

Dr. Katharine T. Yagi

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Background

I am an applied ecologist, conservation biologist, and a passionate teacher/mentor. I believe that good foundations in our students' knowledge and applied skills will lead to better environmental leadership and a brighter future for our environment and species at risk. I am interested in understanding how flora and fauna adapt to environmental change, and how to implement management actions to affect recovery in degraded ecosystems. My investigations are designed within the framework of animal behaviour, population and community ecology, and ecological restoration.

Education

- 2012-2018: PhD, Renewable Resources, *Supervised by Dr. David M. Green*
Redpath Museum, McGill University, Canada
- 2008-2010: M.Sc., Biology, *Supervised by Dr. Jacqueline D. Litzgus*
Laurentian University, Canada
- 2004-2008: B.Sc., Biological Sciences
Guelph University, Canada

Professional Work Experience

- Aug 2020 – Dec 2020: Post Doctoral Fellow, *Supervised by Dr. Glenn Tattersall*
Brock University, Canada
- May 2020 – Jul 2020: Course Instructor (Ecology of a Changing Planet #BIOL 3P85)
Brock University, Canada
- Sep 2019 – Dec 2019: Course Instructor (Principles of Ecology BIOL 2Q04)
Brock University, Canada
- May 2019 – present: Research Associate
8Trees Inc., Canada
- Aug 2017 – May 2019: Post Doctoral Fellow, *Supervised by Dr. Glenn Tattersall*
(maternity leave from Jan 2018-Jan 2019)
Brock University, Canada
- Jun 2011 – Dec 2011: Species at Risk Biologist
Ontario Ministry of Natural Resources, Guelph District, Canada
- Nov 2010 – Jun 2011: Habitat Stewardship Technician
Land Care Niagara, Canada

May 2005 – Sep 2008
(seasonally):

Field Technician
Ontario Ministry of Natural Resources, Guelph District, Canada

Certifications

- Certified Ecological Restoration Practitioner-in-training/CERPIT (authorized by the *Society of Ecological Restoration*)
- Wetlands 101 (authorized by *Ducks Unlimited Canada*)

Funding & Bursaries

Research Funding

I have obtained, and helped to obtain, over \$400K in funding through different grants and awards to support my research.

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|----------|---|
| 2020-22 | Species at Risk Stewardship Fund, MECP <ul style="list-style-type: none"> • \$157,760 • Total awarded to 8Trees Inc. for a multi-year project; Wainfleet Bog Restoration (renewed) |
| 2019-21 | Species at Risk Stewardship Fund, MECP <ul style="list-style-type: none"> • \$87,131 (CAD) • Total awarded to 8Trees Inc. for a multi-year project; Gray ratsnake habitat suitability |
| 2018-21: | Species at Risk Stewardship Fund, OMNRF <ul style="list-style-type: none"> • \$190,385 (CAD) • Total awarded to 8Trees Inc. for a multi-year project; Human Impacts on Fowler's Toad in Niagara |
| 2017-19: | Species at Risk Stewardship Fund, OMNRF <ul style="list-style-type: none"> • \$180,500 (CAD) • Total awarded to 8Trees Inc. for a multi-year project; Wainfleet Bog Restoration |
| 2016-17: | Graduate Student Excellence Award, McGill University <ul style="list-style-type: none"> • \$5,000 (CAD) |
| 2015-16: | Graduate Student Excellence Award, McGill University <ul style="list-style-type: none"> • \$5,000 (CAD) |
| 2014-15: | Graduate Student Excellence Award, McGill University <ul style="list-style-type: none"> • \$5,000 (CAD) |
| 2009-10: | Ontario Ministry of Natural Resources and Forestry (OMNRF), Guelph District <ul style="list-style-type: none"> • \$9,050 (CAD) |
| 2008-09: | Ontario Ministry of Natural Resources and Forestry (OMNRF), Guelph District <ul style="list-style-type: none"> • \$6,050 (CAD) |

Travel Bursaries

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| 2014: | CHS travel award, Canadian Herpetological Society <ul style="list-style-type: none"> • \$250 (CAD) |
| 2013: | Delise Allison Redpath Museum Award, Redpath Museum, McGill University |

- \$500 (CAD)
- 2013: SSAR student travel award, Society for the Study of Amphibians and Reptiles
- \$500 (CAD)

Awards and Achievements

- 2010: Runner-up, Best Student Presentation, Turtle Survival Alliance
- 2003: Niagara Peninsula Conservation Authority Conservation Achievement Award
- 1998: Women in Science Award

