

# Roseanna Gamlen-Greene - Curriculum Vitae



I am an ecologist who is interested in conservation ecology, global change ecology and restoration ecology. I recently graduated with a Bachelor of Science with First Class Honours majoring in ecology, where I used stable isotopes and trace elements to investigate the incorporation of marine derived nutrients from seabirds and seals into freshwater ecosystems.

## Contact

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## Education and Qualifications

- 2014 **Bachelor of Science with Honours** (First Class) majoring in Ecology from the University of Canterbury, New Zealand. *Thesis: Detecting current and historic marine subsidies in freshwater ecosystems.* Advisors: Professor Jon Harding and Dr. David Hawke.
- 2013 **Bachelor of Science** majoring in Biological Sciences and Geology, endorsed with Environmental Science from the University of Canterbury, New Zealand.

## Publications

### Peer reviewed

- Hawke, DJ. **Gamlen-Greene, R.** Harding, JS. Leishman, D. (2017) "Minimal freshwater and riparian ecosystem uptake of selenium derived from a forest-breeding seabird" *Science of the Total Environment*. 574, 148-154
- Gamlen-Greene, R.** Clemens, J. Morgenroth, J. Lechner, M. Godsoe, W. (2014) "When belowground rumbles: a plant's interactions with antagonists are robust to earthquake-induced shifts in the below-ground environment." *New Zealand Journal of Ecology*. 38.1
- Gamlen-Greene, R.** Harding, JS. Hawke, DJ. (*In Prep*) "Seabird subsidies in stream ecosystems: nitrogen enhancement versus nitrogen substitution"

### Conference publications

- Graham, B. Childerhouse, S. **Gamlen-Greene, R.** Roberts, J. (2015) "Drilling back through time: Unraveling the decline in New Zealand sea lion using stable isotope techniques" Victoria University of Wellington, School of Biological Sciences Seminar Series
- Gamlen-Greene, R.** Harding, JS. Hawke, DJ. (2014) "Detecting current and historic marine subsidies in stream communities" Thesis in partial fulfilment of a BSc(Honours) degree in the School of Biological Sciences, University of Canterbury.
- Gamlen-Greene, R.** Harding, S. Jon. Hawke, J. David (2014) "Detecting marine subsidies in stream communities: endangered seabirds, seals and a subantarctic island" 9th IsoEcol - International Conference on Applications of Stable Isotope Techniques to Ecological Studies, 3rd-8th August 2014, Perth.

**Gamlen-Greene, R.** Harding, JS. Hawke, DJ. McMurtrie, SA. (2014) "Up s\*\*t creek: using stable isotopes and trace elements to detect seabird subsidies in stream ecosystems." Water Symposium of the New Zealand Hydrological Society, New Zealand Freshwater Sciences Society and the IPENZ Rivers Group 2014.

#### Reports

**Gamlen-Greene, R.** MacKenzie E. (2015) Thompson Road Willows Restoration Management Plan. Commissioned for the Regional Council (Environment Canterbury).

**Gamlen-Greene, R.** Neal, M. (2015) Top Farm Covenant Management Plan. Banks Peninsula Conservation Trust.

Bowie, H. Mountier, C. Fox, B. Boyer, S. **Gamlen-Greene, R.** Brown, S. Sullivan, JJ. Hoare, R. Johns, P. (2011) "An invertebrate survey of reserves, covenants and significant remnants of eastern Banks Peninsula in 2010-2011." Lincoln University. Bio-Protection & Ecology Division.

## Research Experience

Research experience at the University of Canterbury managing a project looking at the role of **marine subsidies to freshwater ecosystems** (involved field work, lab work with stable isotopes and trace elements, and statistics in R). Advisors: Professor Jon Harding and Dr. David Hawke – 2013-present (15 months)

Research experience at NIWA (National Institute of Water and Atmospheric Research) as a contracted researcher investigating the **decline of the subantarctic sea lion** using stable isotope analysis of seal teeth to infer temporal diet changes (stable isotope lab work and statistics in R). Collaborators: Dr. Brittany Graham and Dr. Jim Roberts – December 2014 - present (4 months)

Research experience at NIWA (National Institute of Water and Atmospheric Research) as a contracted researcher, creating **isoscapes of marine phytoplankton** (isoscape map creation in R). Collaborators: Dr. Brittany Graham – January 2015 (1 month)

