

Western Canada Bat Network

NEWSLETTER

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CONTENTS

Letter from the Editor.....	1
Updates by Region.....	2
Washington	2
Saskatchewan	4
North Dakota	5
Montana	5
Manitoba	6
British Columbia	7
Alberta	9
BCBAT Update.....	11
ABAT Update	13
WNS Bulletin Board.....	16
Announcements	17
Workshops.....	17
Meetings/Conferences.....	17
Recent Literature.....	18
Field Notes	18
Archived Newsletters.....	22
Distribution List.....	22

FROM THE EDITOR

Yes, we have a new name! The vote was in favor of Western Canada Bat Network, although I did receive several votes for the Northwest Bat Network. There was a lot of support for making our US neighbours feel welcome, but a bit of concern that the Canadian roots of this group might be lost if the 'Canadian' component of the name was dropped. So WCBN it is, and we continue to encourage networking among all western Canadian provinces and northwestern US states.

Wishing you an H1N1-free winter,

Cori



UPDATES BY REGION

Washington

Hanford Site Bat Monitoring 2009 Highlights-

Jonathan G. Lucas, Cole T. Lindsey and Ken A. Gano

As part of the Columbia River Corridor environmental restoration activities being conducted on the U.S. Department of Energy's Hanford Site in south-central Washington state, annual monitoring of known maternity colonies were conducted at the 100-F reactor site.

Mist-netting and acoustic monitoring occurred on two different occasions this summer. One night was to assess a maternity colony of Pallid bats (*Antrozous pallidus*) that utilize bat boxes at the former 105-F reactor, the other night was to assess a maternity colony (approx. 3000) of Yuma bats (*Myotis yumanensis*) that use a former underground filtered water

storage structure (183-F). Both nights of mist-netting and acoustics went well; both species were caught and standard information collected. The Pallids and Yumas caught were in excellent condition in terms of weight, wing condition, and overall appearance.



Surprisingly, one Western small-footed myotis (*Myotis ciliolabrum*) was caught during monitoring of the Yuma bats (*Myotis yumanensis*), data were collected, and it was light-tagged for acoustic monitoring. After the *Myotis ciliolabrum* was released, it flew around briefly, then it flew into the underground filtered water storage structure (183-F) that the Yumas use. What this means, we don't know. Could *Myotis ciliolabrum* be using this structure along with the Yuma's.....we will have to further investigate this in the spring.



Townsend's Big-eared Bat Study at Fort Lewis Greg Falxa, Cascadia Research (gfalxa@cascadiaresearch.org)

During an installation wide 2008 survey for bats at Fort Lewis, in western Washington, three Townsend's big-eared bat calls were found among some 20,000 call files. Over the past 17 years a few Townsend's have been documented in the area, but no information exists regarding foraging preferences, and information is sparse on their roost sites. With The Nature Conservancy as a partner, those 3 calls provided impetus for funding a modest Townsend's study, completed summer 2009. We radio-tagged 4 non-reproductive and 2 post-lactating adult females, found primarily at night roosts, who faithfully led us to the nursery roosts. Although they spent the majority of their foraging hours in stands of older conifers on Fort Lewis, all of the day roosts were in a neighboring town. These day roosts, especially a pair of old buildings that seem to house a colony (or at least a social group), are vulnerable to human disturbance. The two private building owners that we are working with have been very cooperative, but the future of these buildings is uncertain; one needs structural work and the other is a bygone horse stables whose days are numbered. We've made a pitch to Fort Lewis for funding to construct some Townsend's roost structures on the installation, which is only a half km from the current maternity roosts. Secure roosts inside the base boundary will improve long-term protection, and access for monitoring.



Bat Roosting Habitat Enhancement Projects at Fort Lewis

Sanders Freed, The Nature Conservancy (sfreed@TNC.org)

Sanders Freed, Greg Falxa, and a host of volunteers have completed several bat house construction projects at the Fort Lewis Military Reservation in western Washington. With approximately 70,000 undeveloped acres, there is adequate bat foraging habitat on the installation. During a 2008 survey of Fort Lewis, all 9 bat species thought to occupy the region were documented.

Like most forested areas, the lack of roost structures is very apparent. Beginning in 2008, we used habitat enhancement funds to create bat roosts. In 2008 we installed 30 bat houses, 10 each of 3 designs. Several boxes of a new design, the 'Uncle George' bat box, with sloping, rather than vertical dividers, were used within weeks of installation. The new design and the Dual Chamber Rocket Box had use at over half the locations this past summer. In October, as part of Dept. of Defence's *Public Lands Day*, a group of TNC volunteers constructed another dozen Uncle George boxes (photo below). They also renovated a 'government surplus' church steeple that was fitted with a bat entrance, and placed on an 8-ft stem wall. We were able to secure approval to install it at a protected location next to a wooded creek corridor, and are waiting for spring to see who finds it first. The photo should make it clear why it's nicknamed "the Bat Hat." The projects include ongoing monitoring of all created bat structures, and results will be presented at the annual meeting of the Washington chapter of The Wildlife Society in February, 2010.



