

Western Canada Bat Working Group

NEWSLETTER

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FROM THE EDITOR

Fall Happenings...

- ◆ B.C. has a new **Small Mammal and Herp Specialist!** Dr. Purnima Govindarajulu officially started with the BC Ministry of Environment 1 Nov. 2007. Purnima completed her PhD at the University of Victoria looking at the effects of bullfrogs on native amphibian species; more recently she has been looking at amphibian diseases, primarily chytrid fungus. She is looking forward to diving into the world of B.C. bats. Welcome Purnima! Does this mean Laura has officially retired?? Well, sort of, but luckily she'll be around to help out the bats a bit longer. See the B.C. Update section of the newsletter.
- ◆ There's a new **Canadian TWS Chapter!** See the Announcement in this newsletter, and check out the latest issue of the [Alberta Wildlifer](#) newsletter for details.
- ◆ **Yukon Bat-Stars!** Tom Jung, Cori Lausen, Jen Talerico, and Lea Randall star in Discovery Channel's "Daily Planet Up North". Catch them in action mistnetting bats near Haines Junction, Yukon this past July. The show aired for the first time on 24 Oct. but will air again a few times throughout the winter (www.discoverychannel.ca/dailyplanet/). You'll want to ignore the comment by the narrator suggesting bats can't see (I guess you can only teach these TV folks so much in one night!).
- ◆ **International Bat Conference** in Merida, Mexico. If you weren't there, check out what you missed in the NASBR UPDATE. Abstracts will be published in the next issue of *Bat Research News*. If you don't subscribe to BRN but would like to, visit www.batresearchnews.org. Subscriptions are hard-copy (mail) or .pdf download and start at \$15/yr (US dollars, which of course means that right now this is practically free for Canadians ;-)

What is the **Western Canada Bat Working Group**? – As most if not all of you realize, this “group” exists only as this newsletter. However, it has become increasingly apparent to me that many of you do bat work across the western provinces (funny how the Continental Divide impedes movement of bats but not bat biologists), and would benefit from such a working group. The founders of the Alberta Bat Action Team envisioned a larger Western Canada Bat Working Group, and hence this newsletter began as a way of initiating a networking of bat folks from across western Canada. One look at our Distribution List reveals its success in doing this and even going beyond our borders. And perhaps this newsletter is enough? It seems that bat-related issues are springing up more than ever before, especially as wind energy grows. Networking in a more concrete way, such as conference calls or forums might be desirable? -- working on issues that are important to bat biologists across western Canada. Currently there is no chairperson, no funds or sponsor, no clear vision...but hey, you have to start somewhere!

So let me throw this out there -- a Western Canada Bat **Working Group**. Why take the WCBWG beyond a newsletter? For example, I know that this newsletter never receives submissions from many of you doing bat work, because much of your work has to remain confidential -- having something written down and distributed about what you are doing for a client is sometimes just not possible. However, this does not mean that you do not want (or need) to network with other bat biologists. It is with this in mind that I put this idea out to the bat world of western Canada – What do you think? If you are interested in this let me know, but more importantly, brainstorm about what it will take to make this a reality and what role you might be able to play.

Have a great winter everyone! (and no, I'm not done my thesis revisions yet...any minute now...)

Cori, corilausen@netidea.com

UPDATES BY REGION

YUKON

Strange Things Done in the Midnight Sun

Jennifer Talerico, University of Calgary



This summer I continued my MSc research in Watson Lake Yukon. My research focuses on how little brown bats (*Myotis lucifugus*) adjust their foraging behaviour and strategies where there is a short reproductive season, low temperatures and short nights. From mid-May to early July I passively monitored bat activity within the forest interior and along the edge of the lake. I was interested in determining how habitat use changes throughout the summer season, specifically during the short nights near solstice. Do bats use more protected habitats like the forest interior when nights are short and bright? These data have not been analyzed.



Results from my 2006 field season show that *M. lucifugus* always emerged from the maternity roost after sunset and returned to the maternity roost before sunrise. Foraging time was therefore limited to approximately two hours midsummer. Preliminary fecal analysis shows the presence of spiders in the diet of *M. lucifugus* indicating that they may be gleaning in the Yukon. Research was conducted in conjunction with Thomas Jung, Yukon Department of Environment.

Little Brown Bat Maternity Colony Studies in the Yukon Territory

Brian Slough, 35 Cronkhite Road, Whitehorse, YT Y1A 5S9 (867) 668-3295,
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2007 was the 11th season of research at several *Myotis lucifugus* maternity colonies in buildings and rock crevices in the southern Yukon Territory. Recaptures from a sample of over 900 bats banded at several sites has documented roost and foraging area philopatry, population dynamics, longevity, longer-distance roost switching and cohesive movements of colonies. A crevice roosting colony routinely basks in the sun. Topics addressed in other research efforts are the distribution of *M. lucifugus* subspecies, seasonal food habits, daily and seasonal activity patterns and the presence of other bat species. Collaborators for a comparison of population genetics of *M. lucifugus* in the Yukon and Southeast Alaska, where Yukon bats may hibernate, are being sought.



Little Brown bats basking in the sun in crevices over the Yukon River, near Whitehorse. Crevices with different aspects are used throughout the day to maintain optimal exposure.



