

Cori Lausen

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www.batsRus.ca specializing in bat survey and research, acoustic analysis, and training

EDUCATION: University of Calgary

- ◆ **PhD** (Landscape Genetics & Roosting Ecology of bats 2007)
- ◆ **MSc** (Ecophysiology and Behaviour of bats 2001); **BSc** (Biology 1994), **BEd** (Secondary 1994)

SELECTED EXPERIENCE:

FIELD AND RESEARCH BIOLOGIST

Projects

Documenting Winter Bat Activity & Locating Hibernacula in West Kootenays, B.C. <Nov. 2009 – ongoing>

- Independent research (preliminary research for postdoctoral program)
- Recording winter bat activity, identifying overwintering species, documenting flight and foraging behaviour during winter, and locating hibernacula.
- *Results to date:* I have located several bat hibernacula; I mistnet captured California Myotis bats in January, Feb., and March 2010 in association with their apparent use of mines as foraging habitat; I radiotracked Silverhaired bats in January 2010, determining both tree and mine use for hibernation.

Testing Hypotheses of Why Bats Fly in Winter. <Oct. 2009 – ongoing>

- Independent research (preliminary research for postdoctoral program)
- This project stems from my winter bat work in 2002-2005 when I discovered cold mid-winter bat activity in AB prairies, and located first hibernacula (see below).
- Recording winter bat activity at heated water tank to determine whether cold winter bat flight is associated with drinking (in Dinosaur Provincial Park, AB).
- Additional hypotheses to be tested as research continues: cold winter bat flight outside of hibernacula due to mating/roost switching and/or to prevent muscle atrophy.

Differentiating similar bat species -- Taxonomy, Genetics, and Acoustics of Long-Eared bat species in B.C. (*Myotis keenii*, *M. evotis*, *M. septentrionalis*, *M. thysanodes*). <2007 - current>

- Project conducted in collaboration with B.C. Ministry of Environment (Laura Friis).
- Field component completed in collaboration with Dave Nagorsen and Doug Burles. I am currently completing the acoustic and statistical components.

Roost selection of northern Myotis (*Myotis septentrionalis*) and Townsend's Big-eared bat (*Corynorhinus townsendii*) in the Columbia Basin, B.C. <July 2009>

- Project conducted in collaboration with B.C. Hydro, Fish and Wildlife Compensation Program.
- Field component completed; report in progress.

Roost selection of fringed Myotis (*Myotis thysanodes*) in the Flathead River Valley, M.T. <Aug. 2009>

- Project conducted in collaboration with the Flathead Indian Reservation.
- Field component completed; report in progress.

Beyond mtDNA: Nuclear gene flow suggests taxonomic oversplitting in little brown bats (*Myotis lucifugus*). (2002-2008)

- Project conducted in conjunction with PhD work, University of Calgary.
- *Findings in brief:* The recent claim that two subspecies of little brown bats are genetically distinct enough to warrant separate species designations does not hold. Using both mtDNA and nuclear DNA I conclusively demonstrated that despite mtDNA differences, the two subspecies fully interbreed and cannot be morphologically or behaviourally distinguished from one another. I concluded subspecies designations should be dropped. I also caution other genetics researchers from making taxonomic conclusions based on mtDNA alone (e.g. Bar Code of Life Project) and encourage the use of nuclear DNA.

- Published paper, magazine article, and several conference presentations.

An investigation of behavioural and morphological differences between bats living north of the 60th parallel with those in more southerly latitudes. (2007- 2008)

- Project conducted in collaboration with the Yukon Government (Tom Jung).
- *Findings in brief:* In Yukon, little brown Myotis (*Myotis lucifugus*) forage in more cluttered environments likely due to high light levels (predator avoidance); I revealed that in the northern part of its North American range, this species produces a different structure of echolocation call and has longer ears.
- Paper in prep, and has been presented at several conferences.

