

CURRICULUM VITAE

Michael J L Peers | PhD

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HIGHLIGHTS

- Published 17 articles in peer-reviewed journals; 6 in review; 1 book chapter
- Articles in *Proceedings B*, *Global Change Biology*, and *Arctic* were featured on the cover
- Received the Governor General's Gold Medal for my MSc thesis at Trent University
- Held an NSERC CGS scholarship during my MSc and PhD
- Reviewed ~30 articles for 21 peer-reviewed journals

EDUCATION

- 2019 PhD Biological Sciences, University of Alberta
Supervisors: Stan Boutin & Rudy Boonstra
Thesis: Examining the impact of climate change on snowshoe hare demography and community interactions in the northern boreal forest
- 2014 M.Sc. Environmental and Life Sciences, Trent University
Supervisor: Dennis Murray & Daniel Thornton
Thesis: Reintroducing species in the 21st century: incorporating climate change into translocation and de-extinction programs
- 2012 Honours B. Sc. Biology, Trent University
Supervisor: Dennis Murray & Daniel Thornton
Thesis: The influence of competition on the large-scale distribution of mesocarnivores in North America

PROFESSIONAL POSITIONS

- Current Post-doctoral researcher, University of Alberta
Supervisors: Stan Boutin & Rudy Boonstra

AWARDS & SCHOLARSHIPS

- 2019 ASPB Robin Leech Graduate Scholarship in Biological Sciences, U of A, (\$1400)
- 2017-2019 Izaak Walton Killam Memorial Scholarship, U of A (Partially Honorary)
The most prestigious graduate award administered by the University of Alberta
- 2017-2019 The W. Garfield Weston Award for Northern Research, ACUNS (\$50000)
- 2017 Jennifer Robinson Memorial Scholarship, Arctic Institute of North America (\$5000)
- 2015/2016 Ashley and Janet Cameron Graduate Scholarship, University of Alberta (\$3000 x 2)
- 2015 Governor General's Gold Medal, Trent University
Awarded to the graduate student who achieved the highest academic standing
- 2015 President's Doctoral Prize of Distinction, University of Alberta (\$10000)
- 2015 Faculty of Science Recruitment Scholarship, University of Alberta (\$2000)
- 2015-2017 NSERC Alexander Graham Bell Scholarship CGS D (\$105000)
Major scholarship awarded through a national competition
- 2014 Edwin William & Irene Elizabeth Curtin Scholarship, Trent University (\$3500)

2014	David & Joyce Woods Graduate Scholarship, Trent University (\$2000)
2013/14	NSERC Alexander Graham Bell Scholarship CGS M (\$17500) <i>Major scholarship awarded through a national competition</i>
2013/14	Ontario Graduate Scholarship (\$15,000 – declined)
2012/13	Queen Elizabeth II Scholarship for Science and Technology (\$15,000)
2012	Dean's List, Trent University
2010	Department of Biology Prize, Trent University (\$100)

GRANTS & FELLOWSHIPS

2019	Memorial Uni. of NFLD Seed, Bridge and Multidisciplinary Fund (\$10000)
2018	Bring Back the Wild Grant, Earth Rangers (\$10000)
2018	U of A Northern Research Award, UAlberta North (\$1090)
2018	Northern Research Grant, Northern Scientific Training Program (\$2230)
2017	W. Garfield Weston Fellowship Award, WCS Canada (\$7000)
2016	U of A Northern Research Award, UAlberta North (\$1334)
2016	Northern Research Grant, Northern Scientific Training Program (\$3186)
2016	W. Garfield Weston Fellowship Award, WCS Canada (\$16500)

PUBLICATIONS (H-INDEX = 9, i10-INDEX = 9, CITATIONS = ~210)

JOURNAL ARTICLES

In Review

23. **Peers MJL**, Majchrzak YN, Menzies AK, Studd EK, Bastille-Rousseau G, Boonstra R, Humphries M, Jung TS, Kenney AJ, Krebs CJ, Murray DL, Boutin S. *In Review*. Climate change increases predation risk for a keystone species and could disrupt predator-prey cycles in North America. *Nature Climate Change*.

