LESSER SLAVE LAKE BIRD OBSERVATORY

The Warbler

Summer 2012

The staff are jumping with joy after another exciting summer of research and education programs at the Boreal Centre! (Special note—first take and not one foot on the ground. Perfect timing...that is what I call teamwork!

Executive Director Update
By Patti Campsall

What an incredible time of year! The Boreal Centre for Bird Conservation and the Lesser Slave Lake Bird Observatory are at their best during the summer. Our world is alive with excited young staff, happy students, beautiful birds, and friendly visitors who just love the centre. We feel very lucky to work here and to be able to do a job that we love. We are especially grateful this summer after the huge challenges that we faced last year due to the fires. It has been wonderful to get back to normal again with the successful delivery of our education and research programs. So in the spirit of giving thanks...here are a few special "THANK YOU's" to some of the people and organizations that have been there for us this past year. We couldn't have done it without you!

First, we are very lucky to have wonderful staff this year. They were knowledgeable, keen, worked hard, and made the summer fly by! I always say, the BCBC and LSLBO are only as good as our staff, and this year we were excellent!!

Research World.
The only way you can describe this summer at the LSLBO was….whew!! Our dedicated research staff and volunteers delivered the biggest field season ever, and it isn't over yet! The 2012 spring migration monitoring season was our second busiest ever, and we set a new record for our single busiest banding day at the LSLBO. Then we pulled off the MAPS breeding bird program, started up Fall Migration Monitoring and kicked off our biggest field project for this season; the new Canada Warbler Research Project. A huge thank you to Alberta Conservation Association and the Alberta Parks Research Fund for providing critical funding support for this important research project on the breeding territory habitat requirements of the Canada Warbler. With their support, we were able to hire two field assistants and purchase the special technical equipment needed to track the movements of these secretive warblers. Thank you to Richard Krikun, our Bander in Charge and Tyler Flockhart, Director of Field Research (and new dad!) for their efforts and expertise in the development of the Canada Warbler Project as well as the extra time and leadership that they provided to make sure this project happened. The entire research team including our Assistant Bander Nicole Linfoot plus our field assistants Scott Sanford and Angela Nerbas need to be congratulated for pulling off a very successful summer and we look forward to seeing the results.

Education World:
After a quiet winter, our education program entered spring with a bang as we had one of the busiest fieldtrip seasons ever. This spring, our staff provided exciting and interactive education programs to over 1500 students and teachers. Of course the spring

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YEAH!! Patti and MJ are so excited that Cori is back!

highlight is always the banding lab tours and the chance for these students to see this tiny migratory marvels up close! But the fun didn't stop there, another 1500 people enjoyed our summer interpretive programs at the Boreal Centre and Lesser Slave Lake Provincial Park. Thank you to our amazing education team: Cori Klassen, Adam Rooke, and Kaley Donaldson for all the exciting programs and hospitality provide to our visitors all summer. And of course, a huge thank you to our education partner; the Lesser Slave Forest Education Society for all the extra assistance with our education programs this past year. We wouldn't have made it through last winter without you! Last but not least, we are every grateful to West Fraser Timber who sponsored a successful Forest Resource Improvement Association of Alberta grant application last winter that will provide 3 years of funding for our education program. Yeah!!

Other Special Thank You's:

Our personal highlight each summer is the arrival of the Walsh Family; volunteer hosts through Alberta Parks. Bill and Sue love this centre and we just love having them here. Thank you for the great visitor tours, egg collection mystery solving, banding lab repairs, boardwalk upgrades, famous beaver proof bridge and just your uplifting presence when life is especially hectic. And my personal thank you to their son Michael for finally solving our computer printer glitch that had the high powered IT specialists stumped!

If you visited the centre this summer, you had the honour of checking out a very special historic egg collection loaned to the Boreal Centre by the family of Edward Howe. An avid naturalist and professional agriculturalist, Mr Howe collect most of the eggs in southern Manitoba in the mid 1900's. This collection was a life long passion, and all summer, this egg collection delighted visitors with the diversity of nature. It was a special treat that was enjoyed by visitors of all ages. We are very grateful to the Neaves, Lacy and Braun families for trusting us with this family treasure.

Other special people in our lives include the Scobie Family. The Sara Scobie Memorial Fund was instrumental in the success of our Canada Warbler Research Project through the funding of the transmitters. This fund also sponsored special Discovery Packs for families visiting the centre including:" Here Birdie, Birdie, Birdie" and "Bug-eyed about Bugs". They were a hug hit with the children. Another special person for us is Stephen Partington who have been very supportive of our young research staff and will be sponsoring a special education project this fall on Nitrogen Fixation in the Boreal Forest. Thank you to both of you for your commitment to the LSLBO.

Another special project for the Boreal Centre is also ready to commence. The High Prairie Regional Environmental Action Committee has fundraised for a solar energy demonstration site at the BCBC. They are currently accepting proposals, and we hope to have the project completed at the centre by next spring. It will be a great opportunity to promote another alternative energy at our LEED centre. A huge thank you to Jule Asterisk for all her fundraising efforts for this project.

We are saving the biggest thank you for last. We are very grateful for our dedicated volunteer board members for the Lesser Slave Lake Bird Observatory. Robert Deacon, Ronda Groom, Terry Kristoff, Neal Knoot, Tyler Flockhart, Nelson Lutz and Cherie Friesen. It is the work behind the scenes that provides the guidance, resources and support for our many programs at the Boreal Centre. THANK YOU!!

We have so many special people and organizations in our lives that I know have been missed some of you. So a huge thank you to all the individuals, members and organizations that support the LSLBO every year. This year was our gift to you! Enjoy reading about it...

The BCBC was trusted with an wonderful historic egg collection this summer. It was an honour to be able to display this special piece of family history! Thank you!