Establishing bat species diversity in southern Yukon. (2007 – 2008)

- Project conducted in collaboration with the Yukon Government (Tom Jung).
- *Findings in brief:* Northern bats (*Myotis septentrionalis*) were captured NE of Watson Lake, extending this species northern distribution by >200 km; low frequency bats (*Lasionycteris noctivagans* and/or *Eptesicus fuscus*) and long-eared myotis (*M. evotis*) were acoustically detected, although these species have yet to be captured in Yukon.
- Northern bat range extension has been published, but further work is intended to capture the species that were acoustically detected only. I was interviewed by Discovery Channel, Daily Planet – aired winter of 2007-2008.

Winter activity of prairie bats in Alberta. (2002 – 2005)

- Project conducted in conjunction with PhD work, University of Calgary.
- *Findings in brief:* Big brown bats, western small-footed bats and long-eared Myotis are active throughout winter months in the Alberta prairies, despite extreme cold winter temperatures. Flights in temperatures as low as -8°C were documented. I have hypothesized the need for water drives these winter flights. Using radiotelemetry and ropes for rappelling, I discovered two hibernacula – deep rock crevices that allow the animal(s) to get below the frost-line. This was the first discovery that prairie bats hibernate in river valleys rather than making long treks to mountain caves.
- Published paper; several magazine articles were written about my work; guest on CBC Radio's Quirks and Quarks to talk about my findings.

Roost selection and population genetics of western small-footed bats (*Myotis ciliolabrum*) in SE Alberta. (2002-2004)

- Project conducted in conjunction with PhD work, University of Calgary.
- *Findings in brief:* Western small-footed bats select erosion crevices in mud-stone that receive high solar incidence. Colonies are small and always consist of closely related females. Males typically do not disperse, returning to the natal area during the summer, but mating up to 60 km from summer roosting areas prior to hibernation in fall. All bats found within a 100 m radius tend to be closely related (same mtDNA haplotype).
- Chapter in PhD Dissertation. Paper in prep. Results already incorporated into Habitat Suitability Model for Milk River Basin in AB (MULTISAR), and into the Alberta Status Report for this species (written by C. Lausen).

Landscape genetics of prairie bats. (2001-2007)

- PhD project, University of Calgary, supervisor Dr. Robert Barclay. I carried out all field work in SE Alberta and North-Central Montana; I genetically analyzed all samples in Dr. Curt Strobeck's lab, University of Alberta.
- *Findings in brief:* Big brown bats, western small-footed Myotis and little brown Myotis were contrasted in their use of rivers and river systems. Using genetic microsatellites, and mtDNA sequencing I determined that western small-footeds (obligate rock-roosting bats) do not travel far, living and breeding within river valleys. Little brown bats, stronger fliers, and capable of roosting in buildings were more highly structured than hypothesized, living and breeding within river systems. Big brown bats, the strongest fliers of the species compared, also found to roost in buildings, showed the least amount of genetic structure, breeding across the entire study area, and dispersing between river systems.
- PhD Dissertation. Paper in prep. Several conference presentations.

Establishing bat species diversity in southwest Northwest Territories. (2006)

- Remote survey (float plane and whitewater raft) of bats on Nahanni River conducted with support from Parks Canada.
- *Findings in brief*: Two species of bats were previously known, but 4 species were captured and an additional 3 species were recorded acoustically.
- Report, presentation and several posters were made to disseminate results.

Relative abundance of the endangered bat, Allen's Lappet-eared bat (*Idionycteris phyllotis*), in the Gila Forest of New Mexico. (2005)

- Assisted New Mexico Fish and Wildlife Service Endangered Branch Chief, Lyle Lewis, in a remote survey (pack horse/mule) to find an endangered species of bat previously known to reside in the forest, prior to extreme drying and disappearance of many water sources.

Establishing the northern distribution of the western small-footed bat (*Myotis ciliolabrum*) and the southern distribution of the northern bat (*M. septentrionalis*) in Alberta. (2005-2006)

- *Findings in brief*: Captured bats and acoustically monitored in the northern part of Red Deer River and Battle River; determined northern edge of western small-footed range to be the Red Deer River, despite suitable habitat on the Battle River. Northern myotis was captured on the Red Deer River, extending the southern range of this species in Alberta.
- Report prepared for Alberta Natural Heritage Information Centre.

