

# MUSKRAT EXPRESS

WILLIAMS LAKE FIELD NATURALISTS

JANUARY 2010 NEWSLETTER



TIME'S FUN  
WHEN YOU ARE  
HAVING FLIES

TIME FLIES  
WHEN YOU ARE  
HAVING FUN



FEB 24 - 7:30 PM



SO MUCH FUN TO DO

BY HAN BANGUET

A LIFE WITH NATURE  
FRIDAY  
APRIL 23





The newsletter for the:  
Williams Lake Field Naturalists  
1305A Borland Road, Williams Lake BC, V2G 5K5

**Membership fees:** Family (\$30), single (\$25) or student (\$10) memberships can be mailed to the above address. Please complete the membership and waiver forms available at the Nature Centre (250) 398-8532, [muskrat@midbc.com](mailto:muskrat@midbc.com) or the web site below. For more information about the club please contact Fred McMechan at 392-7680 or e-mail [Fred\\_McMechan@telus.net](mailto:Fred_McMechan@telus.net)

**Williams Lake Field Naturalists Web Site** <http://www.williamslakefieldnaturalists.ca>

**Executive of The Williams Lake Field Naturalists:** president Fred McMechan, vice-president Jim Sims, secretary Bev Frittenburg, treasurer Katharine VanSpall and directors Nola Daintith, Ordell Steen, Rob Higgins, Rick Dawson and Cathy Koot

**Editors:** If you have comments, suggestions or articles for the Muskrat please contact Margaret Waring (398-7724), Jim Sims (296-3638) or e-mail us at [muskrat@midbc.com](mailto:muskrat@midbc.com)

### **MEMBERSHIP IS OVERDUE (if you are like me)**

Please join with me right now, print out your copies of the membership and waiver forms, fill them out along with a cheque and put them in the mail. Avoid next months **RED** list. I will re-send copies of the forms if you have lost yours or you may download a copy from our website (see above).

### **YOUR OWN M<sup>3</sup> OF THE NATURE HOUSE** – Fundraising Campaign Kick-off

Accommodating large classes in our existing classroom space has become a real squeeze. We'd love to be able to invite larger groups to the Nature House with plenty of room to work at tables and enjoy expanded public presentations. We even envision hosting more than one school group at a time.

Our plan is to enclose and insulate the observation deck on the north side of the Nature House to create an additional multi-purpose room. Large windows will provide abundant natural lighting and make sure we retain our great view of the marsh. Heat and electrical will also be installed, so we can use the space year-round. While we take kids outdoors for all our programs, indoor comfort is also essential for discussion and reflection components, especially from October to March.

As you'll read elsewhere in the Muskrat, the G. Weston Foundation recently gave us a very generous starter grant of \$15,000 to expand our classroom space. However, we estimate the costs at around \$22,000, so we're asking for help from our Members and Friends, as well as

local businesses. **Can you donate \$100 or more to sponsor a cubic meter of the new SINC classroom? Can you donate any materials or labour to help us reach our goal?**

Please send cheques to **Scout Island Nature Centre, 1305A Borland Rd. Williams Lake, BC V2G 5K5** or phone **250-398-8532** to let us know what in-kind donations you can offer. We look forward to inviting you to see our upgrades later this year. *(You can save a stamp and envelope by including your cheque with your membership form that is now completed!)*

If you have made a recent donation of \$100 or more and would like one of Jurgen's very cool wooden puzzles, give us a call at 398-8532 or send an email to [neptune.noble@gmail.com](mailto:neptune.noble@gmail.com) and we'll hold one for you to pick up.

## Spadefoot Toads

Presented by: Roger Packham

Thursday January 28<sup>th</sup> at Scout Island Nature Centre

\*\* note the time for this program is 7:00 pm not the usual 7:30\*\*



Spadefoot Toad

Roger works with the Ministry of the Environment and has been completing research on the Great Basin's Spadefoot toads. He will present the results of his inventory work as well as steps that the ministry has been taking to protect habitat for this blue listed species. Roger will also provide an update on his Badger research.

