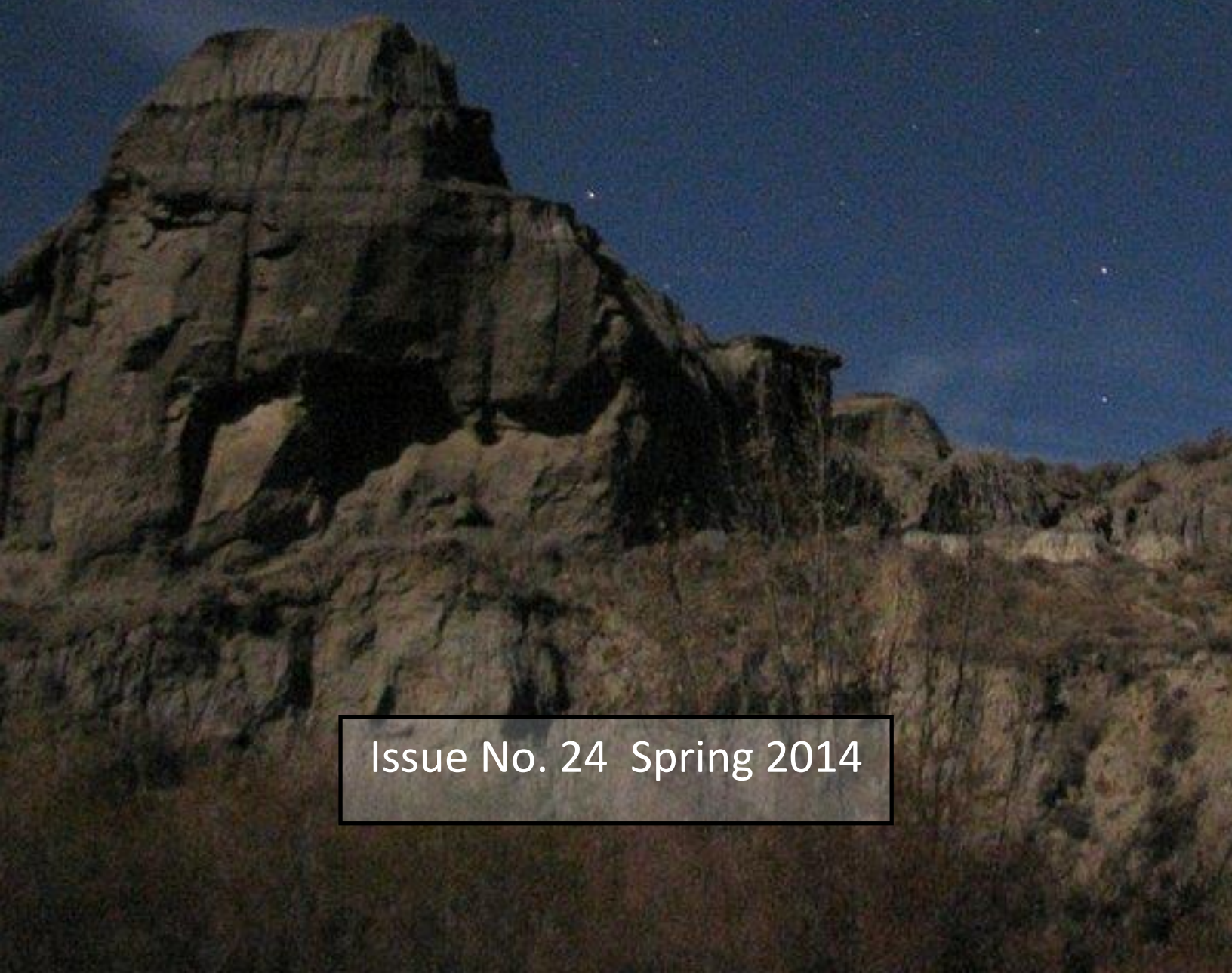




Western Canada Bat Network
Newsletter



Issue No. 24 Spring 2014

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Cover photo: Night sky lit up by a full moon in Dinosaur Provincial Park. Photo by Brandon Klug.

