

# Roseanna Gamlen-Greene - Curriculum Vitae

*Ki te taha o tōku whaea, he uri ahau nō Airangi, Kōtirangi, me Ingarangi hoki. Ki te taha o tōku matua, he uri ahau nō Waikato-Tainui. Ko Maraea Paituru Te Rā Rata Kautawhiti te wahine, ko Kautawhiti te hapū, ko Whāngaiti me Kāwhia ngā tūrangawaewae. I tipu ake au i Te Tai Poutini, me Ōtautahi, Ko Roseanna Gamlen-Greene ahau.*

Personal statement: I am an ecologist and conservation biologist who seeks to answer interesting questions that are important for conservation, using a range of tools. Some of the tools I use include population genomics, experimental ecology, species distribution models, and stable isotope ecology. A huge part of my ethos is about working with local people where I do my research and being accountable to those communities. I am very passionate about science communication and connecting my research results to land managers and the public.



Contact: [roseanna.gamlen.greene@gmail.com](mailto:roseanna.gamlen.greene@gmail.com)

## Affiliations/Highest Honors

- National Geographic Explorer
- New Zealand Government Green Ribbon Award Finalist
- Keep New Zealand Beautiful 'Young Legend of the Year' Runner Up
- Vanier Canada Graduate Scholar
- Killam Laureate
- UBC Public Scholar

## Education and Qualifications

- 2022 PhD in Forestry. University of British Columbia, Vancouver. *Thesis:* [\*The ecology, distribution and population genetics of amphibians on Haida Gwaii, British Columbia\*](#). Department: Forest and Conservation Sciences, Faculty of Forestry. Advisor: [Professor Sally N. Aitken](#)
- 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.

## Key skills

- Ecology and conservation
- Population genomics
- Species distribution modelling
- Herpetology
- Restoration ecology
- Connecting and working with local people and indigenous communities
- Experiment design and execution
- High-powered computing
- GIS
- Statistics & machine learning
- Writing scientific papers
- Grant writing
- Project design and management
- Communicating research in scientific and public spheres
- Working as part of a team
- Research networks in Canada, US, Australia and Aotearoa
- Research experience with wetlands, forests and freshwater ecosystems
- Programming in R and bash (and learning Python)
- Stable isotopes

## Publications

### Peer reviewed

Gamlen-Greene, R. Bufford, J.L. Todd, M. Richardson, J.S. (*Re-submitting in Sept 2022*) "Co-occurrence history affects interspecific competition between remote island populations of native toad and introduced frog".

Gamlen-Greene, R. Godsoe, W. Richardson, J.S. Arcese, P. (*In preparation – full draft exists – submitting Nov 2022*) "The current and potential distribution of the introduced Northern Red-legged Frog (*Rana aurora*) on Haida Gwaii".

Gamlen-Greene, R. Grummer, J. Todd, M. Aitken, S. (*In preparation – full draft exists*) "Western Toads on Canada's Haida Gwaii archipelago are genetically depauperate and strongly differentiated from southwestern British Columbia populations".

Gamlen-Greene, R. Harding, J.S. Hawke, D.J. Horton, T.W. (2018) "Forest stream biota carbon: nitrogen ratios are unaffected by nutrient subsidies from breeding Westland petrels (*Procellaria westlandica*)". *Marine and Freshwater Research*

- 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

#### Conference publications

- Gamlen-Greene, R and Richardson, JS (2019) "Co-evolutionary history matters: competition strength between introduced frogs and native toads on Haida Gwaii, Canada" World Congress of Herpetology 9, Dunedin, New Zealand
- Gamlen-Greene, R. Todd, M. Angert, A. Arcese, P. O'Connor, M. Richardson JS (2017) "Am I native or invasive? A case study of amphibian communities on Haida Gwaii" Ecology and Evolution Conference, Squamish, British Columbia
- 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. (2021) Mayer Lake Western toad breeding monitoring protocol, prepared for BC Parks
- 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.

## Pathways To Impact (statements of support from the end-users of Roseanna's projects)

Project: My PhD - The ecology, distribution and population genetics of amphibians on Haida Gwaii, British Columbia

Resources created: <https://haidagwaiitoads.weebly.com/education>

- 1) Amphibian identification guide (PDF)
- 2) Sounds of amphibians
- 3) Interactive google map of breeding sites
- 4) Satellite images of the breeding sites (PDF)
- 5) Map of breeding sites as of 2022 (PDF)
- 6) Infographic about the breeding sites (PDF)
- 7) Life cycle diagram (PDF)
- 8) Infographic about the breeding sites - connecting to salmon (PDF)
- 9) Information banner/pamphlet (PDF)
- 10) Roseanna's PhD thesis

Principal outcomes:

- 1) PhD thesis and bespoke resources for local land managers

Statement from Jeremy John Calhoun, Heritage and Natural Resource Department Program Manager, Council of the Haida Nation, Canada, [hnr.d.pm@haidanation.com](mailto:hnr.d.pm@haidanation.com):

*"Hlk'yáan K'ust'áan (Xaad Kíl dialect)/ Hlk'yan k'uust'an (Xaayda Kil dialect) or Jiigwal awga, Anaxyrus boreas, formerly Bufo boreas, is the only native amphibian on Haida Gwaii. It has persisted through many millennia of environmental change, generations of marauding apex predators and has endured the continued encroachment from newly introduced invasive amphibian species. Such a unique animal needs a unique champion, and Roseanna has been the primary proponent for the conservation, monitoring and research for these creatures of ecological and cultural significance. Unlike many researchers who have visited Haida Gwaii, Roseanna is open to both education and learning about the role that the Haida Gwaii Toad plays in the cultural and natural ecosystem. Her pedagogical manner is unmatched and her outreach has always been respectful and couched in an openness that makes*

*different demographics feel at ease. At the Heritage Natural Resource Department (HNRD) at the Council of the Haida Nation (CHN), we have incorporated her field ID sheets into logging development area surveys and HNRD staff have utilized her research to help guide and develop a monitoring program which will aid in future land management discussions concerning the health and longevity of Hlk'yáan K'ust'áan. Haw'aa Roseanna!"*

Statement from Lucy Stefanyk, Haida Gwaii Area Supervisor, British Columbia Parks, Canada

Lucy.Stefanyk@gov.bc.ca:

*"Roseanna's contribution to Western toad conservation on Haida Gwaii has been and will continue to be the driver for continued awareness and protection of this unique native species. Her acute academic skills and engaging personality raised the profile of this little understood native amphibian, both within local communities on Haida Gwaii and across the broader research domain. BC Parks staff use the amphibian identification guide she made, and her PhD thesis and subsequent publications will be used as resources to help inform management of this species. The locations of toad breeding sites that she found have already been useful. The t-shirts she designed and gifted local folks, along with the information pamphlet she created, will always be a reminder of Roseanna's positive influence."*

## 2) Education in the community on Haida Gwaii

Statement from Jaalen Edenshaw, an internationally renowned Haida carver on Haida Gwaii

jaalenedenshaw@hotmail.com:

*"Often we have researchers come to our land with out making an effort to connect to the community and without doing research that benefits the Haida people. Roseanna made an effort to make lasting connections with the people and her work was relevant and meaningful. The Haida Gwaii toad holds an important role within Haida spiritual practices but not much was known about it locally. Having her come and do her research gave the community a space to look at what it meant to us past and present. Although much of what we shared was outside her scope of research she would listen and was able to answer our questions and provide insight on how to protect this toad from introduced predators. I thank her for her time on Haida Gwaii."*

## 3) Science outreach in schools

Statement from Laura Holmes-Saltzman, Teacher, School District 50 Haida Gwaii

laura.holmes.saltzman@gmail.com:

*"I had the pleasure of spending time with Roseanna during her research and toad-monitoring days in northern Haida Gwaii. Her energy and enthusiasm, combined with her ability to convey information and spark interest about toads in folks of all ages was admirable. Roseanna's warm, down-to-earth personality allowed her to connect easily with all students, inspiring them to ask questions and get*

*involved. The educational materials she provided to teachers at the schools (life cycle diagram, identification guide, infographic, map) were clear and attractive, and were valuable resources for learners of all ages. Thank you Roseanna for being a strong, passionate role model for our students, making biology fun and applicable, and inspiring further observations about creatures in our neighbourhood and beyond."*

#### 4) Training of volunteers to do community toad monitoring

Statement from Rachel Shepard, coordinator, Squamish Environment Society toad monitoring program  
[rachel@shephard.net](mailto:rachel@shephard.net):

*"The Squamish Environment Society (SES) is very grateful to Roseanna Gamlen-Greene, who generously shared her time and her knowledge with us, to help kick-start our western toad monitoring program at Alice Lake Provincial Park. This community-based, citizen science project is a collaboration between volunteers from the SES and BC Parks. The project started in 2019 and as an organization, we knew little to nothing about toads. Roseanna set us up for success, with engaging and thorough volunteer training, that has formed the foundation for our annual training sessions. She helped us set up our survey protocols and when we needed advice, she was just a call or email away, cheerful and ready to answer questions. Her enthusiasm for toad conservation was infectious! And her collaborative approach inspired learning and stewardship among project participants. The project is now heading into its fifth season and is more successful than ever. We are continuing to learn and share our knowledge with others and we have expanded our activities to include another breeding site. Through these activities, we have raised the profile of toad conservation in our community and provided valuable data to local and provincial and land managers to inform planning decisions. Thank-you Roseanna, for everything you have shared with us. We couldn't have done it without you."*

