

**CATRINA MACKENZIE, PhD**  
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### RESEARCH INTEREST

Using qualitative, quantitative and Geographic Information Science methodologies, I aim to understand the spatial distribution of perceived and realized benefits and losses accrued by communities as a result of the creation of protected areas, and to find sustainable solutions to mitigate the losses for local communities while supporting conservation objectives. My research is positioned within the local, regional, and global socio-economic context of the protected area, and investigates how incentives, disincentives, and socio-economic conditions influence conservation attitudes and behaviors of local people. I am particularly interested in tourism revenue sharing, loss compensation, and protected area resource access and extraction.

### TEACHING PHILOSOPHY

My teaching aim is to broaden the understanding of students about the complex interaction of ecological, political, and economic factors influencing the survival of critically endangered species. I believe that students should be exposed to the many frameworks and methods available to investigate biodiversity conservation, and nature-society interaction. By mixing theoretical concepts with personal field experiences, and real-life conservation situations, I endeavor to engage the students in a practical journey of conservation research within the social sciences. This approach has prompted students to rate my lectures as engaging, interactive, and holding the interest of the class.

### EDUCATION

2008-2012	McGill University, Montreal, Ph.D. (Human Geography)
2007	McGill University, Montreal (Studies in Human Geography)
2006-2007	McGill School of Environment, Diploma (Environment)
1999	University of Virginia, Darden Graduate School of Business Administration (United Technologies/Darden Partnership Program)
1996	Queens University, Kingston, Short Course (Finance Management)
1988	Cranfield College of Aeronautics, Short Course (Computational Fluid Dynamics)
1983-1985	University of Toronto Institute for Aerospace Studies, M.A.Sc. (Aerospace Engineering)
1979-1983	University of Toronto, B.A.Sc. (Engineering Science, Aerospace Engineering)

### SUBMITTED THESES

**Ph.D.:** Spatial Measures of Human Disturbance around Kibale National Park, Uganda

**Master:** A Finite Element Analysis of the Natural Frequencies and Mode Shapes of a Square, Fully Clamped Composite Plate, with and without a Centrally Located Circular Hole

**Bachelor:** An Experimental Determination of the Variation of Natural Frequency and Mode Shape with Fibre Angle Orientation in Graphite Epoxy

## LANGUAGES

English & French: Speaking, reading & writing

## PROFESSIONAL EXPERIENCE

2013-present **Adjunct Lecturer, University of Vermont, Department of Geography**  
200 The Old Mill Building, 94 University Place, Burlington, Vermont 05405-0114, USA  
Lecturing in Political Ecology, Biodiversity Conservation Policy and People-Park Relations

2014-2015 **Affiliate Member, Department of Geography, McGill University**  
805 Rue Sherbrooke Ouest, Montreal, Quebec H3A 2K6, Canada

2012 - present **Collaborative Research Projects:**

**PECAR:** Population, Environment, and Climate in the Albertine Rift

A research project managed by Dr. J. Hartter (University of Colorado, Boulder) and Dr. S. Ryan (University of Florida), and funded by an NSF grant, for which I collaborate with five principle researchers from five different universities. I am responsible for qualitative research activities around Murchison Falls National Park, Uganda, and support survey research around four Ugandan protected areas. Our study aims to understand the influence of population change, oil exploration, climate change, and conservation policy on people-park relations and conservation objectives for the park. I have collaborated on three publications to date with this team and am currently drafting three additional papers.

**Conservation and Primary Education:** In collaboration with Dr. R. Sengupta (McGill) this study investigates the influence of Kibale National Park on the probability that children will complete four years of primary school, the minimum standard set by UNICEF. Also, in collaboration with the Kasiisi Project and UNITE, non-profit organizations trying to improve primary education around the park, we are tracking primary leaving exam results for 36 primary schools (twelve supported by Kasiisi Project, seven by UNITE) to determine if education quality is improving around the park. One publication has resulted from this collaboration to date with another paper currently in review.