Updates by region

Alberta

ABAT update

Lisa Wilkinson, Species at Risk Biologist, Alberta Environment and Sustainable Resource Development

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After a two year hiatus, ABAT is back in action. We met in Red Deer on Feb 19 and focused on WNS, cave management, and other related topics. We were pleased to have three spelunkers attend, giving us an opportunity to improve communication with the caving community, as well as get different perspectives and valuable information. Here are the highlights from the meeting:

- We formed several working groups: Wind Energy (one of the actions is to evaluate available data to identify trends in migratory bat populations); Survey Protocols (we need to update them); and Caving (improve communication and develop decontamination protocols)
- Bats and Cavers program – Lots of support for this program and hope to be able to participate in the future (please see write-up in Western Canada/US section below).
- North American Bat Monitoring Program – The government will be purchasing equipment to participate in the pilot year of this program. We would like to engage Citizen Scientists to help identify and monitor roosts, and welcome help from members of the batting community.
- Lots of discussion about WNS and cave closures. Government has no immediate plans to put up gates, and it is unlikely that they will unless there is a pressing need to protect a hibernaculum. We need to develop a cave management plan that identifies the steps that will be taken when a new cave with hibernating bats is discovered; working with the caving community throughout the process is essential. A remote camera will be securely mounted in Cadomin cave to see how much use it gets; this will help to inform future decisions about access to this cave. Roost loggers have been placed in Cadomin and several caves in Jasper.

We look forward to hearing the progress from the working groups and hope to maintain communication and exchange ideas with other jurisdictions about protocols, cave management, and other topics.

ABAT Caving Working Group

Kathleen Graham

During the Feb 19, 2014 ABAT meeting a Caving working group was formed. A primary objective of this group is to develop a decontamination protocol for cavers in Western Canada. A draft protocol was presented at the British Columbia Speleological Federation AGM. There was plenty of feedback and discussion and a second draft has been developed in response. Cavers have been welcoming to the idea

of a decontamination protocol and want to be proactive against the threat of WNS. A lot of progress has been made with this protocol and a Western Canada WNS Decontamination Protocol can be expected by the end of 2014.

Bat Hibernacula Monitoring in Alberta for the winter of 2013/4

Dave Hobson, Wildlife Biologist, Alberta Environment and Sustainable Resource Development

dave.hobson@gov.ab.ca

Three caves were surveyed this winter including a new one which has now been identified as a hibernaculum. As with most winters, Cadomin Cave, near Hinton, was surveyed along with Procrastination Pot in Jasper National Park and an unnamed cave near Nordegg.

With assistance from the Alberta Speleological Society (ASS), I surveyed Cadomin Cave on 23rd February 2014. The count last winter was 1175 while this year's count was 1592 bats. An increase of about 36% over 1 year seems high but this includes the Messhall chamber which is huge and difficult to estimate numbers, especially in the big clusters. If we discounted the Messhall, the rest of the cave, which I have more confidence in, increased by about 16%. At this point, thankfully, there is no sign of WNS. The only disappointing note is that the banded bat that I've been watching for many years failed to show up in his usual place. This male little brown bat was banded by Dave Schowalter on the 21st of October, 1975 as an adult. He was last seen on 27th January 2013. That would have made him at least 39 years old when last seen. The oldest bat that I've found a record of was a Russian *Myotis* sp. that was 41 years old. Still, I'm not writing a eulogy yet. Perhaps he just roosted out of sight this year. I'll look again next year.

I surveyed Procrastination Pot with Jasper Park Resource Managers Greg Horne, Jurgen Deagle and Natalie Verrier on 08 April 2014. The last survey of this cave was in 2011 when we counted 700 bats. This year we counted only 510 bats. I don't think this necessarily means a population decline as the cave is difficult to survey and the bats have many places to roost out of sight of observers. Here also, there was no sign of WNS. What we do find in this cave are deep piles of bat bones, looking like pine needles at first glance. This attests to a long history of use as a hibernaculum.

On 22 March 2014, guided by 2 ASS members, I surveyed a small cave near Nordegg. This cave was brought to my attention by one of the ASS members after he noted bats last fall. This cave was narrow and extremely muddy and ended up at a pool of standing water. The cave continued past the pool but we ended the survey there. Fifty-eight bats in torpor were counted. There was another cave nearby but we didn't have time to survey it. That will be on the agenda for next fall.

Greg Horne and I also deployed RoostLoggers at 2 caves and 2 old mine shafts in Jasper National Park to see if we have fall and spring activity at the entrances. Finally, I've been invited on an archeological investigation of a cave just west of Wood Buffalo National Park to determine if it's being used by bats. Although the investigation is in July, if it is being used as a hibernaculum, there should be evidence in the form of bone piles. Rumour has it that there are other caves in the vicinity also.

Husky Energy Bat Houses

Carol Engstrom, Sr. Sustainability and Ecological Specialist, Husky Energy, Calgary, AB,
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Husky Energy Inc. teamed up with students from schools across Calgary, Alberta to enhance common bat roosting locations by decorating bat houses. Representatives from Husky gave an educational presentation about bats and provided the bat houses for students to paint. The bat houses were then donated to the Horticulture Round Table and Calgary City Parks Department. Husky also installed some of the bat houses at its facilities throughout Alberta and Saskatchewan.