## Academic Achievements

2023	My PhD thesis was chosen as one of UBC's "Next-Generation Dissertations" – to be unveiled online in the next few months
2022	Student Travel Award from the New Zealand Ecological Society
2021	Recipient of a National Geographic Society COVID supplemental grant (CAD\$2.5k)
2021	Recipient of a UBC President's Academic Excellence Initiative PhD Award
2020	Recipient of a UBC President's Academic Excellence Initiative PhD Award
2019	Recipient of a \$2000 CAD travel grant to attend the World Congress of Herpetology
2019	Recipient of a UBC Public Scholarship to fund part of my stipend in 2020
2018	Recipient of a National Geographic Society Early Career Grant worth US\$10,000
2018	Recipient of a UBC Public Scholarship to fund community outreach work on Haida Gwaii

- 2018 [Made it to the "Outstanding Reviewers" for list from 2017 from the journal "Biogeochemistry"](#)
- 2017 Recipient of a Vanier Canada Graduate Scholarship, the most prestigious national natural science PhD award in Canada. I ranked forth in the country in natural sciences and engineering.
- 2017 Recipient of a Killam Doctoral Scholarship, the most prestigious PhD scholarship at UBC
- 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 (have not been receiving funds while receiving the Vanier)
- 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 BIOC377 – '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

## Research Experience

Research experience at the University of Otago as a postdoc researching kawakawa transcriptomics in collaboration with Wakatū Incorporation (Advisor: Nathan Kenny). Feb 2023 - present

Research experience at the University of British Columbia leading the PhD project 'The ecology, distribution, and population genetics of amphibians on Haida Gwaii, BC, Canada. Involving field work, experiments, species distribution modelling, genomic analyses, statistics in R and working with local communities, the Haida Nation and different provincial and federal government departments. Also involved managing three research grants. I personally applied for three of the grants that kept this project going after the first year of funding. Advisor: Professor Sally N. Aitken, collaborators: Professor John Richardson (UBC), Melissa Todd (BC Ministry of Forests), Professor Peter Arcese (UBC), Jennifer L Bufford (Lincoln University), William Godsoe (Lincoln University). 2016-2022 (6.5 yrs)

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 – 2013-2014 (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 – April 2015 (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 – looking at asexual versus sexual reproduction (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)

## Science Communication and Outreach

- 2023 Helped teach Māori year 9 and 10s students genetics at Kaitaia College, for a University of Otago Science Wānanga (science outreach – taught kids that DNA is their biological whakapapa – and taught them how to extract DNA from fruit)
- 2023 Genomics Aotearoa media training workshop (television)
- 2022 Presented a talk on science outreach and building community partnerships – at the New Zealand Ecological Society Conference
- 2022 Started a citizen science community toad monitoring program on Haida Gwaii and conducted multiple citizen science training workshops – to train local Haida Gwaii volunteers how to monitor toads. For detail on the project see:  
[www.haidagwaiitoads.weebly.com](http://www.haidagwaiitoads.weebly.com)
- 2022 Invited speaker for a workshop on science communication – for the Canadian Herpetological Society Annual Meeting
- 2022 Invited keynote speaker for the Laskeek Bay Conservation Society AGM on Haida Gwaii – presented my PhD research
- 2022 Public talk at longhouse on Haida Gwaii – presented my PhD research
- 2022 Spoke to 15–16-year-old children at Gidgalang Kuuyas Naay Secondary School, Haida Gwaii about my PhD research and amphibian ecology
- 2022 Spoke to 13–14-year-old children at Gudangaay Tlaats'gaa Naay Secondary School, Haida Gwaii about my PhD research and amphibian ecology
- 2022 Spoke to grade 2-3 aged children at Sk'aadgaa Naay Elementary School, Haida Gwaii about my PhD research and amphibian ecology – including a visit to a pond
- 2021 Presented my population genomics work from my PhD as a “faux-live” talk at the virtual international “Evolution” meeting
- 2021 Invited to present a seminar for the BioProtection Centre Seminar Series, Lincoln University
- 2021 Invited to present for the British Columbia Provincial Government Western Toad Workshop (one of eight speakers invited)
- 2021 Interviewed for UBC Forestry podcast “Tuning into the Forest”
- 2021 Invited to train volunteers for the Squamish Environment toad monitoring program with a