The Bat Hat, Fort Lewis, WA



Volunteers assembling bat boxes at Public Lands Day



Woodard Bay Myotis Colony Monitoring

Lori Salzer and Mary Linders, Washington Department of Fish and Wildlife
(lori.salzer@dfw.wa.gov, mary.linders@dfw.wa.gov)

During spring and summer, after our *paid* work hours, we enjoy our weekly walks out to the old pier at the Woodard Bay Natural Resource Area, 10 km north of Olympia, Washington. Our destination is the largest *known* bat colony in Washington State. For the past 6 years we've been monitoring the population size of this colony, counting them as they exit from under an abandoned railroad pier they call home. Since 2008 the count has hovered around 3,000 adults. The "forearm and call frequency" ID method gives us estimates of the species ratio at approximately 65% Yuma myotis and 35% Little browns. Prior to 2007, going back to the early 1990s, the population was around 2,000 adult bats (counted before the young become volant), leading us to wonder if there was a roost site lost between 2007 and 2008, with the increase coming from members of another colony needing a new home. There are also a couple of fun facts about this colony. One is that radio tracking revealed that most of these bats travel over 13 km (one way) to forage at Capitol Lake in downtown Olympia. Some lactating mothers make 2 nightly trips to the lake. The route between the colony's roost and Capitol Lake is busy from sundown to sunup. Another is that during the main parturition week, both species roost shoulder-to-shoulder in the 4-cm wide crevices between the large wooden beams, in one long, narrow cluster approximately 5 meters long. The site is owned by the state's Department of Natural Resources, which is in the process of evaluating methods to extend the life of the pier in the area of this colony. A number of the beams are rotting and falling away.



The pier at Woodard Bay, with the myotis colony.

SASKATCHEWAN

Dr. Mark Brigham, University of Regina, had three students presenting at NASBR:

Dzal, Yvonne. What's sex go to do with it? The effects of reproductive status on torpor and foraging behaviour in the little brown Myotis.

Kiljour, R. Julia. The influence of social context on behaviour in big brown bats (*Eptesicus fuscus*).

Poissant, Joe. Bats in the attic: Roost under construction.



NORTH DAKOTA

Little Missouri Grasslands Bat Survey

Beth Hahn, Amie Shovlain, Jenny Holifield, Dan Svingen, Patrick Isakson, Gary Foli, Gary Petik., Ron Hecker, and Jeff Ingalls worked together to bring Cori Lausen to North Dakota in June 2009 for the first bat survey in the northern area of the Little Missouri Grasslands. This project was done in collaboration with Bat Conservation International (Dan Taylor) and MT Natural Heritage (Bryce Maxell and Susan Lenard). Although the 10 day survey was plagued with cool rainy weather, 112 bats were captured and 24 sites were surveyed. Six species were captured: *Eptesicus fuscus*, *Myotis ciliolabrum*, *M. evotis*, *M. lucifugus*, *M. volans*, and *Corynorhinus townsendii*. This was the first official capture of this latter species in the state although Joel Tigner had observed a Townsend's bat in a previous survey. This was also the first record of a maternity colony in the state; all 7 individuals captured were females, several showing signs of pregnancy. Old log buildings in the vicinity of the captures are likely roosts for this species. A landowner living adjacent to the potential roosts reported seeing a Townsend's bat in one of the log cabins.

A large portion of the Little Missouri Grasslands are complex badlands formations, highly likely to house hibernating bats in the winter. Dr. Erin Gillam of North Dakota State University plans to acoustically monitor the north unit of Theodore Roosevelt National Park this winter.

Joanna Coleman with Townsend's Big-Eared Bat
(right) captured in badlands near Theodore
Roosevelt National Park, ND (below).



MONTANA

Workshop: Conducting Bat Surveys near Mines, Caves, Buildings & Bridges

Beth Hahn, Amie Shovlain; USDA Forest Service, Northern Region

The workshop took place at Birch Creek Center, north of Dillon, MT on September 14-17, 2009. This was an interdisciplinary workshop targeting minerals, engineering, and wildlife biology specialists. The workshop was a mix of classroom lectures and field time. It provided background and training on basic bat biology and ecology, presented field methods for assessing bat occupancy and abundance in and near caves, mines, buildings and bridges, provided information on how to assess project-level effects and incorporate mitigation alternatives, and began the process of developing consistent regional protocols for bat surveys. The workshop went very well with ~35 attendees from FS, BLM, Malmstrom Air Force Base, MT Fish Wildlife & Parks, and MT Dept of Env Quality.



Confederated Salish and Kootenai Tribes, Flathead Indian Reservation

Janene Lichtenberg, Wildlife Biologist, Polson, Montana, janene@cskt.org

The Confederated Salish and Kootenai Tribes conducted the first formal survey of bats on the Flathead Indian Reservation. Field work supervised by Cori Lausen included mist netting at 39 sites as well as collection of passive acoustic data at 61 sites. The species list was increased from 7 to 11 confirmed species within two weeks. An additional 3 species were detected with acoustics but not confirmed with captures. There were a relatively large number of captures of Townsend's big-eared bats, *Corynorhinus townsendii* (24 at 11 sites) and fringed myotis, *Myotis thysanodes* (30 at 10 sites). Both are listed as Species of Concern in Montana.



Left: Janene and Cori set triple high net; *Centre:* Cori processes Townsend's bat; *Right:* Matt Nicolai processes hoary bat.

MANITOBA

Dr. Craig Willis, with the University of Winnipeg made the following presentation at NASBR in Portland, Oregon:

Boyles, J.C., M.E. Timonin (postdoctorate at U of W), K.E. Jonasson (Honours Student at U of W), and Craig Willis. Could "Hot-Boxes" enhance survival of bats with White Nose Syndrome?

The following students from his lab also presented papers, demonstrating the diverse breadth of research taking place in his lab:

Jameson, Joel (MSc Student). Test of the 'Reproductive Landmarks Hypothesis' to Explain the mortality of bats at wind turbines.

Jonasson, Kristin (MSc Student). Differences in the hibernation strategies of male and female little brown bats (*Myotis lucifugus*).

Matheson, Amanda (Honours Student). Feasting, Fasting and Freezing: Energetic effects of meal-size and temperature on short-term torpor use in little brown bats.

Norquay, Kaleigh (Honours Student). A comparison of summer torpor expression between over-winter hibernators (*Myotis lucifugus*) and migratory bats (*Lasionycteris noctivagans*).