22. **Peers MJL**, Konkolics SM, Lamb CT, Majchrzak YN, Menzies AK, Studd EK, Boonstra R, Kenney AJ, Krebs CJ, Martinig AR, McCulloch B, Silva J, Garland L, Boutin S. *In Review*. Prey availability and ambient temperature drive carrion persistence in the boreal forest. *Journal of Animal Ecology*.

21. Menzies AK, Studd EK, Majchrzak YN, **Peers MJL**, Boutin S, Humphries MM. *In Review*. The varying hare or the constant hare? Homeostasis and variation of *Lepus americanus* body temperature, heart rate, and activity in a highly seasonal environment. *Functional Ecology*.

20. Neilson EW, Lamb CT, Konkolics SM, **Peers MJL**, Majchrzak YN, Doran-Myers D, Garland L, Martinig AR, Boutin S. *In Review*. There's a storm a-coming: Ecological resilience and resistance to extreme weather events. *Ecology & Evolution*.

19. **Peers MJL**, Konkolics SM, Majchrzak YN, Menzies AK, Studd EK, Boonstra R, Boutin S, Lamb CT. *In Review*. It is not a dog-eat-dog world: Vertebrate scavenging dynamics differ between carnivore and herbivore carcasses. *The American Naturalist*.

18. **Peers MJL**, Majchrzak YN, Studd EK, Menzies AK, Kukka PM, Konkolics SM, Boonstra R, Boutin S, Jung TS. *In Review*. Low accuracy of gum-line recession for estimating age of Canada lynx (*Lynx canadensis*). *Wildlife Society Bulletin*.

Published

17. Ferreira C, Hossie TJ, Jenkins D, Wehtje M, Austin C, Boudreau M, Chan K, Clement A, Hrynyk M, Longhi J, MacFarlane S, Majchrzak YN, Otis JA, **Peers MJL**, Rae J, Seguin J, Walker S, Watt C, Munday A, Murray DL. 2019. The Recovery illusion: what is delaying the rescue of imperiled species? *Bioscience* 69: 1028-1034.
16. Studd EK, Boudreau M, Majchrzak YN, Menzies AK, **Peers MJL**, Seguin J, Lavergne S, Boonstra R, Murray D, Boutin S, Humphries M. 2019. Use of acceleration and acoustics to classify behaviour and evaluate responses to moonlight in free-ranging snowshoe hares. *Frontiers in Ecology and Evolution* 7: a154.
15. Jung TS, Konkolics SM, Kukka PM, Majchrzak YN, Menzies AK, Oakley MP, **Peers MJL**, Studd EK. 2019. Short-term effect of helicopter-based capture on movements of a social ungulate. *Journal of Wildlife Management* 83: 830-837. *All authors contributed equally
14. **Peers MJL**, Majchrzak YN, Konkolics SM, Boonstra R, Boutin S. 2018. Scavenging by snowshoe hares (*Lepus americanus*) in Yukon, Canada. *Northwestern Naturalist* 99: 232-235.
13. **Peers MJL**, Majchrzak YN, Neilson E, Lamb CT, Hämäläinen A, Haines JA, Garland L, Doran-Myers D, Broadley K, Boonstra R, Boutin S. 2018. Quantifying fear effects on prey demography in nature. *Ecology* 99: 1716-1723.
12. Bastille-Rousseau G, Schaefer JA, Lewis KP, **Peers MJL**, Ellington EH, Mumma MA, Rayl ND, Mahoney SP, Murray DL. 2018. Climate change can alter predator-prey dynamics and population viability of prey. *Oecologia* 186: 141-150.
11. **Peers MJL**. 2017. InfoNorth Essay: Predicting the fitness effects of climate change on snowshoe hares. *Arctic* 70: 430-434. (Invited; Cover Article)
10. **Peers MJL** & Boutin S. 2017. Northern hawk owl (*Surnia ulula*) scavenges and defends a lynx (*Lynx canadensis*) carcass in winter. *The Wilson Journal of Ornithology* 129: 875-878.
9. Murray DL*, **Peers MJL***, Majchrzak YN, Wehtje M, Ferreira C, Pickles RSA, Row JR, Thornton DH. 2017. Continental divide: Predicting climate-mediated fragmentation and biodiversity loss in the boreal forest. *PLoS ONE* 12: e0176706. * Senior authorship jointly shared
8. Feldman RE, **Peers MJL**, Pickles RSA, Thornton DH, Murray DL. 2017. Climate driven range divergence among host species affects range-wide patterns of parasitism. *Global Ecology & Conservation* 9: 1-10.
7. **Peers MJL**, Thornton DH, Majchrzak YN, Bastille-Rousseau G, Murray DL. 2016. De-extinction potential under climate change: extensive mismatch between historic and future habitat suitability for three candidate birds. *Biological Conservation* 197: 164-170.
6. Bastille-Rousseau G, Rayl ND, Ellington EH, Schaefer JA, **Peers MJL**, Mumma MA, Mahoney SP, Murray DL. 2016. Population and individual variation in niche overlap, encounter, and mortality among incidental predators and a common prey. *Canadian Journal of Zoology* 94: 191-198.

