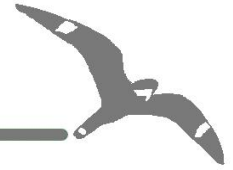


Elly Knight

587-989-6107

ellyknight@gmail.com

7111 82 St NW, Edmonton, AB, T6C 2W9



Education

Ph.D. Candidate Biological Sciences (Ecology)

University of Alberta, Bioacoustics Unit (2015 – Present)

Thesis: Using bioacoustics to disentangle hierarchical habitat relationships of the Common Nighthawk
Supervisor: Dr. Erin Bayne (University of Alberta), Dr. Mark Brigham (University of Regina)

M.Sc. Biological Sciences

Simon Fraser University, Centre for Wildlife Ecology (2010 – 2013)

Thesis: Impacts of fragmentation by agriculture on shrubsteppe breeding songbirds

Supervisors: Dr. David Green (Simon Fraser University), Dr. Nancy Mahony (Environment Canada)

B.Sc. Biology Honours (Co-op), Environmental Sciences Minor

University of Victoria with Distinction (2005 – 2010)

Langara College University transfer program (2003 – 2005)

Thesis: Population trends and habitat availability of nesting Great Blue Herons in south coastal British Columbia

Supervisors: Dr. Neville Winchester (University of Victoria), Ross Vennesland (Parks Canada)

Research Interests

I am interested in the impacts of anthropogenic disturbance on avian communities, with focus on landscape ecology and large-scale processes. I am particularly attracted to applied and collaborative conservation ecology research. My current research uses the Common Nighthawk as a model species to study bioacoustics and migration, which also contributes to understanding population declines of this enigmatic species.

Refereed Publications

Knight, E.C., and E.M. Bayne. *In press*. Classification threshold and training data affect the quality and utility of focal species data processed with automated audio recognition software. *Bioacoustics*.

Ng, J.W., E.C. Knight, A.L. Scarpignato, A. Harrison, E.M. Bayne, and P.P. Marra. 2018. Full annual-cycle tracking identifies long distance migration route, nonbreeding habitat, and breeding site fidelity of a declining aerial insectivorous bird. *Canadian Journal of Zoology*. <https://doi.org/10.1139/cjz-2017-0098>

Knight, E.C., J.W. Ng, C. Mader, R.M. Brigham, and E.M. Bayne. 2018. An inordinate fondness for beetles: first description of Common Nighthawk diet for the boreal biome. *The Wilson Journal of Ornithology* 130(2):525-531.

Knight, E.C., K. Hannah, G. Foley, C. Scott., M. Brigham, and E.M. Bayne. 2017. Recommendations for acoustic recognizer performance assessment with application to five common automated signal recognition programs. *Avian Conservation and Ecology* 12(2):14.

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Knight, E.C., R.G. Vennesland, and N.N. Winchester. 2016. Importance of proximity to foraging areas for the Pacific Great Blue Heron (*Ardea herodias fannini*) nesting in a developed landscape. *Waterbirds* 39(2).

Knight, E.C., N.A. Mahony, and D.J. Green. 2016. Local and landscape effects on the bird community in sagebrush shrubsteppe habitat fragmented by agriculture. *Agriculture, Ecosystems, and Environment* 223:278-288.

Knight, E.C., N.A. Mahony, and D.J. Green. 2014. Crop type influences edge effects on the reproduction of songbirds in sagebrush habitat near agriculture. *Avian Conservation and Ecology* 9(1): 8.

Manuscripts in Review

D. Yip*, Knight, E.C.*, H. Audete, S. Wilson, and E.M. Bayne. *In review*. Audio sound level measurements from recognizers provide automated and objective distance estimates for distance sampling. Submitted to *Ecosphere*.

Knight, E.C., S. P. Hernandez, V. Bulitko, E.M. Bayne, B. Tucker. *In review*. Pre-processing spectrogram parameters improve the accuracy of birdsong classification using convolutional neural networks. Submitted to *Ecological Informatics*.