Authorships

Published Articles

1. Yagi, A.R., R.J. Planck, **K.T. Yagi**, and G. Tattersall. 2020. A Long-term Study on Massasaugas (*Sistrurus catenatus*) Inhabiting a Partially-mined Peatland: A Standardized Method to Characterize Snake Overwintering Habitat. *Journal of Herpetology*.
2. Green, D.M., and **K.T. Yagi**. 2018. Ready for bed: pre-hibernation movements and habitat use by Fowler's Toads, *Anaxyrus fowleri*. *Canadian Field-Naturalist* 132(1):46-52.
3. **Yagi, K.T.** and D.M. Green. 2018. Post-metamorphic carry-over effects in a complex life history: behaviour and growth at two life stages in an amphibian. *Copeia* 106(1):77-85.
4. **Yagi, K.T.** and D.M. Green. 2017. Performance and Movement in Relation to Post-metamorphic Body size in a Pond-breeding Amphibian. *Journal of Herpetology* 51(4):482-489.
5. **Yagi, K.T.**, and D.M. Green. 2016. Mechanisms of density-dependent growth and survival in Fowler's toads, (*Bufo*) *Anaxyrus fowleri*: volume vs. abundance. *Copeia* 104(4):942-951.
6. **Yagi, K.T.** and J.D. Litzgus. 2013. Thermoregulation and Behavior of Spotted Turtles (*Clemmys guttata*) in a beaver-flooded bog in Southern Ontario, Canada. *Journal of Thermal Biology* 38(5): 205-213.
7. **Yagi, K.T.** and J.D. Litzgus. 2012. The Effects of Flooding on the Spatial Ecology of Spotted Turtles (*Clemmys guttata*) in a Partially Mined Peatland. *Copeia* 2012(2):179-190.

Published Natural History Notes

1. Yagi, A.R., C. Abney, and **K. Yagi**. 2018. The Young and the Restless: Postpartum Breeding and Early Onset Sexual Maturity in an Isolated Northern Population of Massasauga Rattlesnake. *The Canadian Herpetologist* 8(1):24-26.
2. **Yagi, K.T.** 2014. Toad Tales from Long Point, Ontario Part 1. *The Canadian Herpetologist* 4(2): 11-12.

Published Dissertations

1. **Yagi, K.T.** 2017. Density-dependence and dispersal mechanisms in a pond breeding amphibian. PhD Thesis. McGill University.
2. **Yagi, K.T.** 2010. The effects of flooding on the spatial ecology and thermoregulation on Spotted turtles (*Clemmys guttata*) in a southern Ontario population. MSc Thesis. Laurentian University.

Technical Reports (not published)

1. 8Trees Inc. 2020. Environmental Impact Study for Black Creek Center, Town of Fort Erie, Ontario. Prepared for the Region of Niagara. 64pp.
2. 8Trees Inc. 2020. Scoped Environmental Impact Study for 368 Aqueduct St. and 155 Gadsby Ave, City of Welland, Ontario. Prepared for the Region of Niagara. 184pp.
3. 8Trees Inc. 2020. Environmental Impact Study for 495 Bernard Ave, Town of Fort Erie, Ontario. Prepared for the Region of Niagara, 75pp.
4. Yagi, A.R., **K.T. Yagi**, et al. 2020. Building on Success: Investigating the presence of Gray Ratsnake and Eastern Foxsnake using Habitat Suitability Modelling, and occurrence information to initiate standardized monitoring in priority Niagara-Hamilton areas. Final report for 2019-20, Ministry of Environment, Conservation and Parks, 29pp.
5. Yagi, A.R., **K.T. Yagi**, C. Blott, T. Bukovics, and B. Breton. 2020. Managing an Ecological trap in a Partially Mined Peatland on the Resident Reptile Community which includes Five Species at Risk; Massasauga; Eastern Ribbon; Spotted turtle; Snapping turtle and Blanding's turtle. Final Report for 2019-20. Species at Risk Stewardship Fund, Ministry of Environment, Conservation and Parks, 79pp.
6. Yagi, A.R., **K.T. Yagi**, C. Blott, and T. Bukovics. 2019. Risk Assessment Report on Human Impacts in the Wainfleet Bog Wetland Complex: Studies of terrestrial and aquatic wintering habitat for SAR Reptiles. Unpublished report for Environment Canada and Climate Change, 29pp.
7. Yagi, A.R., **K.T. Yagi**, C. Blott, T. Bukovics, and C. Abney. 2019. Managing an Ecological trap in a Partially Mined Peatland on the Resident Reptile Community which includes Five Species at Risk; Massasauga; Eastern Ribbon; Spotted turtle; Snapping turtle and Blanding's turtle. Final Report for 2018-19. Species at Risk Stewardship Fund, Ontario Ministry of Natural Resources and Forestry, 63pp.
8. Yagi, A.R., **K.T. Yagi**, et al. 2018. Summary Report on the Assessment of Species at Risk Herpetofaunal Habitat Use and Mitigation Activities to Address Human Impacts in the Wainfleet Bog Wetland Complex. Final Report for 2017-18, Environmental Canada and Climate Change: Canadian Wildlife Service, 44pp.
9. Yagi, A.R., **K.T. Yagi**, T. Bukovics, C. Abney, and C. Blott. 2018. Managing an Ecological trap in a Partially Mined Peatland on the Resident Reptile Community which includes Five Species at Risk; Massasauga; Eastern Ribbon; Spotted turtle; Snapping turtle and Blanding's turtle. Final Report for 2017-18. Species at Risk Stewardship Fund, Ontario Ministry of Natural Resources and Forestry, 42pp.
10. Yagi A.R., and **K.T. Yagi**. 2018. Habitat Use by Two Populations of Species at Risk, Massasauga and Spotted Turtles in a partially mined peatland ecosystem (1998 to 2016). Environment Canada and Climate Change: Habitat Stewardship Fund, 24pp.
11. Green, D.M. and **K. Yagi**. 2015. Ponds for Toads. Fowler's Toad Recovery and Habitat Mitigation at Long Point, Ontario. Field report for 2015. Canadian Wildlife Service, Environment Canada.