British Columbia

Got Bats? BC Community Outreach, Conservation and Citizen Science

Juliet Craig and Purnima Govindarajulu

The “Got Bats?” network in BC is being initiated this year, modelled on the successful Kootenay Community Bat Project and South Coast Bat Action Team initiatives. Funded by the Habitat Conservation Trust Foundation, this network of 10 community bat projects in BC includes Greater Victoria, Saltspring Island, South Coast, Sunshine Coast, Lillooet, Okanagan, West Kootenay, East Kootenay, Peace and Skeena regions of BC.

The objectives of this project are to:

- 1) increase detection of bat roosts in anthropogenic structures through public education, targeted information solicitation, and a reporting program called “Got Bats?”,
- 2) decrease destruction of bat roosts by encouraging landowners to either protect the roost site or use bat-friendly exclusion methods and installation of alternative roost features,
- 3) initiate baseline bat population assessment using the Annual Bat Count, a Citizen Science program at multiple sites around BC, and
- 4) enhance bat habitat in human altered landscapes through installation and monitoring of bat-houses.

The network will promote a provincial toll-free number (1-855-9BC-BATS) and website (www.bcbats.ca) for bat reports and communications.

Batting in Bella Coola

Mandy Kellner, mandy.kellner@gmail.com

Helen Davis and I will be doing a bat survey, amongst other surveys, in the Bella Coola area in July. If you have any information or anecdotes about bats in this part of BC, I'd love to hear from you!

Investigating Caves on Vancouver Island

Trudy Chatwin, Species-at-Risk Biologist, FLNRO

I am happy to report that we are making progress on protecting a very interesting karst cave feature called Pellucidar on the east side of Nimpkish Lake. Pellucidar is not only the home to hibernating bats (including Keen's Long-eared Myotis), but in the past 10,000 years this cave network became a repository for extinct mammals including the Short-faced Cave Bear, Mountain Goat, Vancouver Island Marmot and Red-backed Vole. Pellucidar also supports the endemic Quatsino Cave Amphipod, a blind detritivore that requires clean cave waters. It has been very interesting, learning about this karst system and going forward with the Wildlife Habitat Area proposal. Next on the list is Thanksgiving Cave north of Campbell River. I hope to get out mist-netting around caves on Vancouver Island this summer, so that we can protect these fragile sites and biodiversity hotspots appropriately.

Kootenay Community Bat Project

Juliet Craig



Educators participating in "Bat Workshop for Educators" hosted by the Kootenay Community Bat Project. Photo: KCBP.

The Kootenay Community Bat Project (KCBP) is busy again this year doing outreach activities and landowner visits. Funded by the Columbia Basin Trust and the Columbia Valley Local Conservation Fund, the project will build on its previous success. During its five years of activity (2004-06; 2012-present), the KCBP has visited almost 500 private properties to work with landowners who have bat issues, identify the species present, and provide educational material.

The KCBP is also promoting the Annual Bat Count, a citizen science initiative to monitor bat populations. In addition, the program delivers community presentations and, in partnership with Wild Voices for Kids, dozens of school programs each year.

Because of the high demand for school programs, particularly around Halloween, the KCBP hosted a "Bat Workshop for Educators" this April. Twenty enthusiastic educators from around the Columbia Basin attended this weekend event which included mist-netting with Dr. Cori Lausen, participating in an Annual Bat Count, and 1 ½ days of classroom activities. As a result, there is now a trained bat educator in every region of the south-east portion of BC who is able to deliver bat school programs.

The KCBP is continuing the “Building Homes for Bats” program which encourages landowners to build and install bat-houses on their property by reimbursing the cost of materials. Funded by the Public Conservation Assistance Fund, the program requires a landowner to install at least two bat-houses to compare a feature (e.g. aspect, style, colour) and then report on success of occupancy. In order to be reimbursed, the landowner is required to submit photos of the installed bat-houses.

To learn more about the Kootenay Community Bat Project and its programs, see www.kootenaybats.com.



Participants of the Annual Bat Count, a citizen science initiative to monitor bat populations in BC. Are those cows helping?
Photos by Juliet Craig.