Boreal Centre for Bird Conservation
2012 Summer Staff

By Kaley Donaldson
Information Officer

This summer, we had some new faces join us from across Canada. Read on to learn a bit more about each of our staff members. All of the exciting things that take place at the Boreal Centre and the Lesser Slave Lake Bird Observatory happen because of the great staff that come to work here. Thank you!!

Richard Krikun - This is his ninth year with the Lesser Slave Lake Bird Observatory as **Bander in Charge**. We're sure he likes anything with a beak, wings, and feathers, but his favorite bird is the Red-Breasted Nuthatch.

Adam Rooke - If you've had the chance to meet our **Boreal Interpreter**, it's safe to say you'll have no problem remembering this goofy and outgoing fellow. Since his very first day, Adam has been spreading his infectious enthusiasm to everyone he meets. He will be returning to Ontario for his fifth year of Recreation & Leisure Studies at the University of Waterloo.

Patti Campsall—Executive Director
As the driving force behind the Boreal Centre, Patti is the backbone for the education programs and research done by the BCBC. Her love of nature, birds and educating children can be seen in all that goes on at the centre.

Nicole Linfoot - It was love at first sight when Nicole first came to the Boreal Centre on a college field trip; she is now on her fourth year of banding with the LSLBO as the **Assistant Bander.** Apart from her birding skills, Nicole is also a master of all things to do with crafting and baking. You name it, she can crochet it.

Angela Nerbas
Angela was here for the summer as a **Canada Warbler Project Field Assistant** from Regina, Saskatchewan. When she returns to school in the fall, she will be continuing Environmental Sciences at Lakeland College in Vermillion. She has an avid interest in finding edible plants, mushrooms and berries and concocting new and wonderful meals with them.

Scott Sanford
The other half of our **Canada Warbler Project Field Assistant** duo, Scott joined us from Vancouver where he is studying Fish, Wildlife, and Recreation at BCIT. During his time here, his search for a ridiculous summer field hat has been almost as persistent as his constant searching for things he has lost in the forest while out on the job.

Cori Klassen
As our wonderful **Boreal Educator,** Cori is always busy planning new and exciting ways to teach others about nature and the environment. While she has been working with the BCBC and Lesser Slave Forest Education Society for six years, we now all know her as the proud mom of our Boreal baby, Delta!

Kaley Donaldson
Kaley is fascinated by brains. So fascinated, in fact, that she will be going into her third year of Neuroscience at the University of Alberta this fall. She has spent the past two summers relaxing her own brain and working as the **Information Officer** at the BCBC.

Canada Warbler Project

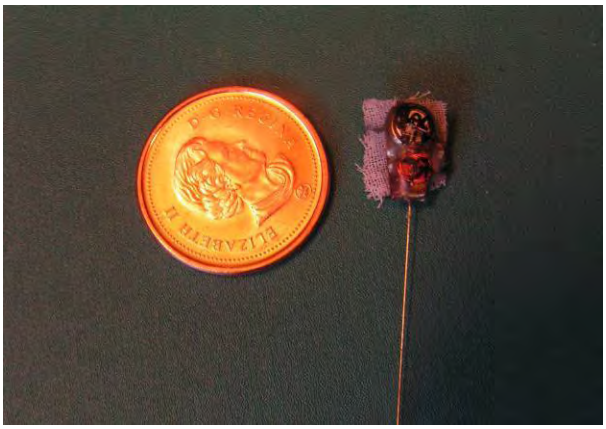
By Richard Krikun
LSLBO Bander in Charge

Above: This male Canada Warbler has been colour banded to make it easier to visually identify individuals in the research sites.

Canada warblers are a commonly encountered species at the Lesser Slave Lake Bird Observatory. We see a good number during spring and fall migration during their corresponding migratory windows. They are a common breeder in sites where we monitor breeding populations. During recent surveys we discovered that they breed throughout the Lesser Slave Lake Provincial Park, often in high densities in particular habitats. From our perspective it is hard to believe that this 12 gram neo-tropical migrant is now a threatened species in Canada. Canada warblers were officially designated as threatened in 2010 because of significant long-term population declines across their breeding range. The magnitude of the annual rate of decline and total estimated population loss is substantial. Another consideration for the designation is that there is no evidence that the declining trends will reverse. Although it is clear that something is happening to Canada warblers, the exact cause is not understood.

It is suspected that habitat loss within both the Canada warbler's summer breeding range and wintering range is the primary factor driving the population declines. Their wintering range in South America includes mature mid-elevation rainforests of the Andes in Columbia, Ecuador, and Peru. Much of the forests in these areas have been lost through deforestation and degradation. In Canada, where an estimated 80% of Canada warblers breed, habitat loss through development and land-use practises is a potential contributing factor to the population declines. Canada warblers are a poorly studied species; there is little information available on their wintering ecology and habitats and large knowledge gaps on their breeding ecology and breeding habitat requirements. This information is necessary to identify and protect critical habitat and understand how Canada warblers respond to habitat alteration.

The LSLBO is in a remarkable position to help fill in the information gaps on Canada warbler breeding habitats. We operate within the Lesser Slave Lake Provincial Park; an area known to have a large breeding population of Canada warbler. We have collected 19 years of monitoring data that provides valuable information about the migratory windows and the timing of breeding events for this species in our area. This summer we implemented an ambitious project that will measure the space use of breeding Canada warblers, determine if breeding territory size varies as a function of habitat quality or individual quality, document resource availability among various habitats, and test if individual survival or reproductive success varies with space use, vegetation characteristics, breeding density, predator and prey abundance between different habitats occupied by Canada warblers.



Above: small radio transmitters are used to track the movement of Canada Warblers.