Research experience at the University of Canterbury managing a project on **modelling the distribution of an invasive freshwater snail** and its coevolution with a parasite (involved field, lab work and statistics in R). Advisors: Professor Angus McIntosh and Dr. William Godsoe – 2012 (5 months)

Research assistant for Terrestrial and Freshwater Research groups at University of Canterbury (lab and field work) – 2012 (10 months)

Research experience at the University of Canterbury on a project investigating how **plant-pathogen interactions are affected by earthquakes** (field, lab work and statistics in R). Advisor: Dr. William Godsoe – 2011 (2 years)

Research experience with a project at Lincoln University **monitoring terrestrial invertebrates, bats and lizards** (field and lab work). Advisor: Mike Bowie – 2010 (3 months)

## Conservation Involvement

- 2015 Writing covenant management plans for the Banks Peninsula Conservation Trust (volunteer)
- 2015 Freshwater field assistant looking for Brown Mudfish on the West Coast for PhD student Richard White
- 2015 Field assistant in Lewis Pass monitoring Great Spotted Kiwi for Lincoln University
- 2015 Volunteer field assistant for MSc student Anna Henderson – conducting 5 minute bird calls
- 2015 Volunteer in the Amazon Rainforest in Bolivia for one month for a conservation organization (Serere Reserve)

- 2014 Volunteer for the Department of Conservation doing biodiversity monitoring of endangered native plant communities and weeding in Molesworth Station for a week
- 2014 Volunteering my skills as a Freshwater Ecologist to identify freshwater invertebrates for an ongoing University of Canterbury stream restoration study
- 2013-2014 Sustainability Officer for the University of Canterbury Biology Society (volunteer)
- 2013 Volunteer for Forest and Bird and Te Ara Kākāriki, native planting maintenance
- 2013 Volunteer planting native trees at Halswell Quarry for Christchurch City Council
- 2012 Volunteered for Conservation Volunteers New Zealand – Sumner Dunes Project
- 2011 National finalist for a Green Ribbon Award from the Ministry for the Environment
- 2010 Founder and Co-ordinator of an inter-school group dedicated to improving the quality of our Christchurch Rivers (Youth River Action Christchurch)
- 2010 Runner up for the Canterbury 'ECan/Ngāi Tahu Youth Leadership for Sustainability Award
- 2010 Helped organise a beach clean-up that involved 1000 high school students who collected 16 tonnes of rubbish from Christchurch's coastline, estuaries and rivers
- 2010 Runner up to Sam Johnson for the Keep New Zealand Beautiful 'Young Legend of the Year'

## Academic Achievements

- 2015 Recipient of a Four Year Fellowship (tuition + stipend) to study a PhD in Ecology/Conservation in the Department of Forest and Conservation Sciences at the University of British Columbia (UBC) in Vancouver, Canada
- 2015 Recipient of a UBC Forestry Strategic Recruitment Fellowship
- 2015 Recipient of one of two prestigious 'University Prizes' awarded to two top masters level students in the Science Faculty 2014, University of Canterbury
- 2014 9.0 GPA for BSc(Hons) degree (straight A+s for courses and thesis)
- 2014 Recipient of the prestigious Zonta International Canterbury Tertiary Education Scholarship (only one awarded across all regional universities in Canterbury)
- 2014 Recipient of both a highly competitive Canterbury Branch NZ Federation of Graduate Women Trust Award and a Sadie Balkind Award
- 2014 Recipient of one of ten University of Western Australia 'Student Travel Awards' to present my research at IsoEcol (an international stable isotopes ecology conference)
- 2014 Top student in FORE616 – 'Restoration Ecology' at University of Canterbury
- 2013 Recipient of a Percival Memorial Prize – this is usually awarded to the top four 300 level Biology students but I was awarded this prize in my second year while taking 300 level papers concurrently with my 200 level papers
- 2013 Recipient of the highly competitive Walter Jones Scholarship – full tuition fees – awarded based on financial need and a candidates leadership potential and prospective contribution to New Zealand
- 2013 Recipient of the Harding Biogeochemistry Summer Scholarship
- 2013 Recipient of a highly competitive Canterbury Branch New Zealand Federation of Graduate Women Undergraduate Award
- 2013 Top student in BIOL375 – 'Freshwater Ecosystems' at University of Canterbury
- 2013 Top student in BIOL377 – 'Global Change and Biosecurity' at University of Canterbury
- 2012 Top student in BIOL270 – 'Ecology' at University of Canterbury
- 2012 Top student in GEOL244 – 'Structural Geology and Geophysics' at University of Canterbury
- 2012 & 2011 Recipient of a University of Canterbury Summer Scholarship
- 2011 Recipient of the UC College of Science Select Scholarship in Geography

2010 Recipient of one of three prestigious National Bayerboost Environmental Science Scholarships to carry out research at Lincoln University over the summer holidays after finishing secondary school

## Science Communication

2016 Reviewed a stream ecology journal article in the Ecological Society of America journal 'Ecosphere'

2016 Presented a talk on my honours research at the Society for Freshwater Sciences Conference in Sacramento, USA

2014 First place BSc(Hons) research talk in the University of Canterbury Annual Biology Conference

2014 Presented a talk on my honours research at the joint Water Symposium of the New Zealand Hydrological Society, New Zealand Freshwater Sciences Society and the IPENZ Rivers Group

2014 Presented part of my honours research at an international conference in Perth, Australia "9<sup>th</sup> IsoEcol - Applications of Stable Isotope Techniques to Ecological Studies"

2014 Presented a talk on my honours research at the Canterbury Graduate Society Awards Ceremony

2014 Invited to represent the University of Canterbury Freshwater Ecology Research Group at the Christchurch City Council Heathcote River Symposium

2014 & 2012 Presented a research talk at the University of Canterbury Annual Biology Conference

2012 Speaker at the Christchurch City Council Botanic Gardens/UC 2012 Research Colloquium

2012-2015 Biology and Geology lab demonstrator at the University of Canterbury

## Skills & Expertise Summary

- Freshwater and terrestrial ecological monitoring experience on Banks Peninsula, the Canterbury Plains and West Coast of the South Island
- Completed a postgraduate restoration ecology course which included writing a genuine restoration management plan for restoring an area of the Canterbury Plains (for ECan)
- Restoration management plan writing experience (genuine plans to be implemented)
- Taken courses in freshwater and terrestrial ecology – including field trips and critiquing real Assessment of Environmental Effects reports
- Experience identifying native NZ plants (including identification of plants in DOC plots)
- Experience identifying NZ freshwater invertebrates and fish
- Experience with 5 minute bird counts and able to identify over 20 NZ bird calls
- Experience with mammal tracking tunnels
- Four summers of field research experience
- Full NZ Drivers License
- Backcountry experience including extensive off-track experience (tramping, bush-bashing, mountaineering, hunting, volunteering and field work)
- Physically fit
- Plant and bird photography skills
- Experience contacting and working with land owners

- Enthusiastic team member and good communicator
- Public relations skills (written media releases and newspaper articles, designed posters, and have experience being interviewed for TV and newspapers)
- Public speaking experience with both large and small audiences (science and other topics)
- Scientific writing skills (journal articles, abstracts, management plans)
- Statistics skills (proficient in R and excel)
- Visual presentation skills (proficient in Adobe Illustrator, InDesign, Photoshop and powerpoint)
- Basic ArcMap GIS mapping skills

## Referees

Dr. William Godsoe  
 Lecturer in community ecology (collaborator and mentor)  
 Lincoln University/University of Canterbury, New Zealand  
 Email: [william.godsoe@lincoln.ac.nz](mailto:william.godsoe@lincoln.ac.nz)  
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Professor John S. Richardson (Head of Department, Forest and Conservation Sciences)  
 Lecturer in aquatic and riparian area ecology (PhD supervisor)  
 University of British Columbia  
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Professor Matthew Turnbull (Head of School, Biological Sciences) Lecturer in  
 plant physiological ecology  
 University of Canterbury, New Zealand  
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Dr. David Hawke  
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 Ara Institute, New Zealand  
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Professor Jon Harding  
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 University of Canterbury, New Zealand  
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Dr. Brittany Graham  
 Marine Biogeochemist  
 National Institute of Water and Atmospheric Sciences (NIWA), New Zealand  
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