

# KAGGIE ORRICK

Ph.D. Candidate • Yale School of the Environment

kaggie.orrick@yale.edu

## EDUCATION

---

### **Yale University**

School of the Environment, *Ph.D.*

Advisor: Dr Oswald Schmitz

New Haven, CT

Fall 2018 - present

### **Columbia University**

Ecology, Evolution, and Environmental Biology Department, *M.A.*

Advisor: Dr. Joshua Drew

New York City, NY

Fall 2013 - Spring 2015

### **Colby College**

Environmental Studies, *B.A.*

Concentration in Conservation Biology; minor in Mathematics

Waterville, ME

Fall 2006 - Spring 2010

## RESEARCH EXPERIENCE

---

### **Yale School of the Environment**

*Ph.D. Candidate*

Dissertation work aims to develop conservation action that fosters landscape coexistence between humans and wildlife in the Makgadikgadi area of Botswana. I use anthropological theories while simultaneously executing ecological methodologies to examine social-ecological systems; thus my work spans across qualitative and quantitative approaches. I do this using a combination of interviews and participatory mapping, GPS tracking units, and camera trap surveys to understand how people, cattle, and wildlife simultaneously use the Makgadikgadi landscape. Project included responsibility for three masters students in the field and being project manager for two Round River Conservation Studies employees.

New Haven, CT

Fall 2018 - present

### **Round River Conservation Studies**

*Makgadikgadi Project Lead*

Responsible for the design and implementation of research and conservation efforts in the Makgadikgadi community region of Botswana for Round River Conservation Studies (RRCS). Maintain partnership with the University of Botswana's Okavango Research Institute and Department of Wildlife and National Parks. Assist with grant applications, including but not limited to USAID, the Paul Allen Foundation, European Development Fund, and other private donors. To date I have helped secure over \$100,000 in funding.

Botswana

Fall 2018- present

*Botswana Program Coordinator*

Managed and led the community-based wildlife monitoring project and student program for RRCS. Work included herbivore and bird monitoring, community escort guide training and assisting with the Northern Botswana Ecological Assessment and Decision Support Tool. Taught five, college-level, three-credit courses to American students.

June 2017 - July 2018

*Botswana Program Leader*

Co-managed and led the RRCS student program and development of community-based wildlife monitoring project. Work included herbivore and bird monitoring, community escort guide training and assisting with the Northern Botswana Ecological Assessment and Decision Support Tool. Taught five, college-level, three-credit courses to American students.

August 2015 - June 2017

### **Columbia University**

*M.A. Student*

Broadly focused on African elephant space use, resource selection, and human impacts, including impact from nearby roads. Examined 10+ years of historical location data of elephants on a private game reserve in South Africa to determine habitat preferences and drivers of home range selection.

New York City

Fall 2013 - Spring 2015

*Graduate Student Researcher* January 2014 - August 2015  
Assisted Professor Melnick in preliminary analysis of forest loss using remote sensing and GIS for the Rainforest Standard, a carbon credit program, to determine appropriate protected areas for forest loss evaluation.

**Global Vision International** South Africa  
*Manager* October 2012 - June 2013  
Managed and facilitated research on a large carnivore project for volunteer organization called Global Vision International (GVI). Coordinated monthly budget, reports, scheduling, disciplinary action, and overall safety and running of the GVI Karongwe program. Maintained partnerships with the University of Pretoria, Queen's University Belfast, and Endangered Wildlife Trust.

*Mountain Project Coordinator* December 2010 - June 2013  
Managed the small mammal, reptile, amphibian, and butterfly satellite research camp for GVI and collaborated with University of Pretoria.

*Assistant Researcher* December 2010 - June 2013  
Field research with GVI on large mammal movements including lion, cheetah, elephant, and all other large game. Conducted population surveys of prey species, camera trap studies, and create ID kits for focus species.

## GRANTS

---

Tropical Research Institute, <i>Yale University</i> (\$8,000)	2022
Mobley Family Humanities Grant, <i>Yale University</i> (\$2,600)	2022
Lindsay Fellowship, <i>Yale University</i> (\$3,000)	2022
Yale Institute for Biospheric Studies, <i>Yale University</i> (\$4,965)	2021
MacMillan International Dissertation Research Fellowship, <i>Yale University</i> (\$16,000)	2021
Lewis and Clark Fund, <i>American Philosophical Society</i> (\$5,000)	2020
FES Research Grant, <i>Yale Institute for Biospheric Studies</i> (\$4,965)	2020
Tropical Research Institute, <i>Yale University</i> (\$7,415)	2020
Doctoral Pilot Award, <i>Yale University</i> (\$3,000)	2019
AC4 Graduate Student Fellowship, <i>Columbia University</i> (\$3,000)	2014
E3B Biology Graduate Student Fellowship, <i>Columbia University</i> (\$1,500)	2014

## PUBLICATIONS AND PRESENTATIONS

---

### Publications

(*In Review*) **Orrick, K.**, Sommer, N., Rowland, F., Ferraro, K. "Disentangling the role of predator hunting mode, spatial domain size, and habitat complexity: An examination of consumptive and nonconsumptive effects". *Ecography*.

