

Caitlin Cunningham

Assistant Professor, Teaching Stream
Department of Geography and Planning
University of Toronto (St. George)

EDUCATION

2024 (Expected): **PhD.** Dalhousie University
2017: **MES.** Dalhousie University
2014: **HBEM (Specialization in Conservation Planning and Management)**
Lakehead University

PEER-REVIEWED PUBLICATIONS

7. **Cunningham, C.**, Beazley, K., Bush, P. & Brazner, J. (2024). Addressing the Boundary and Modifiable Areal Unit Problems Simultaneously when Measuring Landscape Fragmentation Using Patch-Based Metrics: a Case Study of Effective Mesh Size in Nova Scotia, Canada. *Environmental Modelling & Assessment*. DOI: 10.1007/s10666-023-09950-w
6. Shaw, J., **Cunningham, C.**, Harper, S., Ragazzon-Smith, A., Lythgoe, P. & Walker, T. (2023). Biomonitoring of heavy metal(l) pollution in Northwest England by citizen scientists. *Environmental Advances*. 13:100406. DOI: 10.1016/j.envadv.2023.100406
5. Botchwey, B. & **Cunningham, C.** (2021). The politicization of protected areas in Canada. *FACETS*. 6:1-23. DOI: 10.1139/facets-2020-0069.
4. Charlebois, S., **Cunningham, C.**, Caron, I., Music, J. & Somogyi, S. (2019). A review of food recalls in Canada: A nationwide survey. *Food Production Trends*. 39(4): 317-325.
3. Charlebois, S., Somogyi, S., Music, J. & **Cunningham, C.** (2019). Biotechnology in food. Canadian attitudes towards genetic engineering in both plant- and animal-based foods. *British Food Journal*. 121(12): 3181-3192. DOI: 10.1108/BFJ-07-2018-0471.
2. **Cunningham, C.** & Beazley, K. (2018). Changes in Human Population Density and Protected Areas in Terrestrial Global Biodiversity Hotspots, 1995–2015. *Land*. 7(4): 136. DOI: 10.3390/land7040136.
1. **Cunningham, C.**, Tyedmers, P. & Sherren, K. (2018). Primary data in pollination services mapping: Potential service provision by honeybees (*Apis mellifera*) in Cumberland

and Colchester, Nova Scotia. *International Journal of Biodiversity, Ecosystem Services and Management*. 14(1): 60 – 70. DOI: 10.1080/21513732.2017.1417331

OTHER PUBLICATIONS

Theses:

2. **Cunningham, C.** (2017). Enhancing ecosystem services mapping with primary data: Opportunities to expand Nova Scotia's managed pollination services capacity. Unpublished MES Thesis, School for Resource and Environmental Studies, Dalhousie University, Halifax, Nova Scotia. pp. 112.
1. **Cunningham, C.** (2014). A scenario analysis of food insecurity in remote communities of northwestern Ontario. Unpublished HBEM Thesis, Faculty of Natural Resource Management, Lakehead University, Thunder Bay, Ontario. pp. 90.

Reports:

3. Wall, J., Baker, T., **Cunningham, C.**, Lukawiecki, J., Scanlan, R., Moola, F., Westwood, A. (2022). Seeing and safeguarding biocultural connectivity between the Kluskap Indigenous Protected and Conserved Area and the Bras d'Of Lake Biosphere Reserve. Report prepared for the Unama'ki Institute of Natural Resources.
2. Nova Scotia Crown Share Land Legacy Trust. (2021). [Wildlife Corridor Landscape Design Charrette: Chebucto-Timberlea-Sandy Lake area of Halifax, NS. Summary Document](#). Nova Scotia Crown Share Land Legacy Trust, Halifax, NS. 55 pp.
1. **Cunningham, C.**, Beazley, K., Bush, P. & Brazner, J. (2020). [Forest Connectivity in Nova Scotia](#). Report by Dalhousie University in partnership with Nova Scotia Department of Lands and Forestry. 88 pp.

Articles:

1. **Cunningham, C.** (Fall 2020). Ecological Connectivity in Nova Scotia. [Biolink: Official Newsletter of the Atlantic Society of Fish and Wildlife Biologists](#). p. 13.

