

BEN R. COLLISON

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EDUCATION

- 2023 – Interdisciplinary PhD, Dalhousie University
Working dissertation title: Forest management approaches to mitigate impacts to freshwater fish habitat in the Wabanaki forest region. Supervisor: Dr. Alana Westwood.
- 2020 – 22 Master of Resource & Environmental Management, Dalhousie University
- 2016 – 20 BSc Environmental Science, University of Lethbridge

EMPLOYMENT RECORD

- 2021 – 24 Integrated Planning Biologist, Fisheries and Oceans Canada – Maritimes Region
- 2019 – 20 Aquatic Invasive Species Inspector, British Columbia Conservation Officer Service
- 2018 Forest Technician, Creston Community Forest

RESEARCH CONTRIBUTIONS

Refereed journal articles

4. Kingsbury, S., **Collison, B. R.**, Daigle, R., Hogan, J. D., Lowen, B., Lowles, A. G., Stortini, C., Trudel, M., & Tuziak, S. M. (2024). A new tool for setting biodiversity management priorities adapted from aquatic invasive species management: A pilot using Atlantic salmon (*Salmo salar*) in Nova Scotia, Canada. *Ecological Solutions and Evidence*, 5(2), e12340.
3. **Collison, B. R.**, Reid, P. A., Dvorski, H., Lopez, M. J., Westwood, A. R., & Skuce, N. (2022). Undermining environmental assessment laws: post-assessment amendments for mines in British Columbia, Canada, and their potential impacts on water resources. *FACETS*, 7(1), 611-638.
 - Altmetric attention score: [259](#), 6th out of 509 articles in *FACETS*
 - Media coverage: CBC News, Globe & Mail, Global News, and an estimated 25 other outlets
2. Simpson, K., & **Collison, B. R.** (2022). International law application to transboundary pollution: solutions to mitigate mining contamination in the Elk – Kootenai River watershed. *Journal of Environmental Law & Policy*, 2(2), 29-55.
1. **Collison, B. R.** (2021). Spatial analysis of pumped hydro energy storage integration with wind farms in Nova Scotia. *Dalhousie Journal of Interdisciplinary Management*, 16(1), 1-21.

Non-refereed journal articles

1. Green, A. R., Murphy, A., **Collison, B. R.**, Sánchez-Nivicela, M., Anderson, H., Morano, J. L., Williams, T. D., & Wilkinson, C. E. (2022). A response to Cafaro, Hansson & Götmark: Shifting the narrative from overpopulation to overconsumption. *Biological Conservation*, 273, 109698.

Technical reports & policy commentaries

6. Murray, C. A. E., **Collison, B. R.**, Gromack, A. G., Lawler, M. M., Tuziak, S. M., & Butler, S. M. M. (2024). A fine scale approach to riparian habitat classification and spatial analysis in the St. Mary's River, Nova Scotia, Canada. Canadian Technical Report of Fisheries and Aquatic Sciences. 3610: viii + 61p. Available [here](#).
5. Westwood, A. R., Stewart, I. G., Mackellar, A., **Collison, B. R.** (2023). Position paper: Environmental Assessment (EA) Engagement for modernizing EA in Nova Scotia. Submitted to the Government of Nova Scotia Department of Environment and Climate Change (10 signatories). Available [here](#).

4. **Collison, B. R.**, & Gromack, A. G. (2022). Importance of riparian zone management for freshwater fish and fish habitat protection: analysis and recommendations in Nova Scotia, Canada. Canadian Technical Report of Fisheries and Aquatic Sciences. 3475: viii + 71p. Available [here](#).
3. Westwood, A. R., Bailie, J., Ceci, S., **Collison, B. R.**, Machat, H., McLean, S., MacNeill, B., Niesink, C., Shaw, Sodeinde, O., J., Suppanz, S., Sutton, P., & Vail, C. (2021). Submitted to the Government of Nova Scotia regarding the Revised Old Growth Forest Policy. Westwood Lab, Dalhousie University, 11pp. Available [here](#).
2. **Collison, B. R.** (2021). Private managed forest: A case study and spatial analysis of logging exploitation in the Kootenay region of British Columbia. Prepared for Wildsight. 42pp. Available [here](#).
1. Westwood, A. R., Bailie, J., Cameron, J., Carter, L., Ceci, S., Clarke, M., **Collison, B. R.**, Deblois, K., Dvorski, H., Gardner, D., Haddad, C., Kavanagh, D., Lopez, M., & Reid, P. (2020). Submission on concerns and recommendations related to the proposed Valentine Gold project in Newfoundland and Labrador. Prepared for the Impact Assessment Agency of Canada. 65pp. Available [here](#).