BRITISH COLUMBIA

Small Range Extension for Northern Myotis in B.C.

As part of the Ministry of Environment Long-eared Bat Project, Thomas Hill and Cori Lausen mistnetted throughout the Columbia Basin in July 2009. A northern bat, *Myotis septentrionalis*, was captured near Trout Lake. This is 60 km south of Revelstoke, the most southerly location previously known for this species in B.C. This adult female was radiotracked, foraging within old growth cedar forest, and was found roosting in cedar and hemlock trees and snags.



Additionally, Thomas and Cori opportunistically radiotracked 2 Townsend's Big-eared bats in Creston, finding two building maternity roosts.

Bat Work Continues in Gwaii Haanas and further work on the Long-Eared Bat Project Doug Burles

Although I retired from my "day job" in February, I continued to do some bat research for Gwaii Haanas National Park Reserve in 2009. My objectives were to continue to monitor the maternity colony of Keen's and Little Brown bats at Hotsprings Island, as well as to locate other maternity colonies within Gwaii Haanas. I also planned to make full spectrum echolocation call recordings of known bats so that I can develop a key for identifying free-flying bats from their calls.

Field work took an unusual turn in June when, after finding very few bats using the nursery roosts at Hotsprings, I discovered that an owl (most likely a Northern Saw Whet owl as this is the only resident owl on Haida Gwaii) was frequenting the roosts at dusk. On one particular evening when I was observing the roosts, two bats had emerged when the owl flew in and landed within two meters of one roost entrance. It remained there for about five minutes before shifting to another perch nearby. It subsequently shifted positions a number of times but continued to look toward the roost entrance during the entire time it was there, approximately 13 minutes. During the time the owl was present I saw only 1 bat fly high overhead, and in the 30 minutes following its' departure, I saw only a further 2 bats fly by. The following night the owl did not appear, and I counted 25 bats emerging, more than the previous night but significantly less than the 125 that I had expected to see. Twenty of these bats emerged from the roost that the owl had staked out the previous night. I returned to Hotsprings Island in late July to find that the owl was still staking out the roosts, and that fewer than 25 bats were using the roosts. In the previous 11 years that I have monitored this colony, I have only seen a Northern Saw Whet owl near the roosts on one other occasion, and I have never seen so few bats using the roosts.



I also spent some time mist netting at other locations within Gwaii Haanas and managed to capture 3 species of bats (*Myotis lucifugus*, *M. californicus* and *Lasionycteris noctivagans*), none of which were found to be reproductive. I collected hair samples from these animals for stable isotope analysis by Scott Florin of Washington State University.



I continue to be involved with Cori Lausen, David Nagorsen, Laura Friis and Purnima Govindarajulu on a project to develop protocols for the field identification of the four species of long-eared bats found in B.C. This year David,

Susan Leech and I spent 10 days capturing bats in the UBC Research Forest near Maple Ridge and the Merritt area. From the bats captured we collected tissue samples to confirm identification, and physical data for comparisons amongst species. We also recorded echolocation call using Anabat, Sonobat and Batsound Pro systems to develop a call library of long-eared bats. We hope to develop methods for identifying these morphologically very similar bats in the field using either or both physical and acoustic parameters.

Photo Above: Susan Leech flying a bat on a tether line (“bat kiting”) while David Nagorsen records its echolocation calls to his laptop.

Bat Work in Lillooet

Vivian Birch-Jones

Bat expert Doug Burles joined us at Lillooet in May 2009. He provided some advice for improving habitat for bats at our restoration site.

We also enjoyed an afternoon lecture (photo) followed by an evening session of listening for echolocating bats and recording their calls.



Doug was able to tentatively identify at least three species (Little Brown, Yuma and Silver-haired bats) from his recordings. Education about bats is an ongoing goal of the Lillooet Naturalist Society (photo). Optimistically the BC Bat Action Team will be doing a bat blitz at Lillooet in early June, 2010. Stay tuned.



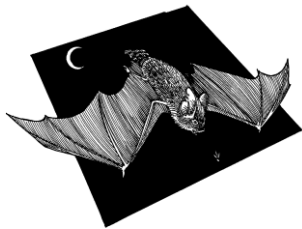
ALBERTA

Two New Alberta Bat Status Reports

Robin Gutsell, Alberta Sustainable Resource Development

In the last year or so, Alberta's Endangered Species Conservation Committee and its Scientific Subcommittee assessed the status of two of Alberta's bat species. In early 2009, *Myotis cilioalbrum* was formally designated a *Species of Special Concern*. The Scientific Subcommittee was concerned because this species occupies only a few locations in a small area of the province and relies on a habitat (riparian cottonwoods) that is in decline, suggesting that bat populations are likely also at risk of declining. Alberta Fish and Wildlife will develop a management plan which will recommend actions to minimize loss of this species and its habitat. This status report is available at:

<http://www.srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/DetailedStatus/documents/StatusOfNorthernMyotisInAlberta3Update-May-2009.pdf>



Myotis septentrionalis was assessed later in 2009. There are also concerns about this species' old growth boreal habitat; however, the Scientific Subcommittee found that the degree to which this species depends on old trees in Alberta is not clear enough to assign it a risk category. They declared it a *Data Deficient* species and recommended that more research be done to clarify the extent to which *M. septentrionalis* depends on old forest features in Alberta. This status report is available at:

http://www.srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/DetailedStatus/documents/Western_Small-footed_Bat_Status_Report_64_web.pdf

Lisa Wilkinson will be leading the charge for both of these species.