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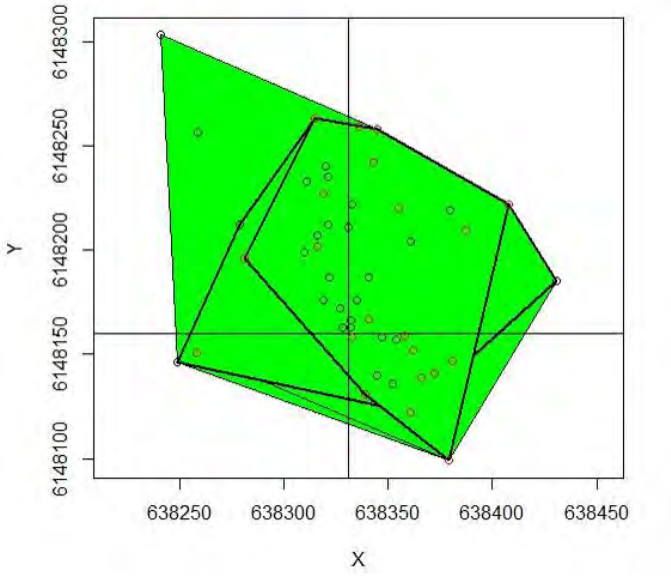
The fundamental step to meeting our objectives is to delineate each individual's home range, the maximum space that each male will use during the breeding season. Birds do not always advertise their presence and we needed to locate them, anywhere in their home range. Canada warblers like areas with thick vegetation, which makes it challenging to keep visual track of an individual. For these reasons we used radio-telemetry as our tracking method. Small, light-weight, radio-transmitters were attached to the lower back of 16 males (see below). These transmitters emit a pulse that increases in strength as you approach the individual allowing you to pinpoint its location. Regulations restrict any attachment to a bird to be less than 5% of its body weight. The transmitters we used weighed 0.3 grams and attached with glue to ensure that the transmitter would fall off after a few weeks. During tracking bouts, when an individual was located, we would record its position on a GPS unit along with its activities and the vegetation type where it was found.

Above: A Canada warbler with transmitter in place.

After the tracking was finished, we ran preliminary data analysis to prepare for the next stage of the project; these results were pretty cool. We used location points from tracking to delineate the home-range size of each male, and then we plotted points within each territory to conduct detailed vegetation surveys. These surveys will provide us with the breeding habitat associations that are crucial to meet our project objectives. Not only that, but we will be able to quantify habitat requirements of Canada warblers breeding in the Lesser Slave Lake Provincial Park. Additionally we collected insect samples to determine prey availability, collected fecal samples to help determine preferred prey, and conducted predator surveys. All this information is useful in helping us begin to determine breeding habitat quality.

This project was a lot of work and a long-time in the making; the desire to conduct a large-scale study of Canada warbler breeding ecology and habitats has been on the LSLBO's radar since in 2004. In previous years we were able to conduct limited preliminary studies, but we were never in the position to conduct a dedicated project that will lead to results that will be published to the scientific community. Not only that, but there are other organizations that are beginning to start large scale habitat models for Canada warblers, allowing avenues to collaborate with the conservation community. The work entailed for this project required project proposal approval by a scientific committee, Animal Care Committee approval, permits from the Species at Risk Act, Migratory Bird Treaty Act, Industry Canada, Alberta Fish and Wildlife, and Alberta Parks. We are very excited that all the cards fell in place allowing us to conduct this study. Even more exciting are the potential studies that are possible from the results of the next few years and the fact that we are able to contribute to the conservation of a species at risk.



Above: Computer software is used to analyze all the GPS locations collected for each Canada Warbler, then a territory map can be generated to show us their home range and habitat preferences.

The Year That Defined Busy

By Nicole Linfoot,
LSLBO Assistant Bander

I can not believe it is already August! Time has just been flying by this year at the LSLBO; between a mind-blowing spring season and a summer spent tackling new and exciting projects on top of our existing MAPS program, the only word that I can think to describe it is busy! Well, not the only word, it has also been exciting, challenging, different and without a doubt, fun. Trying to sum up all the things that have happened out at the banding lab since mid-April when we first fired-up for the year will be hard but here goes!...

The logical place to start is spring migration monitoring, which kicked-off (for its 19th year of operation) way back on April 23rd. Richard Krikun returned once again for his 9th year and I was back for my 4th ready for another year of the best job in the world! After a disappointing spring last year that ended early on May 15th due to the wildfire evacuation with only 360 birds of 27 species, we were excited to enjoy our favourite season that we felt had been robbed from us in 2011. As with most spring banding seasons it was a chilly first couple of weeks; although the snow had mostly all melted away the lake was still frozen over and most mornings we had to delay setting our nets until the sun had risen and warmed the air above the zero degree mark. But the early start meant we got to enjoy the very early migrants like dark-eyed juncos, American tree-sparrows and fox sparrows moving through. We were also treated to wolves out on the ice on multiple mornings. We spotted a total of three individuals on multiple occasions. It was quickly apparent that this spring was going to be extraordinary and definitely make up for last year. One big clue was

Wolf cruises by the Banding lab on an early spring morning.

banding 141 birds on our second day of monitoring, and then only a few days after that, we had an amazing day of overhead migration where we ended up counting over 12,000 birds of various species. With steady days of heavy migration we were already at 325 birds banded by the first of May, almost as many as we had banded during the entire spring season last year.