AWARDS AND HONOURS

2023: *Early Career Award, Wild Animal Welfare*, NYU Wild Animal Welfare Program
2020: *Honourable Mention, Best Student Presentation*, International Association for Landscape Ecology – North American Chapter
2019-22: *President's Award*, Dalhousie University
2019: *Young Scholar Award*, ESRI Canada
2014: *Gold Medal Award*, Canadian Institute of Forestry

2014: *Dean Braun Medal for Natural Resources Management*, Lakehead University
2009-14: *Dean's Honour List*, Lakehead University

GRANTS AND SCHOLARSHIPS

Grants:

2020: *Accessibility and Accommodations Fund*, Dalhousie University. Project: Optimizing autonomous and authentic course-based learning through interactive multi-media story maps (PI Dr. Karen Beazley) (\$2,500)

Scholarships:

2020: *Open Think*, Dalhousie University (\$1,500)

2019-22: *Alexander Graham Bell Canada Graduate Scholarship-Doctoral (CGS-D3)*, Natural Sciences and Engineering Research Council of Canada. Project: Conservation in the city: The role of urban areas in contributing to biodiversity conservation (\$105,000)

2018-22: *Nova Scotia Graduate Scholarship*, Government of Nova Scotia. Project: Biodiversity Conservation in Nova Scotia's Urban Areas. (\$60,000)

2017: *ESRI Canada GIS Scholarship*, ESRI Canada. (\$1,500)

2015-16: *Alexander Graham Bell Canada Graduate Scholarship – Master's Program*, Natural Sciences and Engineering Research Council of Canada. Project: The Carrying Capacity of Honeybee Colonies in Nova Scotia. (\$17,500)

2009-11: *Academic Excellence Scholarship*, Lakehead University (Tuition x3 yrs)

TEACHING

Graduate/Undergraduate Teaching:

Saint Mary's University

2024: Winter: BIOL 4422: Conservation Biology, 34 students

2023: Winter: BIOL 4422: Conservation Biology, 21 students

Dalhousie University

2024: Summer: EARTH 3500/GEOG 3500/ ENVS 3500: GI Science and Spatial Data, 12 students

2023: Fall: EARTH 3500/GEOG 3500/ ENVS 3500: Geoscience Information Management (Lab Instructor), 91 students (6 sections)

ENVS 2100: Environmental Informatics (Lab Instructor), 70 students (2 sections)

2022: Fall: EARTH 3500/GEOG 3500/ ENVS 3500: Geoscience Information Management (Lab Instructor), 84 students (5 sections)
2021: Fall: ENVI 5047/MGMT 4047: Biodiversity Conservation System Design, 19 students
Winter: ENVI 5047/MGMT 4047: Biodiversity Conservation System Design, 22 students

Teaching Assistant:

Dalhousie University

2024: EARTH 5520: GIS Applications, 3 students
EARTH 4520/GEOG 4520: GIS Applications, 43 students
EARTH 5600: Exploring Geographic Information Systems, 8 students
2023: BIOL 4850/ENVS 4850/ EARTH 4850/ GEOG 4850/ SCIE 4850: Geographic Information Science Research Project, 10 students
2022: ENVI 5507/INFO 6681: Environmental Informatics, 39 students
2020: ENVI 5047/MGMT 4047: Biodiversity Conservation System Design, 25 students
2019: ENVI 5047/MGMT 4047: Biodiversity Conservation System Design, 16 students
2018: BIOL 2060: Introductory Ecology, 26 students
BIOL 2060: Introductory Ecology, 28 students
2017: BIOL 3061: Communities and Ecosystems, 57 students
SUST 3000: Environmental Decision Making, 53 students
MGMT 1702: Ecosystem Goods and Services, 45 students
2016: SUST 3000: Environmental Decision Making, 58 students

Guest Lectures:

University of California, Los Angeles

2022: LAW 165: Animal Law Through Scholarship. *Wildlife and the right to the city: If wildlife have rights, what does it mean for urban planning and design?*

American University

2021: CORE-105 Complex Problems Seminar: Urban Ecology: Future of Wild. *Urban Biodiversity Conservation: How do we share cities with wildlife?*

Dalhousie University

2019-20: ENVS 3100: Environmental Analytics. *Measuring Conservation Progress in the Biodiversity Hotspots.*
2019: MGMT 3701: The Community as a Living Laboratory. *Cities as Spaces Where Biodiversity Can Thrive.*
2018-19: ENVI 5047: Biodiversity Conservation System Design. *Urban Wildlife Conservation: Cities as Part of Biodiversity Conservation Strategies*

Professional Development:

2022: Certificate in University Teaching and Learning. *Dalhousie Centre for Learning and Teaching*.

2019: Esri Education Summit. *Esri User Conference*. July 5-7. San Diego, California.