White Nose Educational Materials Distributed by Alberta Sustainable Resource Development

Margo Pybus, Lisa Wilkinson; and Robin Gutsell, Alberta Sustainable Resource Development

Alberta Fish and Wildlife Division delivered a WNS public education program aimed specifically at cave users in AB, informing them of the risk to bats and potential role of humans in transferring the fungus. The strongest message was not to enter AB caves if you had been to a cave in the northeastern USA. This information was provided jointly between the Fish and Wildlife Division and Alberta Parks, and was posted on web pages, on signs at trailheads to caves, and in local media. Hopefully we have laid a foundation on which to build if there is a need to get more information to the caving public as WNS gets closer. Next steps may include total or partial closure (e.g., access by permit, or with a guide) of caves. Alberta Fish and Wildlife also developed bat handling protocols to reduce potential spread of the fungus and is receiving feedback from researchers regarding the practicality and efficacy of the protocol.



The fact sheet¹, amended bat handling protocols², and trailhead posters³ can be found at the following URLs:

¹<http://srd.alberta.ca/BioDiversityStewardship/WildlifeDiseases/documents/White-NoseSyndrome-FactSheet-Jul2009.pdf>

²<http://srd.alberta.ca/BioDiversityStewardship/WildlifeDiseases/documents/AlbertaBatHandlingProtocol-WhiteNoseSyndrome-JUL2009.pdf>

³<http://srd.alberta.ca/BioDiversityStewardship/WildlifeDiseases/images/Cadomin%20Bat%20whitenose%20fungus%20poster.jpg>

NEW: BAT HOUSES HAND-MADE IN ALBERTA

These houses are modified designs of the BCI bat houses, adapted for the cooler Canadian climate and specifically the windier conditions on the AB prairies. These houses offer a larger landing pad than the BCI designs, and some have a protected landing pad for areas that are particularly windy.

These offer an innovative attachment system, and the maker of these boxes (Al Kiffiak) says he has made them strong so they will last a long time out in the elements. All houses are made from recycled wood, come with three coats of latex paint, and adorn an ornamental wooden bat.



The real test of course is bat occupancy, and Al says that he has several customers in southern AB who already have bats taking up residence in their bat houses.

If you'd like to order a bat house, contact Al Kiffiak. Different sizes, styles, designs. Prices range from \$50-\$230 plus shipping. Shipping will generally be arranged via Greyhound bus:

Cell: 1-403-589-9224 or E-mail: aakcjk@telus.net. P.O. Box 1239, Turner Valley, Alberta, T0L-2A0.

BAT CONSERVATION SOCIETY OF CALGARY

Wendy Gardiner

I continue to give educational presentations to classes of children, often in the Grades 1 or 2 age groups. Word of mouth and the Calgary Science Network are the major ways teachers hear about the presentations, which happen approximately once a week from October through June. The children continue to impress me with their keen interest and acceptance of bats as the amazing creatures they are.



Fortunately, I have seen no cases of WNS in my experiences with wild bats. Although two bats who had accompanied me to my presentations for years died earlier this year (their deaths were months apart and unrelated), I am over-wintering a Silver Haired bat who is quite tolerant of public appearances as well as a male Big Brown bat.

UNIVERSITY OF CALGARY PRESENTS AT NASBR

The Barclay lab was well represented by the following student presentations:

Coleman, Joanna (PhD Candidate). Abundance, diversity, foraging activity, body condition and reproduction of urban and non-urban prairie bats: is the city a bat population sink?

Olson, Cory (MSc student). Roosting behaviour of little brown bat (*Myotis lucifugus*) maternity colonies in forests.

Randall, Lea (MSc). The effect of forest disturbance on bats (*Myotis lucifugus*) of the southwestern Yukon. [Lea successfully defended her MSc thesis in 2009. Congratulations Lea!]

BCBAT UPDATE

After their first conference call in May 2009, the B.C. Bat Action Team's White Nose Committee produced a brochure which the Ministry of Environment distributed throughout the province. The brochure is available at:

http://www.env.gov.bc.ca/wld/documents/wldhealth/WNS_factsheet_BC_2009.pdf Permit guidelines for people doing bat work in B.C. were also updated prior to the field season to include WNS prevention guidelines. An educational outreach article was also produced for distribution within the B.C. caving community.

First Annual B.C. Bat Blitz held in Okanagan

BCBAT held its first Bat Blitz in an effort to capture *Parastrellus hesperus* in the southern Okanagan. This bat, formerly known as the western Pipistrelle and recently renamed Canyon bat, is thought to exist in the province because of acoustic recordings and a described capture from several years ago. However, conclusive evidence has yet to be gathered. Only one night in Sept. was spent conducting the Blitz, and while it was a great night, capturing several pallid and Townsend's bats, no Canyon bat was captured. Another attempt will likely be made next season.



Pallid bat captured in south Okanagan, B.C. during first bat blitz. Photo by Rhonda Millikin.



Conference Call 9 Dec. 2009

There were 9 attendees and the following topics were covered:

1. **Rabies Vaccinations** –Is it possible for bat biologists in BC get pre-exposure shots for free just as vets do? An application process? Thomas will inquire.
2. **Possible histoplasmosis** case in B.C.?– There has never been a reported case of this in B.C. but there is rumor of a potential case in Vernon. This is unconfirmed and complicated by litigation over property acquisition not knowing bats were in the building.
3. **Pest management** of bats in B.C. – Concern over whether all pest management companies are aware of the illegal nature of touching bats without a permit and whether all are going through the proper route of getting a permit. Purnima and Julie solved several issues this summer by getting land owners to hold off excluding bats until fall. The MoE's pest management brochure should likely be updated, but this topic has been table until the spring meeting.
4. Bat assessments prior to **mine closures and re-openings**.—The group highlighted this as an important issue, and a committee was established to begin the process of communicating with Ministry of Energy and Mines on this topic. A memorandum of understanding may be the end product.
5. **Wind Energy Protocols**. – The group highlighted the importance of getting a BC-specific pre-construction protocol in place, and eventually a post-construction one too. A committee was established that will work on adapting the Alberta protocol for BC. The goal is to have a BC-specific protocol in place by the spring meeting.
6. **BCBAT website**.—Lorraine will be setting up a small website for the group on a free site so that we can post things like who we are, meeting minutes, and documents that the group creates. The concern with using just the MoE's website is that there is too slow of a turnaround in having documents reviewed and then posted.
7. **EcoCat?** The report that Dave wrote as part of the updated distribution maps contains important information for understanding these maps and species accounts of all species. Yet this report has and continues to be stuck in the pile of documents MoE has yet to review and post. The suggestion was that the report instead be posted on EcoCat as it does not need review for that. And then the CDC maps could refer to this report with the link to it in EcoCat. Purnima will look into this and follow it up.
8. **BCBAT Structure**. – Purnima volunteered to be the group chair as we really need someone to be the contact person for the group. Juliet is getting ready for another mat leave and is unable to fill this position although was the acting chair for the group initially. Tanya will help lighten the load of this position by checking BCBAT's email address (bcbats@gmail.com) regularly and forwarding to Purnima any pertinent emails.
9. **WNS Brochure**. – It was distributed by BC Wildlife Health this past summer and eventually posted on the MoE website. It still contains some small editorial errors (e.g. indicating this document was written by BCBAT), but these will be fixed.
11. **Bat Blitz**. – Mike reviewed the captures from the first Blitz this past Sept. and suggested we try for another one this coming spring. The goal is still to try to capture the Canyon Bat. *May 8 and 9 have been suggested tentatively for the next bat blitz.* Another Bat Blitz may be considered for the fall in Lillooet if this area still needs one by then
12. **AGM of APB May 2010**. – Should our BCBAT group try to have representation at this meeting? We will try to get something there such as the WNS brochure handout, a poster of the group that advertises our website and our wind energy and mines documents that might be in draft form by then.
13. **Standards for bat work in BC**. – An initial discussion of this was tabled to the spring meeting as we ran out of time on the call. Cori will send around Alberta's guidelines for qualifications to do bat work in Alberta as fodder for next meeting (an anyone who wants to work on it this winter).
14. **Next Meeting**. – sometime in April.

Update to meeting: Lorraine Andrusiak has set up a new website for the group. bcbats.tripod.com



ABAT UPDATE

Fish and Wildlife as part of their website facelift, has provided the Alberta Bat Action Team with a new website address. Some updated information (e.g. White Nose information; see Alberta section above) can be found on this new site. Our revised information on bat houses, bat control and bat diseases will be posted soon. We are still working on getting new range maps posted. As you can see, the site is still a work in progress, so if you have any comments, please direct them to Robin.Gutsell@gov.ab.ca.

The new web addresses are:

Species accounts: <http://srd.alberta.ca/BioDiversityStewardship/WildSpecies/Mammals/Bats>

ABAT and other bat information:

<http://srd.alberta.ca/ManagingPrograms/FishWildlifeManagement/AlbertaBatActionTeam>

Conference Call 12 Nov. 2009

There were 11 participants and the following are a condensed version of the meeting minutes:

1. Updates from NASBR
2. Field updates
 - a. A number of participants reported lower bat abundance than typical and some reported bats late in the fall not yet fat with volant juveniles not yet full grown.
 - b. Some reports of building colonies that did not return this summer.
 - c. Migration might have been late this year due to poor spring
 - d. Need to look at reproductive data (Joanna - normal proportion of reproductive females but only two nights netting)
 - e. CWS – noting decline in aerial insectivorous birds, e.g. swallows, nighthawks
 - f. Manitoba (Craig Willis) and southern Alberta noted lower numbers of carcasses at wind turbines

ACTION – send data to Robert's lab to compile and analyze; east side of Continental Divide, prairie and forest. Needs capture data from areas where capture effort took place in 2009 and at least one previous year, for comparison.

3. WNS Protocol
 - a. Disinfecting nets needs to be better addressed – bleach will destroy nets after multiple use – some fungicides are better (eg. Quatt, which is found in cleaners) – Cori kept net cover on and immersed in garbage can with quatt for 1 hour, then rinsed by soaking in water. Can't do it every night, just when making major shift to new sites (such as outside a township).
 - b. Spot washing probably okay (as per Alberta protocol), then complete wash when leaving study area – refer to US website for list of disinfectants – don't know if sunlight destroys fungal spores?
4. Wind turbines
 - a. Ed Arnett – mitigation experiments in second year in US having similar results to AB, reductions in fatalities by 70% by changing cut-in speeds



- b. Lisa reported that AB gov't planning wind symposium for January – need to set thresholds even though this is very difficult
 - c. Thresholds – don't know when fatality rate is too high, ie., when it has an impact on population
 - d. Ontario guidelines are clear and easy to use eg. Distance from features.
 - e. Companies might accept mitigation initially instead of post-construction surveys
 - f. Vestas at Summerview have same cut-in speed as mitigation experiment because it will reduce wear and tear on turbines – year round
 - g. Barclay's lab – two papers coming out next month, Erin's shows geographic data for activity and fatality
5. Future meetings
Suggestion to continue with semi-annual conference calls and meet in person once every two years – aim for fall 2010 to meet in person.

WBWG UPDATE

Membership in the Western Bat Working Group is currently free of charge. When you sign up on the website (www.wbwg.org), your contact information is sent to your state/provincial/territorial rep who will act as your liaison with the group. Your rep attends conference calls and reports back to you via email, also forwarding important notices, emails and newsletters.

WBWG welcome's the *new B.C. rep*: Tanya Luszcz, Canadian Wildlife Service/Partners in Flight.