Things continued to improve and exceed our expectations into May; we had some great sightings like a long-eared owl, peregrine falcons hunting ducks on the lake and a pair of American avocets (a new sighting for the observatory). Our big banding day of 141 was trumped on May 9th with an even busier day when we banded 197 birds, one of which was an American kestrel, an incredibly beautiful falcon that was only the second ever caught at the lab and a first for both Richard and I. By the mid-point of May on the day that we had ended early last year we were consistently counting over 5000 individual birds daily and had

Richard and the American kestrel

banded 1041 birds, nearly triple last years total. In fact, at almost 500 banded, the myrtle warblers alone bested last year's spring total.
Just when we thought it couldn't possibly get any busier and bird activity was bound to taper off, we were hit by a huge migratory push of Swainson's thrush. On May 19th we broke the banding lab's record for 'busiest banding day ever'. The previous record was 240 set back in 2004. The new record is a mind-

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blowing 338 birds banded, 226 of which were Swainson's thrush. And spring wasn't done yet! It still had some treats in the jar for us, two particularly exciting ones for me were a couple species that I got to band for the first time, the first was a Nashville warbler on May 21st (a species we have never caught in the spring before and had only caught a handful of times during the fall). The other came on May 25th when Richard handed me a bird bag and told me he caught me a surprise… And surprise it was when I pulled a gray catbird out of the bag! A bird that is very uncommon in our area (this was only the sixth record of one at our lab) and one of my personal favourite species!

Nicole and her gray catbird

Naturally though, the season had to come to end. When all was said and done it was the busiest spring since 2000 and the second busiest spring ever with 1934 birds banded. The top three banded species were #1 - the myrtle warbler with 508 (their second highest spring ever), #2 – the Swainson's thrush with 404 (crushing their previous spring record of 280 set in 2004) and #3 – the Slate-coloured junco (their second highest spring as well). Although they didn't make the top-banded list, there was another species that broke its own record; the Grey-cheeked thrush surpassed its previous record of 23 set in 2004 , with 35 this spring. Part of the credit for the overwhelming success of this spring needs to go the aerial nets that were run for their first full spring season and accounted for 28% of the birds captured, which is pretty impressive considering there are just two of them and 12 other regular nets.

With spring all wrapped up we jumped right into our new and exciting Canada warbler project (which you can flip to Richard's article to learn all about) and the MAPS program. MAPS is one the core projects run by the LSLBO and has been operated every year that the lab has. It stands for Monitoring Avian Productivity and Survivorship and focuses on assessing the breeding statuses of bird species in our area through banding and observations. We run four sites six times each in ten day cycles. We just wrapped up the 2012 season and it was a fairly slow year with no unusual species and banding totals that were below average. Typically we band around 200 new birds during MAPS; this year we only banded 167 new birds and then recaptured another 91 representing a total of 22 species. The top five banded species were: white-throated sparrow-27, Canada warbler-25, ovenbird-25, American redstart-23 and Swainson's thrush-16. The one big highlight of the MAPS season was the recapture of a female ovenbird that was originally banded July 29th 2005 as an adult bird; making her at least 8 years old.

Cape May Warbler

Lastly, in this lengthy update, a brief note about the beginning of the fall monitoring season. It is still too early to tell for sure how this fall will measure up in comparison to spring, but so far it doesn't seem poised to blow any minds. The first couple weeks had us hopeful with several superb days of overhead migration and banding, but then the next week was the opposite with things getting slower and slower each day when they should have been peaking. I am not concerned yet though, there is still a lot of fall left and the next big rush of migrants could be right around the corner. Despite lacklustre banding totals, this fall has still had its excitement with some great birds, from adorably grumpy-looking brown creepers and bitey rose-breasted grosbeaks, to feisty woodpeckers, and a bird I have never banded before: a red-winged blackbird (only the sixth ever banded at the lab)! Hopefully this fall still has loads of surprises waiting for us, but regardless of what happens I know I will enjoy and savour every day of it… So until next time, happy birding!

Nashville Warbler

8th CMMN—RCSM National Meeting. October 2011. Naramata, BC

Patti Campsall and Nicole Linfoot represented the Lesser Slave Lake Bird Observatory the 8th National Meeting for the Canadian Migration Monitoring Network . Hosted by the Vaseaux Lake Bird Observatory, this biannual meeting is a great opportunity to discuss goals and priorities for CMMN and to network with members from the 25 monitoring stations across Canada. One of the highlights was the opportunity for Nicole to present some of the preliminary results of our feather isotope research project on migration timing at the LSLBO. Other highlights, a canyon wren and an American dipper added to our life lists!

Bander Training starts early at the LSLBO!

Our Boreal Baby, Delta Bott, spent a beautiful spring morning at the banding lab with Richard Kirkun and learned a little bird identification during her visit. This Tennessee Warbler and Delta were both correctly aged as AHY (after hatch year) making them the same age! Looks like a fine day at the lab judging by all the bird bags on Rich's arm!

Spring Definitely Sprung!

By Adam Rooke,
Boreal Interpreter

Well folks, another spring season has come and gone and boy was it exciting! The last few months have been packed with banding lab tours, school field trips, and the beginning of summer campground programming. It was hectic, but in the end hundreds of students got the opportunity to partake in activities and programming provided through the Boreal Centre for Bird Conservation (BCBC) and educational partner, the Lesser Slave Forest Education Society (LSFES).

Working very closely with MJ and the LSFES, we provided a variety of programs to students of all ages based on their curriculum. We provided these programs not only to the youth of Slave Lake, but we travelled out to High Prairie, Grouard and even Smith. Being able to connect with all of these communities and run programs for the local schools allows us to build and nurture an appreciation for nature within these students. The activities we provided ranged from learning about the structure of the beautiful plants of the boreal forest to dipping into wetlands to find some marsh monsters! The students not only learned a lot during these field trips, but had a blast while doing it and smiles could be seen on everyone's face.

Above: Adam showing a group of students the difference between spruce and pine needles.

Above: Adam showing a group of students how to make 'moose calls' with a wet string and tin can.