Mark-recapture population estimate of a prairie rattlesnake (*Crotalus viridis viridis*) hibernaculum at Kennedy Coulee, Red Deer River near Bindloss, Alberta. (2003-2006)

- Co-investigator (with Dr. Michael Proctor, Birchdale Ecological Ltd. and Ed Hofman, Alberta Sustainable Resource Development) -- capture and pit-tag rattlesnakes for mark-recapture den size estimate and trend.
- Assisted in analysis and writing of report.

Thermoregulation and roost selection by big brown bats (*Eptesicus fuscus*) in the Alberta prairies. (2001)

- MSc Thesis, University of Calgary.
- Field component completed in 2000, and thesis completed and defended in 2001.
- *Findings in brief*: Big brown bats roosting in buildings experience energetic advantages over those roosting in natural rock crevices, resulting in reproductive advantages. Rock roosts were selected based on predation risk and microclimate (matching reproductive stage).
- Three papers published.

Protecting little-known species: The case of the African bat *Otomops martiensseni* (Chiroptera: Molossidae). (2002)

- Assisted York University bat researcher, Dr. Brock Fenton, in a radio-telemetry roost and foraging study of a bat species thought to be at risk in South Africa.
- Co-authored published paper.

The bat fauna of Lamanai, Belize: Roosts and trophic roles. (2001)

- Assisted York University bat researcher, Dr. Brock Fenton, in a radio-telemetry roost and foraging study of bat species in Belize.
- Co-authored published paper.

CONTRACT WORK and PROVIDING TRAINING

I have captured >7000 bats and >30 species; extensive experience in handling bats, banding, genetic sampling, species identification, acoustic monitoring and analysis (Anabat, B.A.T., Pettersson/Sonobat); experience with remote survey in back-country environments.

I have been contracted to do bat-related work (including acoustic monitoring, acoustic analysis, acoustic training, capture, and/or radio-telemetry) for the *Canadian and U.S. agencies/companies* listed below.

Much of this work included a training component where I would train company/agency staff to capture bats and/or conduct acoustic monitoring. **I have provided formal acoustic analysis workshops in both the U.S. and in Canada.** *Bat Conservation International* has recommended my acoustic analysis training workshops to

companies seeking training. As of April 2010, I begin teaching all of the North American workshops for Titley Electronics, Australia (makers of Anabat bat detectors).

I have also advised a number of these companies on *wind farm pre-construction protocols*.

**U.S. Forest Service/
Bat Conservation International
Confederated Salish and Kootenai Tribes Wildlife
Management Program
Westworth Associates Environmental Ltd.
Matrix Solutions Inc.
Golder Associates (AB and ON)
AMEC Earth & Environmental
Jacques Whitford AXYS**

**Gartner Lee, Ltd.
Worley-Parsons Komex Environment & Water
Resources
Terrestrial and Aquatic Environmental Managers,
Ltd.
AET Group Inc.
Stantec
TetraTech
Bluestem Wildlife Services**

LEADERSHIP and ADVISORY ROLES IN CONSERVATION

In addition to leading a number of scientific projects (as listed in Projects section), I have taken leadership roles in the following issues:

WIND TURBINES AND BATS

- Lead author of the following document written to advise the Alberta Government on issues of wind farm siting and guidance for pre-construction monitoring. This document was subsequently adopted and adapted by many agencies for use across Canada and the U.S.

Lausen, C., E. Baerwald, J. Gruver, and R. Barclay. 2008. APPENDIX 5: ***Bats and Wind Turbines. Pre-siting and pre-construction survey protocols, May 2008 Update.*** University of Calgary. In: Vonhof, M. 2002. Handbook of Inventory Methods and Standard Protocols for Surveying Bats in Alberta. Alberta Sustainable Resource Development, Fish and Wildlife Division, Edmonton, Alberta. Revised 2005.

Lausen, C., E. Baerwald, J. Gruver, and R. Barclay. 2006. APPENDIX 5: ***Bats and Wind Turbines. Pre-siting and pre-construction survey protocols.*** University of Calgary. In: Vonhof, M. 2002. Handbook of Inventory Methods and Standard Protocols for Surveying Bats in Alberta. Alberta Sustainable Resource Development, Fish and Wildlife Division, Edmonton, Alberta. Revised 2005.

The above document was written on behalf of the **Alberta Bat Action Team**; I have been a core member of this working group since its inception in 2000.

