

Western Canada Bat Working Group

NEWSLETTER

ISSUE NO. 13

FALL 2008

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FROM THE EDITOR

Fall Happenings...

Elections, elections, elections... US, Canada, and currently, Western Bat Working Group. Don't forget to vote! Get your vote in to your provincial/territorial representative right away! But, of course, you do have to be a member of the WBWG to vote. And on this note, I'd like to highlight the fact that I was recently shown a list of Canadian WBWG members, and it is a surprisingly short list! The WBWG is an evolving bat conservation and management group acting as a supportive and networking body for all bat biologists in the west. If you have not yet joined this group, please consider becoming a member. Currently there is no membership fee, although a fee is likely to be introduced sometime in the New Year. Contact your provincial or territorial representative and/or sign up online at www.wbwg.org.

Have a great winter,

Cori

corilausen@netidea.com

WHITE NOSE SYNDROME UPDATE



CBC's Quirks and Quarks program recently aired a program on White Nose Syndrome in bats, and this interview can be heard online: [Fungus-faced Bats](#). It is highly possible that this fungus will reach Canada, and a recent CBC news article about this can be accessed online also: [Canada well within reach of bats carrying white-nose Syndrome](#).

Do we have anything to worry about here in the West? Maybe. We certainly have hibernacula with similar microclimates as present in affected eastern caves. However, we are a long ways away from the epicentre of the currently affected WNS area. Mode of spread of the fungal spores is certainly a concern; while it is unlikely that bats will spread the fungal spores into the west anytime soon, humans have the potential to spread

WNS over large distances. For a recommended decontamination protocol, visit the WBWG website: [Recommendations](#).

Dr. David Blehert, a microbiologist at the USGS National Wildlife Health Center, and others, presented at NASBR in Pennsylvania this fall at a special symposium on White Nose Syndrome. Here they described the fungus associated with White Nose Syndrome. This fungus thrives at cold temperatures when bats are in torpor with suppressed immune function. For more information, and to keep updated on WNS, visit the [WBWG website](#), the [US FWS website](#), and the USGS [newsroom](#) and the [National Wildlife Health Centre](#) websites. At this latter website, you can download the following recent publication:

D. S. Blehert, A. C. Hicks, M. Behr, C. U. Meteyer, B. M. Berlowski-Zier, E. L. Buckles, J. T. H. Coleman, S. R. Darling, A. Gargas, R. Niver, J. C. Okoniewski, R. J. Rudd, W. B. Stone. 2008. **Bat White-Nose Syndrome: An Emerging Fungal Pathogen?** *Science Express*, Brevia. Published Online October 30, 2008.

The National Speleological Society has started an emergency fund to support WNS efforts. If you wish to donate, please visit their website: [NSS White Nose Syndrome Rapid Response Fund](#).



WIND ENERGY AND BATS UPDATE

Over the summer, Erin Baerwald, Robert Barclay, and colleagues at the University of Calgary, published a significant paper on our understanding of how bat fatalities occur at wind turbines. The decompression hypothesis is that bats are killed by barotrauma (internal haemorrhaging due to rapid air-pressure reduction), and Baerwald et al. (2008; see Recent Literature section for full citation) are the first to show that barotrauma is the cause of death in a high proportion of bats found at wind energy facilities. They found that 90% of bat fatalities involved internal haemorrhaging consistent with barotraumas; direct contact with turbine blades only accounted for about half of the fatalities they documented, suggesting that the low pressure associated with space near moving turbine blades is the primary cause of bat deaths at wind farms. Earlier this fall, Erin gave an interview on CBC's Quirks and Quarks program; you can listen to this interview online: [Broken Bats](#). Erin recently completed her MSc Thesis on bat fatalities at wind farms in southern Alberta (see Alberta and Recent Literature sections of this newsletter). The Alberta Bat Action Team is currently revising their protocol, *Bats and Wind Turbines. Pre-siting and pre-construction survey protocols*, to reflect Erin's thesis findings.

There have been a number of wind energy workshops in recent times, but none have taken an instructional approach....until now! The Western Bat Working Group is putting on a Wind Energy and Bats Workshop, with a focus on "How To" and "Lessons Learned", practical information and presentations in an instructional manner regarding post- and pre-construction protocols; there will be equipment and technology demonstrations and small break-out groups to learn about topics such as Anabat, Binary Acoustic Tech system, Sonobat and Pettersson, carcass searching and associated statistics, and field techniques. Also hear about policies and guidelines and have a chance to interact with folks highly involved with the bats and wind energy issue. Details and registration available on www.wbwg.org in January.



In July, 2008, the North American Symposium on Bat Research (now called the North American Society for Bat Research), produced a resolution on wind energy. To read this statement, click [here](#).

Remember, there is a WBWG forum specifically on Wind Energy, so if there are topics that you'd like to discuss, join the [WBWG Forum](#).



UPDATES BY REGION

YUKON



Coal River Springs Territorial Park in SW Yukon. Photo by C. Lausen.

At the end of July, Tom Jung, Dave Nagorsen, Cori Lausen, Brian Slough, Lea Randall and others did bat surveys in several areas of southern Yukon, focusing on a new territorial park near Whitehorse, Agay Mene, and another remote territorial park in the SW that had not been surveyed for bats, Coal River Springs.