The WBWG is always looking for people interested in helping with some of the committee work (e.g. WNS, Education, etc.). Please check out the website and feel free to contact President Rita Dixon (rita.dixon@idfg.idaho.gov) or VP Cori Lausen (corilausen@birchdalebc.ca) if you'd like to sign up to help.

Bob Berry Donations Requested

The hope is to make an award every other year at the meeting of WBWG.

The impetus behind the generous donations to this fund is to perpetuate Bob's legacy of assisting others. Bob utilized his engineering and computer skills to refine the tools used for bat-related field work, and to help people to understand the different and changing technologies.

Some excellent proposals were received and awards presented at the annual meeting of the WBWG in Austin April 17, 2009. The WBWG scientific research advisory committee reviewed the proposals.

Three following awards were given:

The **Bob Berry Holohil Award**: Elizabeth Braun de Torrez of Boston University for *Foraging behavior, habitat selection and ecosystem services of bats in a Texas pecan agro-ecosystem* received six transmitters donated by Holohil and a \$1,000 cash award for receiver purchase or to cover research expenses.

The **Bob Berry Titley Electronics Award**: Tammy Branston and Eric Weiss of the California Department of Fish and Game for *Acoustic monitoring of bats during the rewatering of the*



Lower Owens River received an SD1 receiver and a free spot in one of the Anabat trainings donated by Titley Electronics.

The **Bob Berry Binary Acoustic Technology and Sonobat Award**: Janene Lichtenberg, Wildlife Biologist with the Confederated Salish and Kootenai Tribes for *Bat survey of the Flathead Reservation based on the Montana Bat Grid Protocol* received AR125 Ultrasonic Receiver, SPECT'R software and an FR125 field recorder donated by Mark Jensen, and a Sonobat software suite donated by Joe Szewczak.

Awards criteria were:

- 1) the need for specific equipment or technological training to further bat field research and/or conservation.
- 2) that the results of the research or project will help to perpetuate bat conservation in the Western United States, and the initial investment will continue to return benefits.
- 3) that sound scientific methods are integral to the proposed project.

NASBR Update

The North American Society for Bat Research held their 39th North American Symposium on Bat Research in Portland, Oregon Nov. 4 – 7th, 2009. Local hosts were Jan Zinck and Pat Ormsbee. There were over 300 registrants and the revised final program can be viewed/downloaded at:

http://www.nasbr.org/meetings/39_portland/pdfs/2009_NASBRprogram_20091021version.pdf

Abstracts from this conference will appear in the upcoming issue of [Bat Research News](#).

Highlights included our own Dr. Mark Brigham as auctioneer for the fundraising auction; a live bat demo and photography session with Oregon's bat photographer Michael Durham; a student luncheon to network with bat biologists; and opportunities to taste the products of the many great local breweries!

Mark Brigham said a few words in memory of Dr. Don Thomas, bat biologist from Université de Sherbrooke, Quebec, who passed away suddenly in May. There is a tribute for Professor Thomas on the university website: <http://www.usherbrooke.ca/sciences/fonds/fonds-donald-w-thomas/a-la-memoire-de-donald-w-thomas/english-version/>

A new logo for NASBR was voted on and the winning design was by Gerry Carter, a WCBN member. Congratulations Gerry!

Several upcoming NASBR venues were decided upon: 2011 will be in Toronto, 2012 will be in Puerto Rico, and the society voted to consider Costa Rica for 2013 which may or may not be in combination with the International Bat Meetings.

One of the best student presentation awards was received by Krista Patriquin; as many of you will remember, Krista was the editor of this newsletter when it first came into being! Congratulations Krista! Krista is currently finishing up her PhD at Dalhousie University in Halifax.





The "Barclay Bat Family" at Portland NASBR: *Back L to R:* Corey Olson (current student), Dr. Mark Brigham (former), Robert Barclay, Donald Solick (former), Maarten Vonhof (former). *Front L to R:* Jeff Gruver (former), Tanya Luszcz (former), Joanna Coleman (current), Lea Randall (former), Krista Patriquin (former), Erin Baerwald (current), Jesika Reimer (former), Cori Lausen (former), Brandon Klüg (current).

WNS Bulletin Board



Alberta and B.C. produced WNS brochures this past summer:

AB: <http://www.srd.alberta.ca/BioDiversityStewardship/WildlifeDiseases/documents/White-NoseSyndrome-FactSheet-Jul2009.pdf>

BC:

http://www.env.gov.bc.ca/wld/documents/wldhealth/WNS_factsheet_BC_2009.pdf



Bats reintroduced into Vermont caves hit by fungus - By Michael Hill (AP) Oct. 27, 2009. The direct link to this Associated Press article is no longer available, but a reprint of it can be read on the National Speleological Website:

<http://www.caves.org/WNS/2009media.html>



US announces \$1.9 million for WNS:

<http://lautenberg.senate.gov/newsroom/record.cfm?id=319502>



U.S. Fish and Wildlife Service's Preventing Extinction fund awards \$800,000 for WNS-related programs. One project funded includes the Virginia Big-eared bat captive program. Details at:

<http://www.fws.gov/news/newsreleases/showNews.cfm?newsId=9191BAAD-F8E8-0097-B3670BDF3849EBF2>



Stay up to date on WNS:

http://www.fws.gov/northeast/white_nose.html

<http://www.caves.org/WNS/index.htm>



WBWG plans to re-open their WNS forum to provide a venue for discussion and feedback re: WBWG decontamination protocol. Check their website (www.wbwg.org) this winter; if you had field experience with implementing the protocol, please provide feedback.