Flathead BioBlitz This Summer

Cori Lausen, Wildlife Conservation Society Canada, clausen@wcs.org

Twelve sites were sampled for bats in the BC Flathead River Valley of SW BC 23 – 26 June 2013. Due to close association of bats with riparian habitat, all sites were selected in close proximity to the Flathead River. Mistnet capture of bats confirmed the presence of 5 species of bats: *Eptesicus fuscus*, big brown bat, *Myotis lucifugus*, little brown myotis, *M. evotis*, long-eared myotis, *M. volans*, long-legged myotis and *M. californicus*, Californian myotis. An additional five species are expected to be in this area based on the passive acoustic recordings that were made during this survey session: *Lasionycteris noctivagans*, silver-haired bat, *Lasiurus cinereus*, hoary bat, *Lasiurus borealis*, eastern red bat, *Myotis yumanensis*, Yuma myotis, *Myotis septentrionalis*, northern myotis. Of the 11 bat species thought to potentially occur in the Flathead, the only species not captured nor detected was *Corynorhinus townsendii*, Townsend’s big-eared bat. This latter species is associated with talus slopes and rocky outcroppings, habitat features that were not present at the selected river sampling sites; future



From left to right: Cory Olson, Braydi Rice, Cori Lausen, Kent Russell, June 2013 at bat inventory component of Flathead BioBlitz. Photo by C. Olson.

sampling away from the main Flathead River in suitable rocky habitat may reveal the presence of this species.

The weather was extremely rainy during the 2013 Blitz, so further effort to inventory the Flathead will take place in 2014: 24 – 28 July. This year, the Blitz is all about bats, and this is being sponsored by Y2Y and Wildsight. As I have inventoried more southern parts of the Flathead drainage in MT, I expect that the diversity upriver could extend known species ranges in BC.

Specifically, northern bat (*Myotis septentrionalis*) may be present, as it is present just south of the US-Canada border. Eastern red bats are found just a few kilometers to the east in Waterton National Park, and some acoustic recordings from 2013 suggest the presence of this species in the Canadian Flathead. If you are interested in participating in this Bat Blitz, please contact Cori.

Winter Bat Research Continues in the West

Cori Lausen, Wildlife Conservation Society Canada, clausen@wcs.org

I did very little field work this winter, just enough to determine that there is a new mine hibernaculum in New Denver, and to determine that the bat-friendly gate installed on Queen Victoria mine last June was successful. Thanks to Phil Whitfield for directing me to the deep mine adit along the lakeshore in New Denver; this new hibernaculum is noteworthy due to the presence of 40 kHz *Myotis* calls recorded on the Titley Roostlogger installed there this winter. There are few locations known in BC where 40 kHz *Myotis* overwinter. Captures at Queen Victoria mine confirmed that all 3 species of overwintering bats continued to use the mine after it was gated: California *Myotis*, Townsend's big-eared bat, and silverhaired bats. I tracked the latter species using temperature sensitive transmitters to describe their hibernation/arousal patterns. After 2 winters of tracking I now have enough data to proceed with a publication to describe the winter roosting characteristics and arousal patterns of silverhaired bats.

Finally, I have been compiling microclimate data from known winter bat roosts in BC and AB thanks to collaborators in AB, NWT and BC. Ideally it would be great to collaborate with others in western North America to combine datasets on microclimates assuming that many people have small sample sizes for a few species -- together a large collaborative publication could advance what we know about winter roost conditions in the west. Let me know if you are interested in co-authoring such a synthesis paper. The next step would be to take these microclimate conditions into disease modelling that I will be doing with WCS Wildlife Health program (Bozeman, MT office); these WNS survivorship models will be

adapted from those currently being developed by collaborator David Hayman, Smith Fellow, Univ of Colorado.

Thanks to receiving funding from FWCP (Columbia Region), Habitat Conservation Trust Foundation, TD Friends of the Environment, Eden Conservation Trust, and Canadian Wildlife Federation, I will be continuing winter bat research next fall and winter. I will be continuing to radiotrack little brown and Yuma myotis in the Creston area starting in the fall to locate hibernacula. Martin Davis and I will be focussing on mistnetting bats during swarming in North Vancouver Island in late summer to get a sense of body masses pre-hibernation (for parameters in WNS survivorship models). I am collaborating with Leigh Anne Isaac of VAST (Cranbrook) to do some intense monitoring of the REMAC mine in the Pend O'Reille river valley of West Kootenays, funded by Waneta Dam Compensation program and FWCP. I will also be working with various other biologists to deploy bat detectors across BC, this time moving further north into the Smithers/Terrace area and possibly into the Atlin/Taku area.

And finally, thanks to receiving our 3rd year of funding from Alberta Conservation Association, Brandon Klug, PhD Candidate Univ of Regina, will be continuing to study winter ecology of prairie bats in Dinosaur Provincial Park – see details below.