CONFERENCE & LECTURE CONTRIBUTIONS

Academic conferences (presenter(s) indicated by *)

4. **Collison, B. R.***, Mines, S., & Westwood, A. (2024). Risks of mining scope creep in Canada from a modern mineral rush. International Association of Impact Assessment Conference, Dublin, Ireland [International, 70 participant audience].
3. **Collison, B. R.*** (2024). Effects of boreal and hemiboreal forest harvest on freshwater salmonid habitat: A systematic review protocol. Society of Canadian Aquatic Sciences Conference, Fredericton, NB [National, 80 participant audience].
2. **Collison, B. R.***, Westwood, A.*, & Horvath, C.* (2023). Cumulative effects assessment: Challenges and perspectives, and what lies ahead. Invited panelist, Cumulative Effects and Environmental Management Conference, Halifax, NS [Regional, 100 participant audience].
1. **Collison, B. R.***, Reid, P. A., Dvorski, H., Lopez, M. J., Westwood, A. R., & Skuce, N. (2022). Undermining environmental assessment laws? The potential impact of mining project amendments on water resources in British Columbia. International Association of Impact Assessment Conference, Vancouver, BC [International, 60 participant audience].

Invited campus or departmental talks

1. **Collison, B. R.***, & Foster, D.* (2024). Applying your skills at the desktop and in the field: Lessons from the forest-freshwater interface. SRES Seminar, Dalhousie University, Halifax, NS.

SCHOLARSHIPS

2024	NSERC Canada Graduate Scholarship (CGS) – Doctoral (\$120,000/3y)
2024	Dalhousie University – OpenThink Scholarship (\$1,500)
2023	Dalhousie University – Nova Scotia Graduate Scholarship (\$60,000/4y)
2023	Dalhousie University – NSERC Create, Leaders in Energy Sustainability (\$16,000)
2023	Dalhousie University – Faculty of Management Small Research Fund (\$900)
2018 – 19	University of Lethbridge – Students' Union Quality Initiatives Scholarships (2 x \$1,600)
2017 – 18	Pat Fletcher Foundation – Golf Scholarships (2 x \$1,100)
2016	University of Lethbridge – Entrance Scholarship (\$1,000)

RESEARCH GRANTS

Investigators*	Title	Funding Source	Year(s)	Grant amount
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Westwood, A. (PI), & Collison, B. (co-I)	Spatio-temporal analysis of mining in Canada	Wilburforce Foundation	2023 - 2025	\$32,935
Westwood, A. (PI), Heung, B. (co-I), Taylor, A. (co-I), Cameron E. (co-I), Collison, B. (collab), + 12 collab, + 7 partners	Maximizing positive outcomes for biodiversity, recreation, and carbon market valuation through Nova Scotia's transition to ecological forestry	Province of Nova Scotia Forestry Innovation Transition Trust	2023 - 2028	\$1,574,720

* Acronyms: PI = principal investigator, co-I = co-investigator; collab = collaborator/co-applicant; partner = external partner organizations

TEACHING

* at Dalhousie University unless otherwise indicated

Instructor

- 2024 – Management of Natural Resources and the Environment, 34 students [graduate]
- 2024 Environmental Science Capstone, 42 students [undergraduate]

Invited guest lectures

- 2023 Environmental Studies Capstone Project, 14 students [graduate], University of Washington
- 2022 Environmental Impact Assessment, 25 students [graduate]
- 2021 Environmental Impact Assessment, 27 students [graduate]

Teaching assistant

- 2023 Management of Natural Resources and the Environment, 31 students [graduate]
- 2023 Global Biogeochemical Cycles, 36 students [undergraduate]
- 2020 Writing for the Sciences, 16 students [undergraduate]

STUDENT SUPERVISION

Graduate supervision

- 2023 Joy Rivers, Fisheries management in Napu'saqnuq (St. Mary's River) and alignment with Atlantic Salmon (*Salmo salar*) conservation through an Ecologically Significant Area case study. Master of Marine Management, Dalhousie University. Co-supervised by Aimee Gromack, Fisheries and Oceans Canada.