ANNOUNCEMENTS

WORKSHOPS

2010 Field-training Workshops for Bat Conservation International

<i>Portal, Arizona</i>	May 28 – June 2 and June 3 – 8.
<i>Tulelake, California</i>	July 30 – August 4 + acoustic monitoring workshop 5 – 10 Aug.
<i>Barree, Pennsylvania</i>	August 27 – Sept. 1

For information or to register visit www.batcon.org/workshops or contact Rebecca Patterson workshops@batcon.org

MEETINGS/CONFERENCES

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/

40th North American Symposium on Bat Research 2010. 27 – 30 Oct. Denver, Colorado.

41st North American Symposium on Bat Research 2011. Dates TBA. Toronto, ON.

42nd North American Symposium on Bat Research 2012. Dates TBA. San Juan, Puerto Rico.

2nd International Berlin Bat Meeting 19-21 February 2010 Berlin, Germany, with special focus on "Bat Biology and Infectious Diseases". For more information: <http://www.izw-berlin.de/>

15th Annual International Bat Research Conference 23-27 August 2010 Prague: [link](#).

17th Annual Conference -- The Wildlife Society. Snowbird, Utah. Oct. 3 – 7, 2010.

Western Bat Working Group Biennial Conference. Las Vegas, Nevada. April 2011. Wind Energy and Bats Workshop likely to follow conference.

20th Alberta Chapter of The Wildlife Society Meeting. Red Deer. 12 – 14 March, 2010.

Abstract deadline Feb. 12. For details:

http://joomla.wildlife.org/Alberta/index.php?option=com_content&task=view&id=216&Itemid=347

Association of Professional Biologists Annual Applied Biology Conference: Water, Wind, Wildlife. Kelowna 5 – 8 May 2010. Details: <http://www.apbbc.bc.ca/>



RECENT LITERATURE

- Baerwald, E.F. and R.M.R. Barclay. 2009. Geographic variation in activity and fatality of migratory bats at wind energy facilities. *Journal of Mammalogy* 90: in press.
- Boland, J.L., J.P. Hayes, W.P. Smith, M.M. Huso. 2009. Selection of day-roosts by Keen's myotis (*Myotis keenii*) at multiple spatial scales. *Journal of Mammalogy* 90: 222-234.
- Boland, J.L., W.P. Smith, J.P. Hayes. Survey of bats in southeast Alaska with emphasis on Keen's Myotis (*Myotis keenii*). *Northwest Science* 83: 169-179.
- Burles, D.W., R.M. Brigham, R.A. Ring and T. E. Reimchen. 2009. Influence of weather on two insectivorous bats in a temperate Northwest Pacific rainforest. *Can. J. Zool.* 87: 132-138.
- Coleman, J. 2009. A strange tale of taillessness in a vespertilionid bat. *Acta Chiropterologica* 11: 212-215.
- Cryan, P.M. and R.M.R. Barclay. 2009. Causes of bat fatalities at wind turbines: hypotheses and predictions. *Journal of Mammalogy* 90: in press.
- Willis, C.K.R., R.M.R. Barclay, J. G. Boyles, R.M. Brigham, V. Brack Jr., D.L. Waldien, J. Reichard. In press. Bats are not birds and other problems with Sovacool's (2009) analysis of animal fatalities due to electricity generation. *Energy Policy*.

Pages from the field book...

Please share your personal notes about field equipment, lessons learned, techniques, new technology, interesting field observations, etc.
(Please submit your field notes to the Editor for posting.)

Bat Bags! I tested out two types of cloth bat bags this summer: one from [Sealers and Supplies](#) and the other from [Legend, Inc.](#) Bags from Sealers were cheaper to buy than those from Legend, but the Legend bags were of much higher quality and definitely worth the extra money. I found that the Sealers bags had loose threads all along the stitched edges which bats got tangled in. They were better if used inside out. The Legend bags on the other hand have no exposed fabric edges (the seam is stitched, rolled and stitched again) so there are no loose threads to worry about. I really liked the fact that the Legend bat bags came with a side tab that can be written on to keep track of bat capture number and species. 100 bags 5x8.5 inches (product: 01421) cost \$34.76 US + shipping.



Disinfecting nets

Last summer I was involved in a mist-netting survey in northeastern BC. At the close of each netting session, productive nets were placed back into their plastic bags and stored separately from nets in which no bats had been captured. The productive nets were disinfected in 10% bleach solution the following morning. Each net was placed separately in a zippered mesh lingerie wash bag and soaked for at least 10 minutes. Wet nets were rinsed, removed from the wash bags, furled and hung to dry on net poles in the sun, along with the wash bags and bat holding bags. As the nets were all soaked simultaneously in the same large bucket, it wasn't possible for each of our subcontractors to keep track of their own nets. We noted that the plastic grocery bags used for net storage also had to be bleached, or else disposed of and the freshly-disinfected nets stored in new grocery bags.

Upon returning from fieldwork, I came up with a design for a combination net storage/disinfection bag - basically a grocery bag equivalent made out of fabric mesh with loop handles of nylon webbing. Net dimensions and the initials of the owner are stitched onto the side of the bag. The net can be disinfected within the same bag it is stored in, and the net can remain attached to one of the bag's handles when it is hung out to dry. The net loops are fastened onto the bag's handles and the bag handles tied shut to store the net once it is dry. The mesh bags permit air circulation to nets that might not be completely dry, provide a means of identifying the owner of each net, and don't blow around or rip, unlike plastic grocery bags. They are also inexpensive and easy to sew. If anyone would like more information or a photo (or to order some bags), please email me at lorraine.andrusiak@keystonewildlife.com.