Workshops and Sessions on Teaching and Learning in Higher Education:

- Students as Partners: Pedagogies & Practices (7/7/2023)
- Co-Existing with Artificial Intelligence (5/7/2023)
- Summer Assessment Retreat (4/7/2022 – 8/7/2022)
- CARE for Inclusion and Equity in Learning Environments (16/6/2022)
- How to Make Cross-Cultural Teamwork Actually Work (26/5/2022)
- Rethinking Your Assessments (13/4/2022)
- Receiving and Using Feedback on Your Teaching (23/3/2022)
- Ethical Principles for University Teaching: 25 Years Later (9/3/2022)
- Holistic Evaluation of Teaching: Feedback and Evidence from Peers (2/3/2022)
- Introduction to Gamification and Game-Based Learning in Higher Education (11/2/2022)
- Motivating Students to Learn: Important Factors and Strategies (12/1/2022)
- Bring and Inclusive Mindset to Your Teaching (8/10/2021)
- Decolonizing the Curriculum in STEAM Education (2/10/2021)
- Mental Health 101: Recognizing and Responding to Students in Distress (24/9/2021)
- Giving Constructive Feedback on Student Writings (2/9/2021)
- Facilitating and Moderating Online Discussions for Student Engagement (2/9/2021)
- Understanding Equity, Diversity and Inclusion (EDI) in Teaching (1/9/2021)
- Foundations in Online Course Design (5/2020 – 8/2020)

INVITED TALKS

Departmental Seminars:

2022: *A more-than-human right to the city: Advancing the case for urban wildlife and moving from theory to practice*. Philosophy Department Colloquium, Dalhousie University. August 19. Halifax, Nova Scotia.

Invited Symposium Talks and Workshops:

2023: *A more-than-human right to the city: Advancing the case for urban wildlife and moving from theory to practice*. NYU Workshop on Wild Animal Welfare. Hosted by NYU Wild Animal Welfare Program. November 4. New York, New York.

2023: *Co-Beneficial Adaptations: A Workshop on how cities can integrate wildlife into local policy*. Hosted by NYU Environmental Studies and NYU Law's Guarini Center on Environmental, Energy, and Land Use Law. August 9. Virtual.

- 2023: *The Chebucto Peninsula and Moose Habitat Connectivity*. Nature Talks Webinar Series, Nature Nova Scotia. Panelist. January 10. Virtual.
- 2021: *Forest Connectivity in Nova Scotia: Effects on Wildlife Movement*. Mersey Tobeatic Research Institute Seminar Series. January 27. Kempt, Nova Scotia.
- 2020: *Transformational Politics of the Wild*. Panelist. February 28. Halifax, Nova Scotia.
- 2019: *Measuring forest connectivity in Nova Scotia: Comparing a variety of methods to gain perspective*. Canadian Maritimes Ecological Connectivity Forum. April 24-25. Halifax, Nova Scotia.
- 2018: *Opportunities for Expanding Nova Scotia's Pollination Services Capacity*. Nova Scotia Beekeepers Association Annual General Meeting. March 2-3. Dartmouth, Nova Scotia.
- 2015: *Research on Honeybee Forage*. Nova Scotia Beekeepers Association Annual General Meeting. February 27-28. Kentville, Nova Scotia.

Workshop Facilitation:

- 2022: *Introduction to GIS and Map Making*. Dalhousie Integrated Science Program. September 13. Halifax, Nova Scotia.
- 2022: *Evaluating the Quality of Spatial Data Quality: How do we do it?*. Atlantic Canada Species At Risk Habitat Modelling Community of Practice Meeting. May 27. Virtual Meeting.
- 2019: *Introduction to Story Maps*. Dalhousie University Libraries Research Boot Camp. June 6. Halifax, Nova Scotia.
- 2019: *Geospatial Workshop: Beginner GIS*. International Oceans Institute: Ocean Governance: Policy, Law and Management. June 5. Halifax, Nova Scotia.
- 2018: *Introduction to GIS*. SHAD Dalhousie. July 25. Halifax, Nova Scotia.
- 2018: *Mapping and GIS for Journalists*. University of King's College Data Journalism School. June 25 - July 2. Halifax, Nova Scotia.
- 2018: *Geospatial Workshop: The Effects of Sea Level Rise in Small Coastal Communities*. International Oceans Institute: Ocean Governance: Policy, Law and Management. June 14. Halifax, Nova Scotia.

CONTRIBUTED TALKS (presenting author only)

- 2022: *Understanding the spatial dynamics of urban human-wildlife interactions using observations recorded in iNaturalist*. International Association for Landscape Ecology – North America Annual Meeting. April 11-14. Remote Virtual Conference.
- 2021: *What are urban wildlife owed in the multispecies city?* Canadian Animal Law Conference. October 1-3. Remote Virtual Conference.

- 2020: *Developing a method to examine changes in patch-based metrics across a landscape: A case study of effective mesh size in Nova Scotia, Canada*. International Association for Landscape Ecology – North America Annual Meeting. May 11-14. Remote Virtual Conference. *Honourable Mention, Best Student Presentation
- 2018: *Primary Data in Pollination Services Mapping: Potential Service Provision by Honeybees (*Apis mellifera*) in Cumberland and Colchester, Nova Scotia*. US Region of International Association for Landscape Ecology Annual Meeting. April 8-12. Chicago, Illinois.
- 2016: *Identifying Priority Areas for Conserving Wildlife Habitat Connectivity in the Context of Road Ecology and Climate Change in Nova Scotia*. Canadian Association for Geographers Annual Meeting. May 30-June 4. Halifax, Nova Scotia.
- 2016: *The Honeybee Colony Carrying Capacity of Nova Scotia*. US Region of International Association for Landscape Ecology Annual Meeting. April 3-6. Asheville, North Carolina.