**Reflections on Qualitative Research:** Dr. S. Turner (McGill), Dr. J. Christensen (Roskilde University, Denmark) and I are writing qualitative methods papers as a writing team. Following the success of our group paper "Dear diary: Early career geographers collectively reflect on their qualitative field research experiences", awarded the biennial prize by the *Journal of Geography in Higher Education*, we wrote a reflective piece about the Dear Diary experience, an article that has been published in *JGHE*. In addition, we have written about the challenges of getting results back to participants and managing expectations with regard to the influence of the researcher to help broker change for the less represented, and papers about the influence of interpretation on cross-language research. We are also collaborating on a chapter for a new book on reciprocity and giving back in qualitative research to be edited by Douglas Herman of the Smithsonian Institute.

- 1989-2006 **Pratt & Whitney Canada**  
 1000 Marie-Victorin, Longueuil,  
 Quebec, J4G 1A1, Canada  
 Pratt & Whitney, Canada is a leading manufacturer of aircraft engines. I started as an acoustic analyst, and then moved into engineering supervision and executive management. My last position held from 2003 to 2006 was Program Vice-President for the PW307 engine while concurrently administering the engineering organization of over 1800 employees. During my 17 year career at Pratt & Whitney, I worked with many international clients, managed the start-up of a joint venture in China, and was heavily involved in process development for environmental health and safety, leadership development, and early career mentoring.
- 1987-1989 **British Aerospace Plc, Sowerby Research Centre,**  
 267 FPC 267, PO Box 87, 7QW Bristol, BS35, UK  
 Leader of Navier-Stokes Computational Fluid Dynamics Modelling Group
- 1985-1987 **British Aerospace Plc, Military Aircraft Division,**  
 Warton Aerodrome, Preston, Lancashire, PR4 1AX, UK  
 Afterbody aerodynamicist for the European Aircraft Prototype and Typhoon fighter jet.

## PUBLICATIONS

Articles published or accepted in refereed journals:

**MacKenzie, C.A.**, Salerno, J., Hartter, J., Chapman, C.A., Reyna, R., Tumusiime, D. M. & Drake, M. (*in press*) Changing perceptions of protected area benefits and problems around Kibale National Park, Uganda. *The Journal of Environmental Management* DOI:10.1016/j.jenvman.2017.05.078.

**MacKenzie, C.A.**, Fuda, R.K., Ryan, S.J. & Hartter, J. (*in press*) Drilling through Conservation Policy: Oil Exploration in Murchison Falls Protected Area, Uganda. *Conservation & Society*

**Mackenzie, C.A.**, Moffatt, S.P., Ogwang, J., Ahabyona, P. & Sengupta, R.R. (2017) Spatial and Temporal Patterns in Enrolment and Exam Achievement in Rural Uganda. *Children's Geographies* 15(3), 334-348. DOI:10.1080/14733285.2016.1244603

Harterter, J., Dowhaniuk, N., **MacKenzie, C.A.**, Diem, J.E., Palace, M.W., Ryan, S.J. & Chapman, C.A. (2016) Perceptions of Risk in Communities near Parks in an African Biodiversity Hotspot. *Ambio* 45(6), 692-705. DOI: 10.1007/s13280-016-0775-8

**MacKenzie, C.A.** (2016) Filtered meaning: Appreciating linguistic skill, social position and subjectivity of interpreters in cross-language research. *Qualitative Research* 16(2), 167-182.

**MacKenzie, C.A.**, Sengupta, R.R. & Kaoser, R. (2015) Chasing baboons or attending class: Protected areas and childhood education in Uganda. *Environmental Conservation* 42(4), 373-383.

**MacKenzie, C.A.**, Christensen, J. & Turner, S. (2015) Advocating beyond the Academy: Dilemmas of communicating relevant research results. *Qualitative Research* 15(1), 105-121.

Harterter, J., Ryan, S.J., **MacKenzie, C.A.**, Goldman, A., Dowhaniuk, N., Palace, M.W., Diem, J.E. & Chapman, C.A. (2015). Now There is No Land: A Story of Ethnic Migration in a Protected Area Landscape in Western Uganda. *Population and Environment* 36, 452-479 DOI: 10.1007/s11111-014-0227-y