Undergraduate thesis supervision

- 2024 – Mary Legorburu, Effects of forestry road crossings on stream macroinvertebrate communities. BSc Hons thesis, Dalhousie University. Co-supervised by Dr. Alana Westwood.
- 2024 Rosie Bleyer, Identifying and prioritizing barriers to Atlantic salmon habitat connectivity in Napu'saqnuq (St. Mary's River), Mi'kma'ki (Nova Scotia, Canada). BSc Hons thesis, Dalhousie University. Co-supervised by Dr. Alana Westwood.

SCIENCE COMMUNICATION & OUTREACH

Written Pieces

- 2024 – 'Critical' minerals (pt. 3): Cumulative effects. OpenThink Blog Series, Dalhousie University. Available [here](#).

- 2024 Fining big polluters can reduce environmental damage, but only if the fines match the crimes. *The Conversation Canada*. Available [here](#).
- 2023 Canada risks falling behind in aquatic science research when graduate students and postdocs aren't paid a living wage. *The Current*, 2. Available [here](#).

Interview features

- 2024 Does Canada fine industrial polluters enough to make a difference? *The Big Story Podcast*. Available [here](#).
- 2023 A community transformed from mining town to resort destination. It doesn't want to go back. *The Narwhal*. Available [here](#).
- 2022 Environmental safeguards at B.C. mines are being eroded by amendments, study says. *The Canadian Press*. Available [here](#).
- 2022 Western mining boom puts salmon species at risk, study warns. *Globe & Mail*. Available [here](#).
- 2021 Private land logging: Impacts on Elk Valley ecosystem. *Wildsight Blog*. Available [here](#).

PROFESSIONAL / VOLUNTEER SERVICE

Journal referee (ad hoc)

- 2022 – *Biological Conservation, Aquatic Ecosystem Health & Management*

Professional service

- 2023 – Co-chair, Forest Biodiversity & Management Committee, Ecological Forestry Research Initiative
- 2023 – Member, Core Team and Steering Committee, Ecological Forestry Research Initiative
- 2022 – Member, Environmental Planning & Assessment Caucus, Canadian Environmental Network
- 2022 – Member, Student and Early-Career Research Committee, Society of Canadian Aquatic Sciences
- 2020 – 21 Vice President of Communications, Dalhousie University Student Energy Chapter

Volunteer service

- 2021 – 22 Technical Advisor, Wildsight and Elk Valley Regional Land Trust
- 2019 Operations Team, Paradise Canyon Open – McKenzie Tour
- 2017 – 19 Designated Driver, Operation Red Nose

CERTIFICATIONS AND TRAINING

- 2024 Canadian Aquatic Biomonitoring Network (CABIN) Field Protocol Certification
- 2023 Tri-Council Policy Statement: Core II on Research Ethics Certification
- 2023 Chainsaw Safety Certification
- 2022 Red Cross Swiftwater Rescue – Level 2
- 2022 Red Cross Wilderness and Remote First Aid / CPR
- 2018 Class 5 Driver's License

OTHER SKILLS / ACTIVITIES

Athletics

- 2020 – Member, Dalhousie University Tigers Golf Team. Competed in the 2021 Nova Scotia University Golf Championship, 2023 Nova Scotia Men's Amateur, and 2024 Nova Scotia Men's Mid-Amateur.
- 2017 – 20 Team Captain, University of Lethbridge Pronghorns Golf Team. Competed in numerous team and individual golf events including the 2018 Canadian University Golf Championship, 2019 Alberta Men's Amateur, and 2020 British Columbia Men's Amateur.