Biodiversity Survey of Bats Across Southern Yukon

Cori Lausen, Bats R Us Canada, info@batsRus.ca; Tom Jung, Yukon Department of Environment, Thomas.Jung@gov.yk.ca; Jennifer Talerico, University of Calgary, jmtaleri@ucalgary.ca; Lea Randall, University of Calgary, lrandall@ucalgary.ca; Brian Slough, slough@northwestel.net

We conducted a capture and acoustic bat survey for southern Yukon. While *M. lucifugus* is well known from the territory, many other species are likely to be present given that in 2006 Cori found seven bat species north of 61 degrees latitude in the neighbouring Northwest Territories; Jung et al. (Canadian Field Naturalist, 2006) recently reported the first record of the Northern Long-eared Bat, *Myotis septentrionalis* (3 males) in southeastern Yukon on the La Biche River; and acoustic records from north-central Yukon in 1999 (Brian Slough) showed the presence of what was likely *Eptesicus fuscus*.

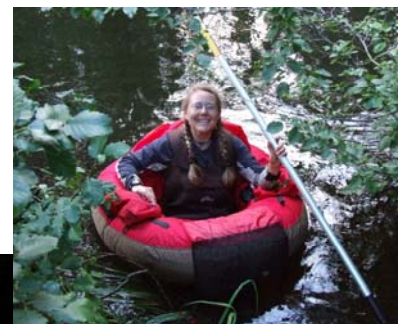
Funded in part by Yellowstone to Yukon Conservation Initiative, the Northern Research Institute (Yukon College), and Kluane National Park, the survey took place during the last two weeks of July extending from the southeast near Watson Lake, through the Teslin and Tagish areas of south-central Yukon and extending as far southwest as possible to Kluane National Park in the Haines Junction area.

Cori and Jen were extremely delighted to capture 5 Northern Long-eared Bats (one adult male and four adult females; awaiting genetic confirmation) in mist nets near Watson Lake, in southeastern Yukon. This record represents a range extension of ~270 km W of known populations in the Yukon and about 180 km NW of apparent populations in northeastern British Columbia. The capture of lactating females provides the first confirmation of a breeding population in the Yukon.

Captures overall were few, as is typical in northern surveys, but acoustic sampling in the Teslin area and Kluane National Park produced low frequency (~25 kHz) bat passes, one of which could be identified as *Lasionycteris noctivagans*. A pass of the western long-eared, *Myotis evotis*, was also recorded in Teslin. These are new species for the Yukon, and we hope to actually capture these species in a continued survey effort focusing on the Teslin area. Because access by road is very limited across the Yukon, and especially in the Teslin area, survey will be by boat.

Survey highlights:

- ◆ The Discovery Channel Daily Planet filmed us during one night of our survey in the Haines Junction area.
- ◆ Jen's discovery that a Great Horned Owl was caught in a net we had over the water, and the owl was attacking a captured little brown bat.
- ◆ Cori branched out in her net-setting skills to set and man nets by belly-boat. A real adventure, especially on the night when the Great Horned Owl got caught in a net over the water!
- ◆ Netting in the presence of grizzly bears – the first time we've ever packed heat into a netting site.



Cori Lausen (above),
Jen Talerico (left)





River Walton, Raphaël Roy-Jauvin, Lea Randall, Martin Owen, Kathi Egli, Crunchie the Dog. A night of netting amongst grizzlies at Dalton Post, Yukon

University of Calgary -- Small Mammal Research in the Yukon Continues

Lea Randall, MSc Candidate, Supervisors: Robert Barclay/Tom Jung/Mary Reid, Biological Sciences Department, University of Calgary, lrRANDALL@ucalgary.ca



This was the second field season that I conducted an acoustic survey of bat activity in the Haines Junction region of the Yukon. I examined bat activity with respect to forest disturbance (beetle-infested, logged, and burned) from the beginning of May until mid-August. I measured light, wind speed, temperature and insect abundance and distribution. I identified roost site locations using radio telemetry.

In conjunction with my colleagues at the University of Calgary, the Yukon department of Environment, and Parks Canada, we conducted a mist-net and acoustic survey of bats in and around the Kluane National Park in July.

All research was done in cooperation with Tom Jung, Yukon Department of Environment.



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

Miranda Milam-Dunbar and I were at the International Bat Meetings in Merida, Mexico in August despite the onset presence of Hurricane Dean. We both gave talks. Miranda bought the shirt off my back in a tequila induced haze at the banquet for a huge sum. It was an excellent meeting.

- ◆ *Jackie Metheny* (a M.Sc student who I co-supervised with Matina Kalcounis-Rüppell at UNC-Greensboro) has a major paper in press at *Behav. Ecol* stemming from her genetic research on Cypress Hills big browns.
- ◆ *Kristin Bondo* completed her last field season in Cypress Hills and is in the process of writing up. She evaluated the importance of the levels of sunlight falling on cavities as a factor in roost site selection.
- ◆ *Miranda*, who is a student representative on the Board of Governors for NASBR has left for a winter of measuring metabolic rates across North America for second field season as part of her PhD.
- ◆ *Kristen Kolar* is putting the finishing touches on her M.Sc. (She and her husband moved to Inuvik NWT this summer.)
- ◆ *Devin Arbuthnott* headed off to SFU to do his M.Sc. on walking stick insects in shame after winning the golden cup for coming last in last years lab hockey pool.
- ◆ *Julia Kilgour* joined the lab formally on 1 Sept. She spent the summer helping Kristin and will begin her own field work next summer. She aims to explore the fission-fusion system employed by bats there.
- ◆ *Anna Migaj* from the University of Leeds (UK) joined the crew in Cypress for a few weeks in the summer. She did a small side project about cavity structure as part of her M.Sc. work.
- ◆ *Jared Clarke* has joined the “almost bats” club as he is doing an honours project on migration by Saw-whet owls in the Regina area. He caught over 200 birds this fall.
- ◆ *Dr. Erin Gillam* joined the lab as a post-doc. She comes from Dr. Gary McCracken’s lab in Tennessee where (believe it or not) she learned to curl. Besides honing her skills at the roaring game, she is going to undertake some population level studies of big browns in the Cypress Hills and we are collaborating with Dr. Tom O’Shea in Colorado to work up some of his data from Ft. Collins.