Using Passive Acoustic Monitoring to Confirm Presence of Bat Species in the Nakimu Cave System, Glacier National Park, British Columbia – Interim Results

Sarah Boyle, Ecologist, Mt. Revelstoke and Glacier National Parks, Sarah.Boyle@pc.gc.ca

In efforts to understand bat use, including species presence and timing of the Nakimu cave system, long-term passive acoustic monitors were installed at eight cave entrances over two months in late summer. No guano or roosting bats were detected during field visits, likely due to frequent flushing of cave floors by water, supporting 30 years of anecdotal evidence that bats were not present within the cave system. Interim acoustic results were retrieved in September 2013, with bats recorded on five of the eight detectors, at four of eight cave entrances. A total of 19,834 passes were recorded at all sites from July 31 to September 19, 2013, where activity peaked August 18-19 and September 10-14. The number of passes per night, per detector, ranged from 1 – 1482. Preliminary results suggest that most bat passes are the SAR endangered *Myotis lucifugus* (Little Brown Myotis). While relatively little activity was recorded within the cave entrances where acoustic units were placed, there is evidence that swarming does occur, suggesting that bats are accessing caves via alternate entrances and that the cave area plays an important role as a swarming site and possible hibernacula. Parks Canada will continue this research through October 2014.

Saskatchewan

University of Regina Bat Lab Update

Dr. Mark Brigham mark.brigham@uregina.ca

The bat lab is getting geared up for the 2014 field season, including a new student beginning a M.Sc. - Shelby Bohn, who is just finishing her Hons. in Craig Willis' lab at the University of Winnipeg. For the summer we are doing a survey between Regina and the MB border to determine the relative distribution of big brown and little brown bats. This will be useful in the context of WNS but also to try and determine if there is a breakpoint in distribution as Winnipeg seems to only have Little Browns and Regina is a big brown town. Brandon Klug has successfully completed his comprehensive exam at part of his PhD and had a successful field season this past winter. He has one more field season next winter. I, Mark Brigham, am headed back to Belize at the end of the month to continue a project started 2 years ago on *Chrotopterus*. This is collaboration with Robert Barclay of the U of C.

Winter Ecology of Prairie Bats

Brandon Klug, PhD candidate, bjklug@gmail.com

Despite this past winter being one of the coldest and snowiest on recent record, I had another successful winter field season! My team and I were back out in Dinosaur Provincial Park capturing bats in subzero temperatures, tracking them to their roosts, and monitoring their behaviour. We continued assessing the level of dehydration of bats flying mid-winter, and continued the stable isotope (deuterium) tracking experiment to see if bats are drinking at the heated water tank. We also mounted PIT-tag readers at the entrance of three rock-crevice hibernacula to monitor the movement and social associations of overwintering bats. There were some interesting findings which I'll share at upcoming conferences!



I'd like to thank the staff at Dinosaur Provincial Park for their support. I'd also like to thank our main funding partner, the Alberta Conservation Association. They've thrown their full support behind the project since the beginning and are funding the third and final season of fieldwork next winter.

Louis rappelling down to a hibernaculum (located just to his left) in Dinosaur Provincial Park. Photo by Brandon Klug.



Brandon setting up the PIT-tag reader at the entrance of a hibernaculum in Dinosaur Provincial Park. Photo by Lououis Gower.

Western Canada/US

Long-eared genetic samples

Cori Lausen, Wildlife Conservation Society Canada, clausen@wcs.org



Long-eared Myotis (*M.evotis*/*M. keenii*)

The long-standing project to resolve the taxonomy of Keen's Myotis is coming to a close. The final year of sampling will take place this summer. Karen Blejwas of AK Fish and Game is funding the completion of this project and will be collecting samples in southeast AK, along with providing field assistance in Haida Gwaii. Doug Burles and myself will be capturing and genetically sampling bats in Haida Gwaii and Hazelton. Cori, Leigh Anne Isaac and Brandon Klug will be sampling a few other BC locations. Genetic samples of long-eared bats from elsewhere in the province, and samples from coastal US areas would be a welcome addition; please contact Cori.