These were difficult parks to survey given their remoteness. For Agay Mene, most survey locations were on the periphery of the park, while for the Coal River Springs park, we used helicopter to access the main cold water springs and tufa mound. In this latter park, movement within the park is extremely difficult, but we surveyed the main tufa mound region for 3 nights, capturing two species: *Myotis lucifugus* and *M. septentrionalis*. Acoustic recordings still need to be analyzed, but preliminary analyses of acoustic files found just south of the park near the BC border suggests that a low frequency bat (big brown or silver-haired bat) is present in the SW area of Yukon.

Additionally, Jen Talerico, of the University of Calgary completed her MSc entitled: The behaviour, diet and morphology of the little brown bat (*Myotis lucifugus*) near the northern extent of its range in Yukon, Canada. Lea Randall, also a MSc student at the University of Calgary, is completing her thesis on Yukon bats and small mammals.



WASHINGTON**Fort Lewis Bat Survey and Townsend's Big-eared Bats**

Greg Falxa, Cascadia Research, PO Box 1621, Olympia, WA 98507. gregf-at-efn.org
360-870-8243

In collaboration with The Nature Conservancy, I conducted bat surveys at Fort Lewis Army base during the summer of 2008. The army base, located near Tacoma, WA, has unique lowland conifer woodlands and remnants of historic oak prairies. After 50 net-nights of capture effort, and over 80 acoustic surveys, all species of bats that were presumed to be in the region were conclusively documented, except for Townsend's Big-eared bats. September 12 marked the end of the field effort. On the final day of surveys, while checking for guano around structures in a training area, I encountered a single, day-roosting male *Corynorhinus townsendii*. It was roosting in a concrete tunnel system constructed from 4 ft. diameter concrete sewer pipe. A lucky last-minute find at 5:30 pm on the final day of the field work!

In the 1990s there had been a maternity colony adjacent to Fort Lewis, but it has been missing for over 10 years. Because of this, we were prepared to radio tag a female Townsend's, if encountered. This late season find was a male, and the fieldwork budget was spent, but my teammates and I decided that valuable information might be gained by tracking it. A week of radio-tracking him helped refine a search image for Townsend's night roosts in this area, and I was able to locate a night roosting juvenile male and 2 post-lactating female Townsend's Big-eared bats. All 3 bats were found within 3 km of the 1990's colony location. I radio-tagged and closely monitored one of the adult females, and found it occasionally day-roosting at a location that had been used by the missing colony, as well as roosting alone in a barn.

This experience of *almost* missing these Townsend's bats during the survey is probably not unique to this study, with implications for other bat research in the western states: 1) we captured no Townsend's bats among the 150 bats captured while mist-netting this summer, but apparently we were sampling in occupied areas; and 2) although I had identified one *possible* Townsend's call among the 12,000+ samples, I had little acoustic evidence that Townsend's bats were present at this large area of suitable habitat. We were using Pettersson D240x time-expansion detectors with SonoBat 2.6 analysis software.

I have started re-analyzing the call samples collected at Fort Lewis this summer. With modified settings in SonoBat, I've identified several more calls from our *whispering* big-eared bats, buried behind more dominant calls in the recordings. I suspect that failing to identify their calls using the standard collection and review methods may be common. Compounding this hidden call problem, the bat detectors rarely *auto-trigger* on their low-amplitude calls. The calls I found in these second pass analyses made it on the call files because a louder bat caused the device to trigger the recordings. I'm currently working on some tricks for increasing *Corynorhinus* detections, and I hope to have something to present at the WCBWG meeting next spring.



Now that we have confirmed Townsend's Big-eared bats in the area of the historic colony, we are working out plans with Washington State Fish and Wildlife biologists for continued monitoring and investigation of this local population.

MANITOBA

Dr. Craig Willis' lab made a great showing at NASBR this year, with the following presentations:

- Thermal Energetics of Silverhaired Bats *Lasionycterus noctivagans* and the Implications for Roost Selection: Do Bats Like It Hot? Tracie Parkinson and Craig K. R. Willis
- Can Ground-based Weather Data or Insect Abundance Predict Bat Mortality at Wind Energy Facilities? Joel W. Jameson and Craig K. R. Willis
- Warming up from Torpor in Bats. Craig K.R. Willis
- The Effects of Temperature and Meal Size on Short Term Torpor Use in Little Brown Bats (*Myotis lucifugus*). Amanda L. Matheson, Craig K.R. Willis, and Kevin L. Campbell

MONTANA

Pallid Bat found during Natural Heritage Program bat work

Bryce Maxell, Montana Natural Heritage Program, P.O. Box 201800, 1515 East Sixth Avenue, Helena, Montana 59620-1800, (406) 444-3655, bmaxell@mt.gov

While conducting surveys for reptiles at 98 south facing rock outcrops in Rosebud and Powder River Counties in southeastern Montana we detected bats in day roosts at 10+% of the rock outcrops. Most observations were of Long-eared Myotis, but Little Brown Myotis, and a Pallid Bat were also observed (see photo below). Clearly these south-facing rock outcrops are important for providing day roosts for these species and



