

# Mairin Deith

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## Curriculum vitae

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### Education

2016-Present **Doctor of Philosophy, Zoology**, UNIVERSITY OF BRITISH COLUMBIA,  
*Anticipating completion in Spring 2020*,  
Dissertation: Spatial dimensions and dynamics of bushmeat hunting: predicting defaunation and managing for sustainability.

Specializations: Landscape connectivity, Bayesian decision analysis, resources management

2014 **B.Sc. Biology (Hons), minoring in Anthropology, with Distinction**,  
UNIVERSITY OF VICTORIA,  
Thesis: Is an ecosystem driven by its species or its traits? Functional diversity in coral reef fish communities.

Specializations: Macroecology, conservation biology, tropical field methods, community ecology

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### Experience

Feb 2018 – **Shiny Developer (Contract)**, BC MINISTRY OF ENVIRONMENT AND CLIMATE  
Present CHANGE STRATEGY, Vancouver, BC.  

- Created R code to generate interactive tables and data inputs for the PVAinvas.R package of invasive species removal

Dec 2018 – **Teaching Assistant**, UNIVERSITY OF BRITISH COLUMBIA, Vancouver, BC.  
Present Taught tutorials and designed lessons for an upper-level Biology course (BIOL 416) focused on the Principles of Conservation Biology  

- Designed lessons to teach students R skills, ranging from simple computing logic to complex ecological analyses
- Taught R skills in work-along sessions in a small tutorial setting
- Marked assignments and assisted student progress throughout the course

Aug 2017 – **Research Assistant**, UNIVERSITY OF BRITISH COLUMBIA, Vancouver, BC.  
Present Aided in the development of Bayesian decision support tools for the Canadian Atlantic redfish fishery, and conducted socioeconomic research for this fishery.  

- Synthesized and analyzed data resulting from management strategy evaluation simulations, and summarized these into a Bayesian decision network used to inform DFO policy
- Wrote manuscripts and technical reports regarding stakeholder input during management meetings
- Conducted one-on-one interviews with participants in the fishery to build socioeconomic indicators for the Atlantic redfish fishery

Vancouver, Canada

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- Jan 2016 – **Teaching Assistant**, UNIVERSITY OF BRITISH COLUMBIA, Vancouver, BC.
- Apr 2017 Taught an introductory Biology course (BIOL 140) in three semesters in a small, face-to-face laboratory teaching environment.
- Taught students the fundamentals of experimental design and scientific inquiry
  - Individually mentored and guided students through challenging assignments and concepts
  - Marked assignments and monitored student progress throughout the course
- Feb 2015 – **Primatological Researcher**, BARBARY MACAQUE PROJECT, Ifrane National Park, Morocco.
- May 2015 Collected behavioural and ecological data on wild Barbary Macaques in the Atlas Mountains
- Conducted focal follows of individual monkeys and completed in-situ health assessments
  - Gathered biological samples for hormonal analysis
  - Interacted with members of the public in English and French, educating them on topics of animal welfare and the value of ecological health in the park
  - Designed and implemented R code for cleaning, organizing, and analyzing ethnographic data
- Aug 2014 – **Teaching Assistant**, UNIVERSITY OF VICTORIA, Victoria, BC.
- Jan 2015 Aided in various teaching activities in an upper-level Conservation course
- Individually mentored and guided upper level students through challenging assignments and ecological concepts
  - Taught technical and ecological skills in both a formal lecture setting as well as an informal tutorial environment
  - Created and adapted assignments and exams to reflect student progress
- May 2013 – **Database Manager**, UNIVERSITY OF VICTORIA, Victoria, BC.
- Jul 2015 Optimized, organized, and developed a biological stable isotope database for a Marine Ecology lab.
- Developed front-end interfaces for a developing scientific database using Python, django, and SQL
  - Ran workshops and one-on-one education sessions to teach colleagues how to use and maintain the database, and created simple software to meet their needs
- May 2013 – **NSERC Undergraduate Researcher and Research Assistant**, UNIVERSITY OF VICTORIA, Victoria, BC.
- Jul 2015 Performed independent research in Dr. Julia Baum's Marine Ecology lab, alongside technical work for the lab.
- Conducted independent research on coral reef functional diversity and prepared the results of this research for publication

