

# Western Canada Bat Working Group

# NEWSLETTER

ISSUE NO. 14

SPRING 2009

## CONTENTS

Letter from the Editor.....	1
White Nose Syndrome Update.....	2
Updates by Region.....	6
<b>Alaska</b> .....	6
<b>Alberta</b> .....	7
<b>British Columbia</b> .....	10
<b>Manitoba</b> .....	14
<b>Montana, and others</b> .....	15
<b>North Dakota</b> .....	16
<b>Saskatchewan</b> .....	16
<b>Yukon</b> .....	17
ABAT Update .....	17
Recent Literature.....	18
WBWG Update.....	18
Meetings/Conferences .....	20
Workshops.....	20
Field Notes .....	21
Time for a Name Change? .....	23
Distribution List.....	24

## FROM THE EDITOR

I'd like to highlight a few items this issue:

1. B.C. has a new bat working group. Although it does not have an official name yet, the group is already working hard on getting a WNS prevention and monitoring protocol in place for the province. A B.C.-specific wind energy pre-construction protocol is also in the works. Six committees in total have been formed to work on bat conservation, research and management issues in the province. Check out the agenda of their first meeting in the B.C. section. Once this group has an official name, they'll have their own section in the newsletter just like ABAT and WBWG!
2. Because White Nose Syndrome is an issue that we westerners can't afford to ignore, please check out the section on WNS Update, and the Field Notes section for suggested materials to take with you this summer if you are doing bat work.
3. I'd like to change the name of this newsletter. Please see the section "Name Change?".

And hey, thanks for all of the submissions. I think we set a new record .... guess my peer pressure comment worked! Have a great summer,

Cori

[corilausen@birchdalebc.ca](mailto:corilausen@birchdalebc.ca) (please note my new email address)



# WHITE NOSE SYNDROME UPDATE

A great deal of research is going on in response to WNS. Rather than trying to recap it all here, I encourage you to visit: <http://caves.org/WNS/WNS2009research.pdf> for an update on all WNS associated research.

B.C. has adopted a WNS prevention policy for folks working with bats in the province this summer. See the table of contact information in the fact sheet below for who to contact if you have questions about these new protocols. Alberta is also adopting a similar prevention strategy. A large number of WNS materials are anticipated from the WCBWG early this summer, so stay tuned to the WCBWG website.

The following **B.C. Fact Sheet** has been prepared by the newly formed BC Bat Working Group for the BC government website in response to WNS (based on information provided by USGS and USFWS). See Field Notes section below for materials that you will want to take with you into the field this season to help with this WNS prevention and monitoring effort.

## BRITISH COLUMBIA WILDLIFE HEALTH FACT SHEET

### What is White Nose Syndrome (WNS)?

White-nose Syndrome (WNS) is a fungal disease that can cause mass die-off of hibernating bats. In the past few years it has been associated with over one million bat mortalities at a number of bat hibernacula (caves) in the eastern U.S. Mortality rates at many sites are 80-100%. Since 2006, six species of bats have been affected: Little Brown Bat (*Myotis lucifugus*), Indiana Bat (*M. sodalis*), Eastern Small-footed Myotis (*M. leibii*), Northern Myotis (*M. septentrionalis*), Tricolored Bat (*Perimyotis subflavus*), and Big Brown Bat (*Eptesicus fuscus*).

White-nose Syndrome appears to be caused by a newly discovered fungus species in the genus *Geomyces*. This strain of fungus grows best at the low temperatures seen in locations where bats hibernate (5 – 10°C). As the fungus starts to grow, bats awaken from hibernation to groom to remove the fungus. The energy required to arouse from hibernation and groom uses overwinter fat reserves, resulting in extreme weight loss. It appears that bats die of starvation while trying to fight off the fungal infection. An intensive research program is looking at alternative theories and investigating possible underlying causes of the bat deaths.

### What does WNS look like?

Bats with WNS exhibit some or all of the following symptoms (descriptions adapted from USGS, National Wildlife Center).

- White, powdery fungus seen around the muzzle, ears, wing/limbs, and/or tail;
- Excessive/unexplained bat mortality at the winter hibernacula;
- Thin and/or dehydrated bats (wrinkled and flaky appearance of furless areas);
- Delayed arousal from torpor following disturbance;
- Aberrant bat behaviours (found on ground inside or outside the hibernaculum, roosting near hibernaculum entrance, increased bat activity outside the hibernaculum during cold weather especially during daylight hours)

Photographs of bats showing symptoms of WNS

<http://www.fws.gov/northeast/wnspics.html>



**Where is WNS found?**

WNS was first discovered in a cave in New York State in the winter of 2006. It has currently been recorded from 65+ sites in 30+ counties in nine eastern states in the United States of America from Vermont to Virginia. No cases of WNS have been detected in Canada yet but WNS has been detected in sites very close to the border, just south of Ontario and Quebec.

**How is WNS transmitted?**

Much is unknown about this disease. WNS may be spread from bat to bat during winter months at hibernation sites, but its route of transmission in the summer months is unknown. It is speculated that WNS is also spread by human transport of fungal spores. For example, cavers, other recreationists such as geocachers, people frequenting mines, and bat biologists, may spread the disease through spores on muddy boots or on clothing and equipment. Human transmission is suspected in some sites, such as a recently affected cave in West Virginia which was visited by cavers after they had been in a WNS-affected cave in New York. The Southeastern Cave Conservancy and National Speleological Society have closed some of their caves as a precaution to avoid spreading WNS. Some States and the USFS in the east have also closed abandoned mines and caves.

**Does WNS pose a risk to humans?**

There is no indication of human health risk from this fungus.

**What is the risk of WNS to BC bats?**

At this time, there is no reported bat mortality and no recorded cases of WNS in western North America, Canada or BC. All cases have been east of the Mississippi River. However there is an extreme lack of baseline information on bat health and difficulties in monitoring these species. Since WNS-related mortality and cases are spreading at an alarming rate, and considering that WNS may be spread by humans visiting caves, the risk of WNS to BC bats cannot be underestimated. Species native to BC such as little brown Myotis, big brown bats, and northern Myotis, have been affected by WNS in the eastern United States. Potentially, all cave and mine hibernating species could be vulnerable to this disease. It is unclear whether smaller colonies of bats are affected by WNS because detection of mortalities in these smaller aggregations is much more difficult.

**What can you do to help?**

The first step is Prevention - to try and prevent the transmission of WNS to BC. Although bat movements cannot be controlled, it is important to reduce the risk of humans spreading the spores from affected areas in the eastern US to BC.



There are a number of suggestions for decontamination protocols for people recreating or doing work in or around potential bat roosts, and cave/mine hibernacula in particular. It is very important that all clothing, boots and equipment be thoroughly decontaminated if they have been in caves east of the Mississippi. Detailed decontamination protocols for cavers are available at the USFWS NE website (<http://www.fws.gov/northeast/whitenosemessage.html>).

We recommend to exercise a high level of caution and always decontaminate when moving between caves or mines that may be used by bats. At a minimum boots should be thoroughly washed to remove mud and debris. All clothing and equipment that can be washed should be washed using the hottest water temperatures available. Large equipment and gear that cannot be submerged in water should be wiped down with alcohol or dilute bleach.

A. If you find dead bats, please do the following:

1. If possible, photograph the scene, and the bats.
2. Record time, date, exact location.
3. If covered in obvious white powdery fungus, or there are multiple dead bats ( $\geq 5$ ) in one location, please do the following:
  - a. Using GLOVES (do not use bare hands, as there is always a risk of rabies transmission from bats when the cause of death is unknown), place each dead bat into its own ziploc bag. Disposable vinyl or nitrile gloves are ideal. If not available, place double plastic bags over your hands and turn inside out into the ziplock bag.
  - b. Label each bag with date, location (including nearest town/city), collector name and phone number. Place in cool storage.
  - c. Throw away gloves, or if not disposable, decontaminate gloves using hot water wash, or a 10% bleach solution.
  - d. Contact any of the people below for instructions on how to what to do with the specimens. If you are unable to reach anyone within 24 hours, freeze the specimens if you can or discard them in the same location where you found them. Please ensure that the animals and site are photographically documented and the directions to the site are clearly recorded.

Dr. Helen Schwantje Phone: 250 387 4285 Helen.Schwantje@gov.bc.ca	Ms. Cait Nelson Phone: 250 953-5140 Cait.Nelson@gov.bc.ca	Dr Purnima Govindarajulu Phone: 250 387 9755 Purnima.Govindarajulu@gov.bc.ca
PO BOX 9338 STN PROV GOVT 4 <sup>TH</sup> FLOOR, 2975 JUTLAND ROAD VICTORIA B.C., V8W 9M1, CANADA <b>***You can also contact your regional Ministry of Environment Biologist or the Conservation Officer Service and inform them of the situation.</b>		

- B. If you come across a live bat in distress that is showing signs of WNS (covered in white powdery fungus), contact one of the above BC Ministry of Environment staff listed above. Do not touch the bat or let your pets near the bat, as there is potential for transmission of rabies.