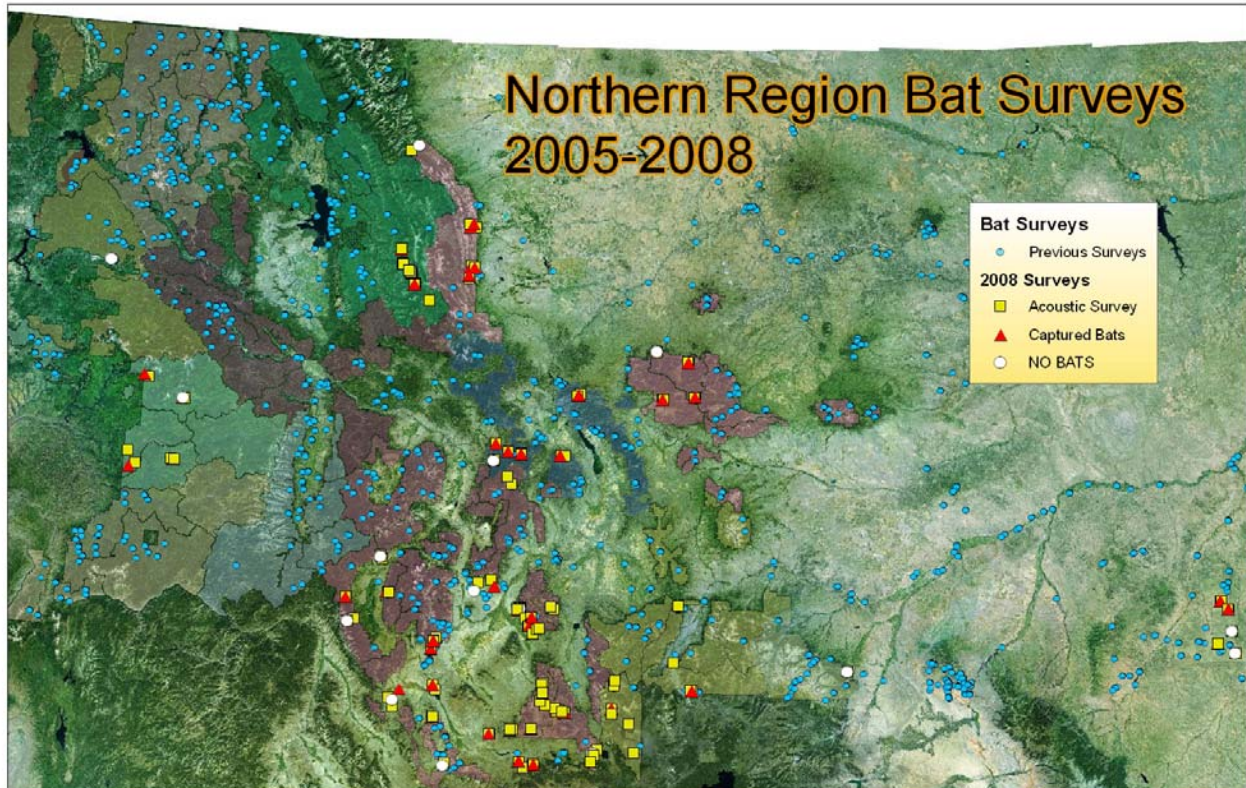
should be protected from disturbances. The BLM has been provided this information and has already altered some coal-bed-methane development plans as a result.

You can query out distribution information for bats in Montana on the Montana Natural Heritage Program's [TRACKER](#) website.



Another Summer of USFS Bat Surveys in MT (Region 1)Amie Shovlain, USFS, Dillon, MT 59725, ashovlain@fs.fed.us

We had a great crew (and many, many assistants) chasing around bats across the region this summer. They conducted 144 acoustic surveys and 68 capture surveys on over 73 quarter quads and caught over 500 bats! The acoustics surveys have yet to be analyzed by Joe Szewczak at Humboldt State Univ. Once that happens Montana Natural Heritage Program will be writing a final report. Thanks so much for those who helped make this possible! A special thanks to the BLM for funding.



Jen Talerico (left) and Alisha Shah, Jen Talerico and Cori Lausen (right) processing bats in the Beaverhead-Deerlodge Forest August 2008 (photos by Amie Shovlain).



SASKATCHEWAN**An Update from the University of Regina Bat Lab**

Mark Brigham

The U of R lab presented 5 talks and 2 posters this year at the North American Symposium on Bat Research in Scranton, PA. *Miranda Dunbar* won the BCI award for her talk (see below).

Erin Gillam, post-doctoral fellow in the lab, is moving as of 1 Jan. 2009 to North Dakota State Univ. in Fargo to a tenure track faculty position. We wish her well.

Sam Skalak (from Christopher Newport Univ. - Virginia) and *Yvonne Dzal* (Univ. Western Ontario - London) are new to the lab - they arrived in Sept. to begin M.Sc. projects.

Kristin Bondo is quite literally days away from submitting her M.Sc. thesis. The end is in sight!

Thermoregulatory Variation among Populations of Bats along a Latitudinal Gradient

Miranda B. Dunbar and R. Mark Brigham; University of Regina, Regina

The following is a presentation abstract from NASBR Scranton, PA:

Most studies of seasonal variation in physiology have sampled from populations within a single geographic area and have not assessed within-season variation. Since environmental factors are correlated with biological phenomena, many of which require physiological adjustments, and habitats vary with geography, we expect variance in hibernation patterns among geographically separated populations. Some hibernators have large winter ranges meaning that populations likely experience area specific levels of environmental stress. Our goal was to measure intraspecific variation in thermal energetics of a non-migratory and migratory species to determine whether there is a continuum based on latitude. We chose big brown (*Eptesicus fuscus*) and eastern red bats (*Lasiurus borealis*) as model species. We sampled bats throughout each species' winter range and measured oxygen consumption and skin temperature over a range of ambient temperatures to assess metabolism. Our data suggest that torpid metabolic rate (TMR) is a function of both temperature and sex and varied with latitude. Bats from southern populations maintained higher body temperatures and have higher TMR at cooler temperatures and lower TMR at warmer temperatures than northern individuals. Also, TMR among populations of *L. borealis* varied less dramatically than in *E. fuscus*. Both species exhibited a limited range of physiological plasticity. Collectively, the data demonstrate bats' sensitivity to thermal variation and suggest some level of physiological fidelity to a particular region and/or winter habitat based on the climatic conditions of that habitat. This plasticity reflects a continuum in thermoregulatory response ranging from the expression of classic hibernation in northern populations to a



pattern akin to daily torpor in southern populations. Understanding winter requirements of hibernators will allow us to mitigate future threats to ecological systems by accounting for changing environmental conditions.