BatAMP Ramps Up

Cori Lausen, Wildlife Conservation Society Canada, clausen@wcs.org

Western Acoustic Monitoring Initiative had a conference call this spring to continue to network those doing long term acoustic monitoring in the west, and to ramp up participation in BatAMP. People are entering acoustics data into BatAMP, the interactive visual database housed in DataBasin (<http://databasin.org/groups/59d81a3951fd4915909efacbe2317efb>), and many are commenting on its usefulness at local and regional scales. Data entry during this past winter was focussed on pilot entries to ensure user-friendly data entry. We are now encouraging widespread data entry. This is not only a great tool for visualizing patterns in your own acoustics data, but allows you to visualize your data in the context of other datasets entered into the database. However, when you sign up, you get to control who sees your data. Geographically, the BatAMP covers all of western North America allowing for patterns of bat movements on a per species basis to be visualized. It is designed to reveal migration routes, and potential hibernation locations. Please enter your data to strengthen this bat conservation resource! To sign up, contact Ted Weller: tweller@fs.fed.us

Bats and Cavers Program

Cori Lausen, Wildlife Conservation Society Canada, clausen@wcs.org

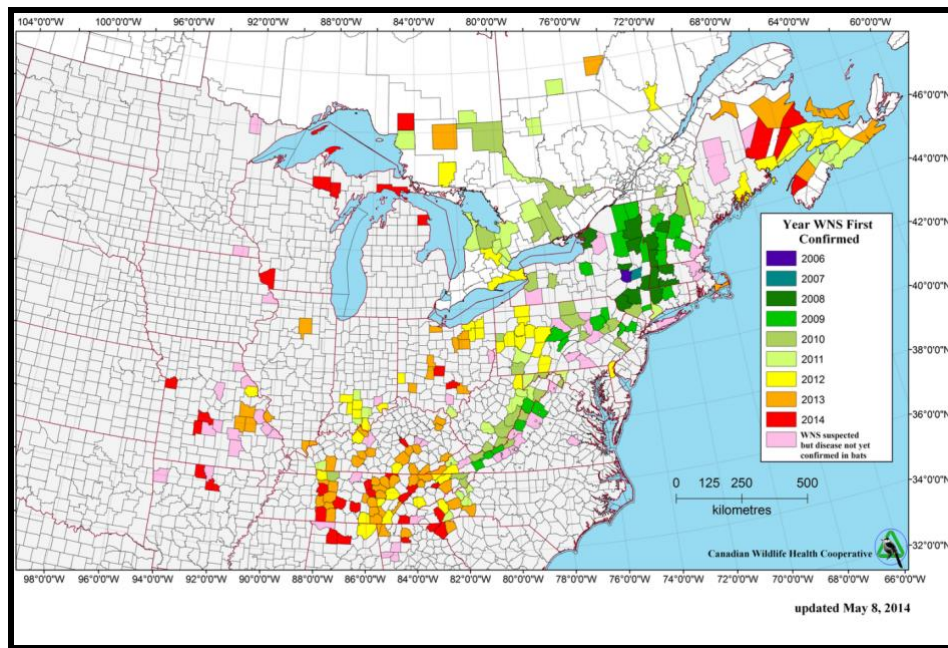
Learning what constitutes critical winter habitat and normal hibernation behaviours for western bats will be fundamental to mitigating the devastating disease and facilitating future population recovery post-White Nose Syndrome. Fourteen species of bats live in western Canada; at least eight of these species hibernate but hibernacula have yet to be located.

WCS Canada is developing a new program called “Bats and Cavers.” This program will be modelled on a similar and highly successful Montana program, where biologists teamed up with cavers to seek out new hibernacula and monitor bats for changes in population size, species diversity, and appearance of WNS disease.

This project will hire a program co-ordinator and develop a website specifically to connect the caving communities in BC, Alberta, Yukon and NWT, with western bat biologists. There are 2 basic arms of the Bats and Cavers Program: 1. Baseline fungal sediment testing of western caves; and 2. Discovery and monitoring of cave hibernacula. The former arm is already under way with soil samples being collected by cavers/biologists in BC and AB. These samples are being analyzed using fungal culture techniques in Dr. Ann Cheeptham’s lab (Thompson Rivers University) by student Laura Smylie, and will be genetically analyzed in the Animal Health Centre in Abbotsford (Dr. Hein Snyman, Dr. Tomy Joseph, Dr. Chelsea Himsworth). Partners in this program include MoE (Dr. Purnima Govindarajulu) and MFLNRO (Dr. Helen Schwantje). Soil samples from Horne Lake Caves, Cadomin Cave, Rat’s Nest Cave, Cody Cave and others, will be tested for the presence of WNS fungus (*Pseudogymnoascus destructans*). In the second arm of this program, cavers will deploy detectors, examine caves mid-winter when possible, measure relative humidity/temperature in caves, take samples of guano, photos of bats or bat sign such as bones/skeletons, etc. In November I presented this program at the Alberta Speleological Society AGM, and BC Speleological Federation AGM in April, and collaborators to date include Greg Horne, Dave Hobson, Nicholas Vieira, Martin Davis, Phil Whitfield, Kathleen Graham, Richard Varela, Jeremy Bruns, and Kevin Stanway, along with a number of other cavers who have expressed interest in becoming involved. We hope to know about funding this summer/fall allowing us to have a fully functioning program in time for next winter.