My time has been taken up with a few minor tasks. I keep getting sent papers on bats to steer through the review process by the *Journal of Mammalogy*. I have not been impeached and thus am still Dept. Head. I spent 3 weeks in Australia in the summer and gave a plenary talk on our Cypress Bat work at the Australian Mammal Society meetings. I also gave a talk at the American Society of Mammalogists meeting in Albuquerque in June. In March I gave a Department talk at the University of Western Ontario and had a great visit with the Fenton lab. In October I gave Departmental seminars at the University of Manitoba and Winnipeg and then was thrilled to attend the wedding of Dr. Craig Willis and Amanda Karst – members in great standing of the bat lab pair-bond club.



BRITISH COLUMBIA

Retired, But Still Looking After the Bats

After nearly 38 years with government, Laura Friis officially retired at the end of Oct. this year. However, luckily for the bats and bat enthusiasts in B.C., she will remain part-time for awhile to look after bat-related work in the province, including the new bat systematics project that she just started this year. Her official replacement is Dr. Purnima Govindarajulu who has now been hired by the BC Ministry of Environment as the new small mammal and herp specialist. Purnima completed her PhD at the University of Victoria in B.C. looking at the effects of bullfrogs on native amphibian species; more recently she has been looking at amphibian diseases, primarily chytrid fungus.

Long in the Ear – Looking to Decipher the Species



Laura Friis, BC Ministry of Environment, initiated a multi-year project to sample long-eared *Myotis* in western B.C., with support from the BC Ministry, Gwaii Haanas National Park Reserve and Haida Heritage Site, the Forest Science Program of the Forest Investment Account and Ministry of Forests and Range. The goal of this project is to fully characterize morphology, diet and echolocation calls in relation to genetic identifications to determine whether the four species of long-eareds (*M. septentrionalis*, *M. evotis*, *M. thysanodes*, *M. keenii*) can be confidently identified in the field, and conclusively be classified as separate species. This summer was the first field season for the project. Collaborators on this project include Dave Nagorsen (Mammalia Consulting), Cori Lausen (Bats R Us, Canada), and Doug Burles (Parks Canada Agency) who sampled from the Hazelton area in northern B.C., the Skagit Valley in south-western B.C. and the Queen Charlotte Islands. The summer weather started off unseasonably cold which may have, in part, accounted for what seemed like low ratios of reproductive to non-reproductive females: Hazelton (9 reproductive vs. 17 non-reproductive) and Haida Gwaii (12 reproductive vs. 13 non) this year. Three species of Long-eared myotis were captured and released. In addition to a standard set of morphological traits, wing punches were taken for DNA, and echolocation calls were recorded with both Anabat and Pettersson D240x detectors.

Field Highlights:

- ◆ Possible *M. yumanensis* in Gwaii Haanas National Park Reserve. If genetically confirmed, this is the first record of this species on the Queen Charlotte Islands.
- ◆ Watching Doug climb a tree several times to retrieve an overly energetic tethered bat during zip-lining.
- ◆ Nightly soakings fighting the surf in the dingy full of mistnetting poles!

Doug Burles (Parks Canada) and wife Faye paddle a load of netting gear between shore and the main boat off Hotsprings Island, Gwaii Haanas National Park, Queen Charlotte Islands.



Bat Monitoring for Wind Energy Projects in Northeast British Columbia

Submission from Joanna Preston, Jacques Whitford-AXYS, Sidney, BC

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The second year of pre-construction monitoring for wind energy projects was completed this summer at three sites in northeastern British Columbia. Passive-monitoring bat echolocation call stations were set up on ridgetops ranging in elevation from 1100 m to 1800 m. AnaBat SD1 compact flash bat detectors were used and programmed to record for six hours every night from early August through mid-October. For five detectors, we attached the microphone to an extension cable and positioned it 3.3 m above the ground, angled down at 45°, using PVC piping. A horizontal reflector was attached below to deflect the sound up into the microphone. We positioned three other detectors on the ground or a tree stump, angled up at 45°. All bat stations were selected based on proposed locations of wind turbines. Analysis of the data is currently underway to determine ridgetop use by bats, migration and foraging activity intensity, and species assemblages. We will continue long-term monitoring surveys in Fall, 2008.

West Kootenay Fringed Myotis (*Myotis thysanodes*) Distribution and Roosting Ecology

Thomas Hill and Ross Clarke, Fish and Wildlife Compensation Program – Columbia Basin
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The Fringed bat reaches the northern limit of its range in southern British Columbia (BC). Until 2005, this species was thought to occur exclusively in the intermontane grassland portions of BC (COSEWIC 2004) until a breeding population was identified in Interior Cedar-Hemlock (ICH) Biogeoclimatic Zone near Creston, BC. This finding initiated a small project to determine the distribution and roosting ecology of the species in the region. We are using bat detectors and mist netting to identify new populations of Fringed bats and radio-telemetry to identify roosts. Distribution sampling was limited this summer due to back orders and subsequent late deliveries with detectors. Analysis of calls recorded this year has yet to be completed. Two male Fringed bats were captured and fitted with radio transmitters in the Creston Valley this summer. Three day roosts and one night roost were identified, all occurring in fractures in granite cliffs in the xeric, warm (xw) subzone of the ICH Biogeoclimatic Zone. We plan to continue with distribution sampling in 2008 using bat detectors.