When the schools started to close down for the summer, our attention shifted from school fieldtrips to summer camp and campground programming. This year, the joint efforts between the BCBC and the LSFES provided a new summer camp experience for the kids of Summer Splash. Since this summer was the 2012 Summer Olympics in London, we decided to hold our own Olympics…the Boreal Forest Olympics! We had the campers, I mean athletes, compete not only against each other but against the animals of the boreal forest. They faced challenges that tested their frog jumping skills, silent stalking abilities, and projectile pooping accuracy…with bean bags of course. It was a great day for everyone, and it was topped off with our closing ceremonies.

Left: Balsam, the Bear (a.k.a. Tanis Blocka) leads the teams into the Boreal Forest Olympics Opening Ceremony at the BCBC.

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Above: Balsam the Bear and MJ Kristoff with the LSFES gets ready to light the Olympic flame for the athletes.

During this time, there has also been campground programming going on as well within the Marten River Campground. Hikes, point duties, and evening campfire sing-a-longs have become a regular occurrence in the Park. One of the most popular events so far has been the Beach Art Day. With Lesser Slave Lake having such beautiful beaches, it can be tough to drag campers away on a hot day to go on a hike so we decided to go to them this summer! With sandcastle competitions, photo scavenger hunts and giant art attacks, families had an afternoon jam packed with fun and laughter. We had some really amazing sand castles built, and the kids were really into it. In the end, we all walked away with a greater appreciation for what our beautiful Park has to offer.

Once again it has been a crazy spring session, but we came out of it in one piece and it was a gigantic success. With the staff here at the BCBC, programming will continue to educate and entertain thousands of visitors throughout the year. The enthusiasm, excitement, and passion of everyone here is amazing to be around and super contagious! I am very thankful for my time spent here at the BCBC and will never forget the experiences and the people I met along this crazy spring ride!

How Adam spent his summer "vacation"!

Above: Learning "What is a Bird" with preschool children visiting the Boreal Centre.

Below: Some determined flies try to get through a tricky web of spiders on a Grade 2 field trip.

Check out our Discovery Packs!

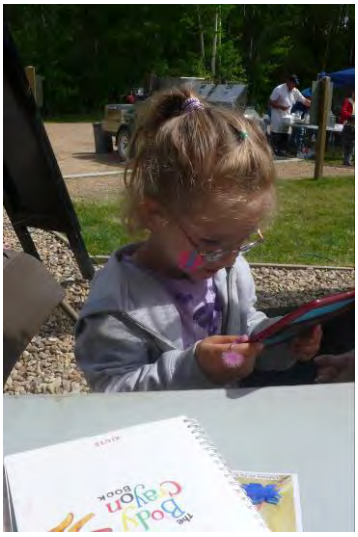
Young visitors at the Boreal Centre exploring the Songbird Trail and finding cool insects with their "Bug-eyed about BUGS" Discovery Pack. These packs were donated by the Sara Scobie Memorial Fund and they have been a real hit! Thank you!

Songbird Festival 2012

This year's Songbird festival was filled with both familiar and new smiling faces! We were thrilled with the turnout and we can't thank all our volunteers who made this annual festival possible enough! The day was full of activities for kids, including face painting, bird house building, and a crafting station. They even had the opportunity to become bird banders, extracting fake birds from a net and going through the steps of putting bands on their birds' legs, just like our real banders Richard and Nicole! And that's only the beginning… there were also guided nature hikes, banding lab tours, marsh monsters and presentations by Nicole Linfoot (our assistant bander) and Cory Olsen (the bat boy). The weekend was capped off by over 75 participants in our Annual Bird Run/Walk on Sunday morning. Needless to say, the festival was a great success and we'd like to thank everyone who came out for some fun; we hope to see you all again next year!

Above: Adam showing a group of fascinated festival goers the 'marsh monsters' collected from our local pond.

Below: Not just for kids… even adults wanted to check out strange aquatic creatures!



Above: Patti Campsall (left; Executive Director) and Kathy Cullen (right, volunteer) help out with building bird houses.

Vexing Vegetation and the Capture Rate Conundrum

By Nicole Linfoot,
LSLBO Assistant Bander

Last summer, the LSLBO received special funding through the Environment Canada Science Horizons Youth Internship program for Nicole to work on a research project investigating the possible impacts of habitat succession on our net lane capture rates. Here are some of the results of this special project she completed.

There are a few things in nature that are a given, every day the sun will rise and set, every spring the migratory birds will arrive and every fall they will leave, and every minute the forest around us will change, little by little. The forest around the Lesser Slave Lake Bird Observatory is no exception, ever since the site was first selected in 1994, the habitat has been left to nature's whim and has transformed from a young riparian brushland to a full-fledged mature forest. So why is this variance in vegetation so very vexing?

I'll start at the beginning; the LSLBO was established for the primary purpose of monitoring the population trends of migratory birds. It is located in a pretty cool and unique location for this, sandwiched between the eastern shore of Lesser Slave Lake and Marten Mountain; it is right smack in a natural geographic funnel. Migrating birds don't want to cross the lake or fly over the mountain so they are concentrated right through our research site. In order to monitor bird populations we use a variety of standardized methods including counts and bird-banding; standardized being the operative word. This means that we keep everything the same, same start and end times, same scheduled counts, same number of identical nets in the exact same places. Keeping everything the same is the basis of creating accurate trends; we need to know that changes in the numbers of birds we are recording are not a result of some change we made to our protocol but rather are indicative of actual changes in the populations.

Above: Archive picture of one of the LSLBO netlanes in 1999.. You won't recognize it now!

Enter the vegetation vexation… being within a provincial park, we are unable to manage the vegetation at the site and so it is doing what vegetation naturally does; it is changing a.k.a. not remaining standardized. So now we face the capture rate conundrum, are changes in our capture rates truly reflective of changes in bird populations, or are they mirroring the vegetation instead?