12. Green, D.M. and **K. Yagi**. 2014. Ponds for Toads. Fowler's Toad Recovery and Habitat Mitigation at Long Point, Ontario. Field report for 2014. Canadian Wildlife Service, Environment Canada.
13. Green, D.M. and **K. Yagi**. 2013. Population ecology for Fowler's toad (*Anaxyrus fowleri*) at Long Point, Ontario, Field report for 2013. Canadian Wildlife Service, Environment Canada.
14. Green, D.M. and **K. Yagi**. 2012. Population ecology for Fowler's toad (*Anaxyrus fowleri*) at Long Point, Ontario, Field report for 2012. Canadian Wildlife Service, Environment Canada

Professional Services

I am currently a member on the COSEWIC Amphibians and Reptile Specialist Subcommittee and have served as a peer reviewer on multiple publications across several journals and have served as an academic reviewer on several project proposals for permits, and grant/funding proposals.

Professional Memberships

Jan 2021-Dec 2024: COSEWIC Amphibians and Reptiles Specialist Subcommittee member

Peer Reviewing

I have served as a peer reviewer for the following academic journals:

- Copeia
- Journal of Herpetology
- Journal of Thermal Biology
- Journal of Comparative Physiology B
- Ethology, Ecology & Evolution
- Ecosphere
- Trends in Ecology & Evolution

Conference and Seminar Organization

- 2021: Graduate Science Student seminars, Brock University; mobilized members, created the group, appointed grad student leaders, organize the meetings over MS Teams.
- 2015: Biology graduate student seminars (Redpath Museum), McGill University; organize monthly schedule of speakers and coffee/food providers, manage e-mail communications
- 2014: Biology graduate student seminars (Redpath Museum), McGill University; organize monthly schedule of speakers and coffee/food providers, manage e-mail communications
- 2010: Ontario Ecology and Ethology Colloquium (OEEC), Sudbury, ON; collecting funding support

Other Professional Activities

I participate in a variety of ecological programs from different societies (i.e., the Society for Ecological Restoration (SER), Ecological Society of America (ESA), and Canadian Herpetological Society (CHS)).

My activities range from participating in webinar series, joining scheduled meetings/collaborative

discussions, and testing new discussion forums on new websites. I have also spearheaded the development of a new co-op program at Brock University for students majoring in Biology.

Current Society Memberships:

- American Society for Ichthyologists and Herpetologists (ASIH)
- Ecological Society of America (ESA)
- Canadian Herpetological Society (CHS)
- Canadian Society of Zoologists (CSZ)
- Herpetologists League (HL)
- Society for Ecological Restoration (SER)
- Society for the Study of Amphibians and Reptiles (SSAR)

Conference Presentations

I have given over 25 presentations about my research to academic audiences. My academic presentations have been at national and international conferences, like the World Congress of Herpetology, Joint Meeting of Ichthyologists and Herpetologists, Canadian Herpetological Society, and the Quebec Center for Biodiversity Science. A full list can be provided upon request.