*Miranda won the Bat Conservation Award for her presentation of this paper.
Congratulations Miranda!*

Determining Metabolized Fuel Source during Arousal from Hibernation using Stable Isotope Signatures in Breath.

Miranda B. Dunbar¹, Justin G. Boyles², Matthew Shuler², and Jonathan J. Storm³

¹University of Regina, Regina, SK; ²Indiana State University, Terre Haute, IN;

³University of South Carolina Upstate, Spartanburg, SC.

The following is a poster abstract from NASBR Scranton, PA:

Bats rely mostly on a fixed energy source, white adipose tissue (WAT), to survive the hibernation period; however, two other sources, brown adipose tissue (BAT) and food, may lessen use of WAT in specific situations. BAT is used mainly for thermogenesis during arousal to raise body temperature to euthermic levels, but methods previously used to estimate the time course of BAT metabolism have poor temporal resolution and generally require subjects to be euthanized. Feeding during winter may be possible in some situations, but it is unknown whether bats metabolize food immediately to power euthermia, or if it is converted to WAT for later use. We conducted two experiments with wild *Myotis lucifugus* to test the efficacy of a relatively new technique, stable isotope analysis of excurrent breath, in determining the metabolic fuel powering arousals from hibernation and the subsequent euthermic periods. First, we collected breath samples from 16 bats as they aroused from hibernation to determine if the change between BAT and WAT being metabolized for thermogenesis was detectable in excurrent breath. Second, we fed euthermic bats mealworms with a known isotopic signature to determine if bats can quickly metabolize an exogenous energy source during euthermic bouts. The results of the first experiment suggest the isotopic signatures of WAT and BAT vary enough to be detectable in excurrent breath. The results of the second experiment suggest that despite a known atrophy of the digestive system during hibernation, bats begin metabolizing exogenous fuel sources shortly after feeding and continue to metabolize them for several hours. Stable isotope analysis of excurrent breath appears to be a viable tool in determining the time course of energy expenditure during hibernation and periodic euthermic bouts.



BRITISH COLUMBIA**Long-eared Bat Study Continues**

The BC long-eared study started off this season with some June sampling in the Creston area. Thomas Hill and Cori Lausen, working on the long-eared bat project initiated and coordinated by Laura Friis, were charged with sampling *M. evotis* and *M. thysanodes* in the Creston area.

As many of you know, this spring was a bit of a cold and rainy one, proving to be less than ideal for bats looking for food after a winter fast! After a few nights of capturing no long-eared bats, Cori and Thomas headed off to the

Okanagan, where Mike Sarell, Aaron Reid, and crew helped Cori and Thomas with a mist-netting blitz, capturing four *M. thysanodes*, among a busy night of little browns, Yumas, big brown, western small-footed and a pallid! Dave Nagorsen and Cori Lausen took the next sampling stint in the Manning area, also discovering rather quickly that the spring was not fruitful for bats, especially long-eareds! Moving back into the Skagit where we had sampled last summer, we teamed up with park naturalist AJ Fedoruk, and tried to capture long-eareds in areas that were particularly fruitful for long-eareds last year. Similarly, few bats were to be found, forcing an early end to the sampling session.

Finally, after July arrived, Dave and Cori headed north into the Smithers region, meeting up with Doug Burles, Anne Hetherington and a crew of volunteers (Katharine Staiger, Dave Jones, Elizabeth Murphy) for a successful sampling session! We captured 32 long-eareds, 7 *M. lucifugus*, 6 *M. volans*. We are still awaiting genetics results (Jan Zinck and Tanya Dewey) from the 2007 long-eared (*M. septentrionalis*, *M. evotis*, *M. keenii*) samples; once the 2007 and 2008 genetics data are in, we will be looking at how morphology, acoustics and genetics align for these similar species.