## Outreach and volunteering

- Aug 2018 – **Coding instructor**, UBC LEARNING EXCHANGE, Vancouver, BC.
- Present Created lesson plans to teach street youth and vulnerable residents of the Downtown East Side fundamentals of coding for career development
- Apr 2018 – **Girls Coding Camp**, LET'S TALK SCIENCE, Vancouver, BC.
- Present Organized, created lesson plans, and taught a series of free after-school workshops to teach grades 6-9 girls the basics of Python programming and game design
- Awarded Volunteer of the Month in June 2018
  - Created and taught 90 minute lessons to engage students' curiosity about coding and science in a multidisciplinary team of volunteers
  - Organized volunteer meetings and designated roles to volunteers during meetings

Vancouver, Canada

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- July 29, 2018 **Introduction to R**, PHYCOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING, Vancouver, BC.  
 Introduced both new and seasoned scientists to the wonders of the R statistical language in a 4-hour workshop during the PSA's annual meeting at UBC
- Taught fundamental concepts of R programming, including variable creation, indexing, and plotting
  - Provided technical support to those experiencing software and hardware challenges during the workshop
- Sept 23, 2017 **What is Data Science?**, SOCIETY FOR CANADIAN WOMEN IN SCIENCE AND TECHNOLOGY, NSERC, AND SCIENCE WORLD, Vancouver, BC.  
 Designed and taught a free 2 hour workshop on data literacy for teenagers, focusing on how to visualize data to tell compelling scientific stories
- Spring 2016 – **Vancouver Regional Science Fair Judge**, Vancouver, BC.  
 Present Judged middle and high school students' research projects annually at the Vancouver Regional Science Fair

## Skills and Certifications

### Technical Skills

Advanced (4+ years):

QGIS (GRASS and GDAL), BASH, Python, R, git, Markdown, Unix

Intermediate (1-3 years):

LATEX, Java, django, SQL, BUGS, Julia

### Certifications:

Instructional Skills Certification

Received following an intensive 3-day workshop on lesson design and teaching skills

Class 5 Canadian Driver's License and vehicle

PADI certified open water diver

### Languages:

English – Mothertongue

French – Intermediate conversational

## Peer-reviewed Publications and Presentations

- In prep. Participatory modelling in a rebuilding fishery: collaborative development of a management strategy evaluation for the Canadian Atlantic redfish fishery. **Deith, M.C.M.**, McAllister, M.K., Licandeo, R., Duplisea, D.E., Marentette, J.R., and Senay, C.
- In revision Predicting regional-scale defaunation at high resolution with circuit theory. **Deith, M.C.M.**, and Brodie, J.F. Proceedings of the Royal Society B.
- 2017 Scale dependence of environmental controls on the functional diversity of coral reef fish communities. Yeager, L.A., **Deith, M.C.M.**, McPherson, J.M., Williams, I.D., and Baum, J.K. Global Ecology and Biogeography.
- 2018 Mapping regional-scale defaunation when data are scarce: can simple models capture complex human harvests? Talk: Western Society of Naturalists Annual Meeting, Tacoma, W.A.

Vancouver, Canada

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- 2017 Mapping for management: landscape resistance mapping to predict hunting pressure in Malaysian Borneo. Poster: Zoology Graduate Symposium, *Vancouver, B.C.*
- 2014 Is an ecosystem driven by its species or their traits? Taxonomic and functional diversity in Pacific coral reef fish communities. Poster: Pacific Ecology and Evolution Conference, *Bamfield, B.C.*

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## Awards and Research Grants

- 2016-2018 University of British Columbia Graduate Zoology Fellowship
- 2015 NSERC CGSM Grant, University of British Columbia
- 2013 NSERC Undergraduate Student Research Grant
- 2012-2013 Harper Scholarship for Biology
- 2010-2013 University of Victoria's Presidential Scholarship