Zhou, W. **Orrick, K.** and Lim, A. and Dove, M.. 2021. "Reframing Conservation and Development Perspectives on Bushmeat." *Environmental Research Letters*. [Link here](#).

**Orrick, K.** 2018. "Range Size and Drivers of African Elephant (*Loxodonta africana*) Space Use on Karongwe Private Game Reserve, South Africa." *African Journal of Ecology* 56, no. 3: 572–81. [Link here](#).

Heinemeyer, K., Masunga, G.S. **Orrick, K.**, Smith, J., Sinvula, M., Dain-Owens, S. 2016. Community-based wildlife monitoring in selected concessions of Chobe and the Okavango Delta, 2013-2015. [Link here](#).

Report for Colby Environmental Assessment Team, Colby College and Problems in Environmental Science course (Biology 493), Colby College. (2009). "A Watershed Analysis of Salmon Lake and McGrath Pond: Implications for Water Quality And Land Use Management". Colby College Watershed Study: Salmon Lake and McGrath Pond (2009, 1993). 1. [Link here](#).

## **Presentations**

Maun, Botswana, August 2022: "Human-Predator Coexistence". Research Talk Series, Public Outreach Program Kwando Safaris and The University of Botswana.

Yale University. New Haven, CT, November 2021: "The Human-Cattle-Wildlife Landscape: Insights from Preliminary Findings in Makgadikgadi", Confluence Series.

Yale University, New Haven CT, April 2019: "Humans and the Environment: Exploring Human-Wildlife Conflict through social and ecological patterns", Yale Forestry and Environmental Studies Research Day Conference.

Maun, Botswana, April 2018: "Community-based Wildlife Monitoring from 2013-2015". Research Talk Series, Public Outreach Program Kwando Safaris and The University of Botswana.

Maun, Botswana, Fall 2017: "Community-based Wildlife Monitoring from 2013-2015" . Proceedings of the Botswana Symposium on Wetlands and Wildlife Conference.

Department of Wildlife and National Parks and the University of Botswana, May 2016: "Community-based wildlife monitoring in selected concessions of Chobe and the Okavango Delta, 2013-2015."

Montpellier, France, August 2015: "African elephant space use on Karongwe Private Game Reserve, South Africa: A call for a greater understanding of anthropogenic effects on wildlife". International Congress for Conservation Biology-European Congress for Conservation Biology Conference.

San Diego, CA, June 2015: "Roads and African Elephants in a Small South African Reserve: Understanding the Impacts of Roads on Space Use of Wildlife". Association for Environmental Studies and Science: Confronting Frontiers, Borders, and Boundaries.

Columbia University, NY, April 2014: "Vehicle noise disturbance on carnivores and large herbivores in Karongwe Private Game Reserve", Earth Institute Student Research Showcase.

## **Posters and Workshops**

Co-led an interactive workshop at Columbia University, NY, March 2015: "Human-Wildlife Conflict: System Dynamics and Trans-Disciplinary Approaches", Advanced Consortium on Cooperation, Conflict, and Complexity Conference. Poster at Columbia University, NY, March 2015: "Roads and African elephants in a small private game reserve: A call for greater understanding of the impacts of roads on space use of wildlife", Advanced Consortium on Cooperation, Conflict, and Complexity Conference.

Poster in South Africa, September 2012: of Wilson, J., Scantlebury, M.'s work. "The response of small mammals to natural and human-altered edges associated with afro-montane forests of South Africa", Southern African Wildlife Management Association.

Poster in Augusta, ME, April 2010: "The influence of land use changes on water quality in Salmon Lake and McGrath Pond" by Holmen, A., Gildesgame, E., **Orrick, K.**, Firmage, D., Cole, R., Greenwood, T., Maine Water Conference.