A project to delve into this mystery was initiated during the summer of 2011. Looking through our yearly capture rates it appeared as though the bird capture trends were on the decline for most species. Looking at the site itself, it was clear that the vegetation had definitely changed and matured. The challenge was in statistically determining exactly what the changes in capture rate were, determining by how much and in what specific ways the vegetation had changed and then linking them together.

I broke the project into three major steps. Step one: find out the changes in capture rates at each individual net lane for all birds and for a few specific species. Determining the capture rates of each net was important so we could compare it to its own specific vegetation since each net is in slightly different habitat. I also chose to look at all birds combined as well as some individual species since different birds have different preferences in habitat and so they wouldn't necessarily all react the same to vegetation change. I did indeed discover that the capture rates of some nets were changing more than others as well the capture rates for certain bird species. Of all our nets, only one wasn't showing a decline in annual capture rates. As for the birds, of the 21 species I looked at, 19 were being caught less often than they used to be. The bird species that had the biggest drops in numbers were: American redstart, myrtle warbler, yellow warbler, alder flycatcher, and least flycatcher. Only two bird species had an increase in captures and they were Swainson's thrush and ovenbird.

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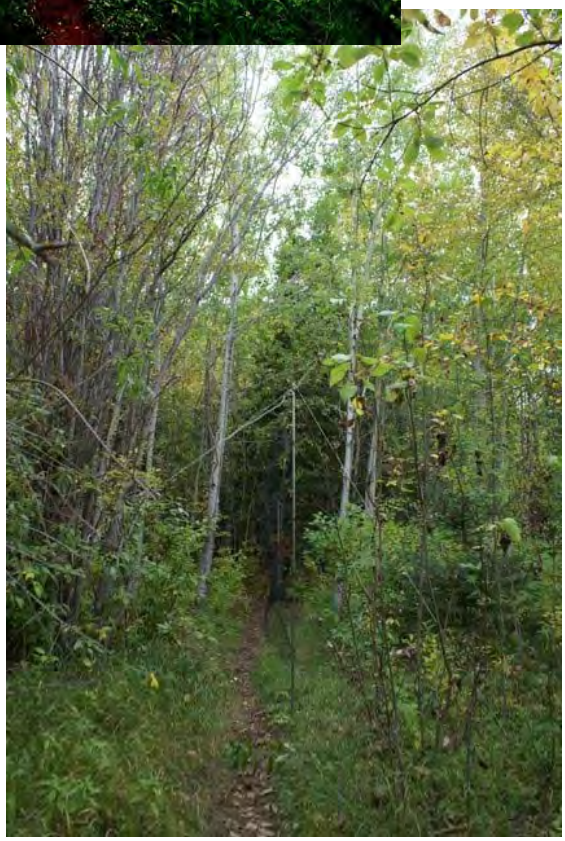
Step two: find out by how much and in what ways the vegetation had changed. This step had one big road-block: there had never been a habitat survey done at the site. Knowing how much it changed was reliant on having a start point and an end point to compare. The end point was easy since it was the current habitat; I simply went out to the observatory and did a survey at each of the net lanes. But to get the starting point I needed to know what the site looked like historically, and I certainly have not been around for that long… I did have one ace up my sleeve though; I had some historical photographs taken in 1999 of each of the net lanes. Comparing those pictures with the current data and pictures I collected over the summer of 2011 I was able to estimate what the habitat was like in 1999. Comparing both sets of data, I then determined by how much different vegetation variables (like tree height and density, shrub density and ground cover and many more) had changed at each net lane. The results were not surprising, the tree height, density of trees and canopy thickness had increased and the ground cover and shrub cover had decreased. I expected this because over time as trees mature, grow and fill-in, they block out light to the forest floor which causes the shrubs and other small plants to die off.

Step three: The scariest step of them all, using statistics to link the capture rates to the vegetation changes! Because math of this calibre scares me, I relied on the help of Dr. Erin Bayne from the University of Alberta to run powerful statistics to determine if the capture rates of birds were dependent on changes in vegetation, and which specific vegetation characteristics more greatly affected bird capture rates. We discovered that our changes in capture rates were statistically linked to the vegetation change at the net lanes. The main habitat features that affected how many birds we are able to catch were canopy cover, shrub density, and overall ground cover.

These results make a lot of sense. Migrating birds have huge energy needs and require good feeding areas along their migratory route in order to meet those needs. A lot of the birds we catch at the lab are insect eaters and forage in the shrub layer. Because our shrub layer is thinner now than it was 18 years ago, there are fewer birds using it as a feeding ground. The exceptions were the Swainson's thrush and ovenbird. Both of these birds forage on the ground and find grubs and beetles in the leaf litter. Because our site has fewer shrubs now and more leaf litter, it has become better habitat for these two bird species resulting in increased capture rates. Now that we have solved the capture rate conundrum and determined that vegetation change definitely affects bird capture rates and in what ways they affect individual species, we are able to more accurately interpret our population trends, making the varying vegetation much less vexing.

Above: Net 4, Summer 2000

Below: Net 4, Summer 2011.



The Great Outdoors

By Cori Klassen
Boreal Educator

I was listening to the CBC radio program "Cross-country check up" the other afternoon and the topic was camping. The host wanted to know what people loved and/or hated about camping. People from across Canada called in with stories about the various camping experiences they had and as I listened I began to realize a common thread amongst them- camping was an activity that seemed to bring people closer together - families, new Canadians, grandparents & their grandchildren. A few callers even described how they couldn't remember a time in their life where they hadn't gone camping and some of their earliest and most memorable moments were of camping and the outdoors. And naturally, as people began talking about camping, the topic expanded and many people also reflected on the effect that outdoor activities have had on their lives.