- Advised **Ontario Ministry of Natural Resources** (Jamie Smith) during the production of their protocol: Guideline to Assist in the Review of Wind Power Proposals: Potential Impacts to Birds and Bird Habitats
- Advised and reviewed **Canadian Wildlife Service** document: Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds (Dr. Charles Francis)
- Co-chair of the Western Bat Working Group **Wind Energy Committee**. Organized the first practical workshop for Wind Energy and Bats held in Austin, TX April 2009. This targeted consultants and administrators from across North America, to educate and train them in the conservation issues surrounding bats and wind turbines.
- Current vice-president of the **Western Bat Working Group**. Our group coordinates efforts of bat biologists, and provides an information network between biologists and government agencies regarding issues of bat conservation. Currently we are working to facilitate bat conservation issues at multi-national and multi-jurisdictional levels (*Trilateral Committee* for Wildlife and Ecosystem Conservation and Management, *AFWA* – Association of Fish and Wildlife Agencies, *WAFWA*, *NABCA* – North American Bat Conservation Alliance). Issues we are currently coordinating include Wind Turbines and Bats, and White Nose Syndrome (see below).
- I spear-headed the formation of the new (as of May 2009) **B.C. Bat Action Team**, a working group of government biologists, consultants, and researchers. An action item that we will tackle in the spring of 2009 is the development of a Wind Turbine Protocol for B.C.

WHITE NOSE SYNDROME

- As Vice-president of the **Western Bat Working Group** I have been facilitating the quick response to this devastating fungus affecting bats in eastern North America. As co-chair of the WBWG Scientific Advisory Committee, I have helped the WBWG White Nose Syndrome Committee develop protocols for cavers and bat biologists in western North America.
- Due to its urgency, I developed a White Nose Syndrome prevention strategy (in collaboration with the new B.C. Bat Action Team) which was adopted by the B.C. government and attached as guidelines to all bat permits issued this summer. These protocols, together with some information brochures and magazine articles, were reviewed (and developed in conjunction with) the small mammal specialist in **B.C. Ministry of Environment** (Purnima Govindarajulu) and the government veterinarian (Helen Schwantje).
- I delivered an invited plenary presentation on White Nose Syndrome to **The Wildlife Society**, Alberta Chapter in Red Deer Mar. 2010, prompting the AB and Canadian Chapters of the TWS to back both ABAT and BCBAT in their attempts to gain the support of the Canadian Caving Association.

COORDINATING EFFORTS

- As the **Western Canada Bat Working Group Coordinator**, I network people across the Pacific Northwest through a newsletter I write two times per year. I am in touch with all people doing bat work across North America, and am therefore able to compile the latest information. This keeps all agency and industry biologists/managers and researchers in the Pacific Northwest abreast of current issues and findings in bat biology and conservation.
- I also coordinate bat conservation, research and management through involvement with the **Alberta Bat Action Team** (core founding member), the **Western Bat Working Group** (Vice-President), and the **B.C. Bat Action Team** (core founding member).

ANALYTICAL, ORGANIZATIONAL, and OTHER SKILLS:

- working knowledge of many statistical techniques and am proficient with many software packages
- communicate well, and have excellent organizational, leadership and writing skills
- naturally gravitate to leadership roles
- make extensive efforts to network the bat community and government biologists, especially in the northwest by attending conferences, volunteering as editor for two bat newsletters, and being an elected board member of the Western Bat Working Group.

SCIENTIFIC PUBLICATIONS:

- Lausen, C. L., Jung, T. S. and Talerico, J. M. 2008. **Range extension of the Northern Long-eared Bat (*Myotis septentrionalis*) in the Yukon.** *Northwestern Naturalist* 89: 115-117.
- Lausen, C. L., Delisle, I., Barclay, R. M. R. and Strobeck, C. 2008. **Beyond mtDNA: nuclear gene flow suggests taxonomic oversplitting in little the brown bat (*Myotis lucifugus*).** *Canadian Journal of Zoology* 86: 700-713, 1083.
- Lausen, C. L. 2007. **Roosting ecology and landscape genetics of prairie bats.** 2007. Ph.D. Thesis, University of Calgary, Alberta.
- Lausen, C. L. and Barclay, R. M. R. 2006. **Bat activity in the Canadian prairies.** *Canadian Journal of Zoology* 84: 1079-1086.