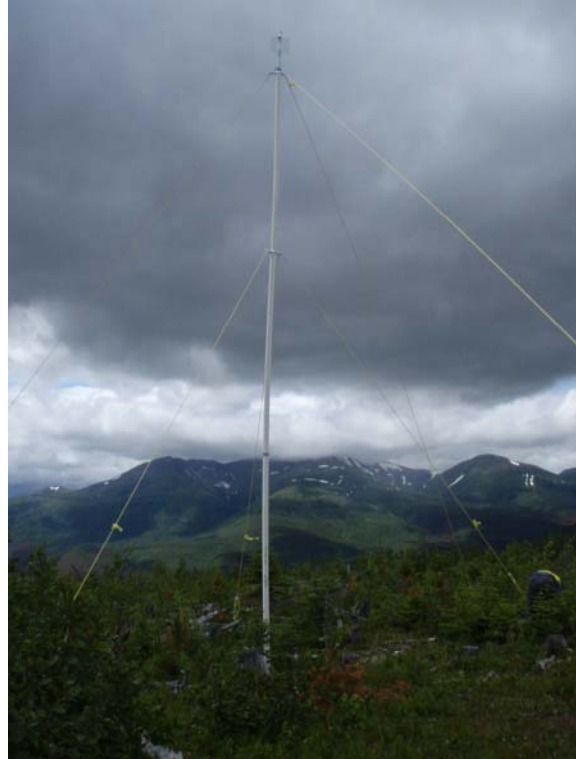


ALBERTA**Jacques Whitford AXYS Ltd.**

Kent Russell, Joanna Preston and Derek Ebner

Bat Monitoring for Wind Projects in Alberta and British Columbia

JWA has been busy conducting pre-construction bat monitoring for seven wind projects this summer in Alberta with several more planned for next year. Echolocation detections were recorded using AnaBats that were deployed on existing met towers (detectors at 2m and 30m) as well as ground towers designed in-house. Recording started in mid-July for one of our projects in the Parkland Region and August 1st for the remainder (concluding in mid-September). The Calgary office of JWA has also been assisting the Ontario offices of Jacques Whitford with their wind-bat monitoring (pre- and post-construction monitoring) which currently includes over six wind projects.



The 2008 field season marked the third year of pre-operation monitoring for the Dokie Wind Project in northeastern British Columbia. Site construction is fully underway, and the first turbine in British Columbia was erected by October. AnaBat detectors were deployed with the microphones mounted on 3 m and 9 m (photo) towers designed in-house. Recording started May 15th and continued every night through October 3rd. Bat echolocation monitoring will continue next year during the first stages of the operational wind farm, and carcass searches will start in spring of 2009.

Bats Surveys in the Oil Sands Region

In addition to the monitoring for wind projects, JWA also conducted bat capture and echolocation surveys for baseline studies in the Oil Sands region. Baseline surveys were in support of two Environmental Impact Assessments. The study area east of the Athabasca River supported few echolocation detections and the capture of only one little brown bat. The study area west of the Athabasca yielded much more exciting results, with significantly more detections and capture of northern long-eared, little brown and silver-haired bats including a pregnant little brown bat in mid August. DNA samples were taken from the myotis species, however we are still awaiting results for species confirmation. The silver-haired bats were banded as a part of an initiative through the Alberta Bat Action Team. Experimentation with a triple high net proved extremely valuable as it contributed to over half of our captures.



Matrix Solutions Bat Work in Alberta and a Trip to California for the BCI Acoustics Monitoring Workshop

Delanie Player, Matrix Solutions, Calgary, AB



Kirsten Pinney and Delanie Player in Argo on cut-line near Ft. McMurray.

This summer was a busy year for a few lucky bat lovers from our offices, with several of us heading up to Fort McMurray to complete baseline surveys for three EIAs. All three surveys included mist netting and acoustic monitoring to determine presence and relative abundance of bat species in the various study areas. We decided to join the migratory species banding effort that was started by other bat enthusiasts in the province. I had plenty of time to practice banding under Cori's supervision, since we managed to keep catching silver-haired bats each night. It was a successful summer, despite several thunderstorms and a soaking wet night or two.

I also had the opportunity to travel to California for the BCI Acoustics Monitoring Workshop, where I was able to meet several colleagues in person and learn copious amounts from the trainers and other attendees. The highlight of the trip was learning various techniques for developing a call library and practicing with all the different detector types including Binary Acoustic Technology. The workshop was an excellent opportunity to learn more about current techniques, tricks of the trade and potential future developments in acoustic monitoring.

ALASKA

2008 Bat Inventory: A Pilot Study Klondike Gold Rush National Historical Park

Dashiell Feierabend and Dave Schirokauer, Klondike Gold Rush National Historical Park; Natural Resources Program, P.O. Box 517 Skagway, AK 99840

The following is an excerpt from the 2008 report by the same title (see Recent Literature Section for full citation):

Few studies have been done on species distribution, phenology, and the natural history of bats in Alaska. Existing records show the greatest species diversity exists in the southeast where five species are likely to occur regularly. This study provides a first



look at bat activity in Klondike Gold Rush National Historical Park and its vicinity, using passive acoustic monitoring techniques.

An acoustic monitoring pilot study was initiated in the summer of 2007 to inventory the bat species occurring in Klondike Gold Rush National Historical Park (KLG0). Of the six species with ranges that most nearly approach Skagway, the little brown Myotis (*Myotis lucifugus*) has the greatest likelihood of occurring in the park. It has the widest range of all bat species occurring in Alaska with sightings as far north as Fairbanks, and extending to King Salmon and Kodiak Island in the southwest. Specimens of the little brown Myotis have been collected throughout southeast Alaska, from Ketchikan to Yakutat, as well as in Atlin, BC, and throughout the southern Yukon Territory. The other five species that may occur in the park are the Keen's Myotis (*Myotis keenii*), California Myotis (*Myotis californicus*), long-legged Myotis (*Myotis volans*), silver-haired bat (*Lasionycteris noctivagans*), and big brown bat (*Eptesicus fuscus*). Only one specimen of the big brown bat has ever been collected in Alaska (Parker 1997), located in a building in the interior where it is thought to have been incidentally transported by humans. A study of bat species distribution in Southeast Alaska by Parker in 1997 did not produce any recordings of the big brown bat in their echolocation surveys.