- C. If you are a bat biologist with current rabies vaccination and come across live bats you suspect of having WNS, you can collect the following samples.
1. At a minimum, collect a tape-lift sample from the bat (Hyperlink to the USGS National Wildlife Center Submission Protocol).
  2. A wing damage index has been compiled by Boston University and should be used by biologists doing work in the West to monitoring for signs of WNS. This wing index key is available from the USFWS site (<http://www.fws.gov/northeast/wnsresearchmonitoring.html>).
  3. If the bat is clearly displaying signs of WNS, please contact MOE staff above as soon as possible. If the bat has to be euthanized, please follow the appropriate protocols as recommended by the American Association of Zoo Veterinarians. If the bat is euthanized follow directions 1-6 above to ship samples. Indicate on each bag whether the bat was found dead, or was euthanized.

**How to learn more about WNS? Stay up to date online using the following resources.**

If you have questions about WNS please contact Dr. Helen Schwantje, Ms. Cait Nelson or Dr. Purnima Govindarajulu. Contact information above.

If you want to learn more about WNS and the research and monitoring initiatives underway, please visit the following websites

1. US Fish and Wildlife Service Northeast Main WNS website:  
[http://www.fws.gov/northeast/white\\_nose.html](http://www.fws.gov/northeast/white_nose.html)
2. US Fish and Wildlife Service Northeast  
Further information including protocols and wing damage index can be accessed in the research section: <http://www.fws.gov/northeast/wnsresearchmonitoring.html>
3. US Fish and Wildlife Service Northeast  
Procedures and decontamination for recreationists, cavers, people entering mines/cave: <http://www.fws.gov/northeast/whitenosemessage.html>
4. Bat Conservation and Management:  
<http://www.batmanagement.com/wns/wns.html>
5. National Speleological Society: <http://www.caves.org/WNS/>
6. US Geological Survey (USGS) - Main WNS site: <http://www.fort.usgs.gov/WNS/>
7. US Geological Survey (USGS) - Submitting of samples:  
[http://www.nwhc.usgs.gov/mortality\\_events/reporting.jsp](http://www.nwhc.usgs.gov/mortality_events/reporting.jsp)
8. US Geological Survey (USGS) - National Wildlife Health Center site:  
[http://www.nwhc.usgs.gov/disease\\_information/white-nose\\_syndrome/index.jsp](http://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/index.jsp)



Little brown bats affected with WNS. Photos by Ryan von Linden/New York Department of Environmental Conservation.



# UPDATES BY REGION

## ALASKA

### **Remote sensing camera system for evaluation of bat use of Abandoned Mines on the Chugach National Forest, Alaska.**

Aaron Poe, Wildlife Biologist, Chugach National Forest, 907-754-2345, [apoe@fs.fed.us](mailto:apoe@fs.fed.us);

There are numerous abandoned hard rock mines on public lands in Alaska. Many of those on US Forest Service managed lands are slated for eventual closure because they pose a risk to public safety. These mines may support important hibernacula for species of bats residing in the state, including the rare Keen's Myotis which was recently placed on the USFS Alaska Region Sensitive Species list. In other parts of their range, bats congregate in very large numbers during the winter. Little is known about the hibernation habits of bats in Alaska but it is possible that a high proportion of our bat populations winter in a relatively small number of mines and caves in southcentral and southeast Alaska where winter time temperatures are more moderate.

Most mines on US Forest Service managed lands in Alaska are remote and difficult to access even during the summer months, and many are nearly impossible to reach during the winter. Given these constraints the need exists to develop a remote tool to assess bat use of mines throughout the winter season which can last for several months. Working with Dr. Rick Sherwin from Christopher Newport University we are in the process of field testing remote camera systems in abandoned mines on the Kenai Peninsula and Prince William Sound. These units are designed to be deployed remotely for up to one year. They are capable of capturing and storing tens of thousands of time-stamped images of bat movements in underground workings, triggered by motion, thermal infrared and acoustic sensors. It is our hope that these current field tests will define operating procedures and precision estimates for unit deployment in harsh high latitude conditions like those in Alaskan mines.

### **Third Season of Inventory Study in Skagway**

Dashiell Feierabend, Wildlife Biotechnician  
Dave Schirokauer, Natural Resources Program Manager  
Klondike Gold Rush National Historical Park

We are continuing our passive acoustic monitoring study in Skagway, Alaska, that was initiated in the summer of 2007. This season we will use an Anabat II unit paired with ZCAIM to collect daily recordings at a single site that has been monitored since 2007. The hope is to continue to gain an understanding of the arrival and departure of seasonal bats, as well as the fluctuation of activity with respect to daylight and temperature.



The call data from 2007 and 2008 suggest that bats arrive in Skagway in late April and depart in mid October.



Because Klondike Gold Rush NHP lacks the resources to conduct discriminant function analysis on calls, it was not possible to accurately identify most calls to species level. The primary candidate for most of the call data is *Myotis lucifugus*, based on its known range and the shape of the recorded calls. Other possibilities include *M. keenii*, *M. volans*, and *M. californicus*, which have been documented in Southeast Alaska and British Columbia. Twenty of the unidentified recordings ranged down to 25 kHz and likely belong to *L. noctivagans* or *Eptesicus fuscus*. With the assistance of Cori Lausen, we confirmed a single occurrence of *Lasionycteris noctivagans*, which was previously considered a possible summer resident in the region.

The park would like to thank Aaron Poe and the Forest Service in Girdwood, Alaska, for the continued loan of Anabat equipment.

## ALBERTA

### University of Calgary

**Brandon Klüg** -- So my plan for the summer is to travel out to the Delta Marsh field station in mosquito-ridden Manitoba to play around with baby hoary bats.

I'm interested in the development of thermoregulation in small mammals, and hoary bats struck me as an interesting species given their solitary tree-roosting nature. Most small-mammal neonates, including newborn bats, are poikilothermic at birth, gaining full endothermic ability only later in development and initially relying on their mothers or a warm roost to provide the warmth needed to promote rapid growth. Unlike most other small mammals, hoarys don't seek out sheltered areas in which to give birth. Being migratory, newborn hoary bats may have limited time to develop enough to migrate at the end of the summer. So that raised the question of how these baby hoary bats are dealing with being left out in the cold while still having to grow quickly. I hypothesize that neonate hoary bats are immediately able to keep themselves warm and also that the mother stays warm when roosting with her pups to alleviate some of the energetic cost to the pups of having to stay warm. To look at this, I'll be using temperature-sensitive radio-transmitters on neonate hoary bats to monitor their thermoregulatory patterns in the field. I'm expecting to see the pups

maintain their body temperature above ambient temperature in the absence of the mother, and I'm also expecting to see mothers abandon the use of torpor when roosting with their pups. I also hypothesize that twinning in hoary bats has energetic benefits. In the absence of the mother, pups huddle together to reduce heat loss, allowing them to focus more energy on growth. To test this, I'll be running metabolic trials on single and paired pups at various temperatures. I'm expecting to see a reduction in oxygen consumption and mass-specific metabolic rate when pups are roosting together compared to roosting individually.

In short, I propose that there are several unique behavioural and physiological adaptations in hoary bats that help them deal with the seemingly inhospitable environments young are born into. I also have a NSERC-funded undergraduate working for me who will be looking at roost choice, roost fidelity and home-range size in reproductive hoary bats. She'll be monitoring bats to see how often and how far females will move with their pups, as well as what characteristics they are choosing in roost trees, such as tree species and tree height. It should be a fun-filled, productive summer!



**Joanna Coleman** -- I captured > 830 bats last summer, making it my most productive season in terms of capture success. The vast majority of those were little brown bats. A consistent trend over all three years of my study was increased abundance but decreased species evenness in urban bat communities compared to their non-urban counterparts. I am still analysing data regarding impacts of urbanization on bat foraging activity and on little brown bat demographics. Also, 2008 was not a good year for bats in general, and little brown bats in particular, possibly due to the cool, wet weather.

Adult and juvenile body conditions were lower than in 2006 and 2007, as was the apparent extent of spermatogenesis in adult males. In terms of phenology, reproductive synchrony was decreased, i.e., the lag between parturition and weaning was greater, and major reproductive events (parturition, volancy, weaning, etc.) tended to occur later in 2008 than in both other years. Finally, juveniles fledged at a lower than normal skeletal size, with a shorter average forearm length in 2008. In 2006 and 2007, bats captured in late summer were often fat, little butterballs really, as is typical of individuals preparing for

hibernation. In 2008 I found very few fat bats. In fact, well into September, I was capturing some of the smallest little browns I have ever seen (many were well under 7 g and some were < 6 g), and I noticed that several juveniles had the largest epiphyseal gaps I have ever seen.