- Lausen, C. L. and Barclay, R. M. R. 2006. **The benefits of living in a building: Comparing maternity colonies of big brown bats (*Eptesicus fuscus*) in rock crevice and building roosts.** Journal of Mammalogy 87: 362-370.
- Lausen, C. L. and Barclay, R. M. R. 2005. Account No. 784: **Pipistrellus nanus.** Mammalian Species.
- Lausen, C. L. 2005. **First record of hosts for the bat tick, *Carios kelleyi* (Acari: Ixodida: Argasidae) in Canada and Montana.** Journal of Medical Entomology: 497-501.
- Lausen, C. L. and Barclay, R. M. R. 2003. **Thermoregulation and roost selection by reproductive female big brown bats (*Eptesicus fuscus*) roosting in rock crevices.** Journal of Zoology, London 260: 235-244.
- Lausen, C. L. and Barclay, R. M. R. 2002. **Roosting behaviour and roost selection of female big brown bats (*Eptesicus fuscus*) roosting in rock crevices in southeastern Alberta.** Canadian Journal of Zoology 80: 1069-1076.
- Lausen, C. L. 2002. **Observations on a prairie population of Bushy-Tailed Woodrats, *Neotoma cinerea*, along the South Saskatchewan River, Alberta.** Northwestern Naturalist 83: 125-128.
- Lausen, C. L. 2001. **Thermoregulation and roost selection by reproductive big brown bats (*Eptesicus fuscus*) roosting in the South Saskatchewan River Valley, Alberta: rock-roosting and building-roosting colonies.** M.Sc. Thesis, University of Calgary, Alberta.
- Barclay, R. M. R., Lausen, C. L. and Hollis, L. 2001. **What's hot and what's not: Defining torpor in free-ranging birds and mammals.** Canadian Journal of Zoology 79: 1885-1890.
- Fenton, M. B., Bernard, E., Bouchard, S., Hollis, L., Johnston, D., Lausen, C., Ratcliffe, J., Riskin, D., Taylor, J. and Zigouris, J. 2001. **The bat fauna of Lamanai, Belize: Roosts and trophic roles.** Journal of Tropical Ecology 17: 511-524.
- Fenton, M. B., Taylor, P. J., Jacobs, D. S., Richardson, E., Bernard, E., Bouchard, S., Debaeremaker, K., ter Hofstede H., Hollis, L., Lausen, C. L., Lister, J., Ratcliffe, J. M., Rambaldani, D., and Reddy, E. 2002. **Protecting little-known species: The case of the African bat *Otomops martiensseni* (Chiroptera: Molossidae).** Biodiversity and Conservation 11: 1583-1606.

GOVERNMENT REPORTS:

- Proctor, M. P., C. L. Lausen, E. Hofman, and J. Boulanger. 2008. **Mark-recapture population estimate of a prairie rattlesnake (*Crotalus viridis viridis*) hibernaculum at Kennedy Coulee, Red Deer River near Bindloss, Alberta.** Species at Risk Report, Alberta Sustainable Resource Development.
- Alberta Sustainable Resource Development and Alberta Conservation Association. 2008. **The Status of the northern bat (*Myotis septentrionalis*) in Alberta.** Alberta Sustainable Resource Development, Wildlife Status Report No. 3 (2009 update), Edmonton, AB. Author: C. L. Lausen.
- Lausen, C., E. Baerwald, J. Gruver, and R. Barclay. 2008. **APPENDIX 5: Bats and Wind Turbines. Pre-siting and pre-construction survey protocols, May 2008 Update.** University of Calgary. In: Vonhof, M. 2002. Handbook of Inventory Methods and Standard Protocols for Surveying Bats in Alberta. Alberta Sustainable Resource Development, Fish and Wildlife Division, Edmonton, Alberta. Revised 2005.
- Lausen, C. L., T. S. Jung, L. Randall and J. Talerico. 2008. **Bat Diversity in Yukon: 2007 Survey Results.** Yukon Department of Environment Technical Report, 30 pp.
- Alberta Sustainable Resource Development and Alberta Conservation Association. 2008. **The Status of the western small-footed bat in Alberta.** Alberta Sustainable Resource Development, Wildlife Status Report No. 64, Edmonton, AB. Authors: C. L. Lausen and T. Schowalter.
- Lausen, C. L. 2006. **Bat Survey of the Northwest Territories: Nahanni National Park Reserve and Surrounding Areas.** Parks Canada, Ft. Simpson, NWT & Canadian Parks and Wilderness Society, Yellowknife, NWT.