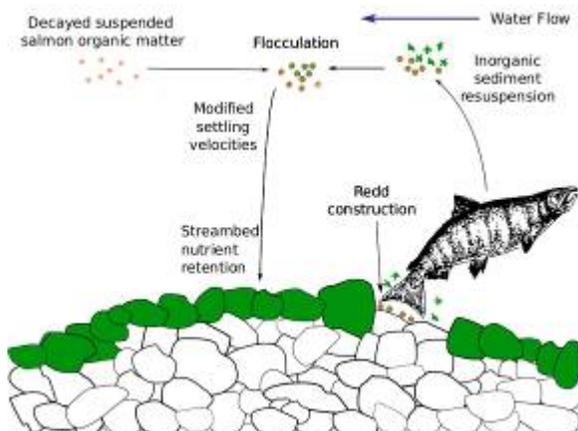
## Two Water/Nutrients Related Talks on the Same Evening

Wednesday February 24<sup>th</sup>, 7:30 pm at Scout Island

### 1.) Decayed Salmon and Their Contribution to the Ecosystem

By: Sam Ambers

Each year millions of Pacific Salmon travel from the ocean back to their natal streams to spawn and die. This mass die-off results in an abundance of salmon nutrients in the water column via decaying salmon. At the same time, female salmon are constructing large nests in the streambed. Sediment re-suspended during this process aggregates with



the decayed salmon nutrients and forms particles called flocs in the water column. These flocs settle out of the water column very quickly as they have different properties than their constituents. That is, these nutrient rich flocs become incorporated into the ecosystem much faster than unaggregated particles.

In August of 2009, I began a research project in the Horsefly River Spawning Channel in order to study how these nutrients are incorporated into the

ecosystem. Some of the questions I considered were: What are the pathways by which salmon nutrients enter the ecosystem? Are the nutrients being taken up by algae? Or bacteria? Are the nutrients being stored deeper in the streambed? Or are they being flushed downstream? Based on the data I have collected I hope to better understand how salmon nutrients and salmon behaviour affect stream ecosystems. Considering the fact that salmon nutrients from one year likely contribute to the health of the next year's ecosystem coupled with the fact that sockeye salmon numbers are at a record low, greater understanding of ecological connections between these animals and their environment will ultimately enable us to better manage this important resource for future generations.

**2.) Wetlands Contribution to Sediment Absorption**

By: Katrina Caley

Canada as a nation is fortunate to have access to a vast supply of freshwater. In general, the protection of this resource is largely dependent on the way we manage our land use practices. The mechanization of resource extraction processes has allowed us to harvest timber, extract ore, and cultivate the land at much broader spatial scales over a shorter period of time. This in turn has led to faster rates of erosion. The natural landscape possesses its own mechanisms for controlling the movement of materials through its watersheds. Wetlands, while they have received a great deal of negative attention – from infilling for agricultural purposes to flooding for hydroelectric development – function to maintain a steady flow of water and



**Boswell Wetland**

sediment from land surfaces to the lakes, rivers and streams below. Yet, despite this known fact about wetlands, our understanding of them and the extent of their functions is limited. What are

the limitations of this filtration function? How much sediment can a wetland absorb? To address these questions two wetlands in the Quesnel River Basin, whose surrounding areas were significantly logged, are being studied. Historical logging practices were selected as a mechanism that potentially increases the amount of sediment transported through the wetlands. Sediment samples were collected in the summer of 2009 from both wetlands as well as their adjacent lakes to determine the amount of sediment retained by each feature in years prior to, during and following logging. I will discuss my research in the context of wetland functions and their invaluable contributions to water quality and provide some preliminary findings.



**Sediment Core**

## “A Life with Nature “

By: Ken Wright

Annual Scout Island Nature Centre Fund Raising Banquet

April 23<sup>rd</sup> at the United Church

Mark this date on your calendar today so you won't miss this great evening of entertainment. Ken has been a student of the Natural World since his childhood and will present a slide show of his world travels from the north of Alaska to Antarctica with many stops in between. More details will be included in the February Muskrat.