5. Ferreira C, Bastille-Rousseau G, Bennett AM, Ellington EH, Terwissen CV, Austin C, Borlestean A, Boudreau MR, Chan K, Forsythe A, Hossie T, Longhi J, Otis JA, **Peers MJL**, Rae JM, Seguin J, Watt C, Wehtje M, Murray DL. 2016. The evolution of peer review as a basis for publication in ecology: directional selection towards a robust discipline? *Biological Reviews* 91: 597-610.
4. Murray DL, Majchrzak YN, **Peers MJL**, Wehtje M, Ferreira C, Pickles RSA, Row JR, Thornton DH. 2015. Potential pitfalls of private initiatives in conservation planning: a case study from Canada's boreal forest. *Biological Conservation* 192: 174-180.
3. **Peers MJL**, Wehtje M, Thornton DH, Murray DL. 2014. Prey switching as a means of enhancing persistence in predators at the trailing southern edge. *Global Change Biology* 20: 1126-1135. (*Cover Article*)
2. **Peers MJL**, Thornton DH, Murray DL. 2013. Evidence for large-scale effects of competition: niche displacement in Canada lynx and bobcat. *Proceedings of the Royal Society B* 280: 20132495. (*Cover Article*)
1. **Peers MJL**, Thornton DH, Murray DL. 2012. Reconsidering the specialist-generalist paradigm in niche breadth dynamics: resource gradient selection by Canada lynx and bobcat. *PLoS ONE* 7(12): e51488.

In final preparation (PDF available upon request)

Peers MJL, Reimer JR, Majchrzak YN, Menzies AK, Studd EK, Boonstra R, Kenney AJ, Krebs CJ, O'Donoghue M, Boutin S. Contribution of late-litter juveniles to the population dynamics of snowshoe hares. *Target Journal: Oikos*. Submission Date: December 2019.

Majchrzak YN, **Peers MJL**, Studd EK, Menzies AK, Shiratsuru S, Boonstra R, Bastille-Rousseau G, Humphries MM, Krebs CJ, Kenney AJ, Murray DL, Boutin S. Individual-based food addition impacts demography and behaviour of snowshoe hares, contradicting earlier experiments. *Target Journal: Ecology Letters*, Submission Date: January 2020.

Lavergne SG*, **Peers MJL***, Mastromonaco G, Majchrzak YN, Nair A, Boutin S, Kenney AJ, Krebs CJ, Boonstra R. Hair cortisol as a reliable indicator of stress physiology in the snowshoe hare: influence of body region, sex, season, and predator-prey population dynamics. *Target Journal: General and Comparative Endocrinology*, Submission Date: January 2020. * Senior authorship jointly shared

Murray DL, **Peers MJL**, Bastille-Rousseau G, Thornton DH, Majchrzak YN. Evidence-based recovery is a necessary next step for red wolf conservation. *Target Journal: Biological Conservation*, Submission Date: January 2020.

BOOK CHAPTERS

Thornton DH & **Peers MJL**. 2020. Species Distribution Modeling. In: Murray DL and Sandercock BK, editors. *Population Ecology in Practice*. Wiley-Blackwell.