*Co-first author

Posters & Presentations

E.C. Knight, S. Van Wilgenburg, P. Marra, E.M. Bayne. 2018. Common Nighthawk connectivity project update. Partners in Flight Western Working Group Meeting. St. George, Utah. **Invited online presentation.**

E.C. Knight, E.M. Bayne. 2018. Recent advances in the use of ARUs in biodiversity monitoring. Alberta Biodiversity Chairs Summary Forum. Calgary, Alberta. **Oral presentation.**

E.C. Knight, E.M. Bayne. 2018. Linking acoustic signal to Common Nighthawk habitat function in the boreal forest. Northern Research Day. Edmonton, Alberta. **Oral presentation.**

E.C. Knight, S. Van Wilgenburg, P. Marra, E.M. Bayne. 2018. Applications of a migratory network for a declining aerial insectivore, the Common Nighthawk. Movement Ecology of Aerial Insectivores Symposium. Lund, Sweden. **Invited oral presentation.**

E.C. Knight, K. Hannah, G. Foley, C. Scott, E.M. Bayne, R.M. Brigham. 2017. Assessment and optimization of automated acoustic species for wildlife practitioners. Alberta Chapter of the Wildlife Society 2017 Conference. Lac La Biche, Alberta. **Oral presentation.**

Knight, E.C., E. Upham-Mills. 2017. A grad student perspective on field work at the University of Alberta. University of Alberta Field Research Office Information Session. Edmonton, Alberta. **Invited oral presentation.**

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E.C. Knight, T. Luszcz. 2017. Current common Nighthawk migratory connectivity and recovery efforts. Partners in Flight Western Working Group Spring Meeting. Santa Fe, New Mexico. **Invited online presentation.**

E.C. Knight, R.M. Brigham, E.M. Bayne. 2017. Interpreting nighthawk: can acoustic signal be used to differentiate between habitat components? Alberta Biodiversity Committee Chairs Annual Meeting. Edmonton, AB. **Poster presentation.**

E.C. Knight, E.M. Bayne. 2016. Can you hear me? Assessing automated acoustic recognition for Common Nighthawk habitat modelling. R.E. Peter Biology Conference. Edmonton, AB. **Poster presentation - Ph.D. First Place Winner.**

E.C. Knight, E.M. Bayne. 2016. Automated acoustic recognition for Common Nighthawk habitat modelling: challenges & opportunities. Alberta Chapter of the Wildlife Society 2016 Conference. Drumheller, AB. **Oral presentation.**

E.C. Knight, E.M. Bayne. 2016. Investigation of automated acoustic recognition for Common Nighthawk Habitat Modelling. Alberta Biodiversity Committee Chairs Annual Meeting. Calgary, AB. **Poster presentation.**

E.C. Knight. 2015. Preliminary nightjar detectability results for protocol optimization. Partners in Flight Western Working Group Spring Meeting. Tuscon, AZ. **Online presentation.**

N.A. Mahony, E.C. Knight, D.J. Green. 2014. Local and landscape effects on the bird community in sagebrush shrubsteppe habitat fragmented by agriculture. AOU, COS, and SCO 2014 Joint Meeting. Estes Park, CO. **Oral presentation.**

Knight, E.C., N.A. Mahony, D.J. Green. 2013. Do they fledge at the edge? Impacts of habitat fragmentation on Okanagan sagebrush songbirds. Canadian Wildlife Service Seminar Series. Vancouver, BC. **Oral presentation.**

Knight, E.C., N.A. Mahony, D.J. Green. 2012. Grassland songbirds: do edge effects vary between agricultural types? North American Ornithological Conference. Vancouver, BC. **Poster.**

Knight, E.C., N.A. Mahony, D.J. Green. 2012. Grassland songbirds: do edge effects vary between agricultural types? Ecological Society of America 97th Annual Meeting. Portland, OR. **Poster.**

Knight, E.C. 2012 Life on the edge: impact of vineyards on the nest predator community and nest success of songbirds in adjacent shrubsteppe. BC Field Ornithologists Annual General Meeting. Princeton, BC. **Invited oral presentation.**

Knight, E.C., R.G. Vennesland, and N.N. Winchester. 2010. The cost of waterfront property: nesting habitat availability and colony location choice for Pacific Great Blue Herons (*Ardea herodias fannini*) on a highly urbanized landscape. University of Victoria Vertebrates of BC Symposium. Victoria, BC. **Invited oral presentation.**

Scholarships Awarded

- CFUW Margaret Brine Graduate Scholarship for Women (\$4,500; 2018)