Cheers,

Lorraine Andrusiak, Biologist
Keystone Wildlife Research Ltd

Automated Acoustic Analysis

This fall, I had chance to play with a trial version of this new software, specifically for Montana. Joe Szewczak has a disclaimer that appears at start up, stressing that you still have to know something about bat acoustic analysis when using his automated software – although this software is a time-saver, you will still need to do some manual examination of files and revision of identifications as appropriate. What I liked about this software is that while it runs, it shows you what it is doing on the screen -- you can see the percentage likelihood assigned to each call in each pass as it automatically accesses each file in a specified folder. You also have the option of having the software batch process files to produce an output of call parameters (~50 parameters are automatically measured) instead of species identifications. This option provides you with the flexibility of batch processing your own set of reference calls and unknown calls and doing your own set of analyses, should you choose to. Szewczak's automated species identification software is now ready for purchase. (Sonobat 3.0 specific to a region ~\$1535 US). Limited number of North American regions are currently available, with more to come.



Biotrack Light Bugs. These Geolocators use a light sensor and store light data onboard for data retrieval upon recapture. The animal's latitude and longitude are calculated using light-based geolocation calculations, providing approximate animal locations for 6 months (1.5–1.7 g) or 1 year (2.0–2.2 g). Worried you won't be able to recapture the animal without a radiotracker? You can buy these geolocators with a built in transmitter, but this adds more weight. Without transmitter, the basic unit is acceptable for using on hoary bats. Biotrack/Lotek is manufacturing and marketing these and have very recently announced a new and better geolocation algorithm.



New Full Spectrum Bat Detector

I am field testing a new bat detector this winter for Wildlife Acoustics. The SM2 has long been used by biologists to record birds, amphibians and other wildlife. Now, Ian Agranat has modified the unit to additionally record ultrasound (SM2BAT). In a nutshell, I think this unit has a lot of potential, and am looking forward to testing it this field season because of the following:

- *Low power consumption (0.7W).* For comparison, this is similar power consumption as the Pettersson D240X bat detector (without recording unit), more consumption than Anabat SD1 (<0.3W), and less than the Binary Acoustics unit (~6.5 W). You can use 4 D batteries and run the SM2BAT for ~8 days, or you can run it on external battery.
- *Records to 4 SD cards.* I am trying it with four 32 GB cards, which should record for thousands of hours.
- *It is weatherproof* and can in theory be left out in the elements. I am not that brave during the winter living in the interior rainforest of B.C. so as you can see in the photos, I've enclosed the detector and used some typical shielding for the microphones. But Ian has tested the microphone in varying wet conditions and it is capable of getting wet and being fine. The foam wind screen on each microphone can get wet, but a soaked or iced up microphone suffers from low sensitivity.
- *Two Channels for Recording.* You can use two microphones recording simultaneously to different channels. For example, you can boost one up a MET tower or turbine, and keep the other one recording at the base. Wildlife Acoustics recommends not exceeding a boosted mic cable length of 120 metres due to signal attenuation. You don't have to use both channels to record bats. You can mix and match microphones. Each microphone can be programmed to have independent triggers and one can record ultrasound of bats while the other records birds, for example. For consultants doing both bird and bat monitoring at wind energy developments this could be very useful I suspect.
- *Other features.* Integrated temperature sensor data-logger; compressed wave files.

(cont'd next page)

Wildlife acoustics SM2BAT unit set up to run passively in Syringa Park, B.C. One microphone protrudes from box, the other is boosted and faces straight down for comparison. The omni-directional mics are designed to record ultrasound from all directions.



SM2 cont'd:

- **Programmable.** A digital display is on the unit and it is fairly easy to program using the toggle buttons provided. There is an instruction book that walks you through the process! I really like the programmable feature that lets you enter the coordinates of the monitoring location and then program it to turn on or off relative to sunrise and sunset rather than fixed times.
- **Omnidirectional microphones** detect bats from a wide area. These microphones have a slightly different frequency response than others on the market (ie. not as flat as one would typically like to see), with some attenuation above 60 kHz and no sensitivity over 96 kHz. So while the directionality of the microphones seems to be better than others, the frequency response curve is not as good. It would be informative to test this unit side by side with other detectors.
- Really, its main *limitation* is its frequency sampling (192 kHz vs. Pettersson D240x ia 307 kHz), which ultimately limits how high a frequency it can record. While recording to 96 kHz frequency is likely sufficient for most monitoring we do here in western Canada, just in case it is not sufficient for some folks, Ian tells me that he is working on providing an optional 384kHz sampling rate capability (this would basically restrict the unit to recording on one channel, but would allow it to resolve up to 192kHz, more in line with other detectors).
- **The best part.** This unit is quite affordable -- \$850 US which includes one mic (cables, additional mics, SD cards, etc. are extra).

I'll let you know in the spring issue how my winter field test of this unit pans out!

MiniTransmitters

ATS, Biotrack/Lotek, and Holohil each have small transmitter options (0.26g). ATS and Biotrack/Lotek have had these transmitters available for nearly one year now; I used transmitters from the latter company this summer. They worked fine – my only complaint was the long antennae – the company told me, however, that you can specify a shorter antenna. Each 0.26 g transmitter from Biotrack/Lotek cost me \$272 Canadian (cost fluctuates with GBP).

Holohil is not yet accepting orders on their small LB-2X (0.26g; 7 days) transmitters, but anticipate production in the New Year. The price of the LB-2X will be CAN\$190.00/unit (same as the LB-2N and LB-2).

Glue note: Julia Boland reported having good luck using Torbot in AK. I used Torbot this summer also and found it worked just as well as SkinBond, although I did not follow bats until the transmitter fell off. What I liked about Torbot was that it dried far more quickly than the old SkinBond so the bat was ready to go within minutes of affixing the transmitter. Osto-Bond is another option, and is more readily available in Canada than Torbot (both products are available in Canada by request from www.Stomatech.com). Has anyone used Osto-Bond?



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/ManagingPrograms/FishWildlifeManagement/AlbertaBatActionTeam/Default.aspx>

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