The presence of the silver-haired bat in KLG0 was confirmed this season by an echolocation recording. Previously, the Taku River had been the northernmost site of documentation, 120 km to the southeast. Other reports from as far north as Prince William Sound have not been substantiated. Several more recordings from this year can only be attributed to the silver-haired bat or the big brown bat, but because these two species share call types that are nearly indistinguishable, it is unknown which species the recordings belong to.

The regular occurrence of the Keen's Myotis, California Myotis, and long-legged Myotis in Southeast Alaska is substantiated by several specimens of each species that were collected throughout the region. While Skagway would be the northernmost location in Alaska to find evidence of these species, their seasonal or permanent residence in the area is well within the realm of possibility. The long-legged Myotis has been found at a comparable latitude in Atlin, BC, the Keen's Myotis has been found within 160 km to the south, and the California Myotis occurs as close as the northern tip of Prince of Wales Island, approximately 375 km southeast of Skagway (Parker 1997).

There were a total of 2,111 recordings, 1,862 of which were recognizable as being produced by a bat. Nineteen calls belonged to the 25 kHz minimum frequency group, and the remaining 1,843 calls were classified as members of the 40 kHz minimum frequency group.

Due to the difficulty and unreliability of species identification using only echolocation calls for the candidate bat species in the park, it is highly recommended that a mist-netting effort be made in the continuation of this study, along with the use of passive acoustic monitoring in a broader range of habitats. Active acoustic recording should accompany each instance of mist-netting so that a call library can be established for use in identifying the calls collected in passive acoustic monitoring.



NASBR UPDATE



With nearly 300 registered participants, the North American Symposium on Bat Research in Scranton, Pennsylvania this past October (22-25th) was a huge success. In fact, there was such a great turnout that for much of the time there were four concurrent sessions. Single sessions included the student presentations, as is typically done, and two special sessions: Wind Energy and Bats, and White Nose Syndrome. The latter symposium presented new research findings on the cold-loving fungus associated with WNS. Concurrent session topics included: Genetics, Foraging Strategies, Habitats and Behavior, Activity Patterns, Biogeography, Population Ecology, Ecological Hazards, Pathology, Morphology, Echolocation, Evolution, Local Conservation, Physiology, Techniques, Flight, and Evolution. The program can be viewed on the [conference website](#).

Some attendees that came a day early were treated to some harp trapping of a local mine where bats were captured, including a few *Myotis sodalis*. A number of folks also participated in the First Annual Biologists Open golf event, raising \$200 for the Spallanzani award. A full report of this golf tourney is available on the [NASBR website](#).

The society has officially changed its name from the North American Symposium on Bat Research to: **North American Society for Bat Research**.

The 2009 NASBR will be held in Portland, Oregon, 4 – 7 Nov.

WESTERN BAT WORKING GROUP UPDATE

Every two years the WBWG elects a new Board of Officers and holds a meeting of all members. This conference is always a great success, with presentations on a wide range of bat conservation, management and research topics. This is an election year, and therefore it is time for the biennial meeting. This year's meeting will be held in Austin, Texas April 15 – 18, 2009. You won't want to miss out on this one! Highlights of this conference include several amazing opportunities to watch mass emergences of millions of free-tailed bats: Congress Avenue Bridge will be a gathering place in the evenings, given that it is close to the conference hotel; and a special bat biologist's field trip to Bracken Cave is sure to be a memorable event. (See the Announcement Section below for more details on this conference and the preceding Wind Energy workshop).

Time to vote! If you are not a member of the WBWG, please consider joining! If you are a member, please remember to send in your votes to your provincial/state/territorial representative. The following is a list of who is running for each category. [Biosketches](#) of each candidate are available on the WBWG website.



Ballot:

President: one candidate only: Rita Dixon; **Vice President** one candidate only: Cori Lausen;

Secretary: two candidates, one position: Heather Johnson, Melissa Neubaum

Treasurer one candidate only: Brad Phillips;

At-large Board Representative four candidates, two positions available:

Martin Grenier, Dave Johnston, Ron Spears, Lauren Wilson

WHAT'S MAKING NEWS IN THE FORUM

A **spotted bat** was found in Seattle recently – one of those areas in which you least expect to find a spotted bat! Visit the [WCBWG Forum](#) (Open Forum) for details about this event and discussion regarding the long distance relocation that ensued.

ANNOUNCEMENTS

SCHOLARSHIP/GRANT OPPORTUNITIES

North American Bat Conservation Fund Grants 2009

The North American Bat Conservation Fund provides grants of up to \$5,000 to help support projects that most effectively aid bats in the United States, Canada and Mexico. Projects should support one or more of the North American Bat Conservation fund priorities. Visit their [website](#) for more details. Deadline for applications is Dec. 15, 2008.

2009 BCI Student Research Scholarship Program

Each year, BCI awards scholarships to help students at universities around the world conduct conservation-relevant research. The goal of this program is to support exceptionally talented students in research initiatives that will contribute the new knowledge that is essential to conserving bats and the ecosystems they serve worldwide.

The maximum one-year award per student is now \$5,000. It is hoped that these funds will open opportunities for matching grants from other conservation organizations, government agencies and private foundations, and that BCI's support will grow in years to come.

Applications must be completed online. The deadline for receipt of applications for 2009 BCI Scholarships is December 15, 2008. Visit the [website](#) for details and to apply.