- Lausen, C., E. Baerwald, J. Gruver, and R. Barclay. 2006. **APPENDIX 5: Bats and Wind Turbines. Pre-siting and pre-construction survey protocols.** University of Calgary. In: Vonhof, M. 2002. Handbook of Inventory Methods and Standard Protocols for Surveying Bats in Alberta. Alberta Sustainable Resource Development, Fish and Wildlife Division, Edmonton, Alberta. Revised 2005.
- Lausen, C. 2005. **APPENDIX 4: Tissue sampling protocol for genetic study of bats.** In: Vonhof, M. 2002. Handbook of Inventory Methods and Standard Protocols for Surveying Bats in Alberta. Alberta Sustainable Resource Development, Fish and Wildlife Division, Edmonton, Alberta. Revised 2005.
- Lausen, C. L. 2006. **2005-2006 bat survey of the middle Red Deer and Battle Rivers.** Alberta Natural Heritage Information Centre, Parks and Protected Areas Division, Edmonton, Alberta.
- Lausen, C. L. 2004. **Writing on Stone Provincial Park bat survey - a compilation of work since 1985.** Alberta Natural Heritage Information Centre, Parks and Protected Areas Division, Edmonton, Alberta.

CONFERENCE PRESENTATIONS/SEMINARS:

- Lausen, C.L. 2010. **White Nose Syndrome in Bats: an update and implications for the West.** The Wildlife Society, Alberta Chapter. Red Deer, March 2010. (Invited Plenary Presentation)
- Proctor, M. P., C. L. Lausen*, E. Hofman, J. Boulanger, and J. Nicholson. 2010. **Declining number of prairie rattlesnakes (*Crotalus viridis viridis*) in the largest northernmost Alberta hibernaculum.** The Wildlife Society, Alberta Chapter. Red Deer, March 2010. (*delivered oral presentation)
- Lausen, C. L., T.S. Jung, J. Talerico, and L.A. Randall. 2009. **Morphometrics and plasticity in echolocation calls of little brown bats (*Myotis lucifugus*) at the northern edge of their range.** American Society of Mammalogists Annual Meeting, Fairbanks, Alaska, June 2009. (poster)
- Lausen, C. L., D. Nagorsen, D. Burles and L. Friis. 2009. **Testing of a new tethering method for reference call collection: Bat-kiting.** Western Bat Working Group Biennial Conference. Austin, Texas 15 – 18 April 2009. (poster)
- Lausen, C. L., J. Talerico, L.A. Randall, T.S. Jung, B.G. Slough, D.W. Nagorsen, D. Burles, and L. Friis. 2009. **Morphometrics and plasticity in echolocation calls of little brown bats (*Myotis lucifugus*) at the northern edge of their range.** Western Bat Working Group Biennial Conference. Austin, Texas 15 – 18 April 2009.
- Lausen, C. L., I. Delisle, R.M.R. Barclay, C. Strobeck. 2009. **Landscape Genetics of Prairie Bats: The Role that Rivers Play in Shaping Population Structure.** Western Bat Working Group Biennial Conference. Austin, Texas 15 – 18 April 2009.
- Jung, T.S., B.G. Slough, C.L. Lausen, D.W. Nagorsen. P.M. Kukka, L.A. Randall, K.T. Everatt, K. Kuba, and C.D. Eckert. April 2008. **A rapid assessment of mammalian and amphibian biodiversity in two territorial parks in southern Yukon.** Yukon Biodiversity Forum, Whitehorse, Yukon.
- Lausen, C. L., I. Delisle, R.M.R. Barclay, C. Strobeck. 2008. **Landscape Genetics of Prairie Bats: The Role that Rivers Play in Shaping Population Structure.** North American Symposium on Bat Research. Scranton, Pennsylvania.
- Lausen, C. L., I. Delisle, R.M.R. Barclay, C. Strobeck. 2008. **Beyond mtDNA: nuclear gene flow suggests taxonomic oversplitting in the little brown bat (*Myotis lucifugus*).** The Wildlife Society Annual Meeting, Alberta Chapter, Red Deer, Alberta.
- Lausen, C. L., I. Delisle, R.M.R. Barclay, C. Strobeck. 2007. **Beyond mtDNA: gene flow refutes cryptic species in little brown bats (*Myotis lucifugus*).** Western Bat Working Group Conference. Tucson, Arizona.
- Lausen, C. L., I. Delisle, R.M.R. Barclay. 2006. **Interbreeding of *Myotis lucifugus* subspecies in southern Alberta and north-central Montana.** North American Symposium on Bat Research. Wilmington, North Carolina.
- Lausen, C. L. 2006. **Bats of the Northwest Territories.** North American Symposium on Bat Research. Wilmington, North Carolina. (poster)