**All three migratory species in one night!**

*Left:* Joanna Coleman holding Hoary Bat.

*Middle:* Cory Olson holding Red Bat.

*Right:* Tanya Hershon holding silver-haired bat.  
Chain Lakes Prov. Park, 100 km south of  
Calgary, Alberta

**Cory Olson** -- Starting May 2009, I will begin my first field season examining the roosting ecology of Silver-haired Bats as part of my M.Sc. degree at the University of Calgary. During this first field season, I will examine bats occupying relatively undisturbed boreal forest habitat in and around Lesser Slave Lake Provincial Park, located in northern Alberta. Using radio-telemetry, I will examine several aspects of roosting ecology, including 1) social behaviour as it relates to colony formation (*i.e.* fission-fusion), 2) colony size and roosting home range, 3) habitat variables affecting roosting home-range size, and 4) habitat selection by bat colonies. In the following year, I hope to examine how resource development and fragmentation affect roosting behaviour by this species.

**Erin Baerwald** – Even though Erin did not submit anything to go into this spot, we all forgive her because she is super swamped writing up her PhD proposal! So we'll anticipate a very detailed submission in the fall, including hearing all about her super cool preliminary results from this summer, her first field season of radiotracking migratory bats and playing around with their homing abilities!



### Bird Banding Program to Help Bats

Doug Collister and Chris Godwin-Sheppard

The Calgary Bird Banding Society initiated a pilot program in 2008 to test whether the array of mist-nets used to monitor spring and fall migration at Inglewood Bird sanctuary might be useful to monitor and band migratory bats. Banding of migratory bats would be useful to help in determining the significance of mortality at wind farm sites in southern Alberta.

Fifteen 2-m x 12-m x 30-mm mesh mist-nets located in the reserve area at the south end of Inglewood Bird Sanctuary were opened for approximately 3 hours starting at sunset on each of 10-17 and 22 August 2008 for a total of 405 net-hrs. The only captures were 2 adult female Little Brown Bats on the evening of 16 August. An Anabat detector was deployed each evening near the banding station to monitor bat activity. Results are tabulated below.

2008	Myotis	MYLU	LANO/ EPFU	LACI	LABO	Low Freq	Unk	Total
Aug. 10	5	18	10			3		36
Aug. 11		7	18	1		3	1	30
Aug. 12	16	23	12			3	14	68
Aug. 13	2	4	8	1		3	1	19
Aug. 14	1	15	5	1				22
Aug. 15	18	36	4	2			2	62
Aug. 16	2	9	3	1		1		16
Aug. 17	1	9	5	2	1	1	3	22
Aug. 22	3	17	65	3		16	6	110
<b>Total</b>	<b>48</b>	<b>138</b>	<b>130</b>	<b>11</b>	<b>1</b>	<b>30</b>	<b>27</b>	<b>385</b>

**Myotis:** potentially little brown or other small bat species; **MYLU:** little brown bat (*Myotis lucifugus*); **LANO/EPFU:** silver-haired bat (*Lasiurus noctivagans*) or big brown bat (*Eptesicus fuscus*) - difficult to distinguish between the calls of these two species; **LACI:** hoary bat (*Lasiurus cinereus*); **LABO:** red bat (*Lasiurus borealis*); **Low Freq:** potentially silver-haired, big brown, or hoary bat; **Unk:** the quality of the recorded call was too poor to identify

Although migratory bats were active in the area when the nets were open it appears that the net positions were not suitable to result in captures. Modification of net locations would likely be required to achieve desired results of capturing migratory bats.

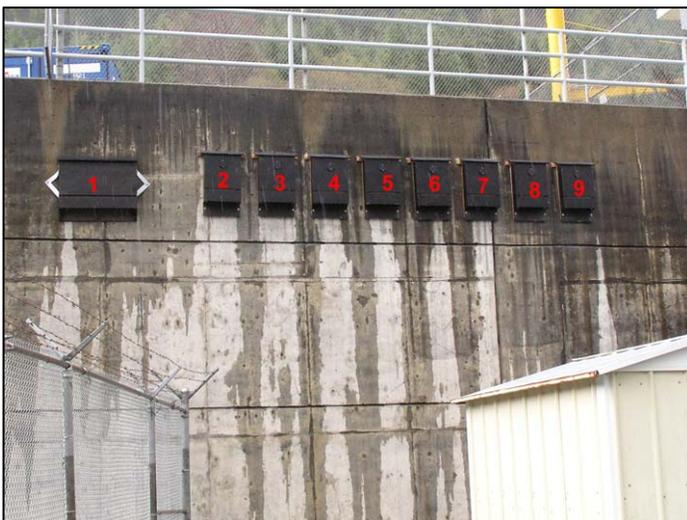


---

**BRITISH COLUMBIA****BC Hydro Bat House Mitigations Project**David Nagorsen, Mammalia Biological Consulting, Victoria, BC [mammalia@shaw.ca](mailto:mammalia@shaw.ca)

Two BC Hydro generating stations (Ladore and Strathcona) in the Campbell River watershed have had a long history of bat occupation in summer and human-bat conflicts. Because of their many access points, totally excluding bats from these two structures has proven difficult. Two double-wide maternity bat houses and a rocket box installed at these stations in 2002 supported bat colonies in 2005 and suggested the use of bat houses for mitigation. A Bridge Coastal Fish and Wildlife Restoration Project (BCRP Project #06.W.CBR.03) funded the construction and installation of 20 additional bat houses (16 standard sized maternity houses and 4 rocket boxes) based on the designs recommended by Bat Conservation International. The goal was to reduce the number of bats roosting inside the two generating stations and mitigate for the loss of natural roost trees from dam construction and associated flooding by providing human-made bat roosts.

We installed the bat houses in April 2007 and monitored them through October 2008. Onset temperature loggers (StowAway Tidbits) recorded bat house and ambient temperatures at each site. Maximum bat counts at Strathcona were ~900 in 2007 and ~ 1,470 in 2008. Maximum bat counts at Ladore were ~130 in 2007 and ~ 150 in 2008. Its unknown if these bat house colonies are stable or will continue to increase. Bats occupied the houses from late April to 1 November with maximum numbers in late summer. I did not capture or handle any bats to determine their species or reproductive condition, but the houses likely support maternity colonies of female *Myotis lucifugus* and *Myotis yumanensis*. Because bats moved among the bat houses at a site in response to seasonal and daily temperature variations, using multiple bat houses of several designs and size is most effective. Anecdotal evidence from BC Hydro staff suggested that bat numbers inside the generating stations had decreased during the project. Because the bat house populations at Strathcona and Ladore far exceeded the numbers of bats estimated to roost in the generating stations, it appears that they are attracting bats that roosted elsewhere in the lower Campbell River watershed in addition to those that occupied the generating stations. Although the BCRP project ended in 2008, my final report recommended that BC Hydro continue to monitor bat populations and temperature regimes in the bat houses.



Nine bat houses mounted on a south-facing retaining wall at Strathcona generating station. Box 1 is a double-wide maternity box, boxes 2-9 are standard maternity boxes. In 2008, these 9 houses supported ~1400 bats.



## Bat Work on the Queen Charlotte Islands Continues

Doug Burles

Although I just recently retired after working many years with Parks Canada, I have not completely severed ties with the Agency. They have granted me Emeritus Scientist status so that I can continue some of my bat research within Gwaii Haanas National Park Reserve and Haida Heritage Site. My plans for this summer will include monitoring the numbers of bats occupying the maternity colony at Gandll K'in Gwaay and capturing bats to confirm species composition and continued use by Keen's long-eared myotis. I will also continue to record echolocation calls of known bats in order to establish a reference library of calls and develop a key for identifying bats on Haida Gwaii from their echolocation calls. Using the key that I develop, I hope to survey Gwaii Haanas to determine bat distribution, and further our understanding of the distribution and biology of Keen's myotis. As well as doing the above field work, I will also continue to work with Cori Lausen, David Nagorsen and Laura Friis on the question of identifying long-eared bats in the field.

### Long-eared Bat Study Continues

The long-eared bat study in B.C. is in its third year. This year will focus primarily on multivariate analyses of genetics, morphometrics, and acoustics; however, there will be some further field sampling taking place. Dave Nagorsen and Doug Burles will finish up the bulk of the sampling for this project. Cori Lausen, together with Thomas Hill will be working in the Columbia Basin region to capture long-eared bats throughout July (see below). Cori Lausen, Dave, and Doug will be working on the analyses next winter. As part of this work, Cori, Dave, Doug and Laura Friis examined use of the 'new' acoustic technique nicknamed Bat Kiting. They presented a poster on this technique in Austin at the WCBWG conference. The following is the abstract of that poster:

#### Testing of a new tethering method for reference call collection: Bat-kiting

Cori L. Lausen\*, Dave Nagorsen, Doug Burles, and Laura Friis. *Birchdale Ecological Ltd., Kaslo; Mammalia Consulting, Victoria, B.C.; Parks Canada, Gwaii Haanas National Park Reserve, Sandspit, B.C.; B.C. Ministry of Environment, Ecosystems Branch, Victoria, B.C.*



Obtaining representative acoustic reference calls from bats is challenging. While the recording of free-flying bats is most desirable, obtaining reference calls from known free-flying individuals is difficult. Ensuring that a bat is successfully recorded often requires some form of tethering, such as zip-lining (J. Szewczak). We tested a new method of tethering bats for reference call recording, which we nick-named "Bat-Kiting."

This method, like zip-lining, involves placing a loosely tied elastic cord around the bat's neck. Instead of attaching the other end of this cord to a horizontal zip-line, we hold the spool of elastic thread, reeling out more line as the bat flies further/higher. In this way, the bat is subtly directed by the person holding the spool of cord, but is less confined in its flight pattern as it is



allowed to fly higher or further than the zip-lining method allows. The tether on zip-lines is typically <1.5 m, forcing the bat to fly close to the ground (<3 m), whereas bat-kited individuals may fly as much as 6–8 m above the ground. We found that different bat species responded differently to methods of tethering. We tested four groups of bats: long-eared species (*M. evotis*, *M. keenii*, *M. thysanodes*, *M. septentrionalis*), low frequency bats (*E. fuscus*, *L. noctivagans*, *A. pallidus*, *L. cinereus*), MYCA/MYCI (*M. californicus*, *M. ciliolabrum*), and MYLU-like (*M. lucifugus*, *M. volans*, *M. yumanensis*). This technique is superior to zip-lining for long-eared bat species in particular. Overall it increases the slope of calls less than that of zip-lining for all species groups except *M. lucifugus/yumanensis/volans*. Tethering bats keeps bats close to the microphone resulting in better representation of Fmax than hand-releasing; bat-kiting in particular does a better job of this than zip-lining likely because the bat tends to circle the detectors rather than fly linearly past the detectors. Bat-kiting requires less equipment, less set-up time and less space in the field than does zip-lining, and is thus a great alternative to zip-lining when a tethering technique is desired.

*Acknowledgements:* We were given the idea for this type of tethering by Julia Boland, Oregon State University, and the name bat-kiting coined by Erin Baerwald, University of Calgary.

A .pdf reprint of poster is available from [corilausen@birchdalebc.ca](mailto:corilausen@birchdalebc.ca).

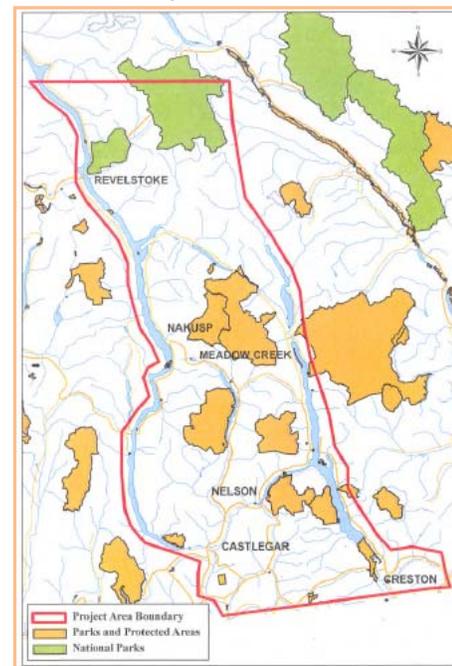


## Roosting Ecology of Fringed and Northern Myotis in the Columbia Basin and Establishing Inventory and Monitoring Techniques for Long-eared Bats

Cori Lausen; Birchdale Ecological Ltd

Thomas Hill and Ross Clarke; Fish and Wildlife Compensation Program, Columbia Basin

This project will complement a provincial project designed to differentiate all 4 long-eared bat species in B.C. using morphometrics, acoustics and genetics (Ministry of Environment Long-eared Bat Project; see above). A reference call library will be created for all long-eared captures to be used for future acoustic inventory and monitoring in the Columbia Basin. Captures across the Columbia Basin region will illuminate distributional patterns of long-eared species. Through the use of radio-telemetry, roost selection and foraging habitat preferences for fringed Myotis and northern Myotis in the Columbia Basin area will be determined. Our work will take place throughout the month of July starting at the north end of Kootenay Lake.



## New Bat Working Group

Although currently unnamed, B.C. has a bat working group! Because of the topographic complexity and size of the province, making travel extensive and expensive, the group opted for a first meeting via teleconference. More than 25 attendees from government, consulting, and other backgrounds met over the phone lines for a day-long conference call on 1 May!

A few urgent issues were identified: White Nose Prevention and Monitoring, and Wind Energy Pre-construction protocol. However, all aspects of bat management, conservation and research were discussed throughout the day. Research and conservation priorities were identified, and 6 committees have been established: Wind Energy and Bats, WNS, Data Management and RISC Review, Bat Watch Outreach, Interagency, Bats and Risk. The group has an online share point that requires sign-on, but hopes to have a website later this year. Meeting minutes and other documents, including the draft Bat Plan, are posted on this BC share point site.

A bat blitz is tentatively planned for early Sept. in the south Okanagan to target the canyon bat, *Parastrellus hesperus* (formerly western pipistrelle), a species anecdotally thought to be present in the province.

Questions regarding the working group can be directed to Juliet Craig ([bcbats@gmail.ca](mailto:bcbats@gmail.ca)).

The following is the agenda from the founding meeting:

<b>Time</b>	<b>Item</b>	<b>Presenter/Facilitator</b>
9:30	Overall Meeting Facilitator: Juliet Craig Start with Introductions	Juliet Craig
9:45	History and Overview of BC Bat Work Summary of current BC Bat Projects/Research	Dave Nagorsen All Participants
10:15	Overview of BC Bat Conservation Plan and website	Purnima Govindarjulu and Susan Holroyd
10:30	<i>Coffee break</i>	
10:45	Bat maps, data management and data sharing	Dave Nagorsen and Mike Panian
11:30	Bat status reports, COSEWIC listings, recovery teams	Aaron Reid and Dave Nagorsen
12:00	<i>Lunch break</i>	
12:45	White-Nose Syndrome	Cori Lausen
1:45	Bats and wind turbines	Dave Nagorsen and Mike Sarell
2:45	Outstanding issues (e.g. bats and Mines, Caves, Bridges, Buildings, etc.)	All Participants
3:00	<i>Coffee break</i>	
3:15	Discussion	Cori Lausen
	- Research and conservation priorities	
	- Recommendations	
	- Action items	
	- How to continue BC Bat Working Group	
	- Next steps	
4:30	Adjourn	



**Bat Work at Various BC Locations**

Mitch Firman

I continue to monitor Townsend's big-eared bat maternity and hibernacula sites in the East Kootenays. I'll also be involved in a late summer survey at Grouse Mtn, monitoring bat activity in forested areas prior to clearing. Acoustic surveys and radar surveys are ongoing for bats at the proposed Banks Island wind farm (North Coast; Golder Associates).

**Restoring Bat Habitat in Lillooet**

Vivian Birch-Jones

In Lillooet we are doing some bat surveys and education this summer, as part of our restoration project on the banks of the Fraser River, funded by BC Hydro's BCRP program.

We are excited to be able to bring some bat expertise to our area.

[www.lillooetnaturalistsociety.org](http://www.lillooetnaturalistsociety.org)

**MANITOBA**

The **University of Winnipeg Bat Lab** (Dr. Craig Willis) is gearing up for a busy season in the lab and fieldwork.

Joel Jameson is continuing his M.Sc. project addressing bat mortality at a Manitoba wind plant and with help from Manitoba Telecom Services he's also testing the hypothesis that migratory tree bats are attracted to tall structures in general, by recording bat calls at cell phone towers.

Kristin Jonasson collected temperature telemetry data from hibernating little brown bats in central Manitoba this summer, braving -40 on her showshoes to change receiver batteries at caves. Her data will let her compare torpor/arousal cycles from northern bats to those of bats with and without White-Nose Syndrome (WNS) in the U.S. to help get at geographic variation in torpor patterns as well as the energetics behind WNS. She's also conducting an acclimation experiment to look at within-individual flexibility in torpor expression and clustering behaviour during hibernation.

Tracie Parkinson is continuing her M.Sc. looking at social networks within and between hibernacula and summer roosts using PIT tags and population genetics.

Dr. Mary Timonin recently joined our group as a post-doc to assess thermal refuge boxes inside cold hibernacula as a means to help starving bats with WNS survive the winter. Justin Boyles (Indiana State University) and Craig Willis published a paper this winter showing that small areas of localized warm microclimate could help WNS-



affected bats fend off starvation by saving them energy during expensive and obligatory periodic arousals throughout hibernation. Hibernating bats already exploit warm microclimates during arousals if they have access to them and then appear to return to colder areas when it's time to go back into torpor. Mary has just deployed several prototype boxes, outfitted with PIT tag readers, thermostat controlled heaters and lots of insulation, in one of our central Manitoba hibernacula to see if our PIT-tagged bats (without WNS) will use them. Only a few weeks of hibernation remain this year so the real test will come next winter. However, if bats use the boxes, and overwinter survivors of white-nose are shown not to spread WNS during summer (as some suspect), these "thermal refugia" could help reduce mortality caused by WNS.

We have wrapped up a few projects as well. Kaleigh Norquay, Amanda Matheson and Scott Unruh all finished great Honours projects looking at various aspects of torpor expression and energetics in bats and small mammals. In collaboration with Paul Faure (McMaster University) and others, Craig and Joel also published a paper this winter showing that the popular iButton temperature dataloggers produce an ultrasonic noise that could potentially disturb bats and small mammals. Check out [www.uwinnipeg.ca/~cwillis](http://www.uwinnipeg.ca/~cwillis) for details of these and other projects.

## MONTANA (and more)



### US Forest Service Bat Work in Region 1 Acknowledged with Awards

The following people were recognized by the U.S. Forest Service with the "Wings Across the Americas" awards. These were awarded for the multi-year bat survey and mine gating program.

**Forest Service:** Jenny Taylor (Idaho), Amie Shovlain (Montana), Jenny Holifield (Montana), Joanne Bonn (Idaho), Sarah Kaufman (Idaho), Pat Ormsbee (Oregon)

**Other Recipients:** Joe Szewczak - Humboldt State University; Cori Lausen – Birchdale Ecological Ltd.; Bryce Maxell - Montana Natural Heritage Program; Kristi Dubois - Montana Department of Fish, Wildlife & Parks; Lewis Young – volunteer; Dan Taylor - Bat Conservation International

These twelve biologists were recognized in March with a national U.S. Forest Service award in Washington, D.C. for their bat research and habitat improvement work on national forests on twelve national forests in Idaho and Montana and a national grassland in North & South Dakota.

The Forest Service has gated more than one hundred mines, mostly on the Idaho Panhandle National Forests, that keep people out of unsafe mines while allowing bats to use the mines as hibernacula, maternity sites, etc. Starting with abandoned mine surveys on national forests in 1996, the Forest Service's bat inventory was expanded in 2005 with these objectives: (1) To use a standardized grid-based protocol to survey bats in a wide variety of habitats throughout its Northern Region; (2) train Forest Service biologists and interested partners to conduct bat surveys; and (3) consolidate bat data in state Natural Heritage Program databases to facilitate future bat research and partnerships.



## Montana Natural Heritage Program

Bryce Maxell, Helena, Montana 59620-1800 [bmaxell@mt.gov](mailto:bmaxell@mt.gov)

We produced a report summarizing morphology information from all of the recent surveys in Montana and summarizing the latest distribution information. The report is posted at: [http://mtnhp.org/Reports/USFS\\_Bats\\_2007.pdf](http://mtnhp.org/Reports/USFS_Bats_2007.pdf)

We have a statewide sampling scheme in place for monitoring bat species with occupancy analysis using quarter 1:24K quad maps as the sampling grid. We have completed surveys in NE Montana in 2008 with this methodology, will complete SE Montana in 2009, and will complete western Montana in 2010. This will yield statewide occupancy estimates for Montana bat species that can be used for future comparisons.

## Flathead Confederated Salish and Kootenai Tribes

Cori Lausen

Janene Lichtenberg, Wildlife Biologist with the Confederated Salish and Kootenai Tribes Wildlife Management Program, has planned a 50 day bat survey for the Flathead Reservation. I will be conducting this bat work this summer in June and August, focussing on biodiversity and roost inventory.

## NORTH DAKOTA

### Bat Inventory of Dakota Grasslands



Few formal bat surveys have been conducted in North Dakota. In the Dakota National Grasslands (USFS) in particular, only about 15 days of formal bat survey have been done. Beth Hahn (USFS, MT), together with Dan Svingen (USFS, North Dakota), Patrick Isakson (North Dakota Game and Fish) and Bat Conservation International have collaborated to facilitate a 10 day bat survey this summer. Cori Lausen will be conducting this bat survey in the Little Missouri Grasslands of North Dakota. Badlands topographic features associated with riparian areas make this area ideal for summer bat roosting and potentially winter hibernation.

## SASKATCHEWAN

### University of Regina Bat Lab -Batting in the East-

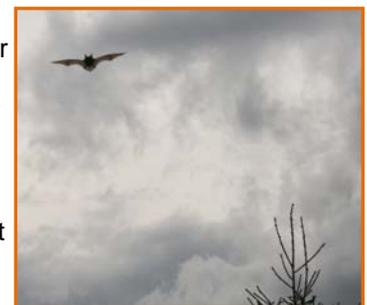
Mark Brigham



LEFT PHOTO. Pit-tagging bats at a mine near Halifax, Nova Scotia

Right: Joe Poissant -- from Hugh Broder's bat lab in St. Mary's University, Halifax; will be starting a PhD in Mark Brigham's lab at the University of Regina this fall.

Left: Lynne Hendersen -- has started a PhD at St. Mary's University, Halifax.



RIGHT PHOTO. Mark Brigham photographed this bat in Fundy National Park (New Brunswick) this spring, out feeding at 3 pm - broad daylight. Watched it for 15 mins or so. Likely a little brown.



---

**YUKON**

The following paper was presented in Austin at the WCBWG Conference this past April:

**Morphometrics and plasticity in echolocation calls of little brown bats (*Myotis lucifugus*) at the northern edge of their range**

Cori L. Lausen, Thomas S. Jung, David W. Nagorsen, Jennifer M. Talerico, Lea A. Randall, Doug Burles, Brian G. Slough, and Laura Friis.

*Birchdale Ecological Ltd., Kaslo, B.C.; Environment Yukon, Whitehorse, Yukon; Mammalia Consulting, Victoria, B.C.; University of Calgary, Calgary, AB; University of Calgary and Environment Yukon; Parks Canada, Sandspit, Haida Gwaii; Whitehorse, B.C.; Whitehorse, Yukon; B.C. Ministry of Environment, Victoria, B.C.*



Little brown bats (*Myotis lucifugus*) reach the northern edge of their range in Yukon, Canada. At higher latitudes they encounter short, luminous nights, relative to conspecifics at lower latitudes. *M. lucifugus* is often the only bat found in an area, and they face less competition with ecomorphologically similar species with slightly different ecological niches. We were interested in how morphology and echolocation-call characteristics may be influenced by environmental conditions in the North, and the lack of competition with congeners. In 2007 and 2008, echolocation calls were recorded from captured *M. lucifugus* at various locations in western Canada, via frequency division detectors. Calls of *M. lucifugus* in the Yukon were found to be steeper than conspecifics further south. Because steeper calls tend to be associated with long-eared bats flying among clutter, we examined ear length. We found that Yukon *M. lucifugus* had longer ears than conspecifics in B.C.; this piece of evidence together with observations of these bats foraging more often in clutter, and less often in the open, supports the observation that little brown bats in the North have evolved echolocation-call designs to forage in cluttered habitats, possibly in response to an elevated predation risk associated with high light levels. We also report a south-north cline in forearm length, similar to that found for *M. lucifugus* in the prairies.

## **ABAT UPDATE**

The Alberta Bat Action Team met April 28<sup>th</sup>. A group gathered in Calgary and others called in by conference call. Wind energy, WCBWG update, WNS, banding records and permits, and website revisions were the main topics.

The group again expressed concern that acoustic records are not required for submittal to the government because acoustic monitoring does not require a permit in AB. This, however, is likely to change for next season; the newly formed Alberta Wildlife and Wind Energy Committee, of which Lisa Wilkinson is a part, has decided that starting next season (too late for this upcoming one), permits will be required to acoustically monitor bats in the province, and as such, will facilitate the gathering of bat acoustic records for AB, similar to the gathering of capture records. Alberta Wildlife and Wind Energy Committee is tentatively organizing a wind workshop for the province likely for January.

Another ABAT meeting is slated for November following NASBR.



## RECENT LITERATURE

- Burles, D.W., R.M. Brigham, R.A. Ring and T. E. Reimchen. In press. Influence of weather on two insectivorous bats in a temperate Northwest Pacific rainforest. *Can. J. Zool.*
- Coleman, J. and R.M.R. Barclay. In press. A strange tale of taillessness in a vespertilionid bat. *Acta Chiropterologica.*
- Metheny, J.D., M.C. Kalcounis-Rueppell, K.J. Bondo, and R.M. Brigham. 2008. A genetic analysis of group movement in an isolated population of tree-roosting bats. *Proc. Royal Soc. B. May 275: 2265-2272.*
- Metheny, J.D., M.C. Kalcounis-Rüppell, K.A. Kolar, C.K.R. Willis and R.M. Brigham. 2008. Genetic relationships of roost-mates in a fission-fusion society of tree-roosting big brown bats. *Behav. Ecol. Sociobiol.* 62:1043-1051.
- Slough, BG, and TS Jung. 2008. Observations on the Natural History of Bats in the Yukon. *The Northern Review* 29: 127-150. Reprints available ([slough@northwestel.net](mailto:slough@northwestel.net)).
- Slough, B.G. 2009. Behavioral thermoregulation by a maternity colony of little brown bats in the Yukon. *Northwestern Naturalist* 90: 47-51. Reprints available ([slough@northwestel.net](mailto:slough@northwestel.net)).

## WESTERN BAT WORKING GROUP UPDATE

### New Board of Officers:

- President** *Rita Dixon*, Program Leader for the Idaho Department of Fish and Game's Conservation Sciences Division, Boise, Idaho
- Vice President** *Cori Lausen*, Bat Biologist, Birchdale Ecological Ltd., Kaslo, B.C.
- Secretary** *Heather Johnson*, Environmental Consultant in Sacramento, California
- Treasurer** *Brad Phillips*, Wildlife Biologist, Black Hills National Forest (US Forest Service) in Custer, SD.
- At-large Members:**  
*Martin Grenier* (elected) – Nongame Mammal Biologist, Wyoming Game and Fish Department  
*Dave Johnston* (elected) - Senior Wildlife Ecologist at H.T. Harvey & Associates, California  
*Tim Snow* (appointed) - Nongame Specialist II, Arizona Game and Fish Department  
*Angie McIntyre* (appointed) -- Bat Management Coordinator, Arizona Game and Fish Department



## WBWG Conference Program and Wind Energy Workshop Program

April 13 – 15<sup>th</sup> was the WBWG Wind Energy and Bats Workshop, which was followed by the biennial conference (April 15 – 18<sup>th</sup>). This conference started off with a Bats and Wind Energy symposium featuring some research not presented at the Workshop. The conference closed with a special workshop on White Nose Syndrome.

The conference and workshops took place in Austin, Texas at the Radisson Town Lake, located at the Congress Avenue Bridge. Participants were therefore treated to watching the free-tail bat emergence each night. Many also attended the field trip to Bracken Cave for another spectacular free-tail emergence.

For a full list of program abstracts, visit [www.wbwg.org](http://www.wbwg.org); the spring 2009 newsletter contains all conference abstracts.

The next biennial meeting and conference (likely to be associated with another Wind Energy Workshop) will be in 2011 in Las Vegas, Nevada.



LEFT PHOTO. *The University of Calgary family...*

Present and former Barclay students convene in Austin for WBWG workshop and conference.

Three generations of Barclay Bat Biologists: Cori Lausen (left) worked as a field assistant for Lisa Wilkinson (second from left) when she was doing her MSc; when Cori started her PhD in the bat lab, she hired Erin Baerwald (second from right), who has now just finished an MSc in the lab and has started a PhD with Robert also!

Jeff Gruver (right) and Donald Solick (back) work as bat biologists at WEST Inc. Donald finished a MSc with Robert in 2004, and Jeff is just (any minute now!) finishing up his PhD.

Oh, and by the way, congratulations on the recent birth of your pup Donald!... Renee Mensing-Solick gave birth to baby girl Xali Mieko Solick April 28 in Colorado.

RIGHT PHOTO. Mexican free-tail bat emergence from Bracken Cave. Photo: Lisa Wilkinson.



# ANNOUNCEMENTS

## MEETINGS/CONFERENCES

**American Society of Mammalogists Annual Conference.** June 24-28<sup>th</sup>, 2009. University of Alaska Fairbanks, Fairbanks, Alaska. <http://mercury.bio.uaf.edu/asm/index.html>

**10<sup>th</sup> International Mammalogical Congress.** Aug. 9 – 14<sup>th</sup>, 2009. Mendoza Convention Center, Mendoza Province, Argentina. Official language: English. For more info: <http://www.cricyt.edu.ar/imc10/>

**Symposium on Conservation and Management of Big-Eared Bats (*Corynorhinus*).** Southeastern Bat Diversity Network. Athens, Georgia. March 9-11, 2010. For more information: [http://Warnell.Forestry.Uga.Edu/Big\\_Eared\\_Bats/](http://Warnell.Forestry.Uga.Edu/Big_Eared_Bats/)

**39<sup>th</sup> North American Symposium on Bat Research 2009.** Nov 4-7, 2009. Portland, Oregon. [www.nasbr.org](http://www.nasbr.org)

**40<sup>th</sup> North American Symposium on Bat Research 2010.** Dates TBA. Denver, Colorado.

**16<sup>th</sup> Annual Conference -- The Wildlife Society.** Monterey, California. Sept. 20-24, 2009.

**17<sup>th</sup> Annual Conference -- The Wildlife Society.** Snowbird, Utah. Oct. 3 – 7, 2010.

**Western Bat Working Group Biennial Conference.** Las Vegas, Nevada. Spring 2011. Conference will most likely be preceded with a Wind Energy and Bats Workshop.

## WORKSHOPS

### **Bat Conservation International 2009 BAT CONSERVATION AND MANAGEMENT WORKSHOP** **Mammoth Cave, KY and Barree, PA**

*Hands-on:* bat handling, identification, netting and trapping

*Experience with field techniques:* radio-tracking, marking, light-tagging, echolocation recording, advanced capture techniques

*Lectures and demonstrations:* habitat assessment and management, conservation and status determination

*Qualified staff:* BCI biologists, local colleagues and regional experts with at least 20 years of bat-conservation experience

*Small class size:* 1 instructor per 4-5 students at all field settings

*Networking opportunities:* educators, consultants and peers

*All-inclusive cost:* \$1,395 covers lodging, materials, meals and take-home resources

**Kentucky: July 14-19**

**Pennsylvania: August 14-19**

For information and online applications, visit: [www.batcon.org/index.php/education/workshops.html](http://www.batcon.org/index.php/education/workshops.html) or contact Peg Lau Hee at 512-327-9721 or [workshops@batcon.org](mailto:workshops@batcon.org)



## Pages from the field book...

*Do you have something you'd like to share about field equipment, lessons learned, techniques, interesting field observations, etc.? Please submit your field notes to the Editor for posting (so that she does not always have to fill in this whole section herself! ;-)*

**New at Titley Electronics** – Titley announced their new GML1 remote download system (data transfer) for Anabat. They also now have new activity analysis software, a new bat chirper for calibrating detector sensitivities and replaceable microphone transducers. Check out the Titley website and send them an inquiry for more details. The commercial version of AnalookW is forthcoming.

### **New Pettersson Detector (D500X) for passive monitoring is now available!**

A more detailed description of this unit can be found on the [Bat Conservation and Management website](#).

### **New MiniTransmitters**

ATS and BioTrack/Lotek each have new small transmitters available (0.26 g).

Holohil will have similar small transmitters available by Fall 09.

**Glue note:** SkinBond is no longer being made. Torbot is being suggested by Holohil (although not as good as SkinBond); I will also be testing out Osto-Bond (latex formula) this summer. Both products are available in Canada from [www.Stoma-tech.com](http://www.Stoma-tech.com). Let us know if you've tried either of these or have other suggestions for what works best.

**Sonobat** – Joe Szewczak has announced a new Sonobat (version 2.9) is on its way. This version has an automated measurement feature that will recognize bat calls, measure them, and output ~50 call parameter values for use in further analyses. Similarly, Szewczak's automated species identification software is close to being released. The first release will have geographic limitations, but work continues on this system.



### **Ordering materials for WNS Protocols**

– Guidelines coming of the east are being implemented in a growing number of areas in the west as proactive measures to prevent the spread of White Nose Syndrome. Materials that you are going to want to have with you in the field to sample bats that show signs of WNS include:

**glass microscope slides** – DL050G pack of 144, frosted on one end \$24.60

**fungal tape** – DL745 one roll \$50.40

**microscope slide storage box for mailing** – HS15983A pack of 25 boxes, each holds two slides \$24.40; or SH15982G pack of 25 boxes, each holds 5 slides \$25.00

All of the above can be ordered through the Canadian supplier:

[www.BioLynx.ca](http://www.BioLynx.ca)

**Bat Bags!** It is recommended that you keep captured bats separate from each other. This requires large numbers of bat bags that will need to be washed before being reused. High quality cloth drawstring bags can be bought for a very reasonable price through [Sealers and Supplies](#). I recently ordered 200 bags and by the time I paid all duties and fees at the border, the total cost was \$60 CAN (only 30 cents a bag!). I have put them in the washer and dryer and they seem to hold up fine!

I have also ordered cloth drawstring bags from [Legend, Inc.](#), and the pictures of these bags suggest they may be of slightly higher quality; they are ~\$0.35/bag before shipping, and their fees to ship to Canada are substantially higher than Sealers and Supplies. I have not yet seen Legend's bags to compare them to the Sealers and Supplies bags.

**New from Binary Acoustic Technology** – No waterproof housing needed! Mark Jensen has come out with his new AR125-EXT. This receiver is designed with wind farm passive monitoring in mind, because the microphone element can be hoisted up to 250 feet, while the base unit remains on the ground. Unlike the current AR125, the new –EXT unit is small, and waterproof so that it can be hoisted alone without weatherproof housings. It is designed to be used in conjunction with either SPECT'R or the FR125 field recorder.



# Name Change?

## A proposal by the editor, Cori Lausen.

When the Western Canada Bat Working Group came into being 7 years ago, it was not clear what form this group would take. The impetus for such a group came from the Alberta Bat Action Team. It was felt that a network of bat folks beyond the borders of Alberta would be advantageous. While this newsletter has met its goal of networking bat biologists and bat enthusiasts from across the Pacific Northwest and as far east as Manitoba, it has not ever become a *working group* per se. As such, it truly has remained a network, and I wonder if this warrants a change in name to:

Western Canada Bat Network – WCBN

The change of name will make no difference to anything really, other than more accurately describing what we are. There is however, one major advantage to renaming the group and that is it will alleviate the confusion with WBWG. Over the past 4 four years since the WBWG started a newsletter as well, folks submitting newsletter articles to me have been confused often about WBWG vs WCBWG newsletters... one letter difference embedded in an acronym is easy to mistake. This has not been a problem because I've been the editor of both newsletters, so I'd just sort the submissions to make sure they got into the right newsletter! However, after 4 years, I have stepped down from the WBWG Editor position so that I can focus more on the VP position that I now hold in that group. I will continue to put together the WCBWG newsletter, but think that now might be as good a time as any to change names. And this way, in the fall when I request submissions for WCBN Newsletter, it will be harder to mistake for the WBWG Newsletter submission requests that will be sent out by either Julie York or Lorraine Andrusiak (the new co-editors of the WBWG newsletter).

If you have an opinion that you'd like to express about this name change, please email me ([corilausen@birchdalebc.ca](mailto:corilausen@birchdalebc.ca)). Thanks!



# DISTRIBUTION LIST

Name	Email address	Province/ State
Kristi Anderson	<a href="mailto:kanderson@neodox.ca">kanderson@neodox.ca</a>	AB
Ted Antifeau	<a href="mailto:Ted.Antifeau@gems5.gov.bc.ca">Ted.Antifeau@gems5.gov.bc.ca</a>	BC
Doris Audet	<a href="mailto:auded@augustana.ab.ca">auded@augustana.ab.ca</a>	AB
Robert Barclay	<a href="mailto:barclay@ucalgary.ca">barclay@ucalgary.ca</a>	AB
Erin Baerwald	<a href="mailto:girlborealis@gmail.com">girlborealis@gmail.com</a>	AB
Teodora Berry	<a href="mailto:Dora_berry@hotmail.com">Dora_berry@hotmail.com</a>	AB
Vivian Birch-Jones	<a href="mailto:vivianbj@telus.net">vivianbj@telus.net</a>	BC
Julia Boland		
Kristin Bondo	<a href="mailto:kbondo1@hotmail.com">kbondo1@hotmail.com</a>	SK
Steve Bradbury	<a href="mailto:Steve.Bradbury@arc.ab.ca">Steve.Bradbury@arc.ab.ca</a>	AB
Mark Brigham	<a href="mailto:mark.brigham@uregina.ca">mark.brigham@uregina.ca</a>	SK
Kent Brown	<a href="mailto:brownwk@telus.net">brownwk@telus.net</a>	AB
Lynne Burns (nee Henderson)	<a href="mailto:hendersonle2003@yahoo.ca">hendersonle2003@yahoo.ca</a>	NS
Doug Burles	<a href="mailto:Doug.Burles@pc.gc.ca">Doug.Burles@pc.gc.ca</a>	BC
Lisa Burt	<a href="mailto:Lisa.Burt@Wael.ca">Lisa.Burt@Wael.ca</a>	AB
Jaime Bustillo	<a href="mailto:sdommerlo@yahoo.com">sdommerlo@yahoo.com</a>	QC
Gerry Carter	<a href="mailto:batbum@gmail.com">batbum@gmail.com</a>	ON
Lydia Chaisson	<a href="mailto:lydiachiasson@yahoo.ca">lydiachiasson@yahoo.ca</a>	AB
Trudy Chatwin	<a href="mailto:Trudy.Chatwin@gems1.gov.bc.ca">Trudy.Chatwin@gems1.gov.bc.ca</a>	BC
Ross Clarke	<a href="mailto:Ross.Clarke@bchydro.bc.ca">Ross.Clarke@bchydro.bc.ca</a>	BC
Walter Clevenger	<a href="mailto:walter@webtropolis.com">walter@webtropolis.com</a>	BC/CA
Joanna Coleman	<a href="mailto:jcoleman@ucalgary.ca">jcoleman@ucalgary.ca</a>	AB
Doug Collister	<a href="mailto:collistr@telus.net">collistr@telus.net</a>	AB
John Cooper	<a href="mailto:johnmcooper@shaw.ca">johnmcooper@shaw.ca</a>	BC
Sarah Coulter	<a href="mailto:scoulter@wael.ca">scoulter@wael.ca</a>	AB
Juliet Craig	<a href="mailto:julietcraig@uniserve.com">julietcraig@uniserve.com</a>	BC
Vanessa Craig	<a href="mailto:vanessa.craig@ecologicresearch.ca">vanessa.craig@ecologicresearch.ca</a>	BC
Lisa Crampton	<a href="mailto:crampton@scs.unr.edu">crampton@scs.unr.edu</a>	
Martin Davis	<a href="mailto:iskar@pacificcoast.net">iskar@pacificcoast.net</a>	BC
Suyapa Dominguez	<a href="mailto:Edeuco2004@yahoo.ca">Edeuco2004@yahoo.ca</a>	QC
Jack Dubois	<a href="mailto:JDubois@gov.mb.ca">JDubois@gov.mb.ca</a>	MB
Kristi Dubois	<a href="mailto:kdubois@mt.gov">kdubois@mt.gov</a>	MT
Orville Dyer	<a href="mailto:Orville.Dyer@gems4.gov.bc.ca">Orville.Dyer@gems4.gov.bc.ca</a>	BC
Katie Easterling	<a href="mailto:kathleen.easterling@jacqueswhitford.com">kathleen.easterling@jacqueswhitford.com</a>	ON
Derek Ebner	<a href="mailto:Derek.Ebner@jacqueswhitford.com">Derek.Ebner@jacqueswhitford.com</a>	AB
Jason Edworthy	<a href="mailto:jedworthy@visionquestwind.com">jedworthy@visionquestwind.com</a>	AB
Carol Engstrom	<a href="mailto:Carol.Engstrom@huskyenergy.com">Carol.Engstrom@huskyenergy.com</a>	AB
Michelle Evelyn	<a href="mailto:mjevelyn@gmail.com">mjevelyn@gmail.com</a>	BC
Greg Falxa	<a href="mailto:gregf@efn.org">gregf@efn.org</a>	WA
Dashiell Feierabend	<a href="mailto:dsfeierabend@gmail.com">dsfeierabend@gmail.com</a>	AK
Mitch Firman	<a href="mailto:mfirmen@golder.com">mfirmen@golder.com</a>	BC
Jason Fisher	<a href="mailto:Jason.Fisher@arc.ab.ca">Jason.Fisher@arc.ab.ca</a>	AB
Mike Fournier	<a href="mailto:mike.fournier@ec.gc.ca">mike.fournier@ec.gc.ca</a>	NT
Laura Friis	<a href="mailto:laura.friis@gov.bc.ca">laura.friis@gov.bc.ca</a>	BC
Wendy Gardner	<a href="mailto:wendykev@telusplanet.net">wendykev@telusplanet.net</a>	AB



---

Angus Glass	<a href="mailto:Angus.glass@bchydro.bc.ca">Angus.glass@bchydro.bc.ca</a>	BC
Chris Godwin-Sheppard	<a href="mailto:christine.godwin-sheppard@amec.com">christine.godwin-sheppard@amec.com</a>	AB
Scott Grindal	<a href="mailto:Scott.D.Grindal@conocophillips.com">Scott.D.Grindal@conocophillips.com</a>	AB
Jeff Gruver	<a href="mailto:Jeff.gruver@ucalgary.ca">Jeff.gruver@ucalgary.ca</a>	AB
Robin Gutsell	<a href="mailto:robin.gutsell@gov.ab.ca">robin.gutsell@gov.ab.ca</a>	AB
Brenda Hamilton	<a href="mailto:birdchic@telusplanet.net">birdchic@telusplanet.net</a>	AB
Blair Hammond	<a href="mailto:blair.hammond@ec.gc.ca">blair.hammond@ec.gc.ca</a>	BC
Matt Heavner	<a href="mailto:Matt.heavner@uas.alaska.edu">Matt.heavner@uas.alaska.edu</a>	AK
Paul Hendricks	<a href="mailto:phendricks@mt.gov">phendricks@mt.gov</a>	MT
Anne Hetherington	<a href="mailto:Anne.Hetherington@gems8.gov.bc.ca">Anne.Hetherington@gems8.gov.bc.ca</a>	BC
Thomas Hill	<a href="mailto:Thomas.hill@bchydro.bc.ca">Thomas.hill@bchydro.bc.ca</a>	BC
Dave Hobson	<a href="mailto:dave.hobson@gov.ab.ca">dave.hobson@gov.ab.ca</a>	AB
Susan Holroyd	<a href="mailto:susanlholroyd@hotmail.com">susanlholroyd@hotmail.com</a>	AB
Anne Hubbs	<a href="mailto:anne.hubbs@gov.ab.ca">anne.hubbs@gov.ab.ca</a>	AB
Larry Ingham	<a href="mailto:Larry.Ingham@BCHydro.bc.ca">Larry.Ingham@BCHydro.bc.ca</a>	BC
Pierre Johnstone	<a href="mailto:pierre.johnstone@gems1.gov.bc.ca">pierre.johnstone@gems1.gov.bc.ca</a>	BC
Thomas Jung	<a href="mailto:Thomas.Jung@gov.yk.ca">Thomas.Jung@gov.yk.ca</a>	YK
Matina Kalcounis-Rüppell	<a href="mailto:matina_kalcounis@uncg.edu">matina_kalcounis@uncg.edu</a>	NC
Stacia Keenan	<a href="mailto:aidenk@telus.net">aidenk@telus.net</a>	AB
Mandy Kellner	<a href="mailto:myotis@telus.net">myotis@telus.net</a>	BC
Julia Kilgour	<a href="mailto:julia.kilgour@utoronto.ca">julia.kilgour@utoronto.ca</a>	ON
Kristen Kolar	<a href="mailto:kolar11k@uregina.ca">kolar11k@uregina.ca</a>	SK
Terry Krause	<a href="mailto:Terry.Krause@gov.ab.ca">Terry.Krause@gov.ab.ca</a>	AB
Cori Lausen	<a href="mailto:corilausen@netidea.com">corilausen@netidea.com</a>	BC
Susan Leech	<a href="mailto:beisleech@shaw.ca">beisleech@shaw.ca</a>	BC
Janene Lichtenberg	<a href="mailto:jananel@cskt.org">jananel@cskt.org</a>	MT
Jon Lucas	<a href="mailto:Varanus7@charter.net">Varanus7@charter.net</a>	WA
Tanya Luszczyk	<a href="mailto:tluszczyk@yahoo.com">tluszczyk@yahoo.com</a>	BC
Bryce Maxell	<a href="mailto:bmaxell@mt.gov">bmaxell@mt.gov</a>	MT
Jackie Metheny	<a href="mailto:jd_metheny@hotmail.com">jd_metheny@hotmail.com</a>	SK/NC
Miranda Milam	<a href="mailto:milam20m@uregina.ca">milam20m@uregina.ca</a>	SK
Dave Nagorsen	<a href="mailto:mammalia@shaw.ca">mammalia@shaw.ca</a>	BC
Wayne Nordstrom	<a href="mailto:Wayne.Nordstrom@gov.ab.ca">Wayne.Nordstrom@gov.ab.ca</a>	AB
Marc Obert	<a href="mailto:Marc.obert@stantec.com">Marc.obert@stantec.com</a>	AB
Pat Ormsbee	<a href="mailto:pormsbee@fs.fed.us">pormsbee@fs.fed.us</a>	OR
Krista Patriquin	<a href="mailto:lasiurus_cin@yahoo.ca">lasiurus_cin@yahoo.ca</a>	NS
Delanie Player	<a href="mailto:dplayer@calgary.komex.com">dplayer@calgary.komex.com</a>	AB
Aaron Poe	<a href="mailto:apoe@fs.fed.us">apoe@fs.fed.us</a>	AK
Richard Popko	<a href="mailto:Richard_Popko@gov.nt.ca">Richard_Popko@gov.nt.ca</a>	NT
Norma Powell	<a href="mailto:Norma.powell@jacqueswhitford.com">Norma.powell@jacqueswhitford.com</a>	BC
Joanna Preston	<a href="mailto:Joanna_preston@jacqueswhitford.com">Joanna_preston@jacqueswhitford.com</a>	BC
Margo Pybus	<a href="mailto:margo.pybus@gov.ab.ca">margo.pybus@gov.ab.ca</a>	AB
Daniela Rambaldini	<a href="mailto:raggabatgurl@msn.com">raggabatgurl@msn.com</a>	SK
Lea Randall	<a href="mailto:lrandall@ucalgary.ca">lrandall@ucalgary.ca</a>	AB
Gina Roberts	<a href="mailto:groberts@stardate.bc.ca">groberts@stardate.bc.ca</a>	BC
Kent Russell	<a href="mailto:kentwilly@hotmail.com">kentwilly@hotmail.com</a>	AB
Sam Skalak	<a href="mailto:Sskalak1@gmail.com">Sskalak1@gmail.com</a>	MT
Mike Sarell	<a href="mailto:ophiucon@vip.net">ophiucon@vip.net</a>	BC
Tim Schowalter	<a href="mailto:tschowal@telusplanet.net">tschowal@telusplanet.net</a>	AB
Dave Schirokauer	<a href="mailto:Dave_Schirokauer@nps.gov">Dave_Schirokauer@nps.gov</a>	AK
Brian Slough	<a href="mailto:slough@northwestel.net">slough@northwestel.net</a>	YK
Winston Smith	<a href="mailto:winstonsmith@fs.fed.us">winstonsmith@fs.fed.us</a>	AK

---



Dan Soprovich	<a href="mailto:dsop@mts.net">dsop@mts.net</a>	MB
Katharine Staiger	<a href="mailto:KStaiger@nwcc.bc.ca">KStaiger@nwcc.bc.ca</a>	BC
Carol Stefan	<a href="mailto:cstefan@golder.com">cstefan@golder.com</a>	AB
David Stiles		BC
Jen Talerico	<a href="mailto:mentalerico@gmail.com">mentalerico@gmail.com</a>	AB
Jenny Taylor	<a href="mailto:jctaylor@fs.fed.us">jctaylor@fs.fed.us</a>	ID
David Tessler	<a href="mailto:David_Tessler@fishgame.state.ak.us">David_Tessler@fishgame.state.ak.us</a>	AK
Melissa Todd	<a href="mailto:Melissa.Todd@gov.bc.ca">Melissa.Todd@gov.bc.ca</a>	BC
Alasdair Veitch	<a href="mailto:Alasdair_Veitch@gov.nt.ca">Alasdair_Veitch@gov.nt.ca</a>	NT
Drajs Vujnovic	<a href="mailto:Drajs.Vujnovic@gov.ab.ca">Drajs.Vujnovic@gov.ab.ca</a>	AB
Greg Wagner	<a href="mailto:elkman@telusplanet.net">elkman@telusplanet.net</a>	AB
Megan Watters	<a href="mailto:mwatters@wael.ca">mwatters@wael.ca</a>	AB
Lisa Wilkinson	<a href="mailto:Lisa.Wilkinson@gov.ab.ca">Lisa.Wilkinson@gov.ab.ca</a>	AB
Craig Willis	<a href="mailto:c.willis@uwinnipeg.ca">c.willis@uwinnipeg.ca</a>	MB
Joanna Wilson	<a href="mailto:Joanna_Wilson@gov.nt.ca">Joanna_Wilson@gov.nt.ca</a>	NT
	<a href="mailto:jowilsonca@yahoo.ca">jowilsonca@yahoo.ca</a>	

Blank email address? This means that I no longer have your current email address. If you happen to receive this newsletter still and would like to remain on this list, please send me your updated email address. Editor, [corilausen@birchdalebc.ca](mailto:corilausen@birchdalebc.ca) .