ALBERTA

A Summer of Bats, Including More Red Bat Captures in Northern Alberta

Chris Godwin-Sheppard, Senior Wildlife Biologist, AMEC Earth & Environmental, Calgary T2E 6J5

This past summer, AMEC conducted baseline bat surveys in northwestern Saskatchewan and monitoring near Cold Lake, Alberta. Baseline surveys were in support of an environmental



impact assessment for proposed oil sands development. The study area was mostly burnt upland coniferous forest, making for sparse, albeit interesting results. Adult male little brown bats were the only species captured. The monitoring program near Cold Lake proved more exciting. Little browns, silver-haired, and two adult male red bats were captured. Echolocation data has not been analyzed for either project at this time. Additional bat work was conducted in the fall in collaboration with Kent Brown for a wind farm baseline study. Netting in the bald, southern Alberta prairie yielded one little brown bat. Echolocation data during each net night revealed the presence of silver-haired/big brown, and *Myotis* species. Additional echolocation data is being collected as part of longer term studies.

Branching into Bat Work

Marc Obert and Leah Rigney, Stantec Consulting Ltd., Edmonton, AB

This summer Stantec took has entered as infants into the world of bat work. This summer was only a minor foray, we conducted an inventory-level bat survey in northeastern Alberta for a proposed bridge expansion project. Next summer we hope to do a few more inventory-level bat surveys for various projects within central Alberta.

University of Calgary Well Represented at International Conference in Mexico

The following talks were given by Robert Barclay's lab at the International Bat Conference in Merida, Mexico this past August.

Lea A. Randall/ Robert M. R. Barclay/ Thomas S. Jung --Beetles, Bats and the Boreal Forest:
The Effect of Beetle Infestation, Logging and ForestFire on Bats in Southwest Yukon,
Canada

Jennifer M. Talerico -- Strange Things Done in the Midnight Sun: Bats at High Latitudes.

Jeffery C. Gruver -- Costs and Benefits of Avoiding Torpor: Does Evaporative Water Loss
Influence Physiological and Ecological Responses in Ground-Roosting Bats?

Erin Baerwald and Robert Barclay – Migratory bats and wind turbines in Alberta: temporal and
spatial variation in bat activity and fatality.

Joanna Coleman -- The Effects of Urbanization on Bats in the Prairies of Southern Alberta

Robert Barclay, Mark Brigham, Hugh Broders, Paul Faure, M. Brock Fenton, and Craig Willis -
Bat talks – infectious and mutualistic enthusiasm!

Lab Update – Where is Everyone???

Erin Baerwald, Lea Randall and Jen Talerico are all writing up their MSc theses this winter. Erin's decided Edmonton is a more affordable city to live in during her writing up; Lea has decided to spend some time writing up in the Yukon this winter; and Jen, up to her elbows in bat poo is writing up in between doggie obedience lessons.

Jeff Gruver has gone AWOL – well, actually he's just left the lab to work for West, Inc. as their bat specialist. Jeff will be finishing writing up his PhD thesis from his new home in Wyoming.



Cori Lausen, who long ago went AWOL from the lab, will be handing in her PhD thesis revisions by December. Tentative plans include some Postdoc work starting this summer. She is working on the AB provincial status reports for *Myotis septentrionalis* and *Myotis ciliolabrum* this winter.



Joanna Coleman braved yet another field season netting bats in and around our fair city of a million people, but is looking to move her urbanization research beyond Calgary next summer. Joanna writes the month-long PhD Candidacy Exam this winter.

ALASKA

Submission from Aaron Poe

Distribution of bats in Southeast Alaska and selection of day-roosts in trees by Keen's myotis on Prince of Wales Island, Southeast Alaska

Julia Boland, Department of Forest Science, Oregon State University, 321 Richardson Hall, Corvallis, OR 97330 julia.boland88@hotmail.com; *John Hayes*, Department of Wildlife Ecology and Conservation, University of Florida; *Winston Smith*, U. S. Forest Service, Pacific Northwest research Station

We conducted capture and acoustic surveys for bats in Southeast Alaska from mid-May to September in 2005 and we continued surveys on Prince of Wales Island from mid-May to September in 2006. We determined the level of effort required to catch each species and documented ranges in morphology and periods of reproduction. We captured little brown myotis, *Myotis lucifugus*; California myotis, *M. californicus*; long-legged myotis, *M. volans*; and Keen's myotis, *M. keenii*, and we acoustically detected and sighted the silver-haired bat, *Lasiurus noctivagus*. Capture success varied by species, year, and type of capture site. The little brown myotis was found in each area sampled and appears to be the most abundant species in the region. California myotis and Keen's myotis were captured as far north as Juneau. The long-legged myotis was captured on Wrangell and Prince of Wales Islands and the silver-haired bat was detected on Prince of Wales Island. Given low rates of detection, all species appear to occur in low densities in Southeast Alaska. Better understanding of population status and trends and examination of habitat ecology and response to forest management in the region is needed to prioritize conservation strategies.

We examined selection of day-roosts in trees by male and female Keen's myotis at three spatial scales (tree, tree plot, and landscape) on Prince of Wales Island, Southeast Alaska, from May to September 2006. We tracked 13 females and 6 males to 62 and 24 roosts in trees, respectively. Selection of day-roosts by female Keen's myotis was most strongly influenced by characteristics of trees and trees used as roosts were primarily large in diameter (\bar{x} = 106.5 cm) with structural defects. In plots surrounding roosts of female Keen's myotis, trees had large mean diameters and there was a high abundance of roost-like trees. Roosts of females were generally located closer to roads and riparian areas and in landscapes with more old-growth rainforest than were randomly selected points. Selection of roosts by males was most strongly influenced by characteristics at the landscape scale. Male Keen's myotis exhibited flexibility in types of roosts chosen, but trees used as roosts were primarily snags in early to intermediate decay that were



surrounded by a higher relative abundance of roost-like trees, closer to roads, and further from riparian habitat than were randomly selected points. Selected habitat features differed between males and females at each spatial scale and differences are likely a reflection of energetic strategies associated with reproduction. Our findings suggest that maintaining structural components characteristic of old-growth rainforest will promote conservation of Keen's myotis in Southeast Alaska.