PRESENTATIONS (CO-AUTHORED PRESENTATIONS NOT LISTED)

1. **Peers MJL**. 2019. Ecology of snowshoe hares in the northern boreal forest. Oral presentation at the Hare-Lynx Workshop, Edmonton, Alberta.
2. **Peers MJL**, Majchrzak YN, Menzies AK, Studd EK, Boonstra R, Boutin S. 2019. The effect of environmental change on predator-prey dynamics. Oral presentation at the Alberta Chapter and Canadian Section of the Wildlife Society Conference, Canmore, Alberta.
3. **Peers MJL**, Konkolics SM, Majchrzak YN, Menzies AK, Studd EK, Lamb C, Garland L, Martinig AR, McCulloch B, Silva J, Boutin S. 2019. Scavenging dynamics of the northern boreal forest. Oral presentation at the Northern Research Day Student Conference, Edmonton, Alberta.
4. **Peers MJL**, Konkolics SM, Majchrzak YN, Menzies AK, Studd EK, Lamb C, Garland L, Martinig AR, McCulloch B, Silva J, Boutin S. 2019. The influence of abiotic and biotic factors on vertebrate scavenging communities. Oral presentation at the R. E. Peter Biology Conference, Edmonton, Alberta.
5. **Peers MJL**. 2019. Importance of late litters on the demography of snowshoe hare. Oral presentation at the University of Alberta, Wednesday Night Seminar Series, Edmonton, Alberta.
6. **Peers MJL**. 2018. Climate-mediated variability in predator prey dynamics. Oral presentation at the University of Alberta, Wednesday Night Seminar Series, Edmonton, Alberta.
7. **Peers MJL**. 2018. Impacts of climate change on snowshoe hares. Oral presentation at the Hare-Lynx Workshop, Edmonton, Alberta.
8. **Peers MJL**. 2018. Quantifying fear effects of prey demography in nature. Trent University Seminar, Peterborough, Ontario. (Invited)
9. **Peers MJL**, Majchrzak YN, Menzies AK, Studd EK, Boutin S. 2018. Calculating encounter rates between snowshoe hare and Canada lynx. Oral presentation at the Canadian Society for Ecology and Evolution Annual Meeting (CSEE), Guelph, Ontario. (Invited)
10. **Peers MJL**. 2018. How often does a snowshoe hare encounter a lynx? Oral presentation at the University of Alberta, Wednesday Night Seminar Series, Edmonton, Alberta.
11. **Peers MJL**, Boutin S. 2018. Quantifying fear effects on prey demography in nature. Oral presentation at the R. E. Peter Biology Conference, Edmonton, Alberta.
12. **Peers MJL**. 2017. Influence of climate on cause specific mortality in snowshoe hares. Oral presentation at the Hare-Lynx Workshop, Peterborough, Ontario.
13. **Peers MJL**, Majchrzak YN, Krebs CJ, Boonstra R, Studd EK, Menzies AK, Murray DL, Boutin S. 2017. Climate-mediated variability in predator-prey dynamics: Impacts of climate change on snowshoe hares. Oral presentation at the International Mammalogical Congress (IMC¹²), Perth, Australia.
14. **Peers MJL**, Thornton DH, Pearce E, Murray DL. 2014. Are southern range translocations likely to be viable under climate change? Oral presentation at Genomes to Biomes (CSEE) joint conference, Montreal, Quebec.
15. **Peers MJL**, Wehtje M, Thornton DH, Murray DL. 2014. Effects of climate change on Canada lynx at their southern edge. Oral presentation at the Ontario Ecology, Ethology, and Evolution Colloquium (OE3C), Guelph University.
16. **Peers MJL**, Thornton DH, Murray DL. 2013. Evidence for large-scale effects of competition. Oral presentation at the Quebec Society for the Biological Study of Behaviour Annual Meeting, Concordia University.
17. **Peers MJL**, Thornton DH, Murray DL. 2012. The influence of biotic interactions on the large-scale distribution of species. Poster presentation at the Trent Northern Studies Colloquium, Trent University.

18. **Peers MJL**, Thornton DH, Murray DL. 2012. The influence of biotic interactions on the large-scale distribution of Canada lynx and bobcat. Oral presentation at Ontario Biology Day, Laurentian University.