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- Shell Enhanced Learning Fund (\$1,350; 2018)
- Green & Gold Student Leadership and Professional Development Grant (\$735; 2018)
- Alberta Society of Professional Biologists Graduate Scholarship (\$1,800; 2017)
- Alberta Graduate Citizenship Award (\$2,000; 2016)
- University of Alberta President's Doctoral Prize of Distinction (\$5,000; 2016)
- Bill Shostak Wildlife Award (\$11,100; 2016)
- University of Alberta Science Graduate Scholarship (\$2,000; 2015)
- University of Alberta President's Doctoral Prize of Distinction (\$10,000; 2015)
- University of Alberta Doctoral Recruitment Scholarship (\$15,000; 2015)
- NSERC Postgraduate Scholarship-Doctoral (\$63,000; 2015-2017)
- SFU Travel Award (2012)
- NSERC Alexander Graham Bell Canada Graduate Scholarship (\$18,300; 2011)
- UVic President's Scholarship (2008)
- Jamila Vlasta Von Drak Thouvenelle Co-op Scholarship (2008)
- BC Federation of Naturalists Rene Savenye Scholarship (\$1,500; 2007)

Research and Travel Grants Awarded

- Kay Ball Memorial Graduate Student Research Travel Award; *Common Nighthawk Migratory Connectivity Project* (\$4,500; 2018)
- SCO Travel award
- ACTWS Travel Awards
- UofA Northern Research Awards; *Linking acoustic signal to Common Nighthawk habitat components* (\$3,200; 2017)
- Northern Scientific Training Program; *Linking acoustic signal to Common Nighthawk habitat components* (\$3,292; 2017)
- Alberta Conservation Association Grants in Biodiversity; *Linking Hierarchical Habitat Relationships of Common Nighthawks in a Dynamic Landscape* (\$13,730; 2016-2017)
- Fairmont CARES; *WildResearch Foundation* (\$10,000; 2016)
- TD Friends of the Environment Foundation; *WildResearch Nightjar Survey* (\$5,000; 2016)
- Brink McLean Grassland Conservation Fund; *Roadside Monitoring of Nightjar Populations in BC's Grasslands* (\$2,500; 2016)
- Canada Summer Jobs; *Nightjar Survey Coordinator* (\$4,225; 2016)
- TD Friends of the Environment Foundation; *WildResearch Nightjar Survey Program* (\$10,000; 2015)
- Bird Studies Canada Baillie Fund; *BC Nightjar Survey* (\$3,500; 2015)
- BC Nature Club Grant; *Community Building for the BC Nightjar Survey* (\$1,400; 2015)
- MEC Capacity Building Contribution; *BC Nightjar Survey Citizen Science Atlas* (\$9,602; 2015)
- Science Horizons Youth Internship Program; *BC Nightjar Survey* (\$12,000; 2014)
- Science Horizons Youth Internship Program; *BC Nightjar Survey* (\$12,000; 2013)
- Pacific Conservation Assistance Fund; *WildResearch Nightjar Survey* (\$5,300; 2013)

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- Brink McClean Grassland Conservation Fund; *Impacts of Shrubsteppe Fragmentation by Agriculture on Nest Predation of Songbirds* (\$2,500; 2011)

Teaching Experience

Conservation Biology TA, Simon Fraser University, Burnaby, BC (Jan – Apr 2011 & 2013)

Planned and taught four discussion-based Conservation Biology tutorials per week. Helped students write recovery strategies and action plans for species at risk following federal templates.

Science Tutor, *Native Education Centre*, Vancouver, BC (Sept 2010 – April 2011)

Student Supervision & Mentorship

Supervisor - BIOL 499 Research Project, *University of Alberta* (Sep 2016 – Apr 2017)

Supervising a fourth-year undergraduate student who is using WildResearch Nightjar Survey citizen science data to model Common Nighthawk habitat relationships in BC's grasslands.

Supervisor - BIOL 498 Research Project, *University of Alberta* (Sep 2016 – Dec 2016)

Supervising a fourth-year undergraduate student who is using WildResearch Nightjar Survey acoustic data to investigate the mechanism of roadside bias in acoustic bird surveys.

Supervisor - BIOL 298 Research Project, *University of Alberta* (Sep 2016 – Dec 2016)

Supervising a second-year undergraduate student who is studying the detection radius of acoustic monitoring.