## Scout Island Nature Centre Notes January 2010

By: Sue Hemphill

It is lovely and white at the Nature Centre (or it was when I wrote this) and it is easy to walk or ski on the lake and get a different view of the islands. It is a good angle to spot owls from and see what is hunting along the marsh edges. This is what Mary and I will be doing with classes from January to early March. The following 2-4 hour programs will be available to school classes and community groups:

- \_ Birds in Winter
- \_ Snow Fun (just what is snow and ice)
- \_ Winter Survival (adaptations that plants and animals have to survive the cold)

Members are welcome to join any of the classes for a day of fun in the snow.

Mary will also begin offering monthly weekend "Family Explorer Outings" At Scout Island Nature on the last Saturday of every month. These programs are free, but people should call the Nature Centre to sign up.

January 30th 1-4pm

**"Poop & Prints"** with the New Naturalist at SINC Mary Forbes

"Discover the Wonder of Winter Life in the Snow. Learn to read tracks of local critters in combination with the stories from scat (science word for Poop) and the tales the trees can tell about which animals are active and what they are doing when their world goes white and cold. Kids ages 5 to 15 with their adult Guardian, Pal, or Parent are invited to learn the stories of the land and walk the trail together in a fun day filled with stories, games and secrets. Kids, make sure your Partner or Pal brings their appropriate winter clothes for a fun in the snow.

February 27th, 1-4pm

**"Winter Wildlife Olympics"** with SINC Naturalist Mary Forbes

"Bear vs. Squirrel, Lynx vs. Hare, Mouse vs. Marmot. Who has the right stuff to survive and be declared the champion of winter in the Cariboo Chilcotin? Meet the contenders and reenact their



skills and struggles in games that will keep you warm and stories that will fuel your imagination.”

I am already getting inquiries from students who would like to work here next summer. If you know of a university student interested in being a Nature Centre summer staffer (should love being in nature and interested in learning and working hard), have them send in a resume to me [shemphill@wlake.com](mailto:shemphill@wlake.com).

We continue to look for stories, poems, and songs that talk about living the rural lifestyle (fictional or true stories) for the “Spawning Stories Hatching Change” project. Please let me know if you have a “story” to share. I do have one, and I am also looking for someone interested in illustrating my children’s story since I can not draw. It requires 4-5 simple drawings (moose centered story).

While you are putting on those extra layers to enjoy winter, think about how some of the creatures that share winter with us survive. Some birds that stay like: Black capped and Mountain chickadee, junco, song sparrow, woodpeckers, common flicker, gray jay, crow and raven, ruffed grouse, pine grosbeak, house sparrow, and dipper. Mammals too—beavers, voles, squirrels, ungulates. How can they stay if they don’t hibernate. They need food and warmth (and there is no central heating for them).

- Some store food like crows, ravens, jays that stash food and remember where (better than humans can using spatial clues). However, climate change is making it harder for Gray Jays who store insects in the fall just before temperatures drop. But temperatures are not dropping as much and the stored food is spoiling.
- Clark’s nutcrackers and white bark pines—The pines have evolved large wingless seeds that rather than being dispersed by wind are dispersed by these birds who bury seeds in south facing locations. This allows them to get the seeds easier (less snow here) and means that the seeds they don’t eat have a better situation to germinate and grow into mature trees. . These trees would not mature on north facing slopes
- Squirrels hoard large numbers of cones in one place (partially burying them). This keeps the cones cool so that they don’t all open at once and scatter the seed. Red squirrels need about 5000 cones a year. .
- Beavers store the inner bark of woody plants but only enough for the kits. The adults survive on the fat stored in their tails. Muskrats forage all winter under the ice. They can be found sharing what they dig up from the bottom of the marsh with beavers in beaver lodges.
- Another survival technique is to not be so fussy. Ungulates change to woody twigs which are high in protein at this time (but harder to chew).
- Mammals and birds all practice energy conservation, through insulation (thicker fur and puffing up feathers) and moving slowly and sleeping more.
- Huddling with others is practiced by voles who change their solitary behavior at this time. They would be competing for food under the snow in the communal nest so they are programmed in the fall to lose weight (20% less) and reduce body mass, so that their total food requirement is less. Yes I know smaller animal is more susceptible to cold, but a larger animal has a greater total energy requirement and the communal nesting is an increase in thermal mass. This only works if lots of time is spent in the nest and not out foraging—thus

lower food requirements are necessary. They also store/hoard food so less effort to forage. This happens in fall as well as an increase in brown fat which is energy packed unlike white fat. When fluffing and huddling is not enough to keep warm this fat is burned and the next step is shivering

Your lovely down filled jacket, thermostat in your house, and your fridge full of food mean you don't have to do all his huddling-cuddling. Maybe this is a sad result of our advanced technology.