POSTER PRESENTATIONS (*presenting author only*)

- 2021: *Comparing multiple methods to measuring and mapping forest connectivity*. International Association for Landscape Ecology – North America Annual Meeting. April 12-16. Remote Virtual Conference.
- 2019: *Evaluating global conservation priorities: Human population density and protected areas in the biodiversity hotspots*. ESRI User Conference. July 8-12. San Diego, California.
- 2017: *Enhancing Ecosystem Services Mapping Through Primary Data: A Case Study of Potential Honeybee (*Apis mellifera*) Abundance in Cumberland and Colchester Counties, Nova Scotia, Canada*. ESRI Canada Local User Conference. November 14-15. Halifax, Nova Scotia.
- 2016: *Quantifying Honeybee Habitat in Nova Scotia*. Canadian Association for Geographers Annual Meeting. May 30-June 4. Halifax, Nova Scotia.
- 2015: *Still Standing: Building Resiliency in the Forest Industry of Queens County, Nova Scotia*. Management Without Borders Symposium. December 8. Halifax, Nova Scotia.
- 2014: *A Scenario Analysis of Food Insecurity in Remote Communities of Northwestern Ontario*. Lakehead Undergraduate Research Day. March 5. Thunder Bay, Ontario.
- 2013: *Potential for Woody Biomass Energy Production in Northwestern Ontario*. Canadian Institute of Forestry Annual General Meeting. September 15-18. Corner Brook, Newfoundland.

PROFESSIONAL SERVICE

Peer Review:

Conducted reviews in Applied Geomatics, PeerJ, Society and Natural Resources, Urban Forestry and Urban Greening, Scientific Reports

Professional Memberships:

2015 – : International Association for Landscape Ecology – North America.

2016 – : Canadian Association of Geographers.

University Service:

2022: *Student Representative*, Early Career Faculty Teaching Award Selection Committee, Dalhousie University.

Committees and Organizations:

2023-24: *Awards Committee*, Member, International Association for Landscape Ecology – North America.

2021-22: *Steering Committee*, Student Mentorship Program, International Association for Landscape Ecology – North America

2021-22: *Organizing Committee*, International Association for Landscape Ecology – North American Chapter Annual Meeting.

2020 -22: *Graduate Student Representative*, International Association for Landscape Ecology – North American Chapter Executive Committee.

2018 -23: *Student Associate*, Esri Canada Centre of Excellence

2014 -15: *Co-Chair*, School for Resource and Environmental Studies Student Society. Dalhousie University. Halifax, Nova Scotia.

2013 -14: *Organizing Committee*, Opportunities for Natural Resources Professionals in the Development of the Far North: 45th Annual Faculty of Natural Resources Management Symposium. Thunder Bay, Ontario.

2011-14: *Communications Officer*, Lakehead University Forestry Association. Lakehead University. Thunder Bay, Ontario

SCIENCE COMMUNICATION AND OUTREACH

Science Communication:

2020 - Present: *Skype A Scientist Volunteer*. Engage with 3-5 K-12 classrooms each semester on topics including cartography, urban ecology, and what it is like to be a woman in STEM and/or a first-generation student.

2020: [Backyard Conservation: Helping the Wildlife in our Neighbourhoods](#), Skype A Scientist Live Stream Series.

2020: [No Time Like the Presentation](#), Skype A Scientist SciComm Mini-Conference.

Blogs:

[Open Think](#): Empowering Dalhousie PhD students to influence public discourse and policy

[Esri Canada Centers of Excellence](#): The latest in GIS technology in higher education

WORK EXPERIENCE

Research Assistant:

2022: *Biocultural Connectivity*, Dalhousie University/Conservation Through Reconciliation Partnership

2018-20: *Forest Connectivity*, Dalhousie University/Nova Scotia Lands and Forestry

2013-14: *Restoration Ecology*, Lakehead University

Other Academic Work Experience:

2018-21: *GIS Centre*, Dalhousie University

2010-14: *Tutor*, Lakehead University

Non-Academic Work Experience:

2017: *Plant and Pollinator Information Intern*, Canadian Wildlife Federation

2014: *Conservation Educator*, Town of Okotoks

2013: *Lead Biologist*, Camp Hurontario

2012 -13: *People and Conservation Officer*, Mokala National Park: South African National Parks

2010,11: *Land Reclamation and Invasive Plant Control Crew*, Jasper National Park: Parks Canada