Teaching and Supervisory Experience

Throughout my academic experiences, I have had the opportunity to work with a variety of undergraduate and graduate students conducting research in the field of ecology, conservation, and restoration. I have also had the opportunity to teach both laboratory and field components of several classes, and guest lecture courses.

Student supervision

Current students

2020:	Natalia Gurgacz-Safianowicz	Honors thesis (4F90/91)	Co-supervisor (Dr. Liette Vasseur)	Brock University
2020:	Rylee Goerlitz	Honors thesis (4F90/91)	Co-supervisor (Dr. Liette Vasseur)	Brock University
2020:	Rebecca Anderson	Honors thesis (4F90/91)	Co-supervisor (Dr. Liette Vasseur)	Brock University
2020:	Matthew Jung	Honors thesis (4F92)	Co-supervisor (Dr. Glenn Tattersall)	Brock University
2020:	Matthew Jung	MITACS student	Co-supervisor (Dr. Glenn Tattersall)	Brock University

Previous students

2019:	Matthew Jung	USRA, NSERC student	Co-supervisor (Dr. Glenn Tattersall)	Brock University
2018:	Curtis Abney	M.Sc.	mentor	Brock University
2017:	Omar Espino	Honors thesis	mentor	Brock University
2015:	Edith Shum	Honors thesis	mentor	McGill University
2014:	Flavia Papini	M.Sc.	mentor	McGill University
2012:	Flavia Papini	Honors thesis	mentor	McGill University

Course Instruction

As noted above, I was a Sessional lecturer at Brock University for two courses:

2020: BIOL/ERSC/GEOG 3P85 (Ecology of a Changing Planet)

- Duties for this course include conducting lectures and seminars, coordinating with TAs, scheduling meetings with students, creation of the syllabus, new lecture slides, assignments, tests, and evaluation criteria. This course was offered online during Spring 2020 due to covid-19 pandemic restrictions.

2019: BIOL 2Q04 (Principles of Ecology)

- Duties for this course included conducting lectures, creating new lecture materials (i.e. lecture slides, quizzes, tests), enhancing/editing existing course material, grade exams/papers, meet with students as needed, organize/enter grades, assist students as needed (i.e. SAS accommodations).

Teaching Assistantships

2016:	BIOL 465 (Conservation Biology)	McGill University
2016:	BIOL 215 (Ecology and Evolution)	McGill University
2015:	REDM 400 (Science and Museums)	McGill University
2015:	BIOL 465 (Conservation Biology)	McGill University
2014:	REDM 400 (Science and Museums)	McGill University
2014:	BIOL 427 (Herpetology)	McGill University
2013:	BIOL 112 (Cell and Molecular Biology)	McGill University
2013:	BIOL 111 (Organismal Biology)	McGill University
2012:	REDM 400 (Science and Museums)	McGill University
2012:	BIOL 111 (Organismal Biology)	McGill University
2010:	BIOL 3726EL (Animal Histology)	Laurentian University
2010:	BIOL 2706EL (Vertebrate Form and Function)	Laurentian University
2009:	BIOL 3726EL (Animal Histology)	Laurentian University
2009:	BIOL 2706EL (Vertebrate Form and Function)	Laurentian University
2008:	BIOL 1506EL (Biology I)	Laurentian University

Guest Lectures and Presentations

2020:	Population Viability Analysis; BIOL 5P22 – Brock University
2019:	Density-dependence and Dispersal Mechanisms in a Pond breeding Amphibian; BIOL 4P05 – Brock University
2014:	Mechanisms of Dispersal in Pond breeding amphibians; BIOL 5P85 – Brock University
2014:	Strategies of Dispersal in Amphibians; ENVB 305 – McGill University

Volunteer Experience

Over the years, I have had the opportunity to deliver a variety of informal education through public outreach and community science programs. I have given presentations to elementary and high schools on various topics in ecology, conservation, herpetology, and local species at risk, and I was a judge for local science fairs on multiple occasions.

2020:	Herpetology 101 and Species at Risk in Niagara Region (virtual presentation) – Bert Miller Nature Club
2019:	Volunteer teaching assistant for BIOL 4P05 (Ecology field course) – Brock University
2019:	The Many Roads to Turtles and Toads (presentation); Grade 11 Biology – Centennial Secondary School, Welland, Canada

- 2019: Niagara Regional Science Fair (judge); Grade 9 – 12; Brock University, St. Catharines, Canada
- 2016: Species at Risk in Niagara (presentation); Grade 11 Biology – Sir Sandford Fleming High School, Niagara Falls, Canada
- 2016: Science Fair (judge); Grade 9 – 12; The Study, Montreal, Canada