Listening to the show gave me a great deal of hope for the future. Too often you hear people lamenting the fact that people don't get outside anymore and that kids are too busy staring at screens to enjoy the natural world. But it seems that camping and recreating outdoors is something that many people of all ages still enjoy and, if the callers were in any way representative of the general public, the way it makes us feel when we do these things is very similar among generations, cultures, and the sexes. Many callers described their connections with nature as something that helped ground them, allowed them to put things into perspective and it also refreshed their spirit.

As an environmental educator I am very fortunate that a big part of my job is to help people make those connections/reconnections with nature. A great majority of those people are kids and helping them to learn about, understand and appreciate nature is not only a lot of fun but it is also very rewarding. Sometimes by the end of a fieldtrip or program you just know that you've just opened up a whole new, fascinating world for someone. Those moments are some of the best and I always hope that the seed I planted goes on to grow into something rewarding or fulfilling for that person and that they become responsible stewards of our environment. And I think the many friendly hellos and hugs I get from the children in Slave Lake when I see them around town reaffirm that the time we spent together on a field trip was positive and memorable for them as well.

Kids dressing up as bears at summer camp

The Ways of the Woods

By Angela Nerbas
Canada Warbler Project Field Assistant

Being part of the Canada Warbler project team as a research field assistant has made the summer a very interesting one. I enjoyed the fieldwork not only for the outdoors and fresh air, but also for the extra bonus of getting to see the forest and what grows in it. I am originally from the prairies, so our ranges of plants and animals are different than what's in the boreal forest. There are lots of surprises and, for a prairie resident, well, walking in the woods has been a real adventure!

I have a curiosity for mushrooms, so anything that I see that looks edible and big enough, I'll pack in my bag to key out later at home with the many field guides kicking around; it is good to have plenty of back-up! So far I have learned to ID over 10 kinds of mushrooms in the boreal forest, both the edible and poisonous. You can just be walking along and all of a sudden there's a big, bright orange mushroom growing out of the side of a tree!

The orange mushroom— 'Chicken of the Woods'

Or maybe you just scrambled over this huge log, kind of half stumbling as you regain your balance, and catch a glimpse of some ball of yellow hiding under some sarsaparilla leaves. A closer examination determines that this is a yellow lady slipper, a solitary flower, beautiful and bright, hiding in the underbrush from the many white-tail deer that browse the forest. Seeing a wild orchid for the first time was also a nice little moment.

The wildlife has brought its moments also. My first encounter with a moose made my blood pressure go up a few notches for a minute, but I just let her walk

Yellow Lady Slipper

on and made a 'wide' detour around her general direction! I've also had some bear encounters, but only with smaller 2nd year bears and, I must admit, I was more afraid of the moose than the bears. Toads are also a new creature I haven't seen before. One encounter I remember is when one was trying to get off the path as I was walking towards it and I heard it let out some type of toad scream, it literally sounded like some kind of scream, because of course it didn't want to get stepped on.

Berry season has brought many new berries to the taste buds; strawberries, red currants, black currants, gooseberries, dewberries, raspberries, blueberries, saskatoons, cranberries, oh and cloudberries. I got to taste the cloudberry for the first time ever this summer. They are uniquely delicious; a kind of fruity twist on applesauce is my opinion on their taste. Yes, applesauce and raspberry perhaps. These orange delicacies are found in bogs, and bogs can also be a very interesting place to go see different plant communities and cool mosses for a change of scenery.

So as my summer dawns to a seasonal close, I can look back upon the many new experiences of the Canada Warbler project, working with the birds and the many hours of bush-whacking through the woods. I can say I learned a lot, and can bring with me many good things to say about the summer. It has been a great time up here and I hope Richard's awesome project will indeed help to conserve our Canada Warblers, and that the Boreal forest will continue to enthral nature lovers with its many wonders and diversity for years to come.

Tales of a Field Assistant

By Scott Sanford
Canada Warbler Project Field Assistant

This summer I had the pleasure of working as a research assistant for the LSLBO's Canada Warbler Project. My days consisted of long hours in the field tracking songbirds and completing resource surveys. After spending the majority of my summer hiking about the forest I've managed to learn a few things (the hard way) about bush whacking that I figured I would share with those of you who are new to hiking.

♦ Bug spray is your friend.

Running, yelling obscenities into the air and frantically waving shrubs about my head have thus far only succeeded in making me look like a crazy person. The boreal forest has a lot of bugs that are pretty intent on eating you, be sure to take a quality bug spray into the bush. It'll help keep you sane.

♦ Go old school.

GPS is great, but I always take my compass out into the field with me. It's reliable, doesn't need batteries and will point you in the right direction regardless of satellite reception. It's also always a good idea to have a map of the area you'll be traveling in the event you manage to get yourself lost or need to detour around something. GPS or a compass won't do you any good if you don't know which direction to head.

♦ Tie it up.

It's surprisingly easy to lose things in the forest, set something down and all of the sudden it's gone (I generally blame the squirrels). Once it's vanished you've got a pretty slim chance of finding it again, that's why it's a good idea to tie whatever you need right to you or your pack. I use a long piece of string to attach whatever I need, or, if that's impracticable I tie on something bright like a ribbon so it's easier to find if I set it down. Where you lose points on fashion appeal you make up for in practicality and hey, neon ribbon is hip right?

♦ Don't put it in your mouth.

The boreal forest is full of fantastic edible plants, but it's also full of plants that can make you really sick or worse. Unless you positively know what a plant or berry is, don't eat it. Also, keep in mind when you're in the park, you are not allowed to collect anything, edible or not.

♦ Detour!

It may only be 300 meters straight east to your destination but, if that 300 meters includes a scaling a cliff, crawling through a bear den and mucking through a swamp it may be wise to detour around. It sounds counter intuitive but the shortest path is not always the best. Depending on the terrain traveling around the long way can end up saving you a lot of time and effort not to mention lessening your chance of an injury.