- virtual workshop
- 2021 Attended science communication workshops at He Pito Mata – Wellington, Aoteroa
- 2019 Invited to feature in the “Researchers Revealed” exhibition at the Beaty Biodiversity Museum (a 2-minute clip about my research).  
<https://www.youtube.com/watch?v=SDmjPIPkifM>
- 2019 Visited Gudangaay Tlaats'gaa Naay Secondary School on Haida Gwaii to talk about toads and brought tadpoles to look at under microscopes
- 2020 Presented the results from my competition experiment in an oral presentation at the World Congress of Herpetology in New Zealand
- 2020 Invited to be a keynote speaker at the BC Science Outreach Workshop at Science World
- 2020 & 2019 [Scientific advisor for the BC Parks/Squamish Environment toad monitoring project](#) and trained volunteers on ecology and survey methods.
- 2019 Teaching Assistant for Patrick Culbert’s course at UBC, FRST 350 “Foundation Field School”
- 2019 Visited Gudangaay Tlaats'gaa Naay Secondary School on Haida Gwaii to talk about toads and brought tadpoles to look at under microscopes
- 2019 Visited Tahayghen Elementary and pre-school on Haida Gwaii to talk to children about toads
- 2019 Visited every classroom at Chief Matthews School on Haida Gwaii to talk about toad ecology and led a toad field trip with a select group of children
- 2019 Invited to be featured on the “Non-Peer Reviewed” podcast to tell field stories.
- 2019 [Invited by National Geographic to do a live broadcast Explorer Classroom \(broadcast a lecture on amphibian ecology to 7 different classrooms across North America\)](#)
- 2019 Invited to take a group of home school children on an amphibian walk through Burns Bog
- 2019 Invited to speak at the UBC PhDs go public event on Environment and social justice at the Vancouver Public Library in downtown
- 2018 & 2019 Selected as one of three UBC delegates to take part in the COMPASS Science Communication Training workshop in Vancouver
- 2018 Invited to run a half-day amphibian ID workshop and field trip at Mount Morseyby Adventure Camp on Haida Gwaii
- 2018 Invited to speak in the Parks Canada “Speaker Series” on my amphibian research on Haida Gwaii, I did two talks on Haida Gwaii (Masset and Skidegate)
- 2018 Interviewed on CBC radio about my amphibian research on Haida Gwaii
- 2018 Interviewed by Haida Gwaii Observer for an article about my toad outreach on Haida Gwaii
- 2018 Invited to take children from University Hill Elementary on an amphibian walk
- 2018 Ran a community toad event on Haida Gwaii – taking locals out on a canoe to see toad habitat

- 2017 Spoke about my PhD research at a science story telling event in Vancouver ("Et al too")
- 2017 Judged the Tahayghen Elementary Science Fair
- 2017 Taught grade 2-4 children from Tahayghen Elementary about amphibians and science experiments
- 2017 Interviewed by a journalist about my PhD research – published in local newspaper
- 2017 Invited to speak about my research at several community events on Haida Gwaii
- 2017 Reviewed a stoichiometry research article in the journal 'Biogeochemistry'
- 2017 Invited speaker at St. Georges School 'Human Library Day' to speak about my PhD research
- 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
- 2016 Mentor and science communicator for girls aged 7-16 for the 'Girls in Science Program' in Vancouver
- 2016 Teaching Assistant for the UBC course, FRST 395 "Forest Wildlife Ecology and Management"
- 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

## Conservation Involvement

- 2022 Coordinating and leading setting up a long-term community toad monitoring initiative on Haida Gwaii. Working with local people, the Council of the Haida Nation, BC Parks and the Ministry of Forests. [www.haidagwaiitoads.weebly.com](http://www.haidagwaiitoads.weebly.com)
- 2021 Provided a draft toad monitoring plan for a BC Parks Management Plan for Mayer Lake, Haida Gwaii
- 2019-2021 Invited by a local conservation group in Squamish (Squamish Environment Society) to advise and help set up a [community toad monitoring project](#)
- 2018 Providing advice to help conserve toads on Haida Gwaii, BC, during a bridge construction project
- 2017 Working with a local farmer on Haida Gwaii (Richardson Ranch) to change land-use management practices to protect the local toad
- 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 – 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 New Zealand Ministry for the Environment - which honour outstanding contributions to protecting NZ's environment
- 2010 Founder and coordinator 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 Keep New Zealand Beautiful 'Young Legend of the Year'

## Referees

Professor Sally Aitken (PhD advisor)  
Professor, Forest Conservation Genetics  
University of British Columbia  
Email: [sally.aitken@ubc.ca](mailto:sally.aitken@ubc.ca)

Dr. William Godsoe (collaborator and mentor)  
Lecturer, Ecologist  
Lincoln University, New Zealand  
Email: [william.godsoe@lincoln.ac.nz](mailto:william.godsoe@lincoln.ac.nz)  
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Dr. Nathan Kenny (postdoc advisor)  
Lecturer, Molecular biologist  
University of Otago, New Zealand  
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Jocelyn Papprill (worked with Jocelyn on environmental projects in high school)  
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Dr. David Hawke (BSc(Hons) advisor)  
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