Canada Summer Jobs Mentor, *WildResearch* (May 2016 – Aug 2016)

Mentored a Canada Summer Jobs intern who conducted field work, volunteer coordination, and public outreach for the WildResearch Nightjar Survey.

Supervisor - BIOL 398 Research Project, *University of Alberta* (Sep 2015 – Dec 2015)

Supervised a third-year undergraduate student who is using WildResearch Nightjar Survey data to determine whether there is a bias in Common Nighthawk detectability in roadside surveys.

Science Horizons Mentor, *WildResearch* (May – Oct, 2014 & 2015)

Mentored two consecutive Science Horizons interns who conducted field work, volunteer coordination, data analysis and report writing for the WildResearch Nightjar Survey.

Co-op Program Mentor, *University of Victoria* (Jan – Apr 2009)

Offered guidance and advice to a new co-op program student about applying for and working in Biological Sciences.

Leadership

Graduate Student Representative, *University of Alberta Biological Sciences Safety Committee*, Edmonton, AB (Jan 2018 – present)

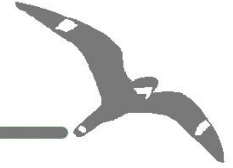
Coordinator, *Common Nighthawk Migratory Connectivity Project*, Edmonton, AB (Sept 2016-present)

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Program Manager, *WildResearch Nightjar Survey*, Vancouver, BC (Jan 2012 – present)

Vice-President, Secretary, *WildResearch*, Vancouver, BC (Nov 2011 – Feb 2016)

Secretary, *SFU Biological Sciences Graduate Caucus*, Burnaby, BC (Nov 2010 – Nov 2011)

President and Founder, *UVic Natural History Club*, Victoria, BC (Sep 2008 – Apr 2009)

Coordinator, *UVic Wilderness Club*, Victoria, BC (Sep 2006 – Apr 2009)

Ecology Experience

Bioacoustic Technician, *University of Alberta*, Edmonton AB (May 2015 – Aug 2015)

Project Biologist, *Spencer Environmental Management Services*, Edmonton AB (Dec 2013 – Apr 2015)

Pacific Great Blue Heron Consultant, *Parks Canada*, Vancouver, BC (part-time; 2009 - present)

Landbird Assessment Crew Leader, *Environment Canada*, Edmonton AB (May – Jul 2013)

Wildlife Technician, *Environment Canada*, Okanagan, BC (May – Jul 2010)

Mist-net Assistant, *University of Southern Mississippi*, Johnson's Bayou, LA (Mar – Apr 2010)

Herbarium Assistant, *University of Victoria*, Victoria, BC (Jan – Apr 2009)

Southwestern WIFL Bander, *SWCA Environmental Consultants*, Lake Havasu, AZ (May – Aug 2009)

Bird Banding Intern, *Institute for Bird Populations*, Ft. Leonard Wood, MO (May – Aug 2008)

Bird Banding Volunteer, *Vaseux Lake Bird Observatory*, Okanagan, BC (Aug 2007)

Song Sparrow Research Assistant, *University of Western Ontario*, Gulf Islands, BC (Apr – Aug 2006)

Recent Public Science Communication

Knight, E.C. 2018. Birds of the Unknown: Ecology & Conservation of Nightjars in Canada. Red Deer River Naturalist Group. Red Deer, AB. **Presentation.**

Knight, E.C. 2018. Strength in numbers: Collaboration and new technology reveal secrets of the Common Nighthawk. Prairie Conservation Action Plan. Edmonton, AB. **Webinar Presentation.**

Knight, E.C. 2017. WildResearch Nightjar Survey 2016 Annual Report. Report produced for WildResearch.

Knight, E.C. 2016. Birds of the Unknown: Ecology & Conservation of Nightjars in Canada. Edmonton Nature Club Bird Studies Group. Edmonton, AB. **Presentation.**

Knight, E.C. 2016. Fighting fire with bikes: University of Alberta researchers use fat bikes to study birds in the wake of the Fort McMurray wildfire. Wild49. **Blog Post.**

Knight, E.C. 2016. New Citizen Science Program Comes to Alberta: The WildResearch Nightjar Survey. *Bios* 31(3):3,11.