Pilot Study Initiated in Skagway, Alaska

Dashiell Feierabend, Wildlife Technician, Klondike Gold Rush National Historical Park, Skagway, Alaska, Dashiell_Feierabend@partner.nps.gov

The Klondike Gold Rush National Historical Park (KLG0) in southeast Alaska, initiated its first bat monitoring study during the summer of 2007. Using Anabat 2 units paired with ZCAIMs, we have collected a number of high quality call sequences from six locations within the Skagway and Taiya Inlet Watersheds. We are currently in the process of analyzing them for species identification, and our expectations are to find primarily *Myotis lucifugus*, but we will also be watching for *M. keenii*, *M. volans*, *M. californicus*, and *Lasionycteris noctivagans*, of which there have been a small number of records further south in Alaska. We will continue outdoor acoustic monitoring in low elevations during the winter, while also installing a detector in a historic gold rush building to check for winter roosts. Finally, we are looking forward to establishing a long-term recording station in the park next summer with the new Anabat SD1 we recently acquired. The park would like to thank Aaron Poe and the Chugach Forest Service for loaning KLG0 the Anabat equipment that enabled this study to take flight.

The Alaska Bat Monitoring Project: Utilizing Citizen Science to Map the Distribution of the Little Brown Bat (*Myotis lucifugus*) and its Habitats in Alaska

David F. Tessler, Nongame Program, Division of Wildlife Conservation, Alaska Department of Fish and Game, 333 Raspberry Road, Anchorage, AK 99518, (907) 267-2332, david.tessler@alaska.gov; *Tracey A. Gotthardt*, Alaska Natural Heritage Program, Environment and Natural Resources Institute, University of Alaska Anchorage, AK 99501; *Katie Larson*, Alaska Zoo, Anchorage, AK 99507; *Tamara Mills*, Migratory Bird Management, U.S. Fish and Wildlife Service, Anchorage, AK, 99503; *Aaron J. Poe*, Glacier Ranger District, Chugach National Forest, Girdwood, AK 99587

The little brown bat (*Myotis lucifugus*) is the most common and widely distributed bat in Alaska, and is believed to be the only species found north of the Alaska panhandle. Although broad latitudinal patterns of *M. lucifugus* have been sketched out, its distribution and abundance remain poorly understood: Prior to 2004, distribution in Alaska was described entirely from a 279 specimens collected at 54 sites dating from 1883 to the present, and neither maternal roosts nor reproduction in the region had been confirmed. With the exception of isolated accounts, there is little contemporary information on the summer distribution in Alaska, and even less information on their wintering distribution. It is speculated that the widely dispersed summertime population migrates southward to concentrate in as yet unidentified winter hibernacula, but neither these large-scale movements nor the presence of hibernating concentrations have been identified in Alaska.

The Alaska Bat Monitoring Project was established in 2006 to use citizen volunteers to gather baseline distribution data on *M. lucifugus* and its habitats in Southcentral, Western, and Interior Alaska. Because *M. lucifugus* is believed to be the only species present throughout most of the state, it is an excellent subject for "citizen science." Concurrent project objectives are to promote public involvement in bat conservation, and to develop a robust volunteer program for monitoring changes in distribution over time. We conducted educational programs at schools



and various public venues, and developed a CD-ROM of training, outreach, and promotional materials for distribution to partners, enabling them to conduct their own programs while delivering a uniform message. We produced an excellent educational poster on the "Bats of Alaska" for distribution throughout Alaska's schools, and published the website www.akbats.net to provide background information, survey instructions, and data sheets for volunteers. We used a variety of mass media elements to promote the project, and our outreach efforts included state and federal resource agencies with field crews throughout the state. To date, we have conducted over 25 public programs reaching over 600 individuals, and have received thousands of phone calls, website hits, and written requests for information. Over 100 volunteers have returned detailed survey forms from locations ranging from Fairbanks to Sitka, Yakutat to Sleetmute, from sea-level to over 500 meters. Volunteers have helped document the first three large maternity colonies discovered in interior Alaska. We are currently following these locations to determine if bats overwinter at summer roosting sites, or leave for unknown locations over winter. We are also monitoring recently discovered summer roosting sites in mines to determine if they are utilized as winter hibernacula. The baseline data collected by citizen volunteers is providing the invaluable starting point for directed research efforts on questions such as: where do Alaskan *M. lucifugus* spends the winter? Do they hibernate in place, or do they migrate, and if so, where do they go? Do individuals return to the same summer and winter roosts year after year? Have bats followed human development into interior Alaska, or have they been there all along?

Bat-friendly mine closures and continued internal survey work on the Chugach National Forest

Aaron Poe, Wildlife Biologist Chugach National Forest, Girdwood, Alaska apoe@fs.fed.us 907-754-2345; *Mary Ann Benoit*, Wildlife Biologist, Chugach National Forest, Seward, Alaska

Abandoned mines are common throughout lands managed by the US Forest Service and there are hundreds on the Chugach and Tongass National Forests in Alaska. In Alaska few details are known about bats in general, but we do have evidence that at least some mines are hosting bats during winter and summer months. Forest Service biologists have conducted external surveys at abandoned mine sites on the Chugach and Tongass using Trailmaster motion sensors placed at entrances to detect bat use. These efforts combined with a year of monitoring internal temperature and humidity conditions led us to believe that the Granite Mine in the western Prince William Sound as well as the Monarch Mine near Girdwood, Alaska offered potential habitat for hibernacula. These mines exist adjacent to trail networks used by visitors to the Chugach National Forest and as a result pose a potential public safety hazard. We were able to mitigate a potential safety concern with a bat gate and cable net closures which will allow for the protection of important potential habitat for bats. In addition to these closure efforts both the Brown Bear and Swetmann mines on the Kenai Peninsula near Moose Pass Alaska are also being considered for closure by Chugach National Forest. Internal surveys of these two mines demonstrated summer season use by an unknown species of bat. A similar type of summer roost was discovered in 2003 at the nearby Case Mine and offers additional evidence about the possible importance of mines to bats during summer months. These operations were accomplished with contracted assistance from Holistic Wildlife Services from Newport News, Virginia.