The directors and staff of the Nature Centre are very pleased to announce that the **W. Garfield Weston Foundation** has made a generous donation of \$25 000 to the Nature Centre. This funding will be used to help with the enclosure of the porch and upgrading the indoor stairway. The result will be a new classroom and additional work space for staff. We will also use part of the funding to add additional children and family programs starting this winter.

## **42<sup>nd</sup> Annual Williams Lake Christmas Bird Count**

By Phil Ranson

Many of the 35 participants in the 18 parties in the field agreed; 'there were very few birds out there', but everyone had a highlight and the combined highlights resulted in a respectable total of 55 species for the 42nd annual Williams Lake Christmas Bird Count held on December 20th. This was lower than the record setting 63 of last year but pretty close to average for the previous 5 years. We rely on some open water to get big numbers of the water dependant birds, and this year we only managed to find Mallards, Green-winged Teal and a lone Great Blue Heron. The City sewage lagoons which are one of the few sanctuaries for ducks after Williams Lake freezes had only Mallards where normally 5 or 6 species can be expected.

A Northern Hawk Owl in Chimney Valley and a Great Gray Owl on Fox Mountain were good finds, but unlike last year, owls were not the story of the day; sparrows took that honour. 44 Song Sparrows easily beat the previous best of 34 with at least 12 at Scout Island and another 13 at a Juniper St. feeder. Whatever made conditions favourable for sparrows also provided 2 new bird species for the count, with a Swamp Sparrow found in the Scout Island marsh and a Chipping Sparrow visiting a Russet Bluffs feeder. The unfortunately named Swamp Sparrow is a bird of eastern North America and rarely found in these parts. The Chipping Sparrow is a common breeding bird in the Cariboo but generally long gone by the end of September. To add to the impressive sparrow list were a Harris's Sparrow for only its 3rd appearance in the last 20 years; a Fox Sparrow making its 4th appearance; 2 White-throated Sparrows, a single White-crowned Sparrow and an American Tree Sparrow.



**Ruffed Grouse**  
by: Frank Schroeder



**Northern Hawk Owl**  
By: Sandy Proulx

Most other numbers were either down or struggling to hold their own with some notable

exceptions. Common Ravens had their highest ever tally with 474 counted, and perhaps answering the question as to what effect the closing of the Williams Lake dump might have on local Crow and Raven populations. American Crows with 441 also had their best year since the facility was converted to a transfer station. One other species showing a significant increase was the Northern Flicker, surpassing its previous best of 49 in 2006 by 6 birds. Interestingly, both Quesnel and Prince George also had record counts for this species. On the other end of the scale, only 38 Red-breasted Nuthatches were seen, tying last year's record low and nowhere near the 237 birds that were seen at their peak in the mid 90's.

Caution should always be exercised when trying to evaluate the numbers on an individual count. There are many variables which should be considered, including weather, open water, available food source, counter participation and even the normal cyclic fluctuation of birds. Only long term trends from counts conducted under reasonably consistent standard procedures will tell the whole story. Full results for this year's count can be found on page 9.

Thanks to all who participated including those that took the time to count the birds at their feeders and send in their reports, and to Fred for once again hosting the post-count gathering and a special thanks to Phil for doing an excellent job of organizing us again this year.

## **Northern Hawk Owl**

Researched by Jim Sims

This winter I have regularly been watching a Northern Hawk Owl sitting on the power lines about 1.5 km east of the Miocene Community Hall. If you continue on to Horsefly you may be able to see another three of these owls. Have a look near Wiggins Road (west intersection) and try again at Jessica Lake Road. We have been getting numerous reports of other sightings around the region as well. They are usually fairly tame and can be approached for good photos and observations.

This mid-sized owl is appropriately named in that it is frequently mistakenly identified as a small hawk because of its long tail, pointed wings and fast flight with bursts of wing beats followed by glides.