White Nose Syndrome

The past winter there was continued spread of confirmed cases of White Nose Syndrome, caused by *Pseudogymnoascus destructans* (formerly *Geomyces destructans*). More information can be found at http://www.ccwhc.ca/white_nose_syndrome.php and <http://www.healthywildlife.ca/category/white-nose-syndrome/>, amongst other sites.



Map showing locations where WNS has been recently confirmed. Source: the Canadian Cooperative Wildlife Health Centre (http://www.ccwhc.ca/wns_maps.php)

Conferences

Not a conference, but don't miss the **FLATHEAD BIOBLITZ** this summer! See the write-up under 'British Columbia' above and if you are interested in participating in this Bat Blitz, please contact Cori Lausen clausen@wcs.org

North American Bat Working Group meeting, Crown Plaza, St. Louis, MO 3 – 6 March 2015. This will be a joint meeting of Western Bat Working Group, SE Bat Diversity Network, and Midwest Bat Working Group.

NASBR 44: North American Society for Bat Research Conference. Oct 22-25, 2014, Albany, New York. A long ways off but registration opens in late May.

Recent literature

- Cory Toussaint, D., R.M. Brigham and A.E. McKechnie. 2013. Thermoregulation in free-ranging *Nycteris thebaica* (Nycteridae) during winter: no evidence of torpor or hibernation. *Mammal. Biol.* 78: 365 – 368. <http://dx.doi.org/10.1016/j.mambio.2012.10.001>.
- Dzal, Y. and R.M. Brigham. 2013. The tradeoff between torpor use and reproduction in little brown bats (*Myotis lucifugus*). *J. Comp. Physiol. B.* 183:279-288. DOI 10.1007/s00360-012-0705-4
- Kilgour, R.J. and R.M. Brigham. 2013. The relationships between behavioural types, social context and seasonal period in the gregarious big brown bat (*Eptesicus fuscus*). *Ethology* 119:189-198. doi:10.1111/eth.12052.
- Kilgour, R.J., P. Faure, and R.M. Brigham. 2013. Evidence of social preferences in big brown bats (*Eptesicus fuscus*). *Canadian Journal of Zoology* 91:756-760.

Field notes

By Cori Lausen www.batsRus.ca info@batsRus.ca

Ge where to start. A great deal of change has happened this spring on the technology front for bats!

Starting with new things that are *not* acoustic:

Lotek's ultra small GPS transmitter: http://www.lotek.com/introducing-pinpoint-gps.htm?utm_medium=email&utm_source=MyNewsletterBuilder&utm_content=&utm_campaign=GPS+tags+from+1g+Now+available+1411910339&utm_term=click+here Only 1 gram store-on-board.

Several new bat detectors were released this winter/spring:

New in Passive Detectors:

Wildlife Acoustics

SM3BAT – this is a tank of a detector so it is not your 'remote backpack' set-up, but this detector truly does trump others on the market for cost-effective high quality microphone on a detector that provides a lot of programming options. In brief:

- new custom die-cast aluminum enclosure is built like a tank. Weight = 5.5 lbs (~7 lbs with batteries). This is more than double the weight of the SM2BAT (2 lbs without batteries).
- backlit LCD display
- 192k, 256k, or 384k sampling rate, 16 bit; SM3BAT can record in stereo at 192 or 256k sampling rates.

- no more on-board jumpers/switches as were on Sm2; now all settings are in the menu.
- alerts you about any warnings or errors when you load, edit, or run a program, unlike the SM2 which had no built in 'check'. E.g., Recognizes microphone types to provide auto setup, warnings, or errors.
- finer control of trigger criteria; user-entered noise scrubber settings that were just built-in to the SM2.
- less issue with EMI interference than the SM2BAT had (new thicker mic cables)
- energy efficiency has gone up for full spectrum recording, but has gone down for zero cross recording.

A new NAP mode has been included in firmware for SM2BAT and SM3BAT and this mode increases energy efficiency in both units. However, the energy advantage that zero-cross mode used to provide in SM2BAT no longer exists in SM3BAT (length of time on internal batteries is not tremendously different between FS vs ZC).



SM3BAT by Wildlife Acoustics. Not shown: 2 SM3-U1 microphones attached at ports bottom right. Photo: C. Lausen.