- MacKenzie, C.A.**, Baird, T.D. & Hartter, J. (2014) Use of single large or several small policies as strategies to manage people-park interactions. *Conservation Biology* 28(6), 1645-1656.
- MacKenzie, C.A.**, Ricker, B., Christensen, J., Heller, E., Kagan, E., Osano, P.M., Long, L. & Turner, S. (2013) Dear diary revisited: Reflecting on collaborative journaling. *Journal of Geography in Higher Education* 37, 480-486.
- Hartter J., Ryan, S. J., **MacKenzie, C. A.**, Parker, J. N., & Stasser, C. (2013) Spatially explicit data stewardship and ethical challenges in science. *PLoS Biology* 11(9), e1001634. doi:10.1371/journal.pbio.1001634
- MacKenzie, C.A.** & Hartter, J. (2013) Demand and proximity: Drivers of illegal forest resource extraction. *Oryx* 47, 288-297.
- MacKenzie, C.A.** (2012) Accruing benefit or loss from a protected area: Location matters, *Ecological Economics* 76, 119-129.
- MacKenzie, C.A.** & Ahabyona, P. (2012) Elephants in the garden: Financial and social costs of crop raiding. *Ecological Economic* 75, 72-82.
- MacKenzie, C.A.** (2012) Trenches like fences make good neighbours: Revenue sharing around Kibale National Park, Uganda. *The Journal for Nature Conservation* 20, 92-100.
- MacKenzie, C.A.**, Chapman, C.A. & Sengupta, R. (2012) Spatial patterns of illegal resource extraction in Kibale National Park, Uganda. *Environmental Conservation* 39, 38-50
- Heller, E., Christensen, J., Long, L., **MacKenzie, C. A.**, Osano, P. M., Ricker, B., Kagan, E. & Turner, S. (2011) Dear diary: Early career geographers collectively reflect on their qualitative field research experiences. *Journal of Geography in Higher Education* 35, 67-83. *This paper was awarded the Journal of Geography in Higher Education Biennial Prize 2012.*
- Non-refereed contributions:
- MacKenzie, C.A.** (2014) Lost in Translation: Strategies for Assessing Linguistic Ability, Positionality and Subjectivity of Interpreters in Geographical Research. Association of American Geographers Annual Meeting. Tampa, FL.
- MacKenzie, C.A.** (2011) Spatial Inequity of Conservation Benefits and Losses around Kibale National Park, Uganda. Association of American Geographers Annual Meeting. Seattle, WA.
- MacKenzie, C.A.** (2010) Factors Influencing the Efficacy of Revenue Sharing: Kibale National Park, Uganda. Association of American Geographers Annual Meeting. Washington DC.
- MacKenzie, C.A.** (2009) Perceived Benefits of Revenue Sharing and Measured Human Disturbance in Kibale National Park, Uganda. Association of American Geographers Annual Meeting. Las Vegas, NV.
- MacKenzie, C.A.** (2002) Green Engine...Green Factory. Women in Aviation International Conference. Nashville, TN.

**MacKenzie, C.A.** (1988) Reynolds Averaged Navier-Stokes Afterbody Code Development. AGCFM Workshop: Turbulence Modelling in Solution Algorithms, UK.

## LECTURES & TEACHING EXPERIENCE

**MacKenzie, C.** 2017. Researching the People-Park Interface in Rural Uganda. Presented to ENVR301: Environmental Research Design, March 14, 2017. McGill School of Environment, McGill University.

**MacKenzie, C.** 2016. Researching the People-Park Interface in Rural Uganda: Developing Appropriate Strategies for Specific Problems. Presented to GEOG509: Qualitative Methods, October 13, 2016. Department of Geography, McGill University.

**MacKenzie, C.** 2016. Ethical and Methodological Challenges in Rural Uganda. Presented to ENVR301: Environmental Research Design, March 15, 2016. McGill School of Environment, McGill University.

**MacKenzie, C.** 2015. Ethical Challenges in Field Work in Rural Uganda. Presented to ENVR301: Environmental Research Design, January 22, 2015. McGill School of Environment, McGill University.

**MacKenzie, C.** 2014. Methodological Dilemmas in Rural Uganda. Presented to GEOG509: Qualitative Methods, October 30, 2014. Department of Geography, McGill University.

**MacKenzie, C.** 2014. A Contested Human Landscape: Murchison Falls Conservation Areas. Presented to ENVS5100, September 10, 2014. University of Colorado Boulder.

Hartter, J., Ryan, S., Palace, M, Diem, J., **MacKenzie, C.**, Goldman, A. 2014. Parks in Peril? Presented to The Center for African Studies, University of Florida. April 25, 2014. Gainesville, FL.