MEETINGS/CONFERENCES/WORKSHOPS

BATS AND WIND ENERGY WORKSHOP

Western Bat Working Group

Austin, Texas
Radisson Austin Town Lake

April 13 – 15, 2009

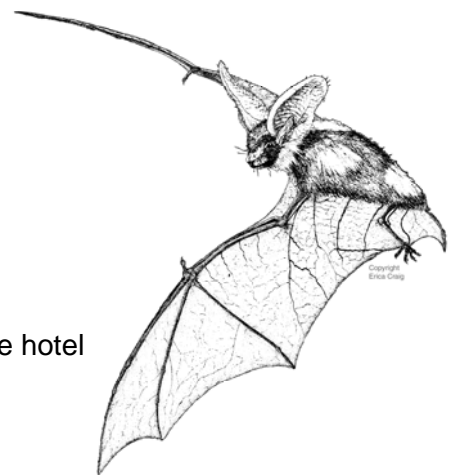


- Latest **information** and **training** for predicting risk and conducting surveys for bats at wind energy developments
 - acoustics
 - field/study designs
 - pre- and post-construction protocols
 - equipment instruction and demos
- Targeted at land managers, government regulators, industry professionals and consultants
- Instructors/presenters: professionals, academics, and equipment designers
- Come witness the emergence! *Congress Avenue Bridge Free-tail bats* – technology and tools demonstrations (e.g., acoustic systems, infrared)
- WBWG Biennial Conference and Meeting to follow
- www.wbwg.org for more information

WBWG BIENNIAL CONFERENCE

Austin, Texas
Radisson Austin Town Lake

April 15 – 18, 2009



- Current bat conservation, management and research
- Experience the free-tailed bat emergencies!
 - Field trip to Bracken Cave
 - Congress Ave Bridge visible from conference hotel
- Discounted student registration fee
- Saturday workshop
- www.wbwg.org for more information

OTHER UPCOMING MEETINGS:

American Society of Mammalogists Annual Conference. June 24-28th, 2008. University of Alaska Fairbanks, Fairbanks, Alaska. Contact Link Olson (link.olson@uaf.edu) or Kris Hundertmark (ffkh@uaf.edu), or check <http://www.mammalsociety.org/whatsnew/meetings.html> for details.



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

Symposium on Conservation and Management of Big-Eared Bats (*Corynorhinus*). Southeastern Bat Diversity Network. Athens, Georgia. March 9-11, 2010. Presentations covering the three taxa of big-eared bats (Ozark Big-eared Bat, Virginia Big-eared Bat, and Rafinesque's Big-eared Bat). Oral presenters may submit a manuscript for possible Publication in the Symposium Proceedings. For more information: http://Warnell.Forestry.Uga.Edu/Big_Eared_Bats/

1st International Symposium on Bat Migration. 16-18 January 2009. Berlin, Germany. For more information visit the [website](#).

39th North American Symposium on Bat Research 2009. Nov 4-7, 2009. Portland, Oregon. www.nasbr.org

40th North American Symposium on Bat Research 2010. Dates TBA. Denver, Colorado.

The Wildlife Society Annual Conference - September 20-24, 2009. Monterey, California - Upcoming deadline: December 5, 2008, call for proposals: http://joomla.wildlife.org/documents/Call_Proposals_2009.pdf

Society for Northwestern Vertebrate Biology and Washington Chapter of the Wildlife Society. Joint annual meeting. Feb. 18 – 21, 2009, Skamania Lodge, Stevenson, WA. Temporal issues in ecological science: implications for research, management, and conservation in the Pacific Northwest. Abstract deadline: Jan. 10, 2009. For more info: Aimee McIntyre mcintam@dfw.wa.gov.

FIELD NOTES

NEW SECTION! Do you have something you'd like to share about field equipment, techniques, interesting field observations, etc.? This is a great spot to stimulate some discussion about a field topic for the WBWG forum.

Please submit your field notes to the Editor for posting (so that she does not always have to fill in this whole section herself! ;-)

Monofilament nets from Poland – Did you have a chance to try these out this summer? I did, and they were disappointing. As with a typical monofilament net they tear extremely easily, but what made these nets inferior was their inconsistent tensioning. Trammels create variable pocket sizes and the varying tensions accentuate this creating pockets that can be as large as one foot... Far too large!! I am in the process of lengthening side trammels, and equalizing the tension among horizontal trammels so that these nets will be usable. This is a tedious process and generally results in a net that needs 12' poles, rather than 10' (also not ideal for those of us using 10' sections of electrical conduit for poles!). If you'd like to order some, you have two options: Avinet or Ecotone. Avinet is in the U.S. Ecotone is the Polish company that



makes the monofilament nets and they sell for about half of what Avinet is charging. I was told by Ecotone that they would consider supplying to Canada, so you may wish to check with them first! If you have used these monofilament nets and have some feedback, or have anything to add to this discussion, please use the [WBWG Forum](#) (Open Forum) if you wish to discuss these nets.

New Pettersson Detector (D500X) for passive monitoring is now available for pre-order!