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Hood, A., and Knight, E.C. 2016. WildResearch Nightjar Survey Alberta Orientation. Bruderheim, AB. **Presentation.**

Knight, E.C. 2016. Canadian Nightjar Survey Protocol – WildResearch Draft. WildResearch. **Protocol.**

Knight, E.C. 2016. It's all fen and games – field ecology adventures in and around McClelland Lake fen. Wild49. **Blog Post.**

E.C. Knight. 2016. What are Nightjars? BC Nature Magazine 53(1): 23. **Article.**

Shariff, A., and E.C. Knight. 2016. BC Nightjar Survey 2015 Annual Report. Report produced for WildResearch.

Noble, V., and E.C. Knight. 2015. BC Nightjar Survey 2014 Annual Report. WildResearch. **Report.**

E.C. Knight. 2015. WildResearch's BC Nightjar Survey Takes Flight. BC Nature Magazine 53(1): 14. **Article.**

Knight, E.C. 2015 – 2018. Nightjar News. **Bi-monthly Newsletter.**

Other Science Communication

- Twitter (@ellyknight): Tweeting about bioacoustics, movement ecology, conservation, the boreal forest, and nightjars to 1300+ followers.
- PhyloBoreal: an educational card game about the boreal ecosystem. Available for sale [here](#) and at the Royal Alberta Museum.

Media

2018, July 30, *Global News 770 CHQR*, Nighthawk migration - what do we know about the bird? [Radio.](#)

2018, July 24, *Radio-Canada*, Sur les traces de l'engouement d'Amérique. [Article.](#)

2018, July 24, *The Globe and Mail*, 'Little backpacks': GPS used to track nighthawks' migration from northern Alberta to Brazil. [Article.](#)

2018, July 24, *CBC Edmonton*, 'Little backpacks': GPS used to track nighthawks from northern Alberta to Brazil. [Article.](#)

2018, July 24, *Canadian Science Publishing*, Unravelling the Mystery of Where Common Nighthawks Fly. [Article.](#)

2018, April 26, *Prairie Naturalist*, Episode 101. [Radio.](#)

2018, April, *Smithsonian Air & Space*, Penguin Spotting, and Other Cool Satellite Tricks. [Article.](#)

2017, December 1, *Alberta Wilderness Association*, Conservation corner: How to hunt for nighthawks. [Article.](#)

2017, November, *Firestorm: How Wildfire Will Shape our Future*. **Book.**

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- 2017, July 24, *Government of Canada*, Science Horizons intern: Azim Shariff. [Article](#).
- 2017, June 21, *Nature*, Sustainability: A greener culture. [Article](#).
- 2016, December 21, *Hakai Magazine*, Big bird in the city. [Article](#).
- 2016, October 31, *Contours*, Future focus: Life after the Fort McMurray fire. [Article](#).
- 2016, October 11, *The Gateway*, Biologists swap ATVs for fat bikes in wake of Fort McMurray fires. [Article](#).
- 2016, September 23, *CBC News*, Fort McMurray wildlife researchers ditch ATVs. [Article](#).
- 2016, September 23, *Folio*, Rough-riding biologists turn to fat bikes for field work. [Article](#).
- 2016, September 22, *CBC Radio Active*, Interview about using fat bikes for science. **Radio**.
- 2016, September 22, *CBC TV*, Interview about using fat bikes for science. **TV**.
- 2016, September 22, *Edmonton Metro*, Scientists on bikes: Alberta researchers ditch quads after Fort McMurray ban. [Article](#).
- 2017, July 7, *CBC News*, Wildlife returns as forest regenerates after Fort McMurray wildfire. [Article](#).
- 2015, November 20, *Yukon News*, Fewer nighthawks grace the aerial diner. [Article](#).

Professional Development Courses

- Occupancy Modelling, *Parks Canada* (2018)
- Introduction to Linear Mixed Effects Models and GLMM, *Highland Statistics* (2018)
- Data Visualization in R, *University of Alberta* (2016)
- Microsoft SQL Server Level II, *NAIT* (2016)
- Microsoft SQL Server Level I, *NAIT* (2016)
- Communication Skills for Leaders, *Mount Royal College* (2015)
- Fish Identification Workshop, *Alberta Society of Professional Biologists* (2015)

Professional Memberships

Professional Biologist, *Alberta Society of Professional Biologists* (2014 – 2017; currently inactive)

Member, *Alberta Chapter of the Wildlife Society* (2015 – present)

Member, *Canadian Society of Ornithologists* (2011 – present)

Member, *Citizen Science Association* (2014 – present)