ABAT UPDATE

Lisa Wilkinson and Cori Lausen

Bats and Wind Turbines - Pre-siting and pre-construction survey protocol document is currently under revision. The revised document is expected to be completed and posted to the ABAT and WCBWG websites by January.

Qualifications Needed to do Bat Work In Alberta - With an increase in need for bat inventory work as a result of wind farms and other industrial activities, we were concerned that people without suitable bat experience might be conducting bat studies. Therefore, we developed criteria to assist government to assess the qualifications of people applying for permits to conduct bat research. This document has now been submitted to the Alberta Government, and should help to ensure quality and reliability of data.

Alberta Bat Action Team Meeting, 20 Nov. 2007 - ABAT did have a meeting scheduled for Edmonton in October however it seemed everyone was pretty busy and numbers were looking low; as such the meeting was rescheduled for November. The group has traditionally met twice a year, once in fall and once in spring. While these meetings tend to be face-to-face in Edmonton or Calgary, the group is considering moving to conference phone call instead. This may be beneficial in many ways, allowing more people to participate and reducing our collective carbon load. At this point in time no formal conference call program has been established due to lack of funding, so options are being explored. The tentative plan for this winter is to have folks in Calgary meet at the University and converse with a similar grouping of people at the OS Longman Building in Edmonton via speaker phone. A few other phone lines may be arranged to allow outside participants. The group hopes to have a face-to-face meeting in late Feb. in Red Deer in conjunction with the TWS Alberta Chapter conference. If you have suggestions for ABAT meetings or future direction of the group, your feedback is definitely welcome; please contact Lisa.Wilkinson@gov.ab.ca.

NASBR UPDATE

The following summary is an *excerpt* from the summary provided as a .pdf at www.nasbr.org. Pictures are just a few of those posted on the website; these ones in particular have captured some familiar Canadian faces who very clearly appreciated the tequila shot glass included in the conference totes!



XIV International Bat Research Conference and 37th North American Symposium on Bat Research

Both the XIV International Bat Research Conference and the 37th North American Symposium on Bat Research were held at the Fiesta Americana Hotel in Yucatan, Merida, Mexico from August 19 to 23rd 2007. "Bioconciencia, Bioconservación Educación y Ciencia A. C.", an NGO directed by Rodrigo A. Medellín (Institute of Ecology, UNAM) served as the local host. A total of 326 participants attended the meetings from 33 countries in the world and presented 325 papers as a whole, in spite of hurricane Dean.

These meetings broke a record, with more than 159 students, 48% of the meeting participants, not including the student

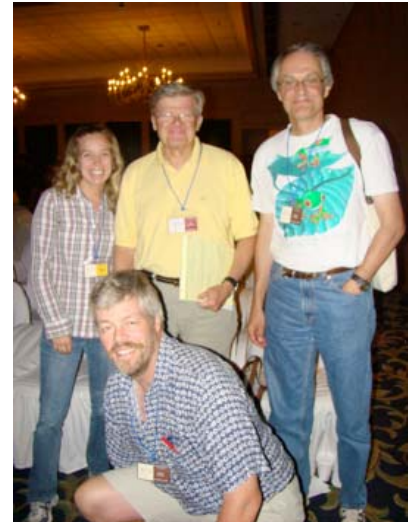


members of the local committee. The majority of XIV IBRC and 37th NASBR attendants were affiliated to academic/scientific institutions (82%), mainly from United States (27%), Mexico (25%), Costa Rica (7%) and Germany (7%). Nevertheless, every continent was represented and up to 40% of attendees were from developing countries, achieving one of the most important objectives for this meeting and one of the reasons to hold them in Mexico: to bring together students and researchers from all over the world and show the good scientific work that people from Latin America and other developing countries are doing.

Symposia

Symposia were established by invitation from the local committee, and from November 2006 to January 2007 a Call for Symposia was opened, out of which two symposia were selected (numbers 1 and 10). Around 98 papers plus round tables and opening and closing remarks were presented during the eleven symposia:

1. Adaptability and Functional Significance of echolocation behavior in bats
2. Global Conservation of Bats
3. Wind Energy
4. Social Organization and Bat Mating Systems
5. Bat Conservation Efforts in Latin America
6. Ecology and Conservation of bats in Agroecosystems
7. Bat Vocalizations and Applications of Echolocation Surveys for Inventory Bats
8. Bats and Emerging Diseases-Rabies
9. Blossom and Bats, Evolution and Ecology of Bat Pollinating Systems
10. Phylogeography, from genes to Organisms
11. Environmental Education



Miranda Milam-Dunbar (L), Robert Barclay (R) & Mark Brigham (front)

All the symposia were very successful and the Environmental Education Symposium, which had never occurred at any bat meeting, was very well received in the bat scientific community and it generated an opportunity to discuss other aspects of bat conservation.