TEACHING EXPERIENCE

GUEST LECTURES

2019	Habitat Selection and Movement Models, Graduate, University of Alberta
2019	Comparative Environmental Animal Physiology, 3 rd Year, University of Alberta
2019	The Mountain World, 2 nd Year, University of Alberta
2019	Population Ecology, 3 rd Year, University of Alberta
2016	Predation Risk: Theory and Application, Graduate, University of Alberta
2014	Behavioural Ecology, 3 rd Year, Trent University
2013	Applied Spatial Data Analysis, Graduate, Trent University

TEACHING ASSISTANT

2019	Comparative Environmental Animal Physiology, 3 rd Year, University of Alberta
2014	Behavioural Ecology, 3 rd Year, Trent University
2013	Introductory Ecology, 2 nd Year, Trent University
2013	Current Issues in Biology II, 1 st Year, Trent University
2012	Behavioural Ecology, 3 rd Year, Trent University

MENTORING EXPERIENCE

GRADUATE SUPERVISION

2019	Joanie Lynn Kennah (NSERC CGSM), Memorial University of Newfoundland Project: Phenotypic plasticity in snowshoe hare (<i>Lepus americanus</i>) Co-supervised with Dr. Eric Vander Wal
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UNDERGRADUATE SUPERVISION

2018	Isaac Peetom Heida, University of Alberta Project: Within and between year reproductive trade-offs in snowshoe hare (<i>Lepus americanus</i>)
2013	Elizabeth Pearce, Trent University Project: Examining climate change impacts on reintroductions of North American mammals

FIELD & LAB ASSISTANTS

2018	Shotaro Shiratsuru
2018	Noah Israel
2017-18	Heather Sterling
2017-18	Rachael Ryan
2017	Edouard Belanger
2017	Juliana Balluffi-Fry
2017	Nolan Benoit
2017	Justine Benjamin
2017	Kate Bezooyen
2017	Lindsay Potts
2016-17	Laura Brazier
2016	Jess Steketee

2016	Camille Roberge
2016	Adam Sprott
2016	Dylan Yaffy
2015	Erik Vimercati
2015	Eliot Linton
2015	Samantha Stead
2015	Marina Morandini
2015	Laurence Carter

SERVICE & VOLUNTEER

REVIEWER [28 total]

Proceedings of the Royal Society B, Journal of Animal Ecology (3), Ecology, Global Ecology and Biogeography, Biology Letters, Climatic Change, Ecological Applications (2), Ecology and Evolution, Ecological Indicators (2), PLoS ONE, Ecoscience, Ethology Ecology & Evolution, Mammalian Biology (2), Arctic, Canadian Journal of Zoology, Global Ecology and Conservation, FACETS (2), Canadian Field-Naturalist, Journal of Mammalogy (2), Journal of Raptor Research, Zoology in the Middle East

VOLUNTEER

2019	Abstract Selection Committee, The Wildlife Society Conference, Reno, Nevada
2019	Organizer, Wednesday Night Ecology Seminar Series, University of Alberta
2017-2019	Organizer, Philosophy Pints Discussion Group, University of Alberta
2018	Nature walk leader, Nature Alberta Kids Program
2012-14	Abstract Selection Committee, Symons Seminar Series, Trent University, Ontario
2012-13	Volunteer, Kawartha Turtle Trauma Center, Peterborough Ontario
2012-13	Guest Instructor, Kawartha Pine Ridge District School Board, Ontario

MEDIA

RADIO & TV PROGRAMS

2019	Snowshoe hare researcher, Cannibal Hares, This Week in Science, CityNews (https://www.citynews1130.com/audio/this-week-in-science/)
2019	Snowshoe hare researcher, Radio Active with Adrienne Pan, CBC, Canada
2019	Snowshoe hare researcher, Calgary Eyeopener, CBC, Canada
2018	Snowshoe hare researcher, The Earth Rangers Podcast, Canada (https://www.earthrangers.com/wildwire/podcast/episode-5/)
2018	Snowshoe hare researcher, Remarkable Rabbits, CBC, Canada (https://gem.cbc.ca/media/the-nature-of-things/season-58/episode-18/38e815a-010ae832754)
2016	Snowshoe hare researcher, The Nature of Things, CBC, Canada (http://www.cbc.ca/natureofthings/episodes/what-trees-talk-about)
2016	Snowshoe hare/Canada lynx researcher, Wild Canadian Year, CBC, Canada (http://www.cbc.ca/wildcanadianyear/episodes/series-preview/winter)
2015	Snowshoe hare researcher on La Semaine Verte, Radio Canada (http://ici.radio-canada.ca/tele/la-semaine-verte/2015-2016/segments/reportage/4244/changements-climatiques-perdrix-lievre-toundra-yukon)
2012	Guest animal expert on Steven and Chris, CBC, Canada (http://www.youtube.com/watch?v=hw_ZT_u216g)
2012	Guest animal handler on Canada AM, CTV, Canada
2012	Animal handler on Wild Kratts, PBS, USA (https://www.youtube.com/watch?v=LqvBM0kgkJU)
2011	Guest animal handler on Daytime, Rogers TV, Canada (http://www.rogers.tv/page.aspx?lid=237&rid=2&sid=2325&pid=89369)
2011	Guest animal handler on Critter Corner, TVO, Canada