**MacKenzie, C.** 2014. Elephants in the garden, Bazungu in the park. Presented to GEOG050: World Regional Studies, February 21, 2014. Department of Geography, University of Vermont.

**MacKenzie, C.** 2013. Ethics, researcher fatigue and giving back in rural Uganda. Presented to GEOG509: Qualitative Methods, February 13, 2013. Department of Geography, McGill University.

**MacKenzie, C.** 2013. Does the Uganda Wildlife Authority tourism revenue sharing program meet objectives? Presented to GEOG173: Political Ecology, February 7, 2013. Department of Geography, University of Vermont.

**MacKenzie, C.** 2011. Qualitative methods: Considering research assistants, gatekeepers, ethics, and researcher fatigue while in the field. Presented to GEOG509: Qualitative Methods, October 19, 2011. Department of Geography, McGill University.

**MacKenzie, C.** 2011. Benefits & losses associated with living next to a protected area: Resource access and human-wildlife conflict. Presented to GEOG370: Protected Areas, October 18, 2011. Department of Geography, McGill University.

**MacKenzie, C.A.** 2011 A one week module: The global/local nature of biodiversity conservation. Presented to GEOG210: Global Places and Peoples, March 10-17, 2011, Department of Geography, McGill University.

**MacKenzie, C.** 2010. Benefits & losses associated with living next to a protected area in western Uganda. Presented to GEOG370: Protected Areas, October 21, 2010. Department of Geography, McGill University.

Muhabwe, R. and **MacKenzie, C.** 2010. Conservation in Kibale National Park, a joint presentation with the Ugandan Wildlife Authority. Presented to the McGill Africa Program, January, 2010. Makerere University Biological Field Station, Uganda.

**MacKenzie, C.** 2008-2012. Project Management Tools: How to deal with Murphy as a research partner. Presented to GEOG631: Methods of Geographical Research, annually in January from 2008 to 2012. Department of Geography, McGill University.

Teaching assistant: Spacecraft Design, University of Toronto (1983-1985). The course was given by industry, so besides tutoring and grading assignments, I was responsible for course logistics and setting the final exam.

### MENTORING

At McGill, I mentor new graduate students about preparing for field research and research ethics, and both graduate and undergraduate students doing projects with the Geographic Information Science lab and the primate anthropology lab.

As part of the PECAR collaboration, I have mentored two Master's students, one from the University of New Hampshire and the other from SUNY (State University of New York). This mentorship included one-on-one skype courses in qualitative methods and in-field supervision in Uganda.

I led engineering leadership development teams at Pratt & Whitney Canada from 1998 to 2006, helping to identify, train and mentor potential leadership talent for the company. Over this period, I personally mentored 16 individuals, 14 of whom now hold supervisory, managerial or executive leadership roles in the company. I also participated in a company-wide leadership development team that helped develop training and mentoring processes for the company.

### AWARDS

Theo L. Hills Memorial Award 2009  
McGill Faculty of Science Dean's African Field Work Award 2009  
Warren Development Geography Award 2008  
New York YWCA Women Achievers Award 2002  
University of Toronto Open Fellowship 1984  
University of Toronto Research Fellowship 1983  
University of Toronto Teaching Fellowship 1983

### PROFESSIONAL MEMBERSHIP

Association of American Geographers (2008-present)  
Professional Engineers Ontario (1991-2006)  
Royal Aeronautical Society (1988 to 2004)

American Institute of Aeronautics and Astronautics (1983 to 1985)

### ADDITIONAL ACTIVITIES

Member Civil War Medical Coalition Living History Exhibit Team: Persona-Anna Blair Etheridge (2010-present)

Volunteer Kibale Forest Coalition for Conservation Education: GPS mapping of schools and a ten year study on primary school quality around Kibale National Park, Uganda (2008-present)

Volunteer Fauna Foundation, a Chimpanzee Sanctuary: Facility maintenance (2007)

Volunteer research assistant: Focal animal observation of the Black & White Ruffed Lemur, Madagascar (2006)

Volunteer research assistant: Population Ecology & Long Term Monitoring of Namibian Cheetah, Namibia (2004)

Social Director, University of Toronto Institute for Aerospace Studies Graduate Student Association (1984)

Student Representative, University of Toronto Institute for Aerospace Studies Examination Appeals Committee (1984)