Even though the SM3BAT is a highly sophisticated unit (basically everything that people complained about in the SM2BAT, Wildlife Acoustics has changed/fixed in SM3BAT), it is very heavy and 50% more expensive than the SM2BAT with less recording time in ZC mode than the SM2BATs (20 nights now on alkaline D batteries instead of 30 nights). In my opinion, the Sm2BAT fills a niche that the SM3BAT does not. Unfortunately, Wildlife Acoustics has announced the SM2BAT will be discontinued by June 2014.

The **SMX-U1 mic** is far more sensitive than any previous Wildlife Acoustics mics, and has a better signal to noise ratio. You will notice the cleaner looking calls recorded by this microphone. This mic comes standard on the SM3BAT and in May 2014 there will be an adapter that will allow this mic to be used on the older models SM2BAT).

Titley Scientific

Anabat Express – this ultra lightweight zero-cross detector has several advantages over Anabat SD1/2:

- Small, compact, lightweight
- Removable mic is small, omnidirectional (can put on a cable)
- Waterproof unit, including the microphone, so no housings are needed

- Built in GPS, so clock is set automatically, and deployment can be relative to sunset/rise
- Built in programs to record nightly or continuously, so no connection to laptop or programming of cards is needed
- At \$850, it is 40% of the cost of an Anabat , and is now the cheapest long term deployment detector on the market.
- The main disadvantage of this unit is that it does not have optional external power (just uses 4 AA batteries); however, it will run for ~2 weeks of night recording, and can be programmed to run much longer through automatic subsampling ('farming').



C. Lausen monitored Queen Victoria mine in West Kootenays this winter using the whole arsenal of Titley bat detectors as a way of comparing and testing the new Anabat Express, and at the same time verifying that all 3 bat species continued to use this newly gated mine. From left to right: AnabatExpress, Anabat SD2 (in housing with external battery housing in background), Roostlogger. Photo: C. Lausen

New in Active Monitoring:

Actively record in the field, watch the bat calls, and auto-identify, all in real time:

Wildlife Acoustics

For active monitoring with an iOS device, Wildlife Acoustics has just released their new **Echo Meter Touch**, which offers LiveMode for active monitoring. And for an additional fee it can autoID bats in the field on your device:

<http://www.wildlifeacoustics.com/products/echo-meter-touch>



Echo Meter Touch module attached to iPad and iPhone. The EMTouch app is available on iTunes free, with an optional autoID purchase for \$129. Photos: Wildlife Acoustics.

BCID and Anabat

Bat Call Identification (<http://www.batcallid.com/Software.html>) has a new LiveID mode that allows automatically identifies bats as they are recorded onto your laptop through the connection of an Anabat. As with EchoMeter Touch, you can be auto-identifying bats as you watch them get recorded on your laptop.

Looking for other 'tablet' compatible microphones to do active recording in the field?

Binary Acoustic Technology -MINImic

<http://www.batmanagement.com/Ordering/acoustic/batminimic.html>

Pettersson – M500 USB mic

<http://www.batsound.com/?p=116>

Acoustic Trainings Continue This Spring:

For those of you wanting to learn the basics of bat identification, detector deployment, and acoustic analysis, there are a number of courses that I am instructing this spring. The Phoenix, Arizona Wildlife Acoustics class (hosted by Arizona Game and Fish, Angie McIntire) included in depth instruction on SM2BAT, SM3BAT, EM3, and EMTouch detectors. Software packages that were introduced included: Analook, KaleidoscopePro, BCID, and Sonobat. The advanced analysis class that followed the Wildlife Acoustics course was taught by myself and Kim Livengood of Titley. The 2 of us are also offering both the Anabat Techniques course and Analysis course in Indianapolis, and Boise in May and June respectively. The Boise Techniques course (hosted by Idaho Fish and Game, Rita Dixon) is a combined Wildlife Acoustics and Titley Techniques course (concurrent sessions for hardware instruction), the first

time such a combo course has been offered. I will be offering a shortened version of this type of combo course in Radium Hotsprings, BC, in May, hosted by Parks Canada. This course will focus on SM2BAT and Anabat for use in the North American Bat Monitoring Program (NABat), and will include an analysis component instructing participants on use of KaleidoscopePro, BCID and Analook. I will be offering a Wildlife Acoustics Hardware course in Massachusetts first week of June, at the headquarters of Wildlife Acoustics.

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://esrd.alberta.ca/fish-wildlife/wildlife-management/alberta-bat-action-team/abat-programs-publications.aspx>



More happy educators participating in “Bat Workshop for Educators” hosted by the Kootenay Community Bat Project. Photo: KCBP

WCBN Newsletter Submissions

Please submit all newsletter submissions to Jen Talerico: Western.canada.bat.network@gmail.com

Submissions can be made at any time.

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