- Lausen, C. L. 2006. Bats of the Northwest Territories. The Wildlife Society Annual Meeting, North American Chapter, Anchorage, Alaska. (poster)
- Lausen, C. L. 2005. **Winter activity of prairie bats in Canada.** North American Symposium on Bat Research. Sacramento, California.
- Lausen, C. L. 2005. **Winter activity of prairie bats in Alberta.** The Conservation and Management of Bats, Western Bat Working Group. Portland, Oregon.
- Lausen, C. L. 2005. **Winter bat activity at Dinosaur Provincial Park.** The Wildlife Society Annual Meeting, Alberta Chapter, Nisku, Alberta.
- Lausen, C. L. and Barclay, R. M. R. 2004. **Ecology of prairie bats in Alberta: a landscape perspective.** North American Symposium on Bat Research, Salt Lake City, Utah. (poster)
- Lausen, C. L. 2004. **Ecology of prairie bats in Alberta: a landscape perspective.** The Wildlife Society Annual Meeting, North American Chapter, Calgary, Alberta (poster).
- Lausen, C. L. and Barclay, R.M.R. 2004. **Ecology of prairie bats: a landscape perspective.** Alberta Cooperative Conservation Research Unit Symposium: Sustaining the Grassland Ecosystem, Calgary, Alberta. (poster)
- Lausen, C. L. 2003. **Roost selection by prairie bats in southeastern Alberta.** The Wildlife Society Annual Meeting, Alberta Chapter, Red Deer, Alberta.
- Lausen, C. L. 2002. **Thermoregulation and microclimate in maternity colonies of big brown bats: the consequences of roost structure.** North American Symposium on Bat Research, Burlington, Vermont.
- Lausen, C. L. 2002. **Thermoregulation and microclimate in maternity colonies of big brown bats: building versus rock-crevice roosts.** The Wildlife Society Annual Meeting, North American Chapter Bismarck, North Dakota.
- Lausen, C. L. 2002. **Thermoregulatory behaviour of reproductive female big brown bats (*Eptesicus fuscus*).** Annual Meeting of the Canadian Society of Zoologists, Lethbridge, Alberta.
- Lausen, C. L. 2002. **Thermoregulation and roost selection by female big brown bats (*Eptesicus fuscus*) roosting in rock crevices.** Prairie Universities Biological Symposium, Calgary, Alberta.
- Lausen, C. L. 2001. **Thermoregulation and roost selection by big brown bats (*Eptesicus fuscus*) roosting in rock crevices.** North American Symposium on Bat Research, Victoria, British Columbia.
- Fenton, M. B., Taylor, P. J. Jacobs, D. S., Richardson, E., Bernard, E., Bouchard, S., Debaeremaker, K., ter Hofstede H., Hollis, L., Lausen, C. L., Lister J., Ratcliffe, J. M., Rambaldani, D., and Reddy, E. 2001. **Protecting little-known species: The case of the African bat *Otomops martiensseni* (Chiroptera: Molossidae).** North American Symposium on Bat Research, Victoria, British Columbia.
- Lausen, C. L. 2001. **Roost selection and thermoregulation in *Eptesicus fuscus*.** Prairie Universities Biological Symposium, Brandon, Manitoba.
- Lausen, C.L. 2000. **Thermoregulation and roost selection by rock-roosting *Eptesicus fuscus*.** North American Symposium on Bat Research, Miami, Florida.

