



Emily S. Chenery

Doctoral Student, Quantitative Global Change Ecology Lab

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EDUCATION

2016 - <i>expected 2021</i> [GPA 4.0]	PhD, Environmental Science (emphasis: Conservation Biology) <u>University of Toronto Scarborough, Toronto, Canada</u> Thesis: <i>Host-parasite dynamics in a changing climate: Forecasting the spread potential and conservation impacts of the Winter Tick (Dermacentor albipictus) on Moose (Alces alces) and other host species in Yukon, Canada.</i> Supervisors: Dr. Péter Molnár, Dr. Nicholas Mandrak
2015 - 16 [GPA 4.0]	Master of Environmental Science , Conservation and Biodiversity <u>University of Toronto Scarborough, Toronto, Canada</u> Research: <i>Managing Uncertainty: modelling the potential spread of established aquatic invasive species in the Laurentian Great Lakes using expert-opinion and mechanistic models.</i> Supervisors: Dr. Nicholas Mandrak, Dr. Andrew Drake
2010 – 13 [Distinction]	Certificate of Higher Education, Environmental Science The Open University, UK
2005 – 08 [First Class, Dissertation Prize]	Bachelor of Arts with First Class Honours, History of Art University of Warwick, UK

HONOURS & AWARDS

2019	W. Garfield Weston Fellowship, Wildlife Conservation Society Canada (WCSC) (award for fieldwork)	\$11,530
2019	Best Presentation (Fall term) – Graduate Student Seminar Series (GSSS), UTSC.	\$50
2018 - 19	University of Toronto Fellowship (UTF) – UTSC (stipend award + tuition)	\$15,237
2018	W. Garfield Weston Fellowship, Wildlife Conservation Society Canada (WCSC) (award for fieldwork)	\$12,000
2018	Best Presentation (Applied Science & Technology) – Physical & Environmental Science Doctoral Colloquium, UTSC.	\$350
2017 - 18	University of Toronto Fellowship (UTF) – UTSC (stipend award + tuition)	\$14,836
2016 - 17	University of Toronto Fellowship (UTF) – UTSC (stipend award + tuition)	\$14,443
2016	MEnvSc. Research stipend award: Canadian Shipowners Association	\$10,000
2008	Departmental Dissertation prize (final year of BA)	£50
2005	Special commendation (outstanding achievement in first year of BA)	-

RESEARCH EXPERIENCE

Projects

- 2016 - **Doctoral Student**, University of Toronto Scarborough, Canada.
 Title: *Host-parasite dynamics in a changing climate: Forecasting the spread potential and conservation impacts of the Winter Tick (Dermacentor albipictus) on Moose (Alces alces) and other host species in the Yukon Territories, Canada.*
 - Four-year study in collaboration with Environment Yukon
 - Integrating mathematical modelling techniques with field and lab studies to determine current and future range of parasite and host impacts.
 Supervisors: Dr. Péter Molnár, Dr. Nicholas Mandrak
- Dec-Aug 2016 **Graduate Student**, University of Toronto Scarborough, Canada.
 Title: *Managing Uncertainty: modelling the potential spread of established aquatic invasive species (AIS) in the Laurentian Great Lakes using expert-opinion and mechanistic models.*
 - 6-month study conducted for the Canadian Shipowner's Association (CSA)
 - Expert input collected from 24 experts across US and Canada, for 60 AIS
 Supervisors: Dr Nicholas Mandrak, Dr Andrew Drake
- May 2015 **Volunteer Research Assistant**, Macleay Museum, Sydney, Australia.
 Title: *Museum collections of sponges (Porifera): Taxonomic classification, specimen storage and public access to records.*
 - Identifying heritage of museum specimens in Macleay collection
 - Determining strategies for long-term management of both wet and dry collection.
 Supervisor: Jude Philp (Director, Macleay Museum)
- Jun-Sep 2011 **HE Student**, The Open University, UK
 Title: *Examining urban stream health using bioindicators: benthic macroinvertebrate distribution from a point source in an urbanized stream, Cambridge, UK.*
 - Summer project comprising study design, field data collection and statistical analysis.
 Supervisor: Dr David Pearce (British Antarctic Survey / Open University)