A closer look will reveal a plumper body and typical round head. This earless owl is a rich dark brown on the backside with large white spots on the outer wings and scapulars and some thin white bars on the tail feathers, and the crown is thickly spotted. The chin is deep brown while the underside (chest, flanks, and belly) has heavy, short lighter brown, broken bars on a white base. The whitish face is highlighted by a black frame.



**Northern Hawk Owl**  
**Photo by Kris Andrews**

Other than on the breeding grounds it is a solitary species. It can be found in open forests with a mixture of deciduous and coniferous trees. In winter it may be more likely found close to openings such as hay fields or clear-cuts. It is a strictly diurnal owl that can often be seen on the tops of trees or power poles where it is watching and listening for small mammals or birds. The Hawk Owl has exceptional hearing and can plunge into snow to capture rodents below the surface. When it becomes more difficult to find rodents it may alter its diet to as much as 90% birds, taking birds as large as grouse. They can be found though out the boreal forest of North America and Eurasia.

It is usually none migratory but can be an irruptive species that appears south of its normal territory during some winters. This migration is likely caused when the vole population crashes, every 3 to 5 years. Given the large numbers being observed this year I expect this is the case this year. The Hawk Owl has been found nesting in the Cariboo Chilcotin region. This immature Hawk Owl was photographed shortly after it fledged from a nest in the top of a broken off tree. It was found in an aspen copes north of Rock Lake on Becher's Prairie.



**Immature Hawk Owl**  
**Photo by Jim Sims**

Sources: [http://en.wikipedia.org/wiki/Northern\\_Hawk\\_Owl](http://en.wikipedia.org/wiki/Northern_Hawk_Owl)  
[http://www.owling.com/N-Hawk\\_nh.htm](http://www.owling.com/N-Hawk_nh.htm)  
The Birds of British Columbia (Vol. 2)

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**Christmas Bird Count Results December 20<sup>th</sup>, 2009**

SPECIES	Number	Comments
Mallard	79	
American Green-winged	16	
Ruffed Grouse	3	
Dusky Grouse	1	<i>Only the 2<sup>nd</sup> appearance on count (formerly Blue</i>
Great Blue Heron	1	
Bald Eagle	13	
Golden Eagle	1	
Merlin	1	
Wilson's Snipe	7	
Rock Pigeon	188	
Mourning Dove	2	
Northern Hawk Owl	1	
Great Gray Owl	1	
Downy Woodpecker	30	
Hairy Woodpecker	39	
American Three-toed	1	
Northern Flicker	55	<i>Beats the previous high of 49 in2006</i>
Pileated Woodpecker	21	
Northern Shrike	1	
Gray Jay	10	
Steller's Jay	3	
Black-billed Magpie	8	
American Crow	441	
Common Raven	474	<i>Highest number ever recorded</i>
Black-capped Chickadee	246	
Mountain Chickadee	228	
Red-breasted Nuthatch	38	<i>Lowest total since 1991</i>
Brown Creeper	5	
American Dipper	19	
Townsend's Solitaire	14	
American Robin	1	
Varied Thrush	2	
European Starling	108	
Bohemian Waxwing	546	
American Tree Sparrow	1	
Chipping Sparrow	1	<i>Common in summer but never recorded previously in</i>
Fox Sparrow	1	<i>Third time on the count</i>
Song Sparrow	44	<i>Beats the previous high of 34 in2005</i>
Swamp Sparrow	1	<i>A count first</i>
White-throated Sparrow	2	
Harris's Sparrow	1	<i>4<sup>th</sup> time on count</i>
White-crowned Sparrow	1	
Dark-eyed Junco	98	
Snow Bunting	30	
Red-winged Blackbird	7	
Brewer's Blackbird	1	
Pine Grosbeak	69	
Cassin's Finch	2	
House Finch	165	
White-winged Crossbill	22	<i>4<sup>th</sup> appearance in 20 years</i>
Common Redpoll	288	
Pine Siskin	35	
American Goldfinch	62	
Evening Grosbeak	6	
House Sparrow	320	
TOTAL INDIVIDUALS	<b>3761</b>	
TOTAL SPECIES REPORTED	<b>55</b>	