♦ Bear Necessities.

When hiking in bear country it's important to take the proper precautions. Make noise as you hike to ensure you don't happen to surprise a bear. Also, carry bear spray and know how to properly use it. Bear spray is one of those things that you will very rarely ever have to use but, in the event you need it, you'll be glad you decided to bring it along.

Hiking backcountry offers opportunities to see and interact with the environment in ways most people don't get the chance to do. If you're interested, be sure to do your research as there's a lot more you need to know than I've outlined above. There are plenty of great resources online or in the library if you're looking for more information. Be safe, have fun and maybe I'll see you out in the forest sometime soon.

The Battle of the Banders
Our 'No-Effort' Big Year

By Nicole Linfoot,
LSLBO Assistant Bander

The birding world is a competitive one, an overall friendly, helpful and cooperative one, but a competitive one none-the-less… And probably the most gruelling competition in the birding world is trying to complete a "big year". Annually, hundreds of birders attempt to complete a big year. If you have read the book or watched the movie you know what a big year is… But for those who haven't, an official big year is a contest to try and find and identify as many species of bird as possible within North America in one year beginning January 1st. It is all on the honour system and some birders will travel thousands of kilometres and spend tens of thousands of dollars in their quest to become the big year record holder. Some birders, depending on the amount of time and money they can commit to it, will do different variations of a big year; they might do a big year within just their province or state, or maybe a Canadian big year.

So what do people with no time and even less money to commit to a big year do? They challenge each other to a 'no-effort' big year! It all started on January 3rd… I was driving to Edmonton and I spotted a northern hawk owl, which is definitely a good bird to see. Then when I got to the city I saw a rough-legged hawk, another really good sighting. Seeing two birds that I would normally consider tricky species to find got me to thinking, "well I have two of the hard ones out of the way, let's see how many more I can get!" And thus my no-effort big year was born. I committed myself to the ambitious challenge of finding as many bird species as possible within the year without going out of my way or doing any extra birding that I wouldn't normally do within a regular year. Naturally, upon hearing of my epic pursuit Richard claimed he could defeat me and out-not-try me all the way to ultimate birding supremacy.

The first step was to lay out the ground rules. For starters, we aren't allowed to do any birding specifically geared towards getting new species for our list. This doesn't mean we can't go out birding, we can still bird as much as we normally would (which is a substantial amount considering our job revolves around watching and counting birds, and we are both avid birders)… Basically we just can't put in extra effort with the list in mind. The only other rule is that we can't count birds that we catch in our nets; they have to be birds we either hear or see in a natural setting.

Our big year started off slow… Being in Slave Lake and unable to travel somewhere warmer to look for birds we were limited to slowly ticking off species of finches, corvids and woodpeckers that we could find foraging around the Boreal Centre and at bird feeders in town. Considering we go to all the same places and do most of our birding together, our lists were looking pretty identical. My only edge over Richard was the northern hawk owl and rough-legged hawk I had seen that inspired the competition in the first place. Soon enough though, Richard found a northern hawk owl on a completely non-birding related trip to Edmonton, and we both knew that come spring he would get the rough-legged during migration for sure… So we were essentially even for most of the winter. Then totally unexpectedly I saw a red crossbill foraging in the shrubs outside the Sawridge Inn! I knew this was a good bird and without looking for it the chance of Richard seeing one was slim.

Ferruginous Hawk

The rest of the winter progressed with nothing but the species we would expect to see… One of us would get a bird ahead and then the very next day the other would spot the same species. A big jump in our totals came in early April when went on a trip together to southern Saskatchewan; although we both got the same species, we scored some superb sightings like sharp-tailed grouse dancing on their leks, a ferruginous hawk (the first one Richard had ever seen) and on a particularly dreary day where not a speck of blue sky was visible we saw the beautiful sky-blue of a mountain bluebird. We got back

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to Slave Lake in perfect timing for what we knew would be the most productive time for our big year, spring migration. Every day new species were showing up and we scanned every flock and binoculared every thrush, sparrow and duck looking for birds we knew would be harder to come by, birds like grey-cheeked thrush, the gadwall and the say's phoebe that only move through our area, but don't actually breed or stick around here for more than a couple days.

Sharp-tailed Grouse dancing.

The looking and scanning paid off and spring produced some marvellous birds, one of us finally managed to gain the upper hand and our lists began to look different as we each got some species and missed others. I scored the elusive grey-cheeked thrush, then soon after he scored a Caspian tern (an extremely good bird that I have no hope of getting)… I got a blackburnian warbler, he got a purple martin… and so on. Even though we are in competition, though, good sightings are always more fun when they are shared so we were generous with our sightings, when Richard spotted American avocets flying by the lab, did he wait till they had passed to mention them? No, he shouted 'AVOCETS!' and made sure I caught them… And when I saw a long-eared owl perched near one of the netlanes, I carefully backed out of the net so as not to scare it off and ran to find Richard so he could see it too. Richard scanned the ponds out at nine-mile point inch by inch until he found me a cinnamon teal, a bird I have searched for in vain for my entire birding life.

So how many bird species have we each seen? And who is in the lead when all is said and done? We have both seen bird species we have never seen before and we have been able to share in the excitement of finding these birds. We have challenged ourselves to pay closer attention to the birds migrating through the area, to try harder at correctly identify those tougher species like sandpipers and gulls and to listen attentively and study our songs and calls so we wouldn't miss anyone singing. We found snowy owls and happened upon black terns, listened to catbird mewing in the shrubs, pished out golden-crowned kinglets from the tippy tops of giant spruce and saw wood ducks for the first time ever while walking in Calgary. At this point it's hard to really care about the numbers :)

Wood duck

Long-eared Owl

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