Assistantships

- 2017 **Field Assistant** (Electrofishing crew), Mandrak Lab. Department of Biological Sciences, University of Toronto Scarborough, Canada.
- 2015 - 16 **Research Assistant**, (Work-study: Spatio-temporal community assembly, Great Lakes fishes). Mandrak Lab. Department of Biological Sciences, University of Toronto Scarborough, Canada.
- Apr – Jun 2015 **Lab Assistant**, (Desert Ecology Research Group (DERG)). Dickman Lab, Department of Biological Sciences, University of Sydney, Australia.
- Apr – Jun 2015 **Information Assistant**, (Macleay Museum). Sydney University Museums, Australia.
- Apr – Jun 2015 **Taxonomy Assistant**, (Macleay Museum, Natural History Collection Sydney University Museums, Australia.
- Jan – Jun 2015 **Field Assistant** (Invasive species). Conservation Volunteers Australia (CVA), Sydney, Australia.
- Jan 2015 **Field Assistant** (Tasmanian Devil Facial Tumour Disease (TDFTD) capture-mark-recapture study – Wilmot). University of Tasmania, Australia.
- Dec 2014 **Field Assistant** (Tasmanian Devil Facial Tumour Disease (TDFTD) capture-mark-recapture study – Takone). University of Tasmania, Australia.
- July 2013 **Field Assistant** (Terrestrial & aquatic biodiversity surveys). Operation Wallacea. Pacaya Samiria Reserve, Iquitos, Peru.

PUBLICATIONS

Peer-reviewed (published)

Chenery, E. S., D. A. R. Drake, and N. E. Mandrak. (2020). Reducing uncertainty in species management: forecasting secondary spread with expert opinion and mechanistic models. *Ecosphere* 11(4):e03011. 10.1002/ecs2.3011

(in-progress)

Chenery, E.S., N. J. Harms, N. E. Mandrak, and P. K. Molnár. (Submitted). First records of larval winter ticks (*Dermacentor albipictus*) by flagging in Yukon, Canada.

Penk., S.R., K. Bodner, J. S. Vargas Soto, **E. S. Chenery**, A. Nascou, and P. K. Molnár. (in review). Using models in multiple hypothesis testing: understanding transmission pathways for *Trichinella nativa* in the Arctic.

Stratton, N., and 8 other authors, including **E. S. Chenery** (in preparation). The role of scientific information in freshwater fish Species at Risk listing decisions in Canada.

MEDIA COVERAGE

Winter ticks in Yukon. Live studio interview on the status of current winter tick research in Yukon. CBC Radio Whitehorse, May 2019. <https://www.cbc.ca/player/play/1529285699807>

Study of larvae important piece of puzzle about winter ticks in Yukon, says researcher. Online research article on first finding of winter tick larvae during fieldwork. CBC News, October 28, 2018. <https://www.cbc.ca/news/canada/north/study-of-larvae-important-piece-of-puzzle-about-winter-ticks-in-yukon-says-researcher-1.4880032>

CONFERENCES

Presentations

- 2020 **Chenery, E.S.**, Harms, N.J., Mandrak, N.E., & Molnár, P.K. *Species (re)distributions in times of rapid change: determining the potential spread and impact of the winter tick on Yukon cervids*. North American Congress of Conservation Biology (NACCB), Denver, USA. July 2020.
- 2019 **Chenery, E.S.**, Harms, N.J., Mandrak, N.E., & Molnár, P.K. *Multidisciplinary methods to map, model and predict the spread and impact of winter tick (Dermacentor albipictus) in a changing climate*. North American Moose Conference (NAMC), Maine, USA. July 2019.
- 2018 **Chenery, E.S.**, Mandrak, N.E., & Molnár, P.K. *Model-guided Fieldwork: Using Mechanistic Models to Inform Sampling Strategies of a Range-expanding Parasite in the Yukon*. North American Congress of Conservation Biology (NACCB), Toronto, Canada. July 2018.
- 2017 **Chenery, E.S.**, Drake, D.A.R., & Mandrak, N.E. *Forecasting the secondary-spread of Aquatic Invasive Species (AIS) in the Great Lakes, using expert opinion and mechanistic models*. Conference of the International Association for Great Lakes Research (IAGLR). Detroit, USA. May 2017.