While I have not yet used this new detector, it does seem to be everything that anyone could want in a passive bat detector! Until now, most of us using detectors for passive monitoring have shied away from Pettersson units because they record in time expansion, thus the time in which they are not able to record bats is longer than the time in which they do record bats! (~10X difference) The new D500X, however, records in *real time*. Therefore this new unit has all of the aspects of Pettersson units that we love – i.e. full spectrum recording of sound (not zero-crossing like Anabat) such that all aspects of the sound (ie. harmonics and amplitude) are recorded – along with real time recording. The only other thing we need in a passive unit, is the ability to record long term, and the D500X appears to have this also. It is designed to be deployed for two weeks, and is equipped with four slots for CF cards, for a total capacity of 128 GB (four 32 GB CF cards). Like Anabat, this new Pettersson unit uses Compact Flash cards to store data (the Pettersson D1000x does too), runs on either internal AA batteries or external batteries, and gives each file a time and date stamp. Additionally it can be equipped with an external microphone. This detector produces wave files, just like all Pettersson units, thus files can be analyzed using Joe Szewczak's SonoBat software which has a noise filter to automatically filter out noise files; Sonobat is also soon to have automatic species identification.

A more detailed description of this unit can be found on the [Bat Conservation and Management website](#). This detector costs ~\$2500 U.S.

Compact Flash Memory for your Anabat - Type I compact flash cards for the Anabat CFCAIMs are becoming harder to find. A great website for buying these seems to be <http://www.memoriesuppliers.com/sandisk1.html> and they are cheap (SanDisc 1 Gig for \$19 US). So if you are in need of flashcards for next season you might want to check out the Memory Suppliers website. They even say they will give you a \$15 rebate if you post a link to their site on your website...gee, I wonder what they'll do for posting this newsletter link!?

Triple High Netting Poles with pulleys – If you have not had a chance to try one of these units, then you should put it high on your To Do List! It is not ideal for all mist netting situations due to its height, but for some situations, such as netting roads and seismic cut-lines in forested areas, this system is quite literally a bat-catching machine. Delanie Player of Matrix Solutions introduced this net system to me in Fort McMurray this year, and I was an instant believer! Most of our captures each night came from this one net, which consists of 3 mistnets strung one above the other on a pulley system. The interlocking poles which put the wall of nets 9 m into the air are reasonably easy to assemble and are remarkably stable when guyed. High flying bats are certainly the target of these nets, although it would be interesting to compare species diversity of



captures from these high nets compared to low nets (these triple high nets leave about 2 metres of space between the bottom of the nets and the ground). These triple high netting systems are made and distributed by [Bat Conservation and Management](#). If you have used these triple high net sets and have some feedback, please use the [WCBWG Forum](#) (Open Forum) to discuss these nets.

RECENT LITERATURE

Published Papers

- Baerwald, E.F., G.H. D'Amours, B.J. Klüg, and R.M.R. Barclay. 2008. Barotrauma is a significant source of bat fatalities at wind turbines. *Current Biology* 18: R695-696.
- Burles, D.W., R.M. Brigham, R.A. Ring and T. E. Reimchen. Influence of weather on two insectivorous bats in a temperate Northwest Pacific rainforest. In press *Can. J. Zool.*
- Lausen, C.L., I. Delisle, R.M.R. Barclay and C. Strobeck. 2008. Beyond mtDNA: nuclear gene flow suggests taxonomic oversplitting in the little brown bat (*Myotis lucifugus*). *Canadian Journal of Zoology* 86: 1083-1083.
- Lausen, C.L., T.S. Jung and J.M. Talerico. 2008. Range extension of the northern long-eared bat (*Myotis septentrionalis*) in the Yukon. *Northwestern Naturalist* 89: 115-117.
- Metheny, J.D., M.C. Kalcounis-Rueppell, K.J. Bondo, and R.M. Brigham. 2008. A genetic analysis of group movement in an isolated population of tree-roosting bats. *Proc. Royal Soc. B. May* 275: 2265-2272.
- Metheny, J.D., M.C. Kalcounis-Rüppell, K.A. Kolar, C.K.R. Willis and R.M. Brigham. 2008. Genetic relationships of roost-mates in a fission-fusion society of tree-roosting big brown bats. *Behav. Ecol. Sociobiol.* 62:1043-1051.
- Rambaldini, D.A. and R.M. Brigham. 2008. Torpor use by free-ranging pallid bats (*Antrozous pallidus*) at the northern extent of their range. *J. Mammal.* 89: 933-941.
- Slough, BG, and TS Jung. 2008. Observations on the Natural History of Bats in the Yukon. *The Northern Review* 29: 127-150. Reprints available from author (slough@northwestel.net)
- Talerico, J.M., T.S. Jung, R.M.R. Barclay and K.S. Melton. 2008. Abberant colouration in a little brown bat (*Myotis lucifugus*) from the Yukon. *Northwestern Naturalist* 89:198-200.

Theses

- Baerwald, E. F. 2008. Variation in the Activity and Fatality of Migratory Bats at Wind Energy Facilities in Southern Alberta: Causes and Consequences. MSc thesis. University of Calgary, Calgary, AB.
- Talerico, J. 2008. The behaviour, diet and morphology of the little brown bat (*Myotis lucifugus*) near the northern extent of its range in Yukon, Canada. MSc thesis. University of Calgary, Calgary, AB.



Reports

Feierabend, D. and Schirokauer, D. 2008. 2008 Bat Inventory: A Pilot Study Klondike Gold Rush National Historical Park. Klondike Gold Rush National Historical Park, Natural Resources Program, Skagway, AK. Available: Dave_Schirokauer@nps.gov

Feierabend, D. and Schirokauer, D. 2008. 2007 Bat Inventory: A Pilot Study Klondike Gold Rush National Historical Park. Klondike Gold Rush National Historical Park, Natural Resources Program, Skagway, AK. Available: Dave_Schirokauer@nps.gov



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