BROADCAST INTERVIEWS

- 2019 Scavenging by snowshoe hare, Calgary News at 6, CBC
(<https://www.cbc.ca/player/play/1422301251879?fbclid=IwAR14MYgCR-QCKmjY-XvgISMdwbE2ZjB97REmESjxonPaQzbN4ZrJ4RcDHU>)
- 2019 Scavenging by snowshoe hare, NorthBeat, CBC (<https://www.cbc.ca/player/play/1421587523696>)
- 2013 Effects of climate change on mammals, Newswatch, Chex TV
- 2013 Research in the lab, Newswatch, Chex TV (http://www.youtube.com/watch?feature=player_embedded&v=tdlkdF4T40o)

TEXT INTERVIEWS

- 2019 The carnivorous cannibal hares of North America, Ripley's Believe It or Not
(<https://www.ripleys.com/weird-news/snowshoe-hares/>)
- 2019 Snowshoe hare researcher, Don't be deceived: these fluffy bunnies enjoy devouring meat, The Weather Network (<https://www.theweathernetwork.com/news/articles/snowshoe-hares-eat-meat-herbivores-bunny-research-university-of-alberta/122125>)
- 2019 Snowshoe hare researcher, The Gateway, Edmonton, Canada
- 2019 Snowshoe hare researcher, Hares are cannibals and eat meat, surprising photos reveal, National Geographic (<https://www.nationalgeographic.com/animals/2019/01/snowshoe-hares-carnivores-cannibals-photos-yukon/>)
- 2019 Snowshoe hare researcher, Weird Science: killer rabbits and bird brawls, St. Albert Gazette (<https://www.stalbertgazette.com/article/weird-science-killer-rabbits-and-bird-brawls-20190111>)
- 2019 Snowshoe hare researcher, Adorable snowshoe hares found to routinely feast on their own dead: study, National Post (<https://nationalpost.com/news/canada/adorable-snowshoe-hares-found-to-routinely-feast-on-their-own-dead-study>)
- 2019 Snowshoe hare researcher, Hares seeking protein scavenge for meat and feathers, Edmonton Journal (<https://edmontonjournal.com/news/local-news/hares-seeking-protein-scavenge-for-meat-feathers-university-of-alberta-study>)
- 2019 Snowshoe hare researcher, Cameras capture unsettling uptick in Canada's meat-eating "cannibal hares", Inverse Magazine (<https://www.inverse.com/article/52305-snowshoe-hare-meat-eating-study>)
- 2019 Snowshoe hare researcher, Snowshoe hares eat meat — including other hares, CBC, Canada (<https://www.cbc.ca/news/canada/north/hares-eat-meat-1.4949438>)
- 2017 Conservation biologist, The Great Global Species Shakeup, Toronto Star, Canada
(<http://projects.thestar.com/climate-change-global-species-shakeup/index.html>)
- 2017 Snowshoe hare researcher, Fur and Fitbit, UpHere Magazine, Canada
(<https://uphere.ca/articles/fur-and-fitbit>)
- 2016 Conservation biologist, What would happen if we brought birds back from the dead, Audubon Magazine, USA (<https://www.audubon.org/news/what-would-happen-if-we-brought-birds-back-dead>)
- 2014 Student spotlight in Arthur Newspaper, Ontario (<http://trentarthur.ca/trent-student-spotlight-michael-peers-ecological-researcher/>)