Posters

- 2017 Elmore, S.A., **Chenery, E.S.**, Larivee, M., Harms, N.J., & Molnár, P.K. *Winter ticks and cervids in the Yukon: current knowledge & future directions*. Arctic Change 2017 Conference, Québec City, Québec, Canada.

INVITED TALKS

- Oct 2019 ***Winter Ticks in the Yukon.*** Invited by Champagne-Aishihik First Nation, to an audience including Alsek Renewable Resources Council, Parks Canada. Haines Junction, Yukon, 27 October 2019.
- Sep 2019 ***Winter Ticks in the Yukon.*** Invited by Yukon Fish & Game Association, to an audience of their Executive Board of Directors. Whitehorse, Yukon, 11 September 2019.
- Oct 2018 ***Winter Ticks in the Yukon.*** Invited by Champagne-Aishihik First Nation, to an audience including Alsek Renewable Resources Council, Parks Canada. Haines Junction, Yukon, 29 October 2018.
- Sep 2018 ***Winter Ticks and Moose: advice for hunters.*** Invited by Conservation Officer Services as a guest speaker at their Moose Hunting Clinic. Whitehorse, Yukon, 6 September 2018.

MEMBERSHIPS (current)

- **Member**, Community for Emerging Zoonotic Diseases (CEZD), *Vector Borne Disease group* (part of the Canadian Animal Health Surveillance System network).
- **Student member**, Wildlife Disease Association
- **Student member**, Society for Conservation Biology (SCB) *Toronto Chapter, Freshwater working group, Conservation Marketing working group*
- **Member**, Ecology & Evolutionary Biology (EEB) Conservation Working Group, University of Toronto
- **Member**, Infectious Disease Group, University of Toronto (Member, 2016 – present)

TEACHING & ADVISING

- 2016 - **Teaching Assistant**, Department of Biological Sciences, University of Toronto Scarborough, Canada. Freshwater Ecology (*graduate, 2016, 2017*), Conservation Biology (*3rd year undergraduate, 2016, 2017*), The Role of Zoos in Conservation (*3rd year undergraduate, 2016 - present*).
- Nov 2019 - Mar 2020. **Supervision** of University of Toronto undergraduate mentees to process larval winter tick samples: Abhi Patel, Benjamin Sauder, Esme McPherson, Lauren Miller, Nivern Thurainayagam, Pieter Talens, Ruilin Yang, Zanib Sarwar.
- Oct 2018 – Mar 2019 **Supervision** of University of Alberta / Yukon College undergraduate student, Maegan McCaw in image sorting and analysis, camera trap study of the natural shed of moose winter coat (partnership with Yukon Wildlife Preserve).
- Dec 2016 – Jan 2018 **Supervision** of University of Toronto undergraduate mentees, Arunan Srikanthanathan and Ameth Garrido, to conduct literature search and dataset assembly of species-specific recovery data.

PROFESSIONAL EXPERIENCE

- 2010 - 14 **Programme Manager and Administrator: Masters in Conservation Leadership**, University of Cambridge. Cambridge, UK
- 2009 - 10 **Practice Manager and Administrator**, 5th Studio Architects. Cambridge and London, UK.
- 2008 - 09 **Assistant Project Manager**, Stride Design (web design). Cambridge, UK.

ACADEMIC SERVICE

- 2018 – **Graduate Representative**, *UTSC Graduate Admissions Process Working Group*. Office of the Vice-Principal Academic and Dean. University of Toronto Scarborough, Canada.