Additional Activities, New Collaborations

Pre-Post Tours The aim of the organized tours was not only to show the archaeological zones, cenotes, natural protected areas and grottos, they were also an opportunity to explore local biological diversity, especially bats. In order to achieve this, in each of five pre-tours and three post-tours there were mist netting efforts from sunset to 9pm.

Bat Netting Nights The Local Committee and volunteers organized Bat Netting activities at the Botanical Garden of Merida "Centro de Investigaciones Científicas de Yucatán" (CICY) on August 20, 21 and 22nd. Some of the participants had never been in touch with neotropical bats, so this was a good opportunity for them. Each of 76 attendants on the three nights received a copy of the field guide to the Botanical Garden and a lunch. Representatives from Titley Electronics brought equipment for detection and interpretation of ultrasonic bat calls and ECOTONE offered the mist nets to perform the captures.

The following species were caught during the tours and the bat nights: *Sturnira lilium*, *Artibeus jamaicensis*, *Artibeus lituratus*, *Glossophaga soricina*, *Myotis keays*, *Rhogessa aeneus*, *Lasiurus intermedius*, *Nyctinomops laticaudatus*, *Natalus strampelleyi*, *Mormoops megalophylla*, and *Molossus rufus*.



Erin Baerwald photographing bat at netting field trip.

Post-conference Courses A total of 22 participants took the Bioacoustics course presented by Dr. Elizabeth Kalko (University of Ulm, Germany) at the Botanical Garden (CICY) from August 24th to 26th. The theoretical sessions were during the day, and the practical sessions (recording of bat calls and mist



netting) during the two nights of the course. The main objective was to show the use of bioacoustics as a tool in ecological and behavioral bat research, as well as employ the different kind of bat detectors and learn how to use the Avisoft software to analyze the bat calls.

Banquet



Awards were presented at the Thursday evening banquet, which was attended by almost all the participants (95%). Many awards were given out, including the *Zotz Award*; this was presented by the Local Mexican Committee to honor an individual that has participated in integral actions for Bat Conservation. The award was given to Canada's Dr. M. Brock Fenton (University of Western Ontario).

The new hosts for the XV International Bat Research Conference were announced to be in Czech Republic on 2010. The Auction, organized by Maarten Vonhof and Frank Bonaccorso, with **Mark Brigham as the auctioneer**, will direct its funds to the Spallanzani Award in order to bring outstanding people to the 38th NASBR to be held in Scranton, Pennsylvania, USA next year.

*A good time had by all from the U of R and U of C.
And luckily for us, someone was snapping photos – moments like this were not only captured but were posted on the web for everyone to enjoy, and download, to spread the joy ;-)*



For more information and all of the photos of activities during the Merida Bat Conference, visit: <http://batconference.confhost.net> Abstracts will be published in the next issue of **Bat Research News**, available at www.batresearchnews.org.



WESTERN BAT WORKING GROUP UPDATE

Same Informative Website, Great New Look! – Visit www.wbwg.org to experience the new look and new direction! The website is growing and will be periodically under revision during Nov. There is talk of a forum, so stay tuned for more details!

Put it on your calendars now! 4th Biennial Meeting of the Western Bat Working Group
Hosted by Ed Arnett, Bat Conservation International. The WBWG invites you to Austin, Texas. Early April 2009. The bats of Bracken Cave and Congress Avenue Bridge await you!
Full details will be at www.wbwg.org this time next year.

WBWG Newsletter The WBWG Newsletter, issue 5 is soon to be released and can be viewed at www.wbwg.org. This issue includes a **Feature Section on Bats and Mine/Cave Closures**. If you would like this newsletter to be sent to you as a .pdf, please contact your WBWG provincial/territorial representative (list of reps on website).

Wind Energy Committee Update. WBWG reviewed the recently released draft document of the USDA Forest Service Proposed Wind Energy Directive. The bat component of this document can be viewed in Chapters 80 and 70 at: <http://www.fs.fed.us/recreation/permits/energy.htm>

A letter on behalf of the WBWG that addresses concerns regarding this document is currently being reviewed by WBWG state/provincial reps; if anyone would like to receive a copy of this letter, please email Cori Lausen (corilausen@netidea.com). This letter will be sent to the USFS on or before the deadline (Nov 23).

CLASSIFIEDS

SCHOLARSHIP/GRANT OPPORTUNITIES

North American Bat Conservation Fund

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. Applications for 2008 grants will be accepted online (www.batcon.org) beginning September 1, 2007. The deadline for receipt of applications for 2008 NABCF grants is **December 15, 2007**.

BCI 2008 Student Scholarship Program

Each year, BCI sponsors students in conducting conservation-relevant research. Lack of knowledge about bat ecology and behavior is one of the greatest impediments to bat conservation progress. The goal of this program is to support exceptionally talented students in research initiatives that will contribute new knowledge essential to conserving bats and the ecosystems they serve. 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 future years.

Special Scholarships

The U.S. Forest Service International Programs and Bat Conservation International also offer graduate students the opportunity to double their award (\$5,000 - \$10,000), if they focus their research on subjects



of special concern to bat conservation. This year's Special Scholarships are restricted to research on bats' pollination of durian or Old World mangroves. Anecdotal observations suggest that both are highly reliant on bats for pollination. The durian is the most commercially valued fruit in much of Southeast Asia and nearby Pacific Islands, but farmers often mistakenly assume that bats reduce (rather than enhance) durian production. Coastal mangroves are ecologically essential but are disappearing at alarming rates. Their primary bat pollinators are also disappearing rapidly but are largely ignored in mangrove-conservation planning. Studies documenting bat roles as durian and mangrove pollinators are urgently needed. On your online application, please choose "Yes" if you qualify. These applications will be competitive and chosen on the basis of reviewer assessments.