## **TECHNICAL SKILLS**

---

<b>Field Research:</b>	Transect surveys, camera trapping methods and technology, semi-structured qualitative interviews, ethnographic studies, Sherman trap surveys, mark-recapture, VHF biotelemetry, and triangulation.
<b>Software:</b>	ArcGIS (including ArcPy), QGIS, R, ENVI, Google Earth Engine, Netlogo, Nvivo, Mendeley Desktop, Adobe Photoshop, Microsoft Office (Word, Excel, Powerpoint). Basic knowledge of Python, Latex, and Distance Sampling.
<b>Professional Development:</b>	ARSET (NASA's Applied Remote Sensing Training) certificate in "Selecting Climate Change Projection Sets for Mitigation, Adaptation and Risk Management Applications", Graduate Certificate in the Environmental Humanities, FGASA (Field Guide Association of Southern Africa) Level Two qualified, FGASA Trails Guide qualified, Advanced Snake Handling certified, WFR certified, First Aid and CPR certified, "Airborne lidar for conservation ecology" training sessions (2015).
<b>Select modeling concepts:</b>	Linear regression models with mix effects, Bayesian regressions, Resource selection modeling, Occupancy modeling, Species distribution models for current and future climates, spatial analysis and autocorrelation, graph theory, home range estimation.
<b>Language:</b>	Setswana (basic).
<b>Other:</b>	Proficient in teaching college-level courses and public speaking. Proficient in analytical and leadership skills and people management.

## TEACHING EXPERIENCE

---

### Teaching Fellow / Reading Assistant

- Conservation Science and Landscape Planning, *Yale University* 2023
- Methods and Research in Molecular Anthropology, *Yale University* 2021
- Natural Science Methods, *Yale University* 2019
- Building a Conservation Toolkit, *Yale University* 2019
- Conservation Biology, *Columbia University* 2015
- Introduction to Environmental Biology, *Columbia University* 2014

### Undergraduate instructor, RRCS

September 2015 – April 2018

- Field Methodology
- Natural History
- Applied Conservation Biology
- Humans and the Environment
- Community-Based Natural Resource Management.

### Invited Speaker

- Local and Indigenous Community Inclusion in Conservation, *Yale University* 2022
- Impacts of Colonialism on Conservation in Botswana Today, *Branson High School* 2021
- Social Network Analysis in Conservation, *Yale University* 2019 / 2020 / 2021
- Parachute Science in Conservation, *Yale University* 2020
- Community-based Conservation in Conservation Biology, *Portland State University* 2016
- Community-based Conservation in Conservation Biology, *Colby College* 2016

## AWARDS AND SERVICE

---

- Kroon Cup Award, Yale University** May 2020  
 Recognizes individuals and groups that embody stewardship and implement projects that engage and inspire the larger F&ES community. The winner is selected by a vote by the school's students, staff, and faculty.
- Community Conversations Committee, Yale University** May 2019 – May 2021  
 Co-founded a student-led monthly event with the intent of coming together as a community to respectfully engage in dialogue in a structured and constructive environment.
- BIOMES Coordinator, Yale University** May 2019 – May 2020  
 Committee chair for the design and implementation of the seminal weekly seminar at YSE.
- Student Affairs Committee, Yale University** January – December 2019  
 Elected student representative.
- Earth Institute Student Advisory Council, Columbia University** September 2014 – May 2015  
 Elected vice president.
- Department Masters Representative, Columbia University** September 2013 – May 2014  
 Elected student representative.

## SELECT OUTREACH AND PROFESSIONAL SERVICE

---

**Mentor, Yale University** May 2020 - current  
 Mentor three masters projects at my field site, including two Masters of Science students at Yale University and one Masters of Philosophy student at the University of Botswana. Act as the principal mentor for support and logistical execution of fieldwork. Meet weekly to assist with data analysis.

### Media

- Easley, Thomas (Host). (2022, June 9). Conservation and Community Development in Botswana: A Conversation with Kaggie Orrick, Lauren Sadowski and Dikatholo Kedikilwe [Audio podcast episode]. In *Heartwood Podcast*, Yale Podcast Network.
- Silverman, Fran. 2021. "Fanning out across the Globe in Search of Big Cats." Canopy, Spring 2021.
- Shabbir, Hamera. 2021. "Yale Hosts President of Botswana, Partners with Nation on Sustainability Efforts." Yale Daily News, October 8, 2021.

### Invited Nonacademic Speaking Events

- Introduction for His Excellency, the President of Botswana, *Yale University* September 2021
- Big Cats and Where to Find Them, ages 6-13, *4 private events* 2019 - 2021
- Career Day, 1st grade, *Katherine Delmar Burke School* 2017