SELECTED AWARDS:

BAT CONSERVATION

I provided a formal bat capture workshop for US Forest Service employees in addition to conducting many bat surveys for the USFS across NW U.S.A 2004 – 2009. In 2009 I was awarded the **Wings Across the Americas Glass Award in Bat Conservation** in recognition of my work for the USFS.

ACADEMIC

- ◆ Alberta Ingenuity Award, Alberta Heritage Foundation for Science and Engineering Research (2002-2006)
- ◆ Cas Lindsey Speaker Award, Annual Meeting of the Canadian Society of Zoologists, Lethbridge, AB (2002)
- ◆ Bat Conservation International Speaker Award, 31st Annual NASBR, Victoria, B.C. (2001)
- ◆ Natural Sciences and Engineering Research Council Postgraduate Scholarship (PGSB; 2001-2003)
- ◆ Donald N. Byers Memorial Killam Prize, University of Calgary (2001 and 2004)
- ◆ Izaak Walton Killam Memorial Scholarship (Honorary), University of Calgary (2001, 2002, 2004, 2005)
- ◆ Jake Duerksen Scholarship, University of Calgary Biological Sciences (2000)
- ◆ Natural Sciences and Engineering Research Council Postgraduate Scholarship (PGSA; 1999-2001)
- ◆ Governor General's Silver Medal for top institutional academic record at the Univ. of Calgary (1994)
- ◆ Clarence Sansom Gold Medal in Education for top academic record in the Faculty of Education (1994)
- ◆ Faculty of Science Gold Medal for top academic record in the Faculty of Science (1994)
- ◆ Natural Sciences and Engineering Research Council (NSERC) Undergraduate Award (1993)
- ◆ University of Calgary Undergraduate Merit Award (1989, 1993)
- ◆ Governor General's Bronze Medallion - top academic record high school level (1989)

OTHER WORK EXPERIENCE:

University Teacher Assistant, led Biol 380 Population Genetics Seminar, University of Alberta [2003]; taught Biol 233 Intro Biol II Lab, University of Alberta [1999].

High School Science teacher, Lloydminster Public School Division - Taught Biology 20 and 30, Chemistry 20 and 30, Science 10 and 21, Math 10 and 20 at Lloydminster Comprehensive High School. [Sept. 1994 – June 1999]

SELECTED VOLUNTEER WORK:

Field Assistant – U.S.F.W.S. and Birchdale Ecological, Trans-border Grizzly Bear project: radio-telemetry of bears to find linkage zones (2005 – current)

Reviewer – Ongoing for numerous journals: Canadian Journal of Zoology; Journal of Zoology, London; Journal of Mammalogy; Journal of Wildlife (Australia); grants reviewer, North American Bat Conservation Partnership (NABCP)

Conference Organizer/Coordinator – WBWG Wind Energy and Bats Workshop, Austin, TX April 2009; Prairie Universities Biological Symposium, Calgary (2002); Moths and Bats - A Festival of Feralia, Edmonton (2003)

Board Member – Vice President, Western Bat Working Group (WBWG; current); Member at Large, WBWG (2005 – 9)

Committee Member – co-chair of WBWG Scientific Advisory Committee (2007 – current); chair of WBWG Wind Energy and Bats Committee (2008 – 2009); Alberta Bat Action Team (Alberta Environment, Fish and Wildlife Division) (2000 - current); Bats of Alberta Poster Design Committee (2006)

Editor – Western Canada Bat Working Group newsletter (2003 - current); Western Bat Working Group newsletter (2005 - 2009); WBWG Species Accounts

Educator – since 1999 I have done ~50 public presentations about bats for schools, naturalist groups, and parks

Community Volunteer Work – Board Member of Kaslo Arena; Figure Skating coach; Adult Power Skating coach; judge at various 4H speaking events, provincial debate competitions, and science fairs.