The deadline for receipt of applications for 2008 BCI Scholarships is **December 15, 2007**. Visit www.batcon.org.

SPECIAL REQUEST

Information About Migratory Bats Requested!

Lydia Leclair (Research Assistant) and *Thomas H. Kunz*, Boston University

The Kunz lab at Boston University is preparing a document entitled "Migratory bat species at risk," with the goal of including all available information from the peer-reviewed literature (journal articles), books and book chapters, and unpublished reports (e.g., bulletins, web-based materials, original unpublished data, etc.) on the eastern red bat (*Lasiurus borealis*), western red bat (*Lasiurus blossevillii*), silver-haired bat (*Lasionycteris noctivagans*), and hoary bat (*Lasiurus cinereus*). As you probably know, we know least about these four species than many others in North America. In some regions, these species have experienced population declines from historical estimates, and more recently experienced unexpectedly high fatalities at wind energy facilities in North America. This document will be an invaluable resource for the scientific community, and with your help will aid in conservation and management efforts to help protect these species from further losses.

The project is to be completed by the end of the year, so please respond with information no later than **November 15** for it to be included in our report to the U.S. Fish and Wildlife Service. You will be acknowledged for your contribution, and unpublished manuscripts or theses will be cited appropriately.

Please email leclair@bu.edu, or kunz@bu.edu. Information can also be mailed to: Dr. Thomas H. Kunz, Professor and Director, Center for Ecology and Conservation Biology, Boston University, Boston, MA 02215. We look forward to hearing from you.

EQUIPMENT NOTICES

Mistnets – Monofilament is Back! If you attended the netting field trips at the International Bat Conference in Merida you would have had the opportunity to try out the new monofilament nets from Ecotone, a Polish company. These nets are not exactly like the monofilament nets some of you may have used in the past, but they are nonetheless very thin! These are obviously already popular given that Ecotone is already sold out. However, they are taking "pre-orders", so get your order in. Very reasonable prices....check them out at www.ecotone.pl. (and no, this is not a paid advertisement!)



ANNOUNCEMENTS

MEETINGS/CONFERENCES/WORKSHOPS

4th Biennial Meeting of the Western Bat Working Group. Early April 2009. Austin, Texas. Information to be posted in the future at: www.wbwg.org

Alberta Chapter of The Wildlife Society. Conference/Meeting in Red Deer, AB. February 28-March 1, 2008 at the Red Deer Lodge. See <http://www.albertadirectory.net/actws/> for more details.

Alberta Bat Action Team Meeting. Fall meeting -- 20 Nov. 2007 Calgary/Edmonton. Contact Lisa at Lisa.Wilkinson@gov.ab.ca for details. First 2008 meeting likely to occur in conjunction with above mentioned TWS conference.

38th North American Symposium on Bat Research, 22-25 Oct. 2008, Scranton, PA – at the Scranton Hilton Convention Centre. Check out www.nasbr.org for details.

6th international workshop on *The Biology of Desert-dwelling Bats*
20 July to 1 August 2008

- The workshop is open to undergraduates who have recently completed their degrees in biology and to M.Sc. students in biology.
- To be held at the Blaustein Institutes for Desert Research on the Sede Boqer Campus of BGU at Midreshet Ben-Gurion and focusing on:
 - Predator-prey interactions -- emphasizing ecological aspects of echolocation
 - Physiology -- emphasizing water and energy balances.

- The number of participants is limited, and acceptance will be based on academic criteria.

- **Deadline for registration: 1 May 2008**

- The workshop will be in English. • For further information about the workshop curriculum and fees, and to obtain registration forms, please contact Dr. Carmi Korine**.



The workshop will include lectures by the course instructors*, and guest lecturers; laboratory exercises in acoustics and physiology, and field and laboratory research projects.

***Course Instructors** Dr. Carmi Korine and Dr. Berry Pinshow (BGU); Dr. Marc Holderied (UoB, UK). Others to be announced.

****Contact and registration** Dr. Carmi Korine (ckorine@bgu.ac.il)

WILDLIFE ORGANIZATIONS

New at TWS! Recently formed Canadian Section of The Wildlife Society

As many of you will already know, Canadian members of TWS voted overwhelmingly in favor of creation of a Canadian Section. The Canadian Section of The Wildlife Society is now active and lead by former President of the Alberta Chapter, *Arlen Todd*. Congratulations Arlen! To find out more about TWS or to become a member, visit www.wildlife.org. Additional details about the



new Canadian Chapter can be found in the latest *Alberta Wildlifer* newsletter (volume 18 issue 3 2007) available at: <http://www.albertadirectory.net/actws/>.

RECENT LITERATURE

Published Papers

- Arbuthnott, D. and R.M. Brigham. 2007. The influence of a local temperature inversion on the foraging behaviour of big brown bats, *Eptesicus fuscus*. *Acta Chiropt.* 9:193-201.
- Jung, T.S., B.G. Slough, D.W. Nagorsen, T.A. Dewey and T. Powell. 2007. First records of the Northern Long-eared Bat, *Myotis septentrionalis*, in the Yukon. *Canadian Field-Naturalist* 120: 39-42.
- Solick, D.I. and R.M.R. Barclay. 2007. Geographic variation in the use of torpor and roosting behaviour of female western long-eared bats. *Journal of Zoology, London* 272: 358-366.
- Swystun, M.B., J.E. Lane and R.M. Brigham. 2007. Cavity roost site availability and habitat use by bats in different aged riparian cottonwood stands. *Acta Chiropt.* 9:183-191.
- Willis, C.K.R. and R.M. Brigham. 2007. Social thermoregulation exerts more influence than microclimate on forest roost preferences by a cavity-dwelling bat. *Behav. Ecol. Sociobiol.* 62: 97-108.

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