ACADEMIC SERVICE (cont.)

- 2018 - **Judge**, Integrative Biology research posters (2nd year undergraduate), Department of Biological Sciences, University of Toronto Scarborough, Canada.
- 2018 **PhD Representative panellist**, *Masters of Environmental Science Open House*. Department of Physical and Environmental Science, University of Toronto Scarborough, Canada.
- 2017 - 2018 **Series Co-ordinator**, *New Frontiers Seminar Series*. Office of the Vice-Principal, Research and Graduate Students Association at Scarborough. University of Toronto Scarborough, Canada.
- 2017 - **Graduate Representative**, *UTSC Campus Curriculum Council*. University of Toronto Scarborough, Canada.
- 2017 - **Graduate Representative**, *UTSC Library Advisory Committee*. University of Toronto Scarborough, Canada.
- 2016 - 2017 **MEnvSc Representative**, *Graduate Students Association at Scarborough (GSAS)*. University of Toronto Scarborough, Canada
- 2016 **Graduate Representative**, *External Review Panel for the Department of Physical & Environmental Sciences*. University of Toronto Scarborough, Canada.
- 2016 **Co-organiser and Graduate Panellist**, *Applying to Graduate School* (4th year undergraduate event), with the undergraduate Environmental and Physical Sciences Association, University of Toronto Scarborough, Canada.
- 2016 **UTSC Graduate Representative**, *Graduate Chair Search Committee*, Department of Physical & Environmental Sciences. University of Toronto, Canada.
- 2015 - **Co-organiser**, *UTSC Ecology / Evolution Journal Club for graduate students*. University of Toronto Scarborough, Canada.
- Jun 2014 **Session facilitator**, *Cambridge Conservation Forum (CCF) Annual Symposium*. Judge Business School, Cambridge, UK.
- 2013, 2014 **MPhil Representative**, *Who's Who in Conservation* evening. Student Conference on Conservation Science (SCCB), Cambridge, UK
- 2011 - 2014 **Communications Focal Point (MPhil Programme) and Department of Geography Representative**, Cambridge Conservation Initiative (CCI). Cambridge, UK.
- 2011 - 2014 **Department of Geography Representative**, Cambridge Conservation Forum (CCF) Council. Cambridge, UK.
- 2011 - 2014 **Co-organiser**, with Profs. Nigel Leader-Williams and Andrew Balmford. Cambridge Conservation Seminars. Departments of Geography, Zoology and Land Economy, University of Cambridge, UK.
- 2011 - 2012 **Communications and publicity**, Cambridge Natural History Society (CNHS) Annual Exhibition committee. CNHS, Cambridge, UK.

COMMUNITY, VOLUNTEERING & OUTREACH

- 2018 – **Project Manager**, Yukon Winter Tick Monitoring Project: iNaturalist and social media (Facebook) public awareness and Citizen Science project.
- 2016 – **Volunteer Scientist**, Canadian Association for Girls in Science (CAGIS), Toronto Chapter. Toronto, Canada.
- 2016 **Scientist**, Ontario Bioblitz, June 2016 (Freshwater). Credit River Watershed, Ontario, Canada.
- 2016 **Finalist** (Team: *Operation Feminization*), Asian Carp Canada Innovative Solutions Competition. March 2016, Toronto, Canada.
- 2015 **Community Engagement Assistant**, Wild Change Makers Community Leadership Program. The Wilderness Society, Sydney, Australia.

COMMUNITY, VOLUNTEERING & OUTREACH (*cont.*)

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| 2014 | Conference volunteer , Cities for People Forum, Evergreen. November 2014, Toronto, Canada. |
| 2014 | Field & Lab Assistant (Physical Geography Discovery Days). June 2014, Department of Geography, University of Cambridge, UK. |

OTHER

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| <i>Technical skills</i> | [basic] R Statistical Programming, Git, Matlab |
| <i>Languages</i> | English [native], Italian [beginner] |

REFERENCES - *Available upon request*