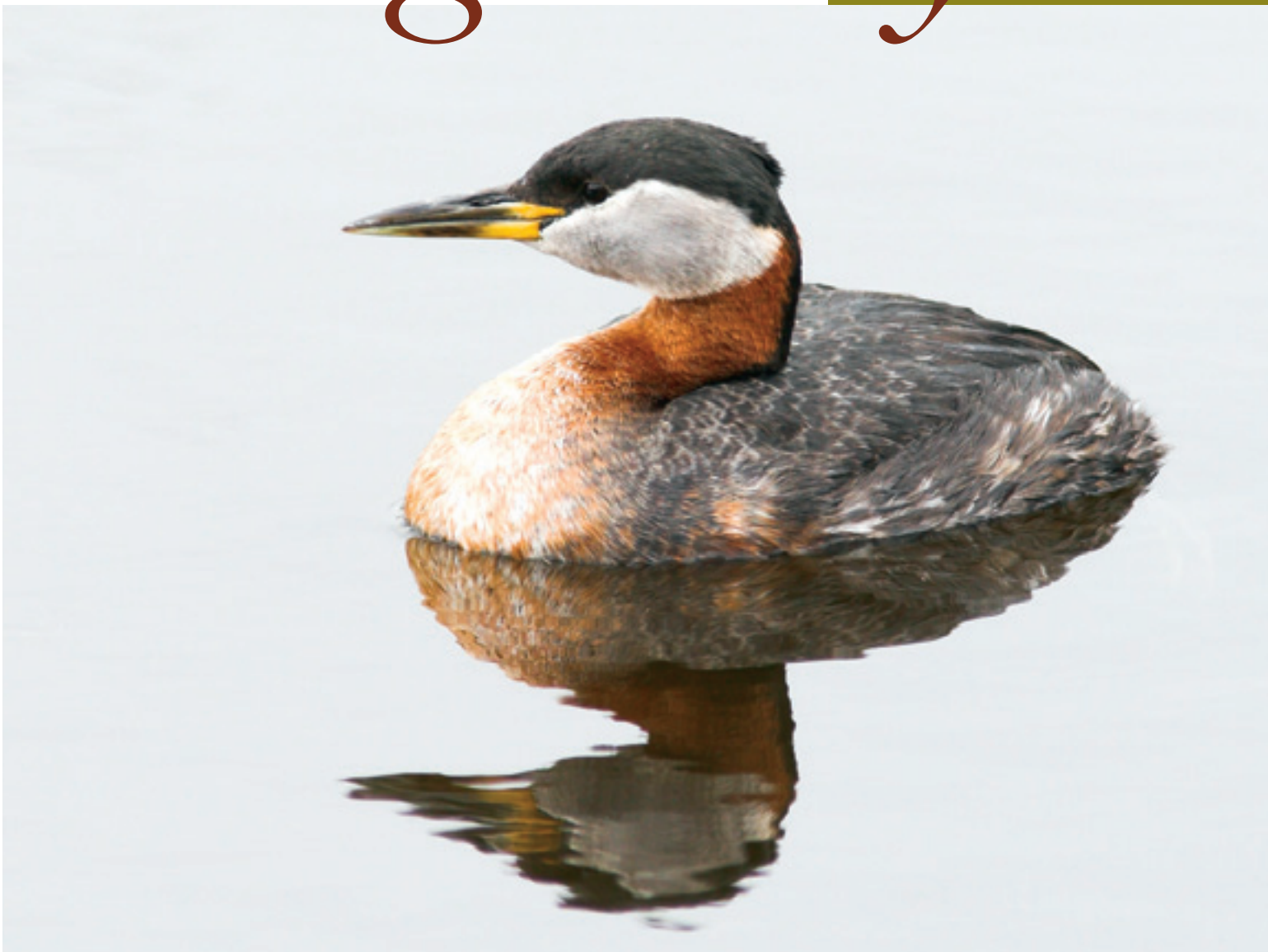
ADULT FEMALE YELLOW-BELLIED SAPSUCKER DEBBIE GODKIN
PHOTOGRAPHED IN JULY 2004

ADULT MALE YELLOW-BELLIED SAPSUCKER DEBBIE GODKIN
PHOTOGRAPHED IN JULY 2004

JUVENILE FEMALE YELLOW-BELLIED SAPSUCKER DEBBIE GODKIN
PHOTOGRAPHED IN JULY 2004

VOLUME 36 | NUMBER 1 | SPRING 2006

Nature gallery



RED-NECKED GREBE RAYMOND TOAL PHOTOGRAPHED IN 2005 USING A CANON EOS 20D DIGITAL CAMERA WITH 300MM F4L LENS

The Federation of Alberta Naturalists

FEDERATION OF ALBERTA NATURALISTS 11759 GROAT ROAD, EDMONTON, AB, T5M 3K6 PHONE: 780.427.8124 FAX: 780.422.2663