



Western Canadian Bat Network  
NEWSLETTER

Issue No. 20  
Spring 2012

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# Western Canada Bat Network Newsletter

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*Front cover photograph by Robert Barclay: A cluster of bent-winged bats (Miniopterus natalensis).*

# UPDATES BY REGION

## Alberta

### University of Calgary, Bat Lab Update

The Barclay lab seems to be doing just fine while Robert is on sabbatical in South Africa. Erin Baerwald has been working on the stable isotope and genetics aspects of her PhD research on the migration biology of bats. Despite some setbacks in the lab, progress is being made. Jesika Reimer is gearing up for her second field season studying the foraging ecology of little brown bats in NWT for her MSc. She will be assisted this summer by Laura Kaupas who will conduct honours research on the feeding behaviours of little browns and northern long-eared bats. Robert is wrapping up his sabbatical in Cape Town. He completed a project on thermoregulation by fruit bats that was started by Mark Brigham (University of Regina), and has been writing papers. He will return to Calgary during the summer.



Jesika Reimer

# British Columbia

## Winter Bat Activity in B.C.

Cori Lausen, Birchdale Ecological Ltd., Kaslo, B.C.  
info@batsRus.ca

This past winter I began my postdoc research (IRDF, NSERC) with Wildlife Conservation Society Canada. Thanks to funding from HCTF, FWCP (BC Hydro, Columbia Basin) and CWS, I was able to work with many other bat biologists in B.C. to gather a tremendous amount of acoustics data. The winter was a huge success! Thanks to: Team Vancouver Island -- Martin Davis and Purnima Govindarajulu deployed detectors, with some support from Shari and Trystan Wilmott, Trudy Chatwin and Helen Schwantje; Team Okanagan – Mike Sarell and Doug Burles; Team Kimberley – Leigh Anne Isaac; Team W Kootenay – Thomas Hill, Gillian Sanders and myself. It was a ton of work, but 25 bat detectors were deployed and rotated through many sites during the winter across the main study areas of Vancouver Island, southern Okanagan and Thompson regions, West and East Kootenays. As you can imagine, this resulted in a mound of acoustics data to wade through, and analysis is far from complete. The following are preliminary results: most active throughout winter are big brown bats (*Eptesicus fuscus*), silver-haired bats (*Lasionycteris noctivagans*), Californian myotis (*Myotis californicus*), and Townsend's big-eared bats (*Corynorhinus townsendii*). A handful of other myotis recordings (and other bats such as pallids) have shown up in some locations, and next year we will try to follow up in these locations with further monitoring and some targeted mistnetting and radiotracking.



Cori sets a detector outside one of the thousands of abandoned mines that exist in the Kootenay region. Activity at mines in winter was consistently *Myotis californicus*, and often *Corynorhinus townsendii* and/or *Lasionycteris noctivagans*. Microphones at both the entrance and back of mines confirmed that bats entered the mines at night, although most often did not day-roost in them.

In the West Kootenay, Thomas, Gillian and myself mist-netted and radiotracked in addition to the acoustic monitoring. A total of 38 sites were sampled/monitored between mid Sept. 2011 and mid April 2012. A total of 265 bats of 5 species were captured over 39 mistnet nights; 58 of these bats were captured mid-winter (Nov – Feb.). Eighteen bats of 4 species were radiotracked. Nine of these were tracked in the fall (*Myotis thysanodes*, *M. yumanensis*, *C. townsendii*), and nine in winter (*Lasiorycteris noctivagans*, *M. californicus*). Large numbers of *Myotis yumanensis* were active late into fall and early in spring, but none of this species was captured during winter, suggesting they may not be active in winter months. They were the first species to ‘reappear’ in the spring (early March), although we cannot be completely sure that this species wasn’t active in winter given that it is acoustically similar to Californian *Myotis* which was captured flying in and out of mines throughout winter. Winter roosts of male and female *M. californicus* were located using telemetry: rock crevices and mines were used. Winter roosts of male and female *L. noctivagans* were located: rock crevices, snags, trees and mines were used. Roost switching was frequent in *L. noctivagans*. Males and females and all ages were active -- 74% were males, and 34% were juveniles. Plastic laid in mines revealed a small amount of fecal production throughout winter months, suggesting some feeding behaviour mid-winter in at least one bat species; insects consumed were likely those hibernating in mines, but genetic analyses of feces has yet to be conducted. Stereo microphone recordings on SM2Bat detectors confirmed that Californian *Myotis* were flying in and out of mines most winter nights, although few were found hibernating in the mines during the day.



*Corynorhinus townsendii*



Cori sets a detector at some open water in a high elevation location of the West Kootenay; open water sites with a high density of mines in the area were targeted. In general, high elevation sites, despite open water all winter, generated no bat activity.



Kevin Stanway, a professional caver in the West Kootenay, rappels into large mine in SW Kootenay region; Cori and Kevin were hoping to visualize hibernating bats, but the extreme depth and angle of the shafts/adits inhibited this (we ran out of rope!). Acoustic monitoring suggests this may be the largest bat hibernaculum in B.C. with the total number of winter bat passes exceeding the sum of all other monitoring done in the West Kootenay this past winter. Three or four species are thought to hibernate here, but winter mistnetting next winter will be conducted to confirm this.

## Kootenay Community Bat Project: A Community Approach to Bat Conservation

### Juliet Craig, Nelson B.C.

The Kootenay Community Bat Project is a community approach to bat inventory, roost enhancement and conservation. This project, located in southeastern B.C., promotes education and awareness of bats, identifies bat roost sites (particularly on private land), assists landowners with roost conservation planning, and involves community members in monitoring bat populations. Extension activities include numerous press releases, bat-house building workshops, school programs, interpretive programs and public mist-netting nights. We have trained 10 educators in the Columbia Basin to provide school programs and are looking for used bat gear as props. If you have used mist-nets with holes, bat detectors that don't work, broken transmitters or anything else that the educators can use as props, please let me know.

The project also includes roost surveys. Residents are encouraged to report their bats so that project biologists can visit their roost sites, identify species present, and discuss and address their issues. As well, we provide strategies to conserve and enhance roosts, and encourage residents to monitor their bat populations. In light of WNS and the increased need for bat conservation of little brown bats and other common species, we are beginning the KCBP again in 2012. We are promoting a "BC Bat Count" where residents with roosts on their property conduct an emergence count during 4 evenings of the summer – two pre-pup and two post-pup. We are also encouraging residents to test bat-house designs by installing at least two bat-houses and monitoring occupancy.

To find out more, please see [www.kootenaybats.com](http://www.kootenaybats.com) or email Juliet Craig at [kootenaybats@gmail.com](mailto:kootenaybats@gmail.com).

### Bat Blitz in the South Okanagan, BC

Come out with members of the BC Bat Action Team (BC BAT) on Friday, May 25, to learn more about these amazing creatures of the night. We'll be putting up mist-nets, using acoustic monitoring equipment, and even tracking bats with radar. The evening begins on-site with a presentation by Tanya Luszcz from Partners in Flight to provide up-to-date information on bat research, best management practices, and conservation issues. Then we'll head out to the nets to see what bats we have caught, including potentially some species at risk.

Although this event is free, pre-registration is required. Please RSVP to Tanya Luszcz if you plan to attend. [Tanya.Luszcz@gov.bc.ca](mailto:Tanya.Luszcz@gov.bc.ca) (250-490-8286)



**Gillian Sanders assisted Cori Lausen netting bats over open creek in winter in B.C. – freezing nets is a real challenge!!**

## South Coast Bat Action Team Update

Erin Rutherford and Doug Sinclair

The South Coast Bat Action Team (SCBAT), funded by the Habitat Conservation Trust Foundation, is entering our second year and field work has already begun. Last year's monitoring and trapping was a great success and we are working to upload data collected last season to our online database created in partnership with the Community Mapping Network BC (CMNBC) available through our website ([www.scbat.org](http://www.scbat.org)) and our Community Mapping Network atlas on [cmnbc.ca/atlas\\_gallery/south-coast-bat-action-team](http://cmnbc.ca/atlas_gallery/south-coast-bat-action-team). We provide bat stewardship and monitoring support to communities across the BC south coast region, including the Lower Mainland, Sunshine Coast, Fraser Valley and Sea-to-Sky corridor. Our surveys are conducted with Anabat and heterodyne bat detectors as well as mist-net trapping and are focused on building knowledge on species distribution and roost identification.

This year SCBAT's work will focus on identifying and mapping roosts and working with land owners and managers to develop plans for conserving identified roosts. We are urging the public to report any bat roosts they have seen and asking permission to map roosts on private land. We hope to build on the partnerships we formed in our first year of community outreach and solicit new connections. We will also be continuing our public outreach work including conducting public presentations about bats and attending public outreach events such as community Bioblitzes and conservation workshops. Continuing our work with community conservation and stewardship organizations including the Stanley Park Ecology Society, Metro Parks, the South Coast Conservation Organization, the BC Wildlife Federation and the Delta Farmland and Wildlife Trust is also a priority for the coming year.

Our first events of the year have been very positive. We have formed several partnerships with landowners that have agreed to install four-chamber bat boxes and monitor them as part of the BC BAT long term semi-annual bat monitoring plan. We also have begun our surveying for the 2012 season by mist-net trapping and Anabat monitoring at this year's Burnaby Lake Bioblitz, a successful event that resulted in our adding two species to the confirmed mammal listings for the park. We are looking forward to building on our success and continuing to build solid knowledge for bat stewardship and conservation on the BC's south coast.



*Myotis lucifugus*

# Saskatchewan

## University of Regina, Bat Lab Update

Mark Brigham just got back from a week in Belize where he radio-tracked *Chrotopterus auritus* (see photo below) with Jes Reimer from Robert Barclay's lab. They found them roosting in a tunnel dug to loot a Mayan temple. He expects this project will go on for a number of years.

Mark is spending the summer writing as he has some data long over due to be published. He will be heading to Austria in August to attend the International Hibernation meetings. Phd Student Joe Poissant and MSc. student Jody Rintoul are both undertaking their last field seasons this summer.

Mark hopes to recruit a new student or two to begin some bat projects to go along with two new students undertaking Nightjar work.



Anne Brigham

*Chrotopterus auritus*



# Northwest Territories

**Jesika Reimer**  
University of Calgary

I will be conducting my second field season from early June to mid August in the South Slave region of the Northwest Territories. My work focuses mainly on the affect of northern time constraints (short summer and short summer nights) on seasonal timings of events (season length, reproductive timing, fledging dates, etc.) in *Myotis lucifugus*. My research this summer will consist primarily of radio tracking reproductive females to determine individual female foraging behaviour, and netting around maternity colonies to continue monitoring for seasonal timings of reproductive events. In addition, I will use Anabat detectors around both the North Slave and South Slave regions to continue monitoring for seasonal activity and species diversity.



In November 2011, we entered hibernation sites for *Myotis lucifugus*, *Myotis septentrionalis* and *Eptesicus fuscus* in Wood Buffalo National Park and the South Slave region. No evidence of white-nose fungus was observed. We put temperature loggers in each cave to monitor conditions throughout the winter and Anabat detectors were recently placed at cave entrances to determine emergence-timings of bats from hibernation.

NWT Territorial Parks (Hay River) and the Department of Environment and Natural Resources (Fort Smith) have built two large maternity boxes at Lady Evelyn Falls campground in an attempt to relocate a resident bat colony out of the local shower building. We will use Anabat detectors and regular observations throughout the summer to assess if bats are using the artificial roosts. General interest in bats around the NWT has been increasing among local residents through public education events and presentations given by our bat crew during the 2011 field season, and more community events are planned for the 2012 summer field season.

A huge thank you goes out to Alicia Kelly, Karl Cox and all of the staff in the Department of Environment and Natural Resources and the Parks Canada staff in Wood Buffalo National park who helped make last summer's field season such a success and have been of great help in getting the 2012 season started. In addition, a big thanks to both Bat Conservation International and the Alberta Conservation Association for contributing funding for the 2012 summer field season.

# Yukon

## NEW Northern Bat Working Group Formed

The April 2012 meeting of the Alaska Chapter of the Wildlife Society in Anchorage, Alaska included a session organized by Link Olson (UAM) and Karen Blejwas (ADF&G) on “Bat Ecology in Alaska - Assessing the Risk of White-nose Syndrome.” Presentations by researchers from Alaska and Canada provided an excellent overview of the state of our knowledge about northern bats. Abstracts from that session are available on the web at: [http://www.wildlifeprofessional.org/Alaska2010/public/conferences/1/schedConfs/4/program-en\\_US.pdf](http://www.wildlifeprofessional.org/Alaska2010/public/conferences/1/schedConfs/4/program-en_US.pdf).

In the afternoon, biologists and managers from Alaska, Yukon, Northwest Territories, and British Columbia gathered together for a working session. It was wonderful to have the opportunity to meet face-to-face and discuss the issues and challenges that are unique to northern bats. Tom Jung (Yukon) and Cori Lausen (British Columbia) encouraged the group to take the next step and form a Northern Bat Working Group – so we did!

The purpose of this new regional working group will be to share new information and knowledge among those working with bats in northern Canada and Alaska. Interest in bats in the north is definitely increasing and the working group is intended to connect bat workers across this vast region. The working group has not formalized a precise geographic region that encompasses “the north”, and welcomes participants from Alaska and northern Canada, including the northern (~ boreal) portions of the western provinces and the Pacific coast, including Haida Gwaii.

This will be a largely informal group organized under the Western Bat Working Group. For the first year Karen Blejwas (ADF&G) and Miranda Terwilliger (Wrangell-St. Elias NP) will serve as co-chairs. We are planning to develop a website and start a listserv for the group. One of the first tasks for the NBWG will be to identify the top research and management priorities for northern bats. In addition, we will hold semiannual conference calls in fall and spring (open to everyone) to keep folks updated on new research findings and management actions.

To join the NBWG, please contact Miranda Terwilliger ([Miranda\\_Terwilliger@nps.gov](mailto:Miranda_Terwilliger@nps.gov)).



From left to right: Karen Blejwas, Joanna Wilson, Kelly Walton, Link Olson, Tom Jung, Dave Tessler, Miranda Terwilliger, Paul Burger, Doreen Parker-McNeil, Rachel Shively, Jessica Iles, Marilyn Myers, and Cori Lausen.

# Alaska

## Southeast Alaska Bat Project

Karen Blejwas, Regional Wildlife Biologist, Wildlife Diversity Program



Work continues on a project to collect basic information about the distribution, abundance, habitat use, life history, and overwintering strategies of bats in Southeast Alaska. We established 14 year-round monitoring stations along the Juneau road system in spring, 2011, to obtain baseline information on daily and seasonal activity patterns and to determine the timing of emergence in spring and emigration/hibernation in fall. This past winter we expanded the acoustic monitoring to include 9 other communities in Southeast Alaska. We plan to deploy detectors in 3 additional communities and along 3 transboundary rivers this spring. Bats across Southeast Alaska became active between mid-March and the first week of April. Bat activity peaked in July and August and dropped to low levels by September. We did detect silver-haired bats and California myotis at a few sites in Juneau during winter (Dec – Feb) and California myotis were active throughout the winter at a site on the outer coast in Sitka. One monitoring station in Juneau showed a very different seasonal activity pattern, with very strong peaks in activity in early spring and late fall, suggesting little brown bats may be using that area as a migratory stopover site. Fifteen little brown bats were captured and radiotagged there and at one other site in Juneau last fall, but attempts to track them to their wintering grounds were unsuccessful. We are tagging bats at that same site this spring in hopes of tracking them to their summering grounds. We hope through increased regionwide monitoring and additional capture and radiotelemetry efforts to learn more about what our bats do in the winter.

# WHITE NOSE SYNDROME

## **Brief overview of recent happenings relative to white-nose syndrome (WNS)**

M.J. Pybus, Provincial Wildlife Disease Specialist, Alberta Fish and Wildlife

It comes as no surprise to bat folks that white-nose syndrome continues to have devastating effects on populations of bats in eastern Canada and US. The most encouraging thing I can find to say is that interest and activity in bat research and management communities probably has never been so high. Similarly the public and political profile of bats also seems to be at an all-time high. All of this is translating into significant new information and exciting new possibilities as national, regional, provincial/state, and local databases fill with documented sightings and research results.

On the downside:

- Reports of *Geomyces destructans* (Gd) continue to expand the known distribution. Current total: 19 states, 4 provinces.
- New reports include confirmed mortality in Missouri and Alabama, along with new sites in many affected states as well as southwest Ontario.
- In-depth examination indicates Gd directly invades skin tissues and opens up possibilities of water loss and other metabolic destabilizing mechanisms that contribute to increased arousal and eventual mortality of infected individuals.
- Skin lesions in some individual bats in Europe are identical to those in N America and confirm WNS occurs in Europe (but with an absence of mass mortality).

On the upside:

- Some live bats were found hibernating in previous extirpated WNS sites! It's only good ... if they survive
- New one-stop WNS info web page at <http://whitenosesyndrome.org/>
- WNS webinars and blogs available on-line (see link above).
- Genetic confirmation that Gd on bats in N America is identical to isolates from Europe.
- Evidence in N America for point-source introduction and subsequent spread.
- February 2012, Canadian Wildlife Directors approved a National Plan to Manage WNS in Canada. Working group developing a companion Operational Plan.
- \$1.4 M US grant monies allocated for WNS-related research in 2012/13. [\$0 federal monies in Canada]
- Additional \$9.5K US grants for state use in WNS-related activities this year.
- Revised decontamination procedures from USDA are available at [http://www.fws.gov/WhiteNoseSyndrome/pdf/National\\_WNS\\_Decontamination\\_Protocol\\_v03.15.2012.pdf](http://www.fws.gov/WhiteNoseSyndrome/pdf/National_WNS_Decontamination_Protocol_v03.15.2012.pdf)

## WNS Overview Continued...

Not sure whether it is an up or down element, but petitions are submitted in both US and Canada for endangered species listing of *Myotis lucifugus*, *M. septentrionalis*, and *Perimyotis subflavus*. In February 2012 COSEWIC conducted an emergency assessment and concluded all three species are Endangered in Canada. A recommendation was made to the federal Environment Minister that an Emergency Order be issued placing these species on Schedule 1 of the Species at Risk Act. At this time, the Minister has not yet responded. Near as I can tell, in the US a number of northeast states are working on state-level listing of various bat species, and USFWS has been petitioned to consider federal listing. These involve primarily but not exclusively the three species named above.

### News Release - 17 January 2012

U.S. Fish and Wildlife Service

#### North American bat death toll exceeds 5.5 million from white-nose syndrome

On the verge of another season of winter hibernating bat surveys, U.S. Fish and Wildlife Service biologists and partners estimate that at least 5.7 million to 6.7 million bats have now died from white-nose syndrome. Biologists expect the disease to continue to spread.

White-nose syndrome (WNS) is decimating bat populations across eastern North America, with mortality rates reaching up to 100 percent at many sites. First documented in New York in 2006, the disease has spread quickly into 16 states and four Canadian provinces. Bats with WNS exhibit unusual behavior during cold winter months, including flying outside during the day and clustering near the entrances of caves and mines where they hibernate. Bats have been found sick and dying in unprecedented numbers near these hibernacula.

“This startling new information illustrates the severity of the threat that white-nose syndrome poses for bats, as well as the scope of the problem facing our nation. Bats provide tremendous value to the U.S. economy as natural pest control for American farms and forests every year, while playing an essential role in helping to control insects that can spread disease to people,” said Fish and Wildlife Service Director Dan Ashe. “We are working closely with our partners to understand the spread of this deadly disease and minimize its impacts to affected bat species.”

Estimating the total number of bat deaths has been a difficult challenge for biologists. Although consistent population counts for federally listed endangered bats, like the Indiana bat, have been a priority for state and federal biologists, establishing population counts of once “common” bat species, like little brown bats, was historically not the primary focus of seasonal bat population counts.

“White-nose syndrome has spread quickly through bat populations in eastern North America, and has caused significant mortality in many colonies,” said National WNS Coordinator, Dr. Jeremy Coleman, “Many bats were lost before we were able to establish pre-white-nose syndrome population estimates.”

## WNS News Release Continued...

More than 140 partners, including tribal, state and federal biologists and bat researchers convened in Carlisle, Pennsylvania for the 2012 Northeast Bat Working Group (NEBWG) meeting last week to discuss challenges facing bat research, management and conservation. Coordinating with wildlife officials in Canada, the group discussed population-level impacts to hibernating bats and developed the estimate of bats lost to WNS.

In addition to the lack of population data for many bat species, there has also been a lack of consistency in how bat population data was reported among agencies. As part of the May 2011 national WNS response plan, which was developed by the Service in partnership with a team of federal, state, tribal, and NGO scientists, agencies are addressing this by establishing methods for consistent data collection.

The National Plan for Assisting States, Federal Agencies and Tribes in Managing White-Nose Syndrome in Bats provides a framework for the coordination and management of the national WNS investigation response, and the Service leads an extensive network of partners in implementing the plan.

The Service serves as the primary resource for up-to-date information and recommendations for all partners, such as important decontamination protocols for cave researchers and visitors and a cave access advisory that requests a voluntary moratorium on activities in caves in affected states to minimize the potential spread of WNS.

In addition to developing science-based protocols and guidance for land management agencies and other partners to minimize the spread of WNS, the Service has funded numerous research projects to support and assess management recommendations and improve our basic understanding of the dynamics of the disease.

*The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals, and commitment to public service.*

*For more information about white-nose syndrome, visit [www.fws.gov/whitenosesyndrome](http://www.fws.gov/whitenosesyndrome). Connect with our Facebook page at [www.facebook.com/usfwswns](http://www.facebook.com/usfwswns), follow our tweets at [www.twitter.com/usfws\\_wns](http://www.twitter.com/usfws_wns), and download white-nose syndrome and bat photos from our Flickr page at <http://www.flickr.com/photos/usfwshq/collections/72157626455036388/>.*

# ABAT

Lisa Wilkinson

Non-game/Species at Risk Biologist, Alberta Fish and Wildlife Division

After over a decade as the chair of ABAT, I have decided to step down and let someone else take the lead. Robert Barclay has offered to take over as chair when he returns to Canada in the summer, so the future of ABAT is in excellent hands.

We are waiting to see if the COSEWIC recommendation to list three bat species as endangered will be approved by the Minister. Two of the species are found in Alberta: *Myotis lucifugus* and *Myotis ciliolabrum*. In an effort to be proactive, I am once again trying to raise awareness about bats and WNS. The government website should soon have a feature about WNS, and I will be releasing articles to newspapers in the communities near the closed hibernacula (Cadomin and Wapiabi). These hibernacula may be gated in the near future. The Canadian Wildlife Directors Committee has endorsed a national WNS plan that was modelled after the US plan and as such is fairly generic. Alberta will be reviewing, and updating as required, the WNS disinfection protocol.

Sandi Roberts, with FWD in Grande Prairie, is initiating a *M. ciliolabrum* survey this summer. It will be good to get more data about this sensitive species. If anyone is going to be in the Grande Prairie area this summer, contact Sandi and see if she needs any extra people to help out: [sandi.roberts@gov.ab.ca](mailto:sandi.roberts@gov.ab.ca)



Year-round open water and a high density of mines were criteria that resulted in Cori Lausen placing a detector at this bridge just south of Revelstoke. Keeping snow off of the microphone in such high snow area was challenging and it was thus mounted under the bridge.

# CONFERENCES

- 42nd North American Symposium on Bat Research 2012. October 24-27, 2012. San Juan, Puerto Rico.
- 43 & 16th International Bat Research Conference. 12-16 August 2013. San Jose, Costa Rica



# UPCOMING WORKSHOPS

## Bat Conservation International

- ***Bat Conservation & Management Workshop (\$1595)***: California: July 6-11, Pennsylvania: August 17-22
- ***Advanced Capture Techniques Workshop (\$1595)***: Pennsylvania: August 23-27
- ***Acoustic Monitoring Workshop (\$1795)***: California: July 12-17

For more information and registration, visit [www.batcon.org/workshops](http://www.batcon.org/workshops)

Contact: Dianne Odegard at (512) 327-9721 ext 26

e-mail: [workshops@batcon.org](mailto:workshops@batcon.org)



# RECENT LITERATURE

Barclay, RMR. 2012. Variable variation: annual and seasonal changes in offspring sex ratio in a bat. PLoS ONE 7(5): e36344. doi:10.1371/journal.pone.0036344

Brigham, R.M., C.K.R. Willis, F. Geiser and N. Mzilikazi. 2011. Baby in the bathwater: Should we abandon the use of body temperature thresholds to quantify expression of torpor? J. Therm. Biol. 36:376-379. 139.

Coleman, JL & RMR Barclay. 2012. Urbanization and the abundance and diversity of Prairie bats. Urban Ecosystems. 15: 87-102

Gillam, E.H., T.J. O'Shea, and R.M. Brigham. 2011. Non-random patterns of roost emergence in big brown bats, *Eptesicus fuscus*. J. Mammal. 92:1253-1260.

Klug, BJ, DA Goldsmith, & RMR Barclay. 2012. Roost selection by the solitary, foliage-roosting hoary bat (*Lasiurus cinereus*) during lactation. Can J Zool. 90: 329–336.

Rambaldini, D.A. and R.M. Brigham. 2011. Pallid bat (*Vespertilionidae*: *Antrozous pallidus*) foraging over native and vineyard habitat in British Columbia, Canada. Can. J. Zool. 89:816-822.

Skalak, S.L., R.E. Sherwin and R.M. Brigham. 2012. Effective inventory of bat species richness using acoustic detectors. Meth. Ecol. Evol. DOI: 10.1111/j.2041-210X.2011.00177.x



# Field Notes

## Acoustics Update

Cori Lausen, Birchdale Ecological,  
info@batsRus.ca Kaslo, B.C.

Well, the fast paced world of bat acoustic technology development is not yet showing signs of slowing down! New on the market as of this winter:

Titley Electronics has developed a new detector for use at roosts (e.g. caves, mines, bridges, attics) – It is called the RL1 Roost Logger. This low cost energy efficient logger generates zero-crossing files to record activity at known or potential roosts. Prototypes are currently being tested and the finished product is expected to be for sale this summer from the US office. With an anticipated low price of about \$350-400, this detector will be useful for things such as identifying use of caves and mines by bats in winter. The internal D batteries will power the detector for months, making it a viable option for installing in sites with poor winter access.

Wildlife Acoustics came out with 2 new detectors this winter, both of which record in both zero-cross or full spectrum: EM3 and SM2BAT+.

The EM3 is a detector for active monitoring and incorporates many detector technologies into one: heterodyne, zero-cross (with frequency division for listening), and full spectrum (real time expansion for listening). It allows you to record in full spectrum, zero-cross or both at one time. A built in display allows you to visualize the calls in real time. A unique system of 'tag buttons' allow you to make voice notes and customize the detector to meet your field needs in many ways. An external microphone option has just become available.

The SM2BAT+ is just like the SM2BAT 192 and 384 models, except that it has combined all of these sampling capabilities into one, in addition to being able to record in native zero-cross mode (ie. just like Ana-bat). The SM2BAT+ allows you to record in full spectrum mode or zero-cross mode (with the option of using 2 microphones in full spectrum mode). A few other things they are about to release: The SMX-Horn (to make an omnidirectional microphone into a directional one); a collaborator (to validate microphones are operating at factory specs); and a remote access package (to interact with detectors remotely, do data downloads remotely, and keep tabs on detector status without going into the field).

Binary Acoustics Technology has a new and improved field recorder: iFR-IV. Unlike previous models, this one is fully weatherproof, smaller in size, has more memory device options, much lower power consumption, and can charge directly from a solar panel (via a built-in internal battery). As with previous FR models, this supports remote data download, and it attaches to an external B.A.T. microphone (AR) that can be boosted to heights of 250 ft.

## Remember the Amphibians!

If you are heading into the field this season to catch bats, remember the amphibians! It has long been recognized that the Chytrid fungus (*Batrachochytrium dendrobatidis*, [Bd]) can be spread between water bodies by aquatic biologists. As such, fisheries and amphibian biologists have been required to disinfect equipment and gear such as waders between bodies of water. Because bat biologists often net in and around bodies of water, we too could be spreading this fungus during our surveys. If you mistnet in and around water bodies, you could inadvertently pick up the spores of this fungus and transfer to another source of water, thus perpetuating the spread of this disease that is killing amphibians, especially frogs. As such, many permitting agencies are now requiring that bat biologists disinfect their equipment including waders and mistnetting poles when moving between bodies of water. Below is a link to the BC, Ministry of Environment, Interim Hygiene Protocols for Amphibian field staff and researchers that bat biologists should follow when applicable.



<http://www.env.gov.bc.ca/wld/documents/wldhealth/BC%20Protocol%20-%20Amphibian%20field%20researchers%202008.pdf>

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# Archived Newsletters

This newsletter first started in Fall 2002. It is produced two times per year and is housed by the Alberta Sustainable Resource Development on the Alberta Bat Action Team website. All past issues can be accessed at the following link:

<http://www.srd.alberta.ca/FishWildlife/WildlifeManagement/AlbertaBatActionTeam/ABATProgramsPublications.aspx>

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## WCBN Newsletter Submissions

Please submit all newsletter submissions to Jen Talerico